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WATERLAT GOBACT *NETWORK* **WORKING PAPERS**

**Challenges and opportunities facing water-service
co-operatives: cases from Argentina and Finland**



Vol. 5, N° 4

(In English and Spanish)

Newcastle upon Tyne, Tampere, and Buenos Aires, December 2018

Cover picture: New Lanark, on the River Clyde, in Scotland, with its heritage 19th Century water-driven cotton mills. The site where Utopian thinker and entrepreneur Robert Owen established his model industrial community in 1800-1825.

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WATERLAT-GOBACIT NETWORK WORKING PAPERS

Vol. 5, N° 4

Thematic Area Series

Thematic Area 3
Urban Water Cycle and Essential Water Services

Challenges and opportunities facing water-service co-operatives: cases from Argentina and Finland

José Esteban Castro and Tapio S. Katko (Eds.)
Newcastle upon Tyne, Tampere, and Buenos Aires, December 2018



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Cuadernos de Trabajo de la Red WATERLAT-GOBACIT

Vol. 5, N° 4

Serie Áreas Temáticas

Área Temática 3

El Ciclo Urbano del Agua y los Servicios Públicos Esenciales

**Desafíos y oportunidades que enfrentan las cooperativas
de agua y saneamiento: experiencias de Argentina y
Finlandia**

José Esteban Castro y Tapio S. Katko (Eds.)

Newcastle upon Tyne , Tampere y Buenos Aires, diciembre de 2018



Thematic Area Series

TA3 – Urban Water Cycle and Essential Water Services

Title: Challenges and opportunities facing the water-service co-operatives: cases from Argentina and Finland.

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Serie Áreas Temáticas

AT3 – El Ciclo Urbano del Agua y los Servicios Públicos Esenciales

Título: Desafíos y oportunidades que enfrentan las cooperativas de agua y saneamiento: experiencias de Argentina y Finlandia.

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Presentation

This issue is part of the activities of the WATERLAT-GOBACIT Network's Thematic Area 3 (TA3), the Urban Water Cycle and Essential Public Services (<http://waterlat.org/thematic-areas/ta3/>). TA3 brings together academics, students, professionals working in the public sector, workers' unions, practitioners from Non-Governmental Organizations, activists and members of civil society groups, and representatives of communities and users of public services, among others. The remit of this TA is broad, as the name suggests, but it has a strong focus on the political ecology of urban water, with emphasis on the politics of essential water services. Key issues addressed within this framework have been the neoliberalization of water services, social struggles against privatization and mercantilization of these services, the politics of public policy and management in the sector, water inequality and injustice in urban areas, and the contradictions and conflicts surrounding the status of water and water services as a public good, as a common good, as a commodity, as a citizenship right, and more recently, as a human right.

The publication is a product of a long-term collaboration with the Capacity Development of Water and Environmental Services (CADWES) Research Group, which holds the UNESCO Chair in Sustainable Water Services at Tampere University of Technology (TUT) in Finland under the coordination of the issue's co-editor, Prof. Tapio S. Katko. The idea of developing a series of publications on the history and relevance of water-service cooperatives around the world has been an important component of our common research plans and initiatives, and we decided to start with this issue on the challenges and opportunities facing cooperatives in the current context. Consistently with our Network's inter- and transdisciplinary approach, the authors include academics and post-graduate students from the social sciences, history, and engineering, as well as professionals and leaders of civil society organizations working in areas relevant to the topics addressed in the publication.

The issue features four articles, two of them addressing the situation of water-service cooperatives in Finland, and the other two focused on experiences from Argentina. Article 1 is authored by Pekka E. Pietilä from CADWES-TUT and Joni Vihanta, who is the Managing Director of Kannus Water Cooperative in Kannus Municipality, Finland and simultaneously a PhD student doing research on water cooperatives at TUT. The paper presents a synthetic overview of the situation of water cooperatives in Finland, including an analysis of the challenges and opportunities they face in a context of rising consumer expectations and stricter service standards. Article 2 by Petri S. Juuti and Riikka P. Rajala, also from TUT, complements the first paper by focusing attention on the case of the first water cooperative created in Finland, Pispala Water Cooperative, which was founded in 1907 near the city of Tampere in the south of the country. Both articles highlight the fact that in the late Nineteenth Century, before becoming independent from Russia in 1917, Finland decided that essential water and sanitation services should be delivered by municipal public bodies or cooperatives run by users and community organizations, rather than by profit-making private companies, which remains a significant principle for the organization of these services in the country until today.

Article 3 is led by Melisa Orta, a PhD student in Politics at the National University of Rosario (UNR) on a studentship from the National Scientific and Technical Research Council (CONICET), Argentina, and was co-authored with Margarita Portapila, from the International French-Argentinean Centre of Information Sciences and Systems (CIFASIS), CONICET and UNR, Alberto Muñoz, from Argentina's Union of Users and Consumers, and Iván Pérez, from the country's Cooperative Funds Managing Institute (IMFC). The article discusses in some detail the history of the cooperative movement in Argentina since the late Nineteenth Century, and the development of water-service cooperatives in the country. It focuses on the case of water-service cooperatives in the Province of Santa Fe and highlights the significance of cooperatives in the provision of services in small and medium cities and rural areas. The authors also address the wide range of obstacles and threats facing water cooperatives, from the lack of safe water sources and adequate financial and technical resources to the systematic antagonism showed since the 1980s by neoliberal governments that seek to erode and eventually dismantle the cooperative movement, which they see as an obstacle to their plans to fully privatize essential services and other important areas. Finally, Article 4 was authored by Joaquín Ulises Deon, a PhD student in Social Agrarian Studies at the National University of Cordoba (UNC) on a studentship from CONICET, Argentina, also working on a joint PhD on Urban-Regional Studies between the Bauhaus Universität Weimar, Germany, and UNC, Argentina. The article partly complements the previous one by addressing important aspects of the history of the cooperative movement in Argentina, highlighting the fact that not all cooperatives adhere to cooperative principles, and many are in fact private enterprises in disguise. The paper addresses the development of cooperatives, and particularly water-service cooperatives, in the arid Province of Cordoba, Argentina, and focuses in more depth on four cases that the author considers are examples of genuine cooperative experiences. The article presents a very critical assessment of government policies against water-service cooperatives at the national, provincial and local levels, and shows evidence of the multiple pressures facing the cooperative movement in the province. Cooperatives have developed successful strategies to cope with these pressures, by establishing alliances with social movements and civil society organizations, exercising legitimate leadership in local and regional struggles to defend their water sources from the aggressive expansion of extractivist activities, including mining, agribusinesses, and private urbanizations.

We are delighted to present this first issue on water-service cooperatives resulting from a combination of academic research and reflections grounded on the long-term experience of professionals working at different levels of the cooperative movement in Europe and Latin America. We wish you all a pleasant and fruitful reading.

Jose Esteban Castro and Tapio S. Katko

Issue Editors

Newcastle upon Tyne, Tampere, and Buenos Aires, December 2018

Presentación

Este número es parte de las actividades del Área Temática 3 de la Red WATERLAT-GOBACIT (AT3), el Ciclo Urbano del Agua y los Servicios Públicos Esenciales (<http://waterlat.org/es/areas-tematicas/at3/>). El AT3 reúne académicos, estudiantes, profesionales que trabajan en el sector público, sindicalistas, especialistas de Organizaciones no Gubernamentales, activistas y miembros de grupos de la sociedad civil, y representantes de comunidades y de usuarios de los servicios públicos, entre otros. El alcance temático de esta AT es amplio, como lo sugiere el nombre, pero su foco central es la ecología política del agua urbana, con énfasis en la política de los servicios públicos esenciales. Algunos de los aspectos clave que abordamos en este marco han tenido que ver con temas como la neoliberalización de los servicios relacionados con el agua, las luchas sociales contra la privatización y la mercantilización de estos servicios, las políticas, las políticas públicas y la gestión en el sector, la desigualdad y la injusticia en relación al agua en las áreas urbanas, y las contradicciones y conflictos que rodean al agua y a los servicios relacionados con el agua considerados como bien público, como bien común, como mercancía, como un derecho de ciudadanía y, más recientemente, como un derecho humano.

La publicación es producto de una colaboración de largo plazo mantenida con el Grupo de Investigación sobre Desarrollo de Capacidades para los Servicios del Agua y del Ambiente (CADWES), que aloja a la Cátedra UNESCO en Servicios de Agua Sostenibles en la Universidad Técnica de Tampere (TUT) en Finlandia, bajo la coordinación del coeditor de este número, el Dr. Tapio S. Katko. La idea de desarrollar una serie de publicaciones sobre la historia y la relevancia de las cooperativas de servicios de agua a nivel internacional ha sido un componente importante de nuestros planes e iniciativas de investigación compartidas y decidimos comenzar con este número que coloca la atención sobre los desafíos y oportunidades que enfrentan las cooperativas en el contexto actual. Consistentemente con el enfoque inter- y transdisciplinario de nuestra Red, los autores incluyen académicos y estudiantes de posgrado de las ciencias sociales, la historia y la ingeniería, así como también a profesionales y líderes de organizaciones de la sociedad civil que trabajan en áreas relevantes a los temas tratados en la publicación.

El número presenta cuatro artículos, dos de ellos que tratan la situación de las cooperativas de servicios de agua en Finlandia y los otros dos que abordan experiencias de Argentina. El Artículo 1 corresponde a Pekka E. Pietilä de CADWES-TUT y a Joni Vihanta, que es el Director Gerente de la Cooperativa de Agua de Kannus, en la Municipalidad de Kannus, Finlandia, y quien simultáneamente desarrolla estudios de doctorado en TUT sobre cooperativas de agua. El trabajo presenta una síntesis general de la situación de las cooperativas de agua en Finlandia, incluyendo un análisis de los desafíos y oportunidades que las mismas enfrentan en un contexto de expectativas crecientes de parte de los usuarios y de estándares de servicio cada vez más estrictos.

El Artículo 2, a cargo de Petri S. Juuti y Riikka P. Rajala, también de TUT, complementa al primer trabajo y enfoca la atención sobre el caso de la primera cooperativa de agua que se creó en Finlandia, La Cooperativa de Agua de Pispala, fundada en 1907 cerca de la ciudad de Tampere en el sur del país. Ambos artículos enfatizan el hecho de que

desde fines del Siglo Diecinueve, antes de independizarse de Rusia en 1917, Finlandia decidió que los servicios esenciales de agua y saneamiento deben ser provistos por organismos públicos municipales o por cooperativas dirigidas por los usuarios o por organizaciones comunitarias, antes que por empresas privadas generadoras de lucro, un principio que continua vertebrando la organización de estos servicios en el país hasta el presente.

El Artículo 3 liderado por Melisa Orta, una estudiante de doctorado en Ciencias Políticas en la Universidad Nacional de Rosario (UNR) con una beca del Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina, con la coautoría de Margarita Portapila, del Centro Internacional Franco Argentino de Ciencias de la Información y de Sistemas (CIFASIS), CONICET y UNR, Alberto Muñoz, de la Unión de Usuarios y Consumidores de Argentina e Iván Pérez, del Instituto Movilizador de Fondos Cooperativos (IMFC), también de Argentina. El artículo discute en detalle la historia del movimiento cooperativo en Argentina desde fines del Siglo Diecinueve y el desarrollo de las cooperativas de servicios de agua en el país. El trabajo se centra en el caso de las cooperativas de servicios de agua en la Provincia de Santa Fe y enfatiza la importancia de las cooperativas en la provisión de servicios en ciudades pequeñas y medianas y en las áreas rurales. Los autores también tratan el amplio rango de obstáculos y amenazas que enfrentan las cooperativas, desde la falta de fuentes de agua seguras y recursos financieros y técnicos adecuados, hasta el antagonismo sistemático demostrado desde la década de 1980 por los gobiernos neoliberales que procuran erosionar y eventualmente dismantelar al movimiento cooperativo, al que ven como un obstáculo a sus planes de privatización plena de los servicios esenciales y de otras áreas importantes.

Finalmente, el Artículo 4 está a cargo de Joaquín Ulises Deon, un estudiante de doctorado en Estudios Sociales Agrarios en la Universidad Nacional de Córdoba (UNC) y becario de CONICET, Argentina, que también se encuentra trabajando en un doctorado en Estudios Urbano-Regionales conjunto entre Bauhaus Universität Weimar, Alemania, y la UNC de Argentina. El artículo parcialmente complementa al trabajo anterior mediante el tratamiento de aspectos importantes de la historia del movimiento cooperativo en Argentina, destacando el hecho de que no todas las cooperativas adhieren a los principios cooperativos y que muchas son en realidad empresas privadas disimuladas. El artículo aborda el desarrollo de las cooperativas, particularmente las cooperativas de servicios de agua, en la árida Provincia de Córdoba, Argentina, y se concentra en mayor profundidad en cuatro casos que el autor considera son ejemplos de experiencias genuinas de cooperativismo. El trabajo presenta una valoración muy crítica de las políticas gubernamentales contra las cooperativas de servicios de agua a nivel, nacional, provincial y local y suministra evidencia de las múltiples presiones que enfrenta el movimiento cooperativo en la provincia. Las cooperativas han desarrollado estrategias exitosas para superar estas presiones mediante el establecimiento de alianzas con movimientos sociales y con organizaciones de la sociedad civil, ejerciendo un liderazgo legítimo en las luchas locales y regionales para defender sus fuentes de agua contra la expansión agresiva de las actividades extractivistas, incluyendo la minería, los agronegocios y las urbanizaciones privadas.

Es con gran placer que presentamos este primer número sobre el tema de cooperativas de servicios de agua, que es el resultado de una combinación

de investigaciones académicas y reflexiones basadas en la larga experiencia de profesionales que trabajan en distintos niveles del movimiento cooperativo en Europa y en América Latina. Les deseamos una placentera y fructífera lectura.

José Esteban Castro y Tapio S. Katko

Editores del Número

Newcastle upon Tyne, Tampere y Buenos Aires, diciembre de 2018

Article 1

The role of cooperatives in the provision of water services in Finland

*Pekka E. Pietilä*¹ - Capacity Development of Water and Environmental Services (CADWES) Research Group, Tampere University of Technology, Tampere, Finland

*Joni Vihanta*² - Managing Director, Kannus Water Cooperative, Kannus, Finland

Abstract

This article discusses the role played by water-services cooperatives in Finland, and provides an overview of the situation, in the context of Nordic countries. Water cooperatives have a long history in Finland, dating back to the early Twentieth Century, though most cooperatives in existence were created since the 1950s. Cooperatives have been responsible for the provision of water and sanitation services particularly in rural areas, but also in small and medium cities. Currently, around 10 percent of the country's population is supplied by around 1,500 water cooperatives. The article concludes with a review of the challenges and opportunities facing water cooperatives in a context of rising user expectations and stricter service standards.

Keywords: cooperatives, water and sanitation services, rural water and sanitation, consumer-managed systems, Finland.

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Accepted: December 2018

Resumen

Este artículo discute el papel de las cooperativas de servicios de agua en Finlandia y provee un panorama de la situación en el contexto de los países nórdicos. Las cooperativas de agua tienen una larga historia en Finlandia, que data de inicios del Siglo Veinte, aunque la mayoría de las cooperativas existentes fueron creadas desde la década de 1950. Las cooperativas han sido responsables por la provisión de servicios de agua y saneamiento particularmente en áreas rurales, pero también en ciudades pequeñas y medianas. Actualmente, aproximadamente el 10 por ciento de la población del país es abastecida por cerca de 1.500 cooperativas. El artículo concluye con una

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revisión de los desafíos y oportunidades que enfrentan las cooperativas de servicios de agua y saneamiento en un contexto de expectativas crecientes por parte de los usuarios y de estándares más estrictos de servicio.

Palabras clave: cooperativas, servicios de agua y saneamiento, servicios de agua y saneamiento rural, sistemas gestionados por sus usuarios, Finlandia.

Recibido: septiembre de 2018

Aceptado: diciembre de 2018

Introduction

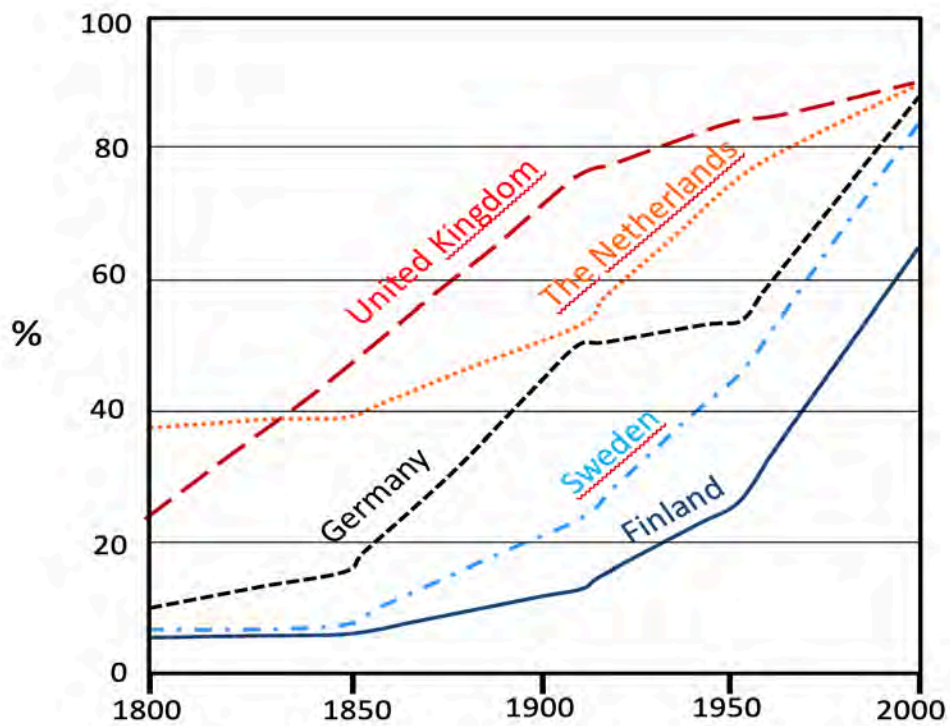
Finland has a long tradition of water cooperatives, which presently number some 1,500, and supply water to 10 percent of the population, mainly in rural areas. Larger towns and cities are typically supplied by public water utilities, but there are some towns with populations of up to 15,000 people with a water cooperative as the sole water supplier. The Finnish water sector has much in common with that of our western neighbour Sweden, except for water cooperatives. Sweden has hardly any water cooperatives, nor does Norway. On the other hand, in the fourth Nordic country, Denmark, water cooperatives play an even bigger role than in Finland. Close to 40 percent of the Danish population is supplied water by a total of 2,400 water cooperatives.

Earlier, cooperatives in Finland were established for water supply and not for wastewater services. In 2004, legislation concerning wastewater disposal requirements for properties not connected to centralised sewerage systems was tightened radically (Decree 542/2003). As a consequence, most of the water cooperatives established since then also provide sewerage services. In addition, many cooperatives previously only supplying water have now built sewer systems too. It is typical of cooperatives established since the 2000s not to have their own water intakes or wastewater treatment facilities. They buy water from a larger entity, typically a municipal water utility, and discharge wastewater to a municipality's sewer network.

The development of water services in Finland

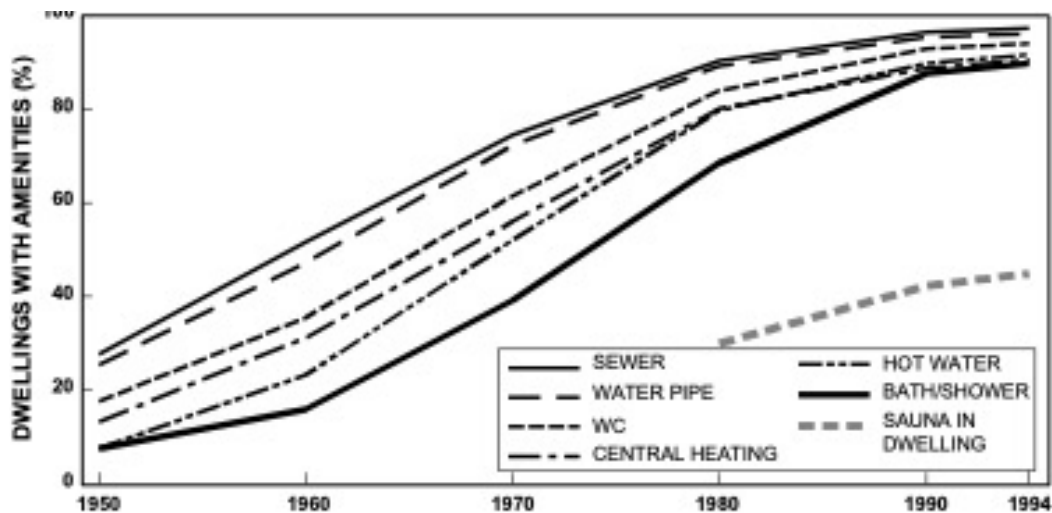
Finland has been ranked either first or among the top nations in manifold water-related international comparisons, such as the Water Poverty Index, the Environmental Sustainability Index, and the Environmental Performance Index. Even if Finland as a whole is a water-rich country, there are population centres, in particular in southern Finland, where good-quality raw water is scarce. The volume of water as such is not a problem, as there are rivers with high enough flow to cover water needs, but the quality of the water in these rivers is poor. River water is turbid, as the rivers flow through clay soils and receive humic substances that are released from forests and peat areas. Human activities also add to the pollution load of the rivers. There are bulk water companies established by several municipalities to provide good-quality water to neighbouring municipalities located up to 100 km away. Finland used to be a farming society and urbanisation took place much later than in the more densely populated countries in Central Europe (Chart N° 1). In 1950, only 25 percent of the population lived in houses with running water, while the remaining three million people fetched their water from wells or public standpipes (Chart N° 2). Since then, the development was fast, as already in 1980 around 90 percent of the population had running water in their homes (Katko, 1997).

Chart N° 1. The share of urban population in European countries



Source: Laakso and Loikhanen, 2004.

Chart N° 2. Water-related amenities of Finnish dwellings from 1950 to 1994



Source: Katko, 1997: 58.

In Finland, public sector administration is highly decentralised, with local authorities (municipalities) taking most responsibilities for service provision. Water-sector legislation states clearly that the responsibility for water and wastewater services lies with the municipalities. However, Finland is a sparsely populated country with large rural areas between population centres. Municipalities have not been able to build improved water services in many rural areas, and the responsibility, in practice, has remained with the residents. A special feature in Finland is the large number –some 1,500– of consumer-owned water cooperatives which supply water for 10 percent of the population. There is also a number of municipalities where a water cooperative is the sole provider of water services, as a municipal water utility was never established. The target of these cooperatives is not to make profit, but to produce good-quality services with affordable tariffs. Water meters in properties have been in use since the beginning of centralised water supply systems, and the users pay for their water according to the volumes consumed.

Water and wastewater services are typically within the responsibility of a single organisation, which can be a section in a municipality's technical administration, a municipal department, a municipal company or a cooperative. The legislation does not prohibit selling a water and wastewater unit or utility to a private company or investor, but this kind of privatisation has not taken place in Finland. Yet, water and wastewater utilities widely use the services of private companies and outsource a variety of activities based either on a fixed-term contracts or on a project basis. For instance, laying new pipelines is typically done by private contractors (Katko, 2018).

Since the 1950s, many water cooperatives have been established in rural areas and small townships. These cooperatives take care of water supply and in a few cases also wastewater services. At the beginning of the 2000's there were 350,000 properties and close to 500,000 summer cottages which were not connected to centralised sewerage networks (Kaarikivi-Laine, 2003). These properties had their own individual, often poorly functioning wastewater treatment systems. The requirements of wastewater treatment of such systems were radically tightened in 2004. In many rural areas, people decided to establish a water and wastewater cooperative to take care of their water supply and wastewater services. Typically, water is bought from a municipal water utility, while only a few cooperatives use their own water intake. Similarly, wastewater is discharged for treatment to a municipal utility's network, while only a few cooperatives have their own wastewater treatment facility. Some already existing water-only-cooperatives have since 2004 enlarged their scope and built a sewer system.

Establishment of water cooperatives

Finland has a strong tradition of cooperatives in various economic sectors. The first water cooperative was established as early as 1907 in Pispala, close to city of Tampere in the region of Pirkanmaa, Southern Finland (Katko, 1997). Since World War II, the establishment of water cooperatives intensified, which has taken different forms. Therefore, water cooperatives can be classified into five, partly overlapping categories (Takala, *et al.* 2011):

1) Consumer-managed systems built before 1950

These cooperatives were built by their members, without external financial support. As funding was scarce, most of the work was done on a voluntary basis. Local material such as logs to make wooden pipes were used (Picture N° 1). In rural areas, there were experiences of cooperative organisation in other sectors such as dairy, electricity, and telephone services. People were used to improving their living conditions without any support from the State or local authorities. By 1956 there were 360 water works in Finland, of which 171 were cooperatives, 30 municipal utilities, and the rest either limited private companies or partnerships (Herranen, 2006).

Picture N° 1. Drilling of wooden water pipes in 1913



Source: Katko, 1997: 37.

2) Water cooperatives established during the 1950s through the 1970s in rural areas

In 1951 a new piece of legislation facilitated government support in the form of loans or grants for the improvement of rural water supply and sewerage (397/1951). During the early years, these subsidies were rather minimal, and they did not have any notable importance in the financing of cooperatives. Presumably, a more significant effect was seen in the quality of infrastructure, as the supervision by authorities became compulsory when State grants or credits were utilised. Municipalities were not eligible to apply for these subsidies (Juhola, 1990).

3) Water cooperatives in rural areas established during the 1980s and 1990s

During the 1980s and 1990s, the policy of several municipalities was to enlarge water and wastewater services so that a larger proportion of rural households could be connected to centralised water and wastewater networks. Municipalities encouraged people to create water cooperatives by giving them professional support and grants and providing guarantees for loans. As an example, in the municipality of Pudasjärvi, located in the province of Oulu, Northern Ostrobothnia, the majority of the 40 existing water cooperatives were established in the 1980s. After Finland joined the European Union in 1995, also EU funding became possible. Still during the 1980s and 1990s, a great majority of water cooperatives was involved in water supply only, not in wastewater disposal (Pietilä, 2013).

4) Water and wastewater cooperatives established since the 1990s

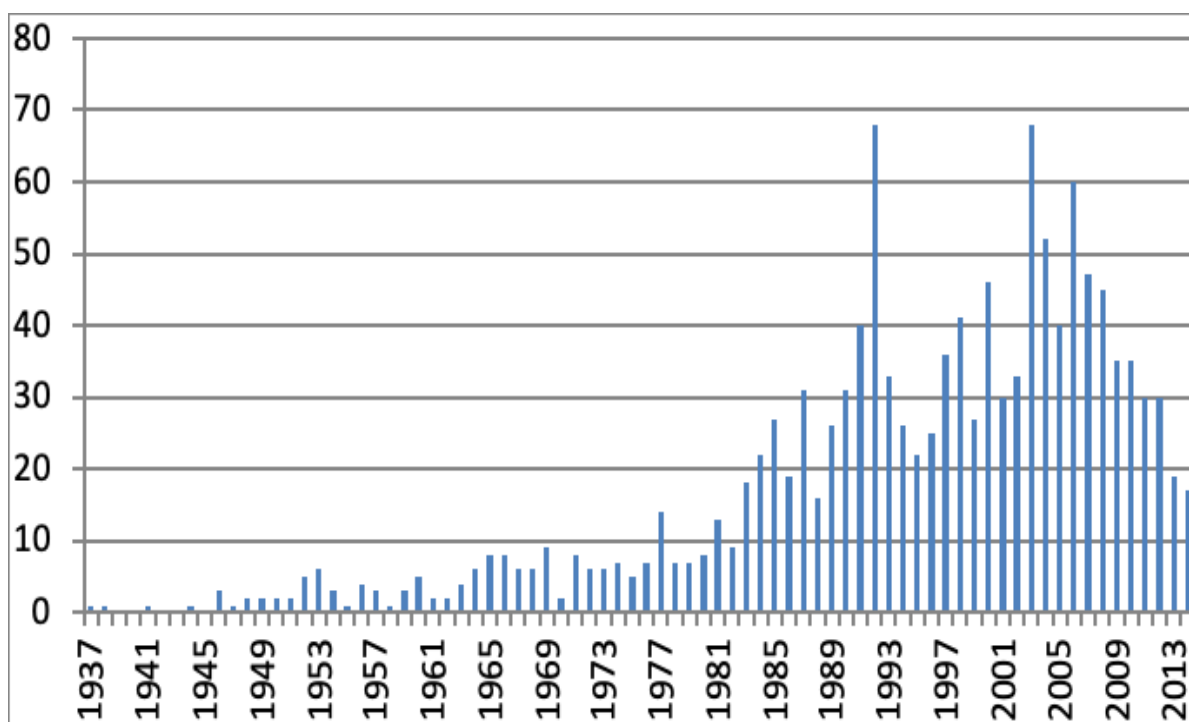
In the early 2000s, establishment of water and wastewater cooperatives was significantly sped up. Partly, this was a result of people's rising expectations regarding the quality of the services –in many cases, the quality of water in their own wells was no longer acceptable. Many people had moved to rural areas after getting used to centralised water services in the urban environment. Remarkably tighter legislation for wastewater treatment for properties not connected to centralised sewerage services was a significant boost for building sewer systems (Decree 542/2003). In practice, almost all cooperatives established since the 2000s operate both water and wastewater networks. Only a few of these cooperatives have their own water source or their own wastewater treatment –they buy water from a larger supplier, typically a municipal water utility, and discharge their water to the municipal sewer network. For instance, in the municipality of Kouvola, capital of the Kymenlaakso region in Southern Finland, out of a total of nearly 50 water cooperatives only two have their own water intake (Pietilä, 2013).

5) Large water cooperatives established in the 1940s and 1950s

During the 1940s and 1950s several cooperatives were established in rural townships to supply and distribute water. Originally, only a few of them took care of sewerage and wastewater treatment. Over the years, these cooperatives have expanded their networks outside the more densely built centres to rural areas. In many of these municipalities, the water cooperative is the sole public water provider –and often also wastewater provider–, and there has never been a municipal water utility (Vihanta, 2014).

Chart N° 3 shows a clear increase in the rate of establishment of water cooperatives in the 1980s when the municipalities' policies favoured the creation of water cooperatives in order to get the rural population within the reach of a centralised water supply system. Another increase occurred in the turn of the millennium mainly due to tighter requirements for wastewater treatment. These newer cooperatives take care of both water supply and sewerage.

Chart N° 3. Establishment of water cooperatives in Finland since 1937



Source: Arvonen *et al.* 2017.

Large water cooperatives

In roughly twenty Finnish municipalities, a water cooperative takes care of water supply and distribution in the major part of the municipality (Table N° 1 and Map N° 1). In some municipalities, the water cooperative network covers 99 percent of the population. In western Finland, in particular, water cooperatives or companies were established instead of municipal utilities in the 1940s and 1950s. The tasks of these water cooperatives are comparable to those of municipal utilities of similar size. A major difference is that cooperatives as independent administrative units are not autonomous from municipal decision-making. This enables long-term financial planning, as cooperatives are not affected by the ups and downs of affecting municipalities' financial needs and priorities. The administration and management of finances is also smoother in the cooperatives than in municipal utilities. The objective of the cooperatives is straightforward: to produce reliable and good-quality services with the income collected. Their purpose is not to generate profit, and any surplus is used to improve the service.

Table N° 1. Large water cooperatives in Finland

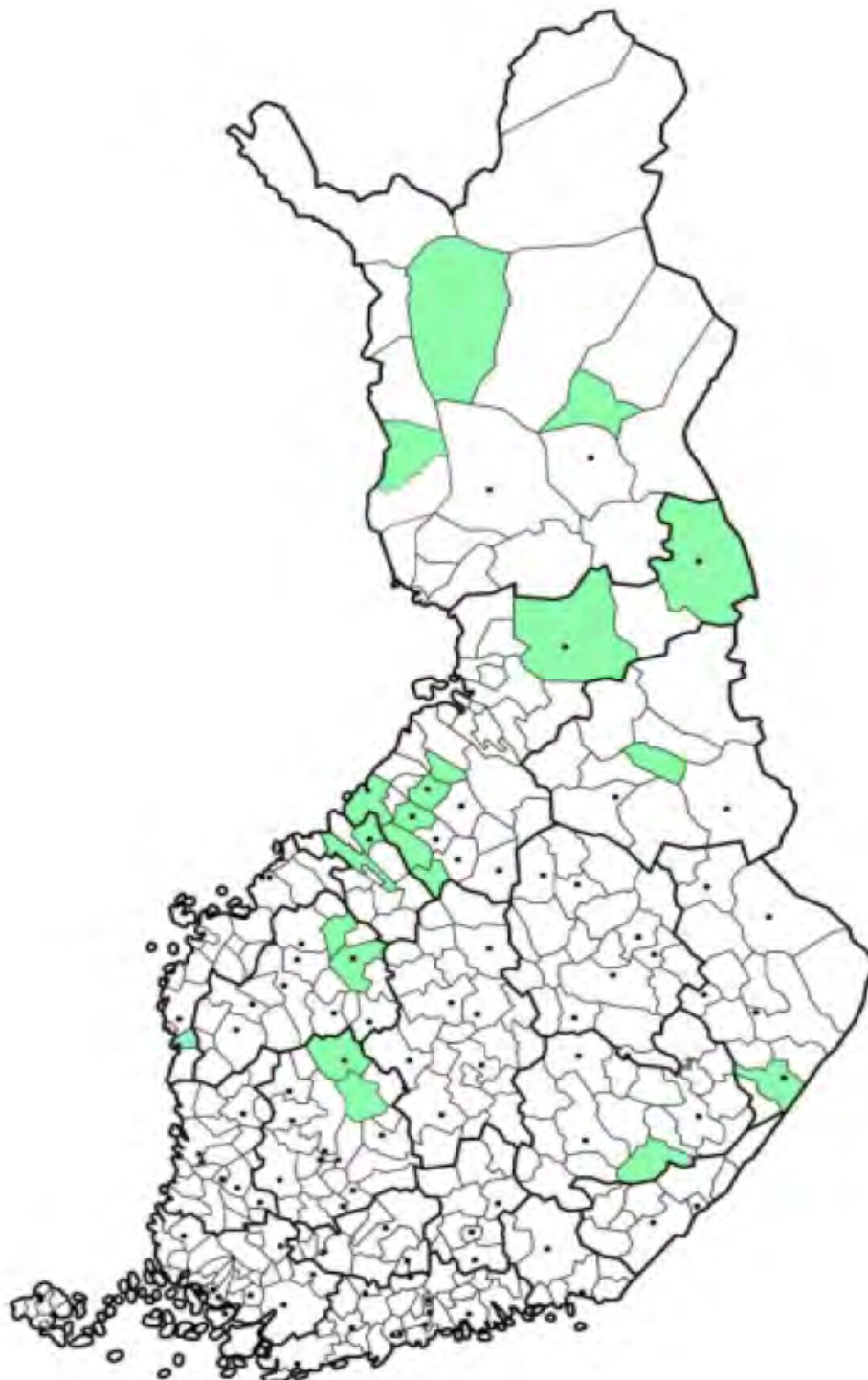
Cooperative	Year of establishment	Population served	Share of municipality's population	Sewerage (Yes/No)
Ylivieska Water Cooperative	1952	14,000	99%	No
Kuusamo Energy and Water Cooperative	1950	11,500*	71%	Yes, since establishing district heating in 1977
Valkeavesi Cooperative	1959	9,600	99%	No
Oulainen Water Cooperative	1950	7,850	99%	No
Kitee Water Cooperative	1952	6,700	70%	Yes, since 1952
Alajärvi Water Cooperative	1946	6,500	63%	No
Kannus Water Cooperative	1946	5,550	99%	Yes, since 2009
Sievi Water Cooperative	1955	5,090	99%	Yes, since 1955
Pudasjärvi Water Cooperative	1956	4,700	99% / 58%**	Yes, since 1956
Virrat Water Cooperative	1953	4,250	57%	No
Kälviä Water Cooperative	1946	4,000	99%	No
Reisjärvi Water Cooperative	1963	2,820	95%	No
Pello Water Cooperative	1963	2,500	65%	Yes
Lappajärvi Water Cooperative	1947	1,800	54%	No
Vihanti Water Cooperative	1957	1,700	57%	No
Puumala Water Cooperative	1955	1,300	55%	Yes, since 1955

* During the winter season the population doubles.

** In the cooperative's operational area coverage is 99%. The cooperative covers 58%, of the municipality's population. There are another 40 cooperatives in the municipality.

Sources: Cooperatives' web pages, annual reports, personal communications and national VELVET database.

Map N° 1. Municipalities of Finland, those with large water cooperatives in green



Source: Vihanta, 2014.

Professionally, these large cooperatives are at least at the same level as municipal utilities of similar size. They are required to be even more professional than municipal utilities, as cooperatives fund their activities entirely with the income that they generate and cannot expect financial support from the municipalities. Yet, cooperatives normally collaborate with municipalities, as in the case of the municipality of Ylivieska, administrative centre of Kalajokilaakso and Pyhäjokilaakso in Northern Ostrobothnia, where the water cooperative carries out a major part of the municipality's sewer installation and maintenance work (Huuha, 2017). Over recent years, aging water infrastructure and an insufficient rate of network rehabilitation/renovation have caused concern among water-sector professionals. Studies show that the rehabilitation rate should be at least doubled to stop pipelines from deteriorating. The financial situation of municipalities has got tighter in recent years, and savings are sought in every sector. In this context, also municipal water utilities are scrutinised, and their spending is supervised more carefully. As cooperatives are independent of municipal finance, they have been able to carry out the rehabilitation of networks according to requirements (Huuha, 2017, Kotila, 2014).

Municipal policies towards water cooperatives

Municipalities' attitude towards water cooperatives varies to a great extent. Some municipalities have been neither very supportive of the establishment of cooperatives in their territories nor of providing support for the operation of existing cooperatives. Water cooperatives established during recent decades typically buy water from a municipal water utility. From the perspective of the water utility, a cooperative can be seen just as a client. The cooperative's water consumption is not necessarily larger than that of a block of flats, which also counts usually as a single customer for the municipal utility. The reasoning of water utilities is that if larger consumers do not get any wholesale discounts, why should water cooperatives be treated differently (Luoma, 2015; Kytövaara, 2018).

However, some municipalities have actively supported local residents in their efforts to establish water cooperatives. For example, during the 1980s and 1990s, the municipality of Ikaalinen, located in the Pirkanmaa region, Southwestern Finland, allocated a staff member to assist the residents in the planning and construction of water cooperatives in rural areas (Äijälä, 2012). In some municipalities, as is the case in Äänekoski, located in the province of Western Finland, in the central region of the country, there has been continued support for cooperatives, as the municipal utility provides the cooperatives a reduced tariff for bulk water and the treatment of wastewater (Rinne, 2018). Such municipalities have reasoned that by supporting the efforts of cooperatives run by active members of the community, improved water and wastewater services can be delivered at a lower cost than by enlarging the municipal network. Also, it is possible that once the cooperative has paid off its loans, the cooperative's network may be transferred to the municipal utility (Kylä-Kause, 2015).

In 2008, the municipality of Kurikka, located in the province of Western Finland, the region of Southern Ostrobothnia, set clear principles for the provision of municipal support in rural areas to properties to be connected to the networks of water cooperatives (Kotiranta, 2015). The principles to grant subsidies were:

For connecting to wastewater systems:

- the property's contribution was set at 3,000 EUR;
- for costs exceeding the above contribution, an 80% subsidy was granted.

For connecting to the water supply:

- the property's contribution was set at 2,500 EUR, reduced to 1,250 EUR if the property was connected to the wastewater system as well;
- for costs exceeding the above contribution, a 70% subsidy was granted.

Kurikka expected that property owners would favour centralised water and wastewater systems over individual solutions. Therefore, in cases where properties build their own individual wastewater treatment or water supply system, the municipal subsidy was only 30 percent. These principles were applied until the end of 2014. Kurikka has also acted as guarantee for the provision of loans to water cooperatives. A basic requirement for the municipal guarantee was that the networks had to be planned and constructed according to the requirements of the municipality's water utility, Kurikka Water Company. The utility is also ready to take over cooperative networks after their loans are paid in full, or earlier, if the balance sheet of the cooperative meets certain requirements.

In some cases, the municipality has employed a person to assist the cooperatives in the meeting the formal requirements to get established and providing guidance at later stages (Luoma, 2015). The technical staff of municipalities and water utilities also often provide professional assistance to cooperatives, for example in planning and construction supervision. Often a prerequisite for municipalities' provision of direct financial support or loan guarantees, as was the case in Kurikka mentioned above, is that the materials and the workmanship used in the construction have to meet the requirements of the municipal water utility.

Many municipalities include water cooperatives in their water and sanitation strategies. For instance, in Kangasala, close to the city of Tampere in the Pirkanmaa region, Southern Finland, which has a population of 30,000 people, the Municipal Council decided that the municipal water utility is in charge of water and wastewater services in built-up areas only. In rural areas, the responsibility lies with the residents. The Municipality's water and wastewater development plan includes twelve water and wastewater cooperatives in the rural areas. The establishment and operation of these cooperatives were left entirely to the residents. Neither the municipality nor the water utility give financial subsidies to the water cooperatives, and hardly provide them technical support (Kangasala, 2014).

Challenges and possibilities of water cooperatives

Among political decision-makers in Finland, economies of scale have over the recent years been regarded as a panacea in fighting future financial challenges in various sectors. This trend lives strong even though a recent research on municipal mergers indicated that mergers did not bring along any financial savings (Harjumaa, et al. 2017). In the water sector, the authorities have also suggested the creation of larger water utilities. This contradicts the “subsidiarity principle”, a core tenet of the European Union Treaty, which holds that decisions must be made at the lowest appropriate level.

Water cooperatives have certain advantages over municipal water utilities. Decision-making is more straightforward, as the purpose of the cooperative is clear: to produce reliable water and wastewater services to the members with affordable tariffs. There are no requirements to generate profit for an owner or private investor. Long-term financial planning is possible because decision-making is not bound to the terms of politically elected bodies.

Certainly, many water cooperatives in Finland face difficulties. The active members of many small cooperatives are getting old and it has often proven difficult to get younger people to carry on with the voluntary work required to run cooperatives. Initiatives like outsourcing certain activities to overcome this problem has made slow progress, as the cooperative members are not willing to increase tariffs to pay for such services. Table N° 2 summarises the strengths, weaknesses, opportunities and threats (SWOT) facing Finnish water and wastewater cooperatives.

Table N° 2. SWOT analysis of water and wastewater cooperatives in Finland

Strengths	Weaknesses
<ul style="list-style-type: none"> • open, equal, flexible and swift decision-making • typically decisions can be achieved without voting • no political motives in decision-making • increases solidarity • operation not aimed to maximise financial profit but to produce good-quality services with affordable tariffs • municipal borders do not limit activities 	<ul style="list-style-type: none"> • operations may rely on just one or only a few persons, potentially leading to vulnerability • competence in small units can be insufficient • after the system is operational the members may turn passive • just a few active members may misdirect the activities (but typically then other members get active again)
Opportunities	Threats
<ul style="list-style-type: none"> • be part of a municipality's official water service strategy • in rural areas residents do not need to take care of their individual water supply or wastewater systems • cooperation and use of professional services can improve quality and reduce the need of voluntary work 	<ul style="list-style-type: none"> • active members get tired to do voluntary work • volunteers to carry out activities are not found • tighter legislative requirements bring along inordinate demands for small cooperatives • personal relations in small units may get inflamed

Source: Pietilä, 2013.

When talking about the challenges and possibilities of water cooperatives in Finland, one must bear in mind that the cooperatives are very different, and they cannot be analysed as one uniform group. The size varies from small units serving a few households to larger organizations supplying services to over 10,000 people. Some cooperatives have been established only recently while others are over 70 years old.

Discussion and conclusions

Cooperatives have had and still have an important role in water supply and wastewater disposal in Finland, in particular in rural areas. Finland is large country, larger in area than Italy or Great Britain, with a population of only 5.5 million. Between urban centres there are large rural areas with scattered population. Even though Finland is a water-rich country, there are areas with scarce or poor-quality groundwater. River water may be turbid even without any human activity. Particularly in rural areas, there is a long tradition of cooperative organization. Farmers used to establish cooperatives to cater for common needs such as grain milling, saw milling and processing and selling farm products. Thus, when they faced difficulties in getting sufficient volumes of good-quality water, they also often resorted to establish cooperatives to solve the problem.

In Western Finland there are few lakes, suitable groundwater resources are small and scattered, and river waters are of poor quality. During the 1950s people organised themselves and established water cooperatives or consumer-owned companies in several municipalities. In those days, there were no centralised water supply systems even in the population centres of many rural municipalities. Thus, not only in rural areas but also in the population centres, people relied on their own wells for water supply. As many of these cooperatives covered the more densely populated centres of the municipalities, there was no need for the municipality to establish its own water utility.

Still today, in Finland there are some twenty municipalities where a cooperative is the largest or even the sole water service provider. These large cooperatives are performing well and thus the municipalities have no intentions to take them over. However, municipalities have a clear preference for guaranteeing that central services such as the provision of water supply are taken care of by well-established organisations.

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