**Nordic Resource Management: Finnish Component**

**Work Report 1: Use and Testing of Templates in Resource Management**

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**1. Introduction**

*Nordic Resource Management* is a new project across the Fennoscandian and Greenlandic areas to investigate, develop and strengthen the role of local knowledge and ‘citizen knowledge’ in decision-making about the use of nature and natural resources. The actual project activities vary across the region, but in general the aims are, in brief:

*(i) Further development and testing of standards for the involvement of citizen knowledge in decision-making about the use of resources*. The project will benefit from existing initiatives involving civil society and natural resource users in decision-making on natural resources, and it will further develop standard templates for the collection and use of citizens’ observations. An example of a possible standard template is the quarterly form used by the PISUNA project in Greenland (see http://www.pisuna.org/documents/Kvartalsumskema\_DK.jpg). The templates will be adapted to the local context and field-tested in selected communities in the Arctic.

*(ii) Strengthened capacity to use citizen knowledge.* The project will enhance the opportunities for municipalities, other local and national authorities and civil society organizations in the Arctic to specifically involve citizen knowledge in their decision-making about the use of nature and natural resources. The project will develop and provide training and 'exchange visits', which will strengthen the capacity of volunteers and decision makers at various levels of authorities and civil society in public participation in decision-making about the use of natural resources.

*(iii) Communication of the experience.* The project will convey the experience of the use of standards for the involvement of citizen knowledge in decision-making about natural resources through information activities and workshops. Information activities will include a policy brief and a technical report. The project will also publicize experience on websites/blogs and as far as possible in high-profile international scientific journals. The policy brief and technical report will be prepared in English with summary in a Scandinavian language and Russian. The technical report is envisaged to be published as a TemaNord series publication.

Snowchange Cooperative, a non-profit cultural and science organisation receiving public funds, coordinates the Finnish and Northwest Russian components of the work and all activities. Snowchange has an outstanding track record in the work areas of the project for over past 15 years – including the establishment of the first collaborative management plans in the Sámi region as well as the UN-recognized habitat restoration activities in the boreal zone of North Karelia in Jukajoki river watershed.

This work report documents the results of the uses of forms in the target regions. Before the field season began in the watersheds, the Nordic model of the form was adjusted to work better in in-land fisheries and in the Finnish-Sámi context.

Then, in Jukajoki and in Näätämö rivers the forms were given out to handpicked, trusted fishermen, who utilized them. Forms have been collected and analysis provided in this work report.

**2. Methods**

In Jukajoki and in Näätämö rivers and basins the forms were given out to hand-picked, trusted fishermen, who utilized them. Forms have been collected and analysis provided in this work report.

**A. Jukajoki**

This south boreal watershed located in the villages of Selkie and Alavi is heavily damaged, and at the same time home to one of the largest habitat restoration activities in Finland, with a total budget of 2,7 million € between 2010-2015, combining local knowledge of Finnish-Karelian peoples, latest science and internationally recognized ways of collaborative management. UNEP recognized Jukajoki as a best practice in July 2014. Natural resource management bodies in Finland who participate in the local interaction are Center for the Environment, Transport and Economy, Municipalities of Joensuu and Kontiolahti, and the Regional Administrative Agency – AVI.

In mid-May the forms were given out to three fishermen active on the river:

1. One professional fisherman in late 30s
2. One subsistence fisherman at 60 years of age, who has been harvesting on the river since 1960s.
3. One subsistence fisherman at roughly 50 years of age, who has been harvesting on the river since 1970s.

**B. Näätämö Watershed**

The region where the first collaborative management plan for Finland was published in 2013, the Näätämö watershed is a cross-border area between Finland and Norway, with majority of the territory located in Finland.

Being on the of the most relevant Atlantic Salmon spawning rivers in Europe, the watershed is home to the rich cultures of the Indigenous Skolt Sámi, a key stakeholder group in the collaborative management actions, as well as the Finnish-speaking national minority in Norway, the Kvens as well as local Norwegians and Finns.

Main natural resource management bodies in Finland who participate in the local interaction include Metsähallitus, Natural Resources Institute – Finland and the Ministries for salmon management as well as the municipality of Inari.

In late April the forms were given out to two Skolt Sámi fisherman teams active on the river:

1. First team led by a male Elder in mid-60s, consisting of two – three different Skolt Sámi fishermen.
2. Second team led by a reindeer herder-fisherman in mid-40s consisting of additional Skolt Sámi fishermen through the season.

Main fish for harvesting and observations included northern pike[[1]](#footnote-1), grayling[[2]](#footnote-2), Atlantic salmon[[3]](#footnote-3), white fish[[4]](#footnote-4), sea trout[[5]](#footnote-5) and burbot[[6]](#footnote-6). Both teams to document observations, catches and weather as well as anything unusual from June to July used the template forms. Snowchange team visited the teams in April, July and early October. The forms were collected and oral histories recorded during these visits.

**3. Results**

Nordic Resource Management: Finnish Component was planned to flow into progressive, existing structures of governance to provide international experiences and survey of how they work.

**Results from Jukajoki basin**

Three sets of forms have been returned by 15th October. The main activity with the forms focused on the seasonal harvest of Common Bream[[7]](#footnote-7) and Ide[[8]](#footnote-8), using small to middle-sized fish traps for river fisheries. The small traps have half-meter guiding net and are stationary, made from ‘chicken wire’. The middle-sized fish traps having 20 meter long guiding net with a nest of two openings and five-meter long total main body.

* Person a harvested from 5th June to 28th, June 2015. Average catch, every two-three days, was seven kilos.
* Person b harvested from 10th June to 15th October, with the templates in use between 10th June to 25th August. Average catch, every two-three days, was around three to five kilos.
* Person c harvested from 25th May to 18th, June, 2015. Average catch, every two-three days, was around six-seven kilos.

In summary, fishermen found the forms useful. They reported the following relevant observations:

* Early June very strong winds, up to 25 m/s (from south, south-east) and cold weather had not been seen in 50-60 years.
* Water levels were unusually high.
* 19th June rainbow trout[[9]](#footnote-9) filled with roe was caught in the larger fish trap – this introduced species is very much affected by acidity of water. The fishermen felt that this is a very good indicator of improving water quality, due to the fact that this trout cannot stand acidic waters. Also, the fact that it developed roe was seen as a good sign. Another rainbow trout was harvested from smaller standing nets on the 7th July, 2015.
* Strong winds continued all the way to mid-Summer, to 24th June, unusual weather, which was later, confirmed to be the coldest in 50 years. Around 3rd July the weather returned to ‘normal’, with temperatures in their 20s.
* Perch, a good quality indicator fish was plentiful in the small traps from early June onwards, in some cases over 26 individuals.
* In July to early August, temperatures remained colder than usual, but closer to the seasonal normal, with 18-20 C recorded by the fisherman b. Harvest focused in the late summer mainly to common bream with the use of small fish traps.
* October was unusually dry, with rains arriving only on the 21st October, which was seen to be unusual.

The forms worked relatively well for the fishermen and the ‘blank space’ provided for unusual observations worked alright. The fishermen felt their catch diaries and observations using the forms, conveyed locations and amounts as well as indicator species and weather events well.

However, they felt that their deeper knowledge of the river and relationship to it would need to be conveyed using interviews and mapping. Jukajoki has quite well guaranteed process of including local traditional knowledge in management, so the forms provided an added tool to document the fishery on the river.

**Results from the Näätämö River Basin**

Collected observations for the season 2015 include:

* The early summer was extremely rainy and cold, this prevented net fishery along the river, and thus delayed the uses of forms.
* In Mid-July when the forms were in use, unusual grayling behaviour was reported, as they had not disappeared from the usual salmon spawning pools, such as *Pyöreäsuvanto.* They were still persistent in these areas of Näätämö, which means the male salmon had not driven them out like usual.
* Sea trout amounts may have increased this season; more information may be seen in November.
* Fishermen reported ‘dead salmon roe’ in the bottom of spawning areas, assessing that as the water levels were very low in Autumn 2014, the ice has wrecked parts of the hatching roe over winter.
* Around 20th to 25th, July the water levels rose to ‘unusual’ highs in the river due to the heavy rains and cold summer.

Forms worked relatively well as a first review of catches and special observations. A closer look indicates results from the forms:

1. **First team:** The first Skolt Sámi team conducted mainly net fishery along the main Näätämö river from early July to end of July. Their usual catches were Atlantic Salmon from 1,3 kg range to 2,1 kilos, usually 2-3 fish at a time. Winds, locations, air and water temperatures were recorded as well as any unusual activities, such as high water marks. Salmon nets are usually 3-4 meter tall, with large mesh sizes. In late July the harvest shifted to include whitefish in the nets. Air was quite cold, with temperatures in the 10 C range. At the end of the July grayling featured in the catches.
2. **Second team:** The second team led by the younger Skolt Sámi in his mid-40s used the template forms from June to end of July. They harvested with salmon nets, with large mesh sizes. Their catches included mostly Atlantic salmon, with large individuals in the range of 6-7 kilos as well, but averaging in the 1,5 – 3 kg range.

**4. Discussion**

In Jukajoki the Nordic cooperation enhanced the documentation of both professional and subsistence harvest of fish stocks and seems to allow deeper assessment of weather changes and limnological water quality. The management of the ecological restoration of the river has the hallmarks of a co-management regime, so the Nordic initiative complements this direction.

In Näätämö there is an existing, formal co-management project initiated by the Skolt Sámi and research NGOs. The overall aim is to reform and renew the watershed governance towards better reflecting Sámi land and water uses and cultural rights.

It has been in operation now for its fifth year. The Sámi involved welcomed the Nordic participation and cooperation to further document their observations and catches.Formal recognition to the co-management steps from Sámi side took place in May 2015 at the annual meeting of the Sevettijärvi Skolt Sámi village Council. The Council decided to “*start cooperation with the Näätämö Co-management project and thus advance the Skolt Sámi participation in issues of status of river Näätämö, culture, revitalisation of traditional fisheries and to reform the dialogue with the state authorities*.”

Problems of management in Näätämö are reflective of the overall situation of ‘local and Indigenous’ governance in Finland. It does not exist. Therefore state authorities, such as Metsähallitus and ELY will deny, and refuse all initiatives towards this direction.

**5. Conclusion**

Näätämö basin and Jukajoki catchment area represent, here, the pilot locations for the uses of template forms in documentation of local and Indigenous use and governance of renewable natural resources, in both cases fish.

These locations were chosen for the first test round, due to their infrastructure and personel capacity in place, i.e. project resources benefitted from existing teams of fishermen, experts, locations and possibility to expand the work for 2015 into the uses of forms.

In both cases the forms are seen as a complementary tools to document observations, harvest and uses of a basin. However, in the research visits both the Sámi and the Jukajoki fishermen stressed that forms cannot convey their relationships and interaction with the river on their own, therefore primary vehicles for the local governance of resources has to include, in addition to forms, uses of workshops, interviews and mapping.

It is recommended the template form uses will be repeated in the 2016 season, perhaps already in March, to include the burbot and northern pike fisheries of the basins using ice on the lakes. This will produce more proper comparative view of what roles the templates may play in future governance and observations in long-term positions.

1. *Esox lucius* [↑](#footnote-ref-1)
2. *Thymallus thymallus* [↑](#footnote-ref-2)
3. *Salmo salar* [↑](#footnote-ref-3)
4. *Coregonus lavaretus* [↑](#footnote-ref-4)
5. *Salmo trutta trutta* [↑](#footnote-ref-5)
6. *Lota lota* [↑](#footnote-ref-6)
7. *Abramis brama* [↑](#footnote-ref-7)
8. *Leuciscus idus* [↑](#footnote-ref-8)
9. *Oncorhynchus mykiss* [↑](#footnote-ref-9)