**EERO NIEMELÄ, Session 3**

**2. Traditional knowledge from the historical fishery and the development of fishery until today especially from the point of economy, social life**

Earlier salmon fishery took place mainly with weir, driftnet, seine. Some effective weirs, which closed the entire Teno river, allowed families from Finnish and Norwegian side to fish together and the catch was devided between themselves. People wanted to have salmon catch in short time and effectively.

The use of small weirs came more effective with new materials in nets. Salmon fishery with weirs has been quite stable in terms of technical structure.

 Salmon as a food has been extreme important during the entire summer and later on also in economy when some of the catch was transported to Norway.

Social life was important when they used seine or driftnet together with norwegian fishermen. After 2017 prohibition of seine fishing stopped this kind of social life.

 Traditional knowledge from one generation to the next generation goes from parents to children for ex. the sites of weirs, good driftnet fishing sites, seine sites, behaviour of salmon etc.

**3. Traditional knowledge from the catches for salmon and other fish species; reasons to changes**

Salmon catch indicates the size of the stock. Locals remember the good and bad salmon years. Locals know from their longterm experience that after good small sized salmon year there will be good medium sized salmon year and after that good large salmon year. They tell that it is sea which is causing the large annual variations but also they know that earlier in 1960 until 1988 the effective driftnet fishery in the Norwegian coastal areas caught mainly medium sized fish that was lacking in Teno system.

Fishers know exactly where they can install their weir and where they can use driftnet. Other fish species especially grayling, whitefish and seatrout have been important food resources during that period when salmon catch has been poor. Occurrence of other fish species has increased like pike population. Fishers tell me that those other species have been underexploited for a long period (too hard restrictions/changes in environment-pollution-warming)

**4. Information from salmon, specific names, size-age groups, migration periods, general ecology**
Salmon names like tiddi, luossajeälgi, luossa, tsuoran, tsuondsa are like ecological terms /1-3SW salmon. Previous spawning salmon is like tsuoran.

Fishers have traditional knowledge that large salmon is migrating first in the summer and will migrate to upper areas of the system, then medium sized salmon and latest small salmon (mainly to tributaries) and large tiddi migrates latest (Tana tiddi).

New information is previous spawning salmon which is ascending earliest. Earlier also salmon fishing took place late in autum-that was good to make salted fish.

**5. Information from environmental factors (ice-break up, freezing of the rivers, water flow, water and air temperature, air pressure, increased rainfall, water pollution )and their harmful effects to the fishery, migrations of salmon and salmon ecology**

Earlier and still today fishers follow closely the environmental factors which affect their succesfull fishery especially with weir (water level, water temperature, time of the summer). With increasingly waterlevel it is useless to change weir site, with rapid change in airpressure from high pressure to low pressure salmon starts to migrate and is active to take flyes, wobblers etc. Water pollution is making nets in warm water period in July dirty-salmon can see the nets. Fishers are making observations from the quality of the water.

**6 How local knowledge has been taken into consideration in research activities in 1979-2020**

I as a reseacher have usually been visiting fishers when they have been in active fishery with weir, gillnet, seine and driftnet. Those visits have helped me as a researcher to understand that there are a lot of things which are affecting to the successfull catches. Fishermen have told me the behaviour of salmon in the river and their explanations for the behaviour. For exp. the behaviour of salmon in spawning ground and how salmon as kelt is migrating downstream in the following spring. Nowadays the research for other fish species has been pike research which was initiated by locals.

For ex. fisher came to me and told that he has caught increasing number of salmon with light coloured meat-not normal Teno red coloured meat. He told that at sea there has been effective crap /shrimp fishery and therefore the colour was light. I studied the scale of that salmon and found that it was previous spawning salmon, which are not feeding shrimps and are not migrating far from the fjord. Therefore the meat colour was light.

Many fishers have been participating in the salmon scale project since 1974 to follow longterm changes in the sea-age structure, ascending time and especially the occurrence of salmon which has escaped from coastal salmon cage farming. Locals have received annually results from their salmon scales.

**7. How local knowledge from the fishery of salmon and other fish species has been taken into consideration in 1979-2017 in fishing agreements and fishing rules in Teno/ Tana watershed**

Local fishers have been included as delegates when negotiating fishing rules for 1979, 1990 and 2017. Their impacts to formulate fishing rules has been variable. They have had good possibility earlier (1979-1990 ) to propose restrictions to tourist fishery and succeeded in that.

A lot of discussion has raised over the years from the salmon fishing period in summer, weekly fishing period, fishing in tributaries. The difficulty has been especially earlier the fact that fishers in the norwegian side of the river should agree with fishers on the finnish side.

One example from the rules 1979: fishers in the upper areas wanted to have shorter weekly fishing time for net fisheries to allow salmon to migrate upstreams. Fishers in the lower and middle Teno did not want shorter weekly fishing time.

Weekly fishing time has been shorter since 1979. Many fisher in upper areas in Teno system informed that their catches improved clearly after 1979 and also spawning stocks increased.

Local fishers shoud have better possibilities when countries are negotiating Teno fishing rules and agreements; especially when discussing and formulating the fishery of other species than salmon. Also when discussing who has fishing rights and which methods.