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## **The Application of Sustainable Conservation Methods in the North Finland Wooden Buildings**

Wooden buildings in our country have long been conserved using only traditional, proven and true methods. During the construction period most of the forests were – as well as today owned by private landowners. The farmers could take out the best of every tree. That knowledge is now missing. However, in the recent decades, several conservation projects have relied on new building methods and materials for maintenance and restoration. This change has rapidly resulted in problems that must be solved individually, treating each case as separate and unique.

The following examples of recent, active conservation projects in the North of Finland illustrate the importance of sustainable conservation methods.

### **The Church of Tornio**

The wooden church of Tornio, named after Queen Hedvig Eleonora, was built and consecrated in 1686 in the southern Lapland, on an island on the border of the Tornio River and Bothnian Bay. The 42-metre high tower on the western end of the nave was completed in 1695. The church of Tornio is a Bothnian block pillar church with a rectangular nave and three pairs of block pillars strengthening the side walls and supporting the roof trusses. The narrowing spire of the western tower was originally a landmark for seafarers. According to Professor Lars Pettersson, the rhomboid pattern of the roof shingles continues the Gothic roof decoration tradition with its Oriental origins. (pictures 1-3)

The building type was known in Finland already during medieval times. Only twelve wooden churches built in the block pillar technique still stand today – the church of Tornio being the largest of them.

The Gothic style belfry adjacent to the church is the oldest of its type that has been preserved in Finland, dating back to 1688.

The church and belfry were painted as early as in the 17<sup>th</sup> century with red tar. The present weather boarding is from 1877, painted with white oil paint.

Both the church and the belfry have dark, tarred shingle roofs.

The buildings is a property of the parish, but considered to be one of the most important wooden religious monuments in Finland. The church now has central heating and is in use throughout the year. In the 20th century, the church has mostly been renovated using traditional methods, until the 1970s. For example the tar painting of the roof was replaced with other facings, which has proved by experience ineffective. Though the roof has been repaired in 2005, the work is not complete, because a layer of bitumen felt was found under the shingles. A felt like this has been regarded as hazardous for the durability of a shingle roof.

Problems were recently found at the bottom of the building, too. The damage caused to the floor structures by decay had been repaired in the 1970s using modern methods. The beams were replaced with concrete blocks, arranged lengthwise. A routine inspection made in 2004 revealed an alarming amount of decay on the underside of the floor. In 2005, repairs of the damage started with a first attempt. "Redwood", pine was used in the repairs of the beams, but perhaps the most renowned method was digging up the dirt from around the walls, so that the base of the building could be properly ventilated. The concrete blocks are impossible to remove without violating the traditional structures and values associated with the building, which include preserving the cemetery underneath the church.

## Särestöniemi Log Houses

The artist and professor **Reidar Särestöniemi**'s (b. 14.5.1925, d. 27.5.1981) soulscape derived its richness and strength from Särestö in Kittilä, Lapland, the place of his birth and where he spent most of his life. The Särestöniemi area consists of 20 buildings. Among them stand three log houses designed by **Raili** and **Reima Pietilä** in the 1970's.

Reidar's birthplace and home, the old Särestö is a courtyard typical to the building traditions of Southern Lapland in the 19<sup>th</sup> century. The more recent buildings are situated within sight of this old farmhouse. (Picture 4)

**Raili Pietilä** will never forget the architects' first visit to Särestö on a very short winter day in 1971-72. Reidar had bought several kilometres of arctic dead log. Pointing at the pile he told the architects that the huge stack of logs almost demonstrates the spirit and outlook of the resulting building! The dimensions of the Gallery were set at the tremendous 9 times 23 metres. This two-storey building of arctic dead log was timbered from round log with irregularly long ends of lapped logs running over the corners. The six metres high northern part dedicated to large paintings is connected to the exhibition areas in the southern part, from which a staircase leads up to the sauna and swimming-pool premises in the second floor.

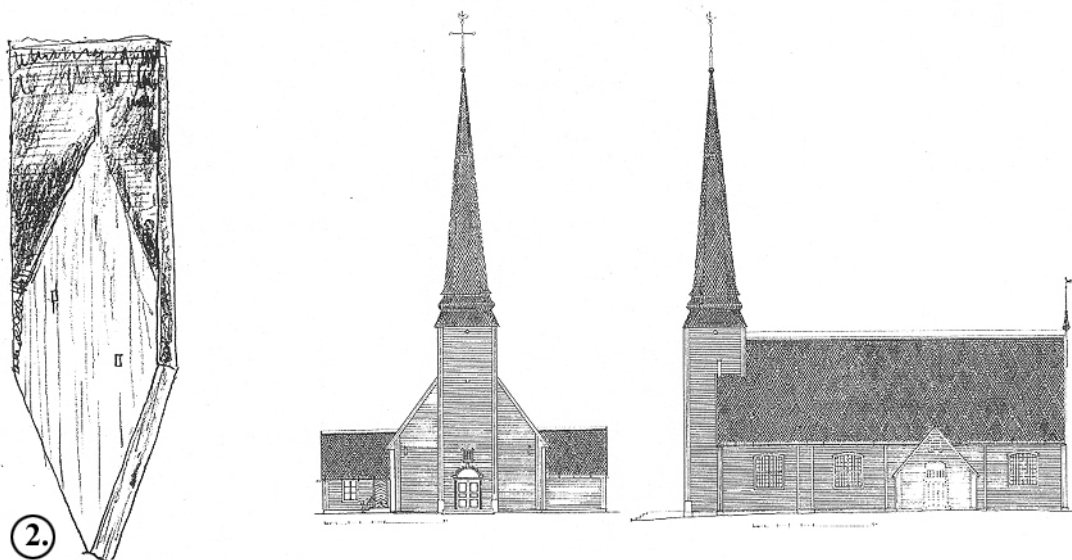
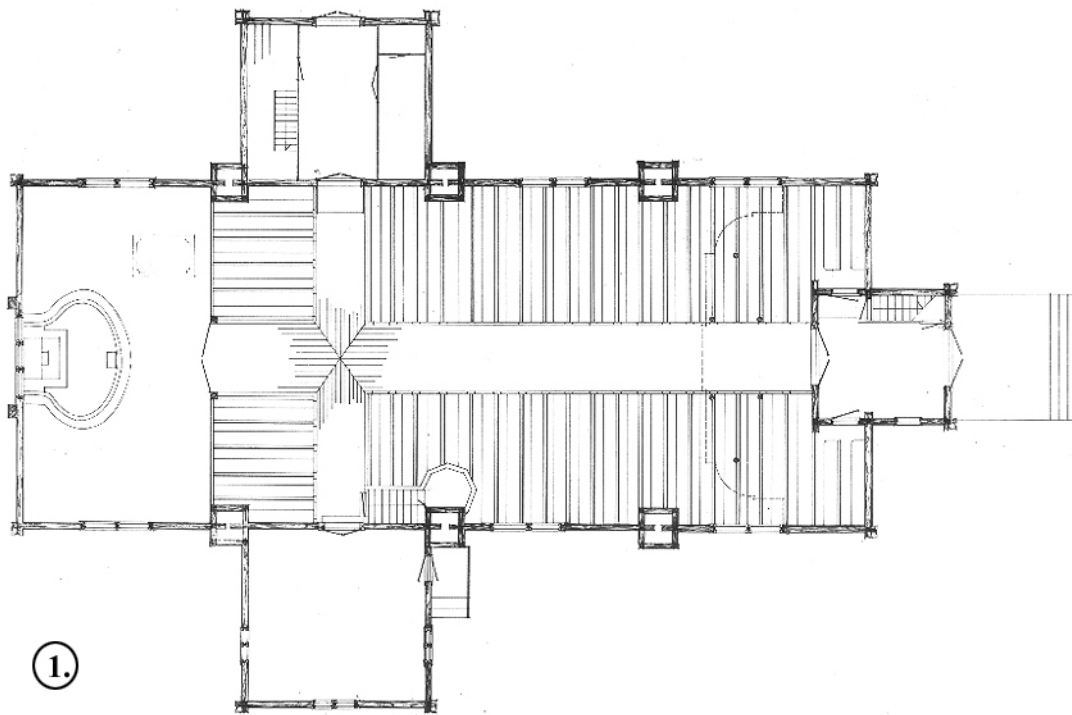
The present owner of the site, the foundation had made a scheme for a restoration programme of Särestöniemi with the support of European Community regional development fund in 2001-02. The scheme includes the lively history of the buildings, the objective of the restoration, evaluation of the buildings and the restoration programme with preliminary schedules as well as the estimated costs. Public financing has so far only come from Lapland Regional Environment Centre in 2004-2005 and was granted for restoration of the old Särestö main building. In 2006 the work has commenced with the financial support of the National Board of Antiquities.

The repairs have preliminarily been made in the roofs and the log beams. A wooden roof was considered impractical for the main building, mainly due to the fireplaces that the owners wish to keep intact, and also because the roof has already been renovated with bitumen felt in the 1960's.

The structure of the old main building's floor was repaired in 1985. Due to some errors in construction and the inferior new materials, the underside had to be renovated again in 2005, this time using traditional methods.

A cowshed that was part of the original household was renovated in 2006 using traditional log building methods. The roof consisted of nailed pine shingles.

The repairs made on the buildings designed by the Pietilās started with the renovation of the Gallery steps. Only strictly traditional building methods were used. Particularly characteristic to the traditional way of building in all these repairs was the use of very hard northern wood, i. e. "redwood" pine, wood of the region.





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Drawings, photos;

- plan and elevations of the Church of Tornio by Eero Huotari 1956,
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