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*“The water facility is expected to be our salvation”*  
The Construction of a Water Facility and Sewerage System in Kolozsvár  
in the Age of Dualism

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## Abstract

In this study, I propose to outline those processes and events that led to the construction of a modern water and sewerage network in Kolozsvár. First, I am going to examine the sanitation of the city. Here I am mainly interested in how demographic changes taking place in the second half of the century affected the sanitation of Kolozsvár and to what extent they influenced the implementation of the water and sewerage system. After that, I am going to examine the economic aspects of the project, more specifically whether the city’s economic operators supported the establishment of a reliable water supply and sewerage system, if they were indifferent or actively opposed it. Furthermore, I will also examine what role the 1872 establishment of the university played in the establishment of the city’s first waterworks. Finally, I will outline the consequences of the 1893 cholera epidemic, which, although it was the last and least virulent epidemic in Kolozsvár, had a major impact on the construction of the sanitation system.

**Keywords:** Kolozsvár, Transylvania, water facility, sewerage system, cholera, sanitation, public health, economy

## Introduction

Economic and social changes in the 19th century presented challenges for the cities of the time. Due to intensive population growth and the subsequent rise in population density, water supply and disposal of sewage became of increasing concern. In order to alleviate these problems, cities were forced to construct modern water and sewerage lines. In certain cities, however, the need for constructing sanitation systems arose for different reasons: to facilitate the smooth operation of industry and trade, to protect against fire damage as well as the desire for modernisation.

Although both economic and social changes occurred in Hungary considerably later and at a significantly lesser rate than in Western Europe, modern water supply and sewage systems were constructed as well. Their creation was mainly determined by the need for public sanitation combined with safety, economic, and aesthetic considerations. With very few exceptions, the newly established utility networks were owned by the city. This was mostly due to the urbanisation policy emerging and expanding in the last third of the century.<sup>1</sup>

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<sup>1</sup>Thirring, Gusztáv *A magyar városok statisztikai évkönyve* [Statistical yearbook of Hungarian cities] (Budapest, 1912), 432; Sipos, András, *Várospolitikai és városigazgatás Budapesten 1890–1914* [Urban politics and (urban management]

The country's first modern waterworks was officially inaugurated in 1868 in Pest, but its commissioning was somewhat hasty and was intended to be only temporary. The water supply system that covered the entire city was completed several decades later in 1893. Water supply constructions in other parts of the country also began in the 1890s. By the end of the era, 31% of Hungarian cities had modern waterworks and water supply.<sup>2</sup>

As far as Transylvanian<sup>3</sup> cities were concerned, the first waterworks was commissioned in Kolozsvár in 1887, but it supplied only a small part of the city with water since the larger-capacity waterworks was launched only in 1898. The waterworks in Brassó and Szeben were completed in 1894 but that in Marosvásárhely was only opened at the end of 1908. In Transylvania, as in the rest of the country, there was a large lag among the towns with settled councils.<sup>4</sup> These cities provided sourced their water supply largely from public wells. In 1908, waterworks were not in operation in the following Transylvanian settlements: Beszterce, Csíkszereda, Dés, Gyulafehérvár, Kézdivásárhely, Medgyes, Nagyenyed, Szamosújvár, Székelyudvarhely, Vajdahunyad, Zilah. Among the towns with settled councils, Gyergyószentmiklós was in the worst situation since no public wells were functioning and the water was supplied by the Békény stream.<sup>5</sup>

It was widely accepted by the public that only a combination of water supply and sewerage could solve a city's health and sanitation problems. Nevertheless, there were many more waterworks under construction in Hungary than sewage systems. The first concrete sewage system was built in Pest and Buda in 1870 but the more modern type of sewage system was not built until the 1890s. Kolozsvár, Arad, Besztercebánya, Fiume, Szeged and Szombathely also had their first sewage systems in these years. Most cities mainly focused on the sewerage of central areas while suburban parts were overlooked for the time being. There were financial and practical reasons behind this as sparsely populated peripheral areas did not require as much modern sewerage as the more populated and densely populated central part of the towns did. By 1910, three-quarters of the towns (83

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Budapest Főváros Levéltára, Budapest, 1996), 5–6.

<sup>2</sup> Melega, Miklós, *A modern város születése. Szombathely infrastrukturális fejlődése a dualizmus korában*, [The birth of the modern city. Infrastructural development of Szombathely in the dualism era] (Vas Megyei Levéltár, Szombathely, 2012), 23; In Sipos, *Várospolitika*, 208.

<sup>3</sup> A historical region of the Kingdom of Hungary. From 1570, a sovereign state dependent of the Ottoman Empire. Then it was part of the Habsburg Empire up until the compromise of 1867.

<sup>4</sup> A legal and administrative category of Hungarian cities.

<sup>5</sup> Thirring, Gusztáv, *A magyar városok*, [Hungarian Cities] 431–433; Schustler, József, “Városok vízellátása és csatornázása az ezredéves országos kiállításon II,” [*Water supply and sewage of cities*] *Magyar Mérnök és Építész Egylet (MMÉE)* no. 2 (1897): 86; *Magyarország városainak háztartása az 1910. évben*, (Budapest, 1916), 34–35.

with a settled council and almost all municipalities<sup>6</sup> had some form of sewerage system. However, only 13% of the cities had a modern sewage line covering the entire town.<sup>7</sup>

### The Construction of a Water Facility and Sewerage System in Kolozsvár – Preliminaries

The Transylvanian Government-General Office<sup>8</sup> moved to Kolozsvár in 1790, leading to the city becoming the most important administrative centre of Transylvania. Accordingly, the reputation and prestige of Kolozsvár also increased. As a result of this, officials, high-ranking officers and aristocratic families became beneficiaries of the town's new status and they longed for a more sophisticated and cleaner environment. At that time, however, the city did not have a detailed public cleanliness policy and those limited number of regulations that were made to keep the town clean were not always enforced. Due to this, litter and manure were often piled up in the streets of Kolozsvár.<sup>9</sup> At the same time, it is worth noting that at that time many other Transylvanian cities had similar public cleanliness conditions, with the difference being that in certain settlements hygiene problems occurred to a greater extent while in others to a lesser extent. However, the basic problems were the same everywhere therefore Kolozsvár was not unique in this respect. In his book published in 1787, István Mátyus, the county's chief physician, reported on the state of public cleanliness in some Transylvanian cities and wrote about conditions similar to those in Kolozsvár.<sup>10</sup>

In 1791, 1793 and 1800 the Government-General Office took steps to alleviate the situation in Kolozsvár and to improve the conditions of public cleanliness. According to Elek Jakab, a historian of Kolozsvár, the measures resulted in “better constructions, paving of streets and squares and the cleaning of the main square”. However, due to high costs, the planned sewage line could not be built and therefore the water supply remained unresolved. The subsequent problems occurred during the 1831 cholera epidemic. At that

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<sup>6</sup> A legal and administrative category of Hungarian cities.

<sup>7</sup> *Magyarország városainak háztartása, [Household of Hungarian cities]* 34–35; Schustler, „Városok vízellátása,” [Water supply of cities] 17; Melega, *A modern város születése*, 24. [Birth of the modern city]

<sup>8</sup> A.K.A.: Gubernium. The most important political and administrative unit of the province

<sup>9</sup> Egyed, Ákos, “Kolozsvár vonzáskörzete a XIX. században,” [The area of Kolozsvár in the 19th century] *Korunk*, no. 4 (1982): 281; Jakab, Elek, *Kolozsvár története III*, (Budapest, 1888), 617.

<sup>10</sup> Mátyus, István, *Ó és Új diaetetica az az: az életnek és egészségnek fenn-tartására és gyámolgatására, Istentől adattatott nevezetesebb természeti eszközöknek való elszámolása*, [Old and new dietetics: to sustain and pamper life and health, considering well-known natural tools given from God] (Pozsony, 1787), 273.

time, Mihály Pataki, the judge of Kolozsvár, put the issue of water supply back on the agenda.<sup>11</sup> The acquisition of water was mainly ensured by drilling artesian wells and the establishment of a modern water supply was not considered at the time. Presumably, a lack of finance was the main obstacle here as well.

The issue of water supply was not addressed in the following decades either. However, this also includes the fact that during the revolution of 1848-49 and with the introduction of neo-absolutism, Kolozsvár suffered significant material damage and the town lost its administrative role.<sup>12</sup> Due to this, larger budget developments were mothballed. The water and sewage line design devised by architect Antal Kagerbauer in 1858 was probably rejected for this reason.<sup>13</sup> Due to the new building regulations, Kagerbauer claimed that the construction of modern water supply and sewage systems had been crucial. He calculated that those sections of the regulation which concerned toilets, wells, digestion pits and sewage disposal required amendments that would be extremely costly. For that reason, he concluded that, in the long run, it would be better for the city to spend this amount on building a water and sewage network. In the case of both networks, he mentioned the benefits of convenience, aesthetic, security and cleanliness aspects but he did not go into the details. The main point of his design focused on financial considerations.

Despite all of Kagerbauer's efforts, the town disregarded his ideas, and the water supply and sewage line plan was not put on the agenda. The unfavourable financial situation of the town did not allow for the financing of such a large investment, moreover, the leaders of Kolozsvár were suspiciously reluctant to put a strain on the budget.

## Changing Times

In the field of water supply and sewerage utilities, the first minor change came after the compromise of 1867 and the union with Hungary. Although Kolozsvár lost its status as the country's capital due to the union, the university and a number of new administrative offices have been established and in the meantime the railway system also reached the town. As a result of these changes, Kolozsvár became the second most important city in Hungary in terms of education, administration and culture. However, this sudden rise was not accompanied by a

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<sup>11</sup> Jakab, *Kolozsvár*, [Kolozsvár] 612–613; 617–618; 670; 672–673; 898.

<sup>12</sup> Egyed, Ákos, „A korszerűsödő Kolozsvár három évtizede,” [3 decades of the modern Kolozsvár] in *Kőfallal, sárpalánkkal. Rendí társadalom – Polgári társadalom 7*, edited by Németh, Zsófia – Sasfi, Csaba (Debrecen, 1997), 90.

<sup>13</sup> Kagerbauer, Antal, *Kolozsvár városa vízerezét, vízvezetését, kövezését, kanálisátíóját s a többi rendező terve*, [Plan of Kolozsvár's water, sewage, paving, channels and others] (Kolozsvár, 1858), 1–28.

modernizing of the city’s infrastructure. The town’s public lighting was provided by dimly lit kerosene lamps, the streets were mostly unpaved with only thirteen two-story buildings throughout the whole city while the city’s centre alone had more than a hundred stables.<sup>14</sup> At the same time, the established administrative and educational institutions significantly increased the prestige of Kolozsvár and had an impact on the way of thinking and the attitude of the urban elite. As the “capital of Transylvania”<sup>15</sup>, many believed that Kolozsvár should be worthy of its reputation and should move with the times. This can easily be found in the tone of articles published in contemporary dailies. In addition, the writings of the elite also show that Kolozsvár could not afford to lag behind. Obviously, this approach was characteristic of other cities as well but in the case of Kolozsvár it was even more emphatic as the authority, built over the centuries, greatly influenced urban public thinking. The most spectacular manifestation of this was the liveable environment and public cleanliness which were considered to be one of the most important measures of urban civilization: “The standard of a city’s civilisation is expressed in the development of a sense of public cleanliness.”<sup>16</sup> László Kőváry claimed.<sup>17</sup> However, this could only be achieved by building a modern water and sewage system. In Kolozsvár, but, this only existed in theory as no concrete steps had yet been taken. At that time no Hungarian city had a sewerage network or water supply, only Budapest had a temporary waterworks. This fact certainly played a pivotal role in this situation.

The situation changed after the 1873 cholera epidemic.<sup>18</sup> The epidemic highlighted the city’s public sanitation problems as a result of which the issue of sewage and water system became a topic of public discourse. The leaders of the town planned to build a water facility but the unfavourable financial situation of Kolozsvár, which was further aggravated by the stock market crash of 1873, did not allow for it.<sup>19</sup> From then on, the importance of public cleanliness and the water and sewerage system became more and more pronounced among the people of Kolozsvár.

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<sup>14</sup> Egyed, „A korszerűsödő,” 91; Kőváry, László, *Kolozsvár sz. kir. város lakosai és lakásai az 1869-70-ki népszámlálás szerint*, [Inhabitants and apartments of Kolozsvár, royal free city according to the 1869/70 census] (Kolozsvár, 1870), 11–12.

<sup>15</sup> This one refers to the town’s previous status as the title is used even today: Kolozsvár is the region’s economic, educational and cultural centre.

<sup>16</sup> Kőváry, László, *Kolozsvár köztisztasági és közegészségügyi mozgalmi és kívánalmi*, [Sanitation and public health movements and needs of Kolozsvár] (Kolozsvár, 1892), 12.

<sup>17</sup> Kolozsvár resident, historian, statistician.

<sup>18</sup> The 1873 cholera epidemic affected the population of Kolozsvár very severely. More than a thousand became ill and five hundred died from health complications of cholera. In Gál, Edina, „A kolozsvári kolerajárványok a sajtó tükrében,” [Kolozsvár’s cholera epidemic in the press] *Erdélyi Krónika*, May 27, 2018, <https://erdelyikronika.net/2018/05/27/a-kolozsvari-kolerajarvanyok-a-sajto-tukreben/>

<sup>19</sup> Simon, Elek, *Visszatekintés Kolozsvár sz. kir. törvényhatóságának hat évi önkormányzati közgazgatására 1874-79*, [Throwback to 6 years of Kolozsvár’s public administration] (Kolozsvár, 1880), 10–12; *Magyar Polgár*, October 10, 1874.

In addition to the cholera epidemic, the medical department of the university, founded in 1872, the public health movement originating in England and arriving through Germany, the development of health science<sup>20</sup> and a wide-ranging information campaign in the local press may also have played an important role in changing attitudes. Perhaps the latter had the greatest impact on Kolozsvár. The opposition and pro-government press, often in competition with each other, demanded the establishment of a public sanitation infrastructure. Meanwhile, they were constantly following the progress of other cities and as soon as they learned of the development of a particular settlement, they expressed their deep disappointment: “Kolozsvár has just been overtaken by the city of Pozsony in the construction of the water facility. The foundations have been laid there recently.”<sup>21</sup> Or they expressed their shock: “The small capital of Serbia, Belgrade, wants to build water supply and sewerage system Kolozsvár has been desperately waiting for so long”.<sup>22</sup> Clearly, the press tried to put pressure on city administration by publishing this type of news.

In addition to the press, prominent inhabitants of the city, engineers, doctors, university professors decided to express their views in short essays and articles explaining why it was necessary for Kolozsvár to build a sewage and water system.<sup>23</sup> Most of them urged this for to public cleanliness reasons as the worsening hygiene conditions had a number of unfavourable consequences on public health.

### Treasure town<sup>24</sup>, Dirty town

The constantly deteriorating public cleanliness situation in Kolozsvár was mainly related to the growth in population and livestock. During the first 30 years of the compromise of 1867, the population of Kolozsvár grew by 75 per cent. As far as regional centres are concerned, only Zagreb witnessed greater population growth.<sup>25</sup> However, this rapid reproduction caused a severe cleanliness and housing crisis: “The number of permanent inhabitants is multiplying and the countryside is flooding in increasing proportions. In

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<sup>20</sup> According to the Kolozsvár Medical and Natural Sciences Association, a water supply and sewerage system would greatly improve Kolozsvár public health conditions. In *Magyar Polgár*, April 27, 1877.

<sup>21</sup> *Ellenzék*, August 27, 1884.

<sup>22</sup> *Ellenzék*, November 5, 1884.

<sup>23</sup> Without aiming to give an exhaustive list: József Salamon doctor, Leó S. Pataky doctor, Rudolf Fabinyi professor, chemical engineer, Vilmos Gamauf teacher, agricultural specialist, Mihály Kugler city chief engineer, László Kővári historian, statistician.

<sup>24</sup> Nickname of Kolozsvár.

<sup>25</sup> Beluszky, Pál, “A polgárosodás törékeny váza – városhálózatunk a századfordulón,” *The fragile frame of civilisation – city network at the turn of the century*] *Tér és társadalom*. no. 3-4 (1990): 22.



the first place, everyone is shouting for an apartment...”<sup>26</sup> A slum near the downtown called Sáncaľja was in one of the worst situations. This settlement, mostly inhabited by marginalised day labourers and maids, without any kind of planning, was completely organic and even the most basic conditions of public cleanliness were lacking.<sup>27</sup> In Pata street, in the slum between Külmonostor street and Seta square<sup>28 29</sup> and in the Kétvízköz and Hidelve districts, conditions were very poor. These neighbourhoods had the highest number of people per room (one room / 3 - 3.2 people). Most of the one-story houses here had extremely low interiors. The rooms were small and dark and the walls were constantly wet. In the winter, the whole family crowded into a single room.<sup>30</sup> József Salamon, doctor in Kolozsvár, was examining the Kajántó street belonging to Hidelve district and he concluded that “there is no runoff of rainwater and it floods every time, stops there and becomes very smelly. The water evaporates only slowly by the heat of the sun always leaving rotting organic matter behind”. As a result, floors of the apartments are soaked, the walls were damp and “these are the nests and breeders of the malaria, typhus and scrofula especially in small children.”<sup>31</sup>

In addition, cesspools and manure hills multiplied throughout the town and it became increasingly difficult to dispose of faeces. Only a quarter of the human waste produced by the inhabitants was removed. Chemical analyses have shown that by the 1880s, almost all public wells contained some harmful substances.<sup>32</sup> According to chemical engineer Rudolf Fabinyi, “some wells, almost without exception are immediately adjacent to rubbish hills and excrement and their water is yellowish and has a disgusting smell.” As the site plan shows, the Talpas well, for example, “is surrounded by rubbish hills and large cesspools.”<sup>33</sup> Therefore, the main cause of contamination was the improper construction of the toilets and cesspools which were not enclosed with masonry and the faeces entering there leaked into the wells.<sup>34</sup> “If we had cemented and emptied our

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<sup>26</sup> cited by Egyed, *Korszerűsödő*, 97.

<sup>27</sup> Filep, Gyula, *A kolozsvári munkáslakásokról*, [About the workers' apartments of Kolozsvár] (Kolozsvár, 1902), 6–8.

<sup>28</sup> The biggest park in Kolozsvár.

<sup>29</sup> Kőváry, *Kolozsvár köztisztasági*, 14. [Sanitation of Kolozsvár]

<sup>30</sup> *Magyar Polgár*, August 11, 1883.

<sup>31</sup> Salamon, József, *Kolozsvár népesedésének akadályai és javaslatok ezek elhárítására*, [Obstacles to the population of Kolozsvár and suggestions for overcoming them] (Kolozsvár, 1880), 23.

<sup>32</sup> Fabinyi, Rudolf, *A vízről, levegőről, talajról, különös tekintettel Kolozsvár egészségügyi viszonyaira*, [About water, air, soil, and especially about the health conditions of Kolozsvár] (Kolozsvár, 1882), 47; S. Pataky, Leó, *Kolozsvár közegészségügye*, (Kolozsvár, 1893), 1; *Magyar Polgár*, March 18, 1881; *Magyar Polgár*, March 20, 1881.

<sup>33</sup> Fabinyi, *A vízről*, [About water] 41. 48.

<sup>34</sup> Salamon, *Kolozsvár népesedésének*, [Population] 23.

pits, would our soil be contaminated today?<sup>35</sup> – Kőváry asked the question years later. The water of Little Szamos, which used to be used for drinking, also became polluted. The contamination was again caused by the toilets.<sup>36</sup>

Since Kolozsvár did not yet have systematically developed public cleanliness regulations, certain problems were present throughout the town: “the sludge is poured from every house onto the street in front of the gate, right next to the sidewalk rotting and stinking there in the summer and turning into an iceberg in the winter; it disintegrates into disgusting puddles in the spring, finally these turn into a disgusting conservatory of dangerous rot crops of animal and plant materials.”<sup>37</sup> In the absence of higher water pressure, the rudimentary ditches and ramparts could not wash away the dirt. “In the bed of our streets, [...] clean, fresh streams do not flow like diligent, agile carriers of the dirt gathered and accumulated through the ages; it hurts the sense of beauty, hurts our sense of smell and respiratory organs and it poisons both our soul and our body.”<sup>38</sup> In addition, there was a shortage of water in the town causing more and more problems for the population in obtaining the right amount and quality of water.<sup>39</sup>

The resulting sanitary problems had an impact on the public health situation in Kolozsvár. If we take a look at the mortality rate in towns with municipal rights between 1880 and 1891,<sup>40</sup> we can see that the number of deaths per thousand people was remarkably high in Kolozsvár (1000 / 34.8). In the list of the towns with municipal rights (25), Kolozsvár ranked 22nd. However, according to the calculations of József Salamon, the death toll topped 40 in 1878. In addition, he claimed that: “The mortality rate is higher in Kolozsvár [...] than anywhere else in Europe.”<sup>41</sup> According to his calculations, in the largest cities of Europe the number of deaths per thousand people was between 22 and 30 while in Kolozsvár it was over 40.<sup>42</sup> The 1877 report by Mayor Simon Elek confirmed Salamon’s calculations. The Mayor’s report counted 39 deaths per thousand inhabitants.<sup>43</sup> Obviously, the European comparison seemed an exaggeration, but nonetheless, the mortality rate in Kolozsvár was incredibly high. The press described this as “another argument in favour of

<sup>35</sup> Kőváry, *Kolozsvár köztisztasági*, [Sanitation] 38.

<sup>36</sup> Kőváry, *Kolozsvár köztisztasági*, [Sanitation] 25.

<sup>37</sup> Salamon, *Kolozsvár népesedésének*, [Population] 25.

<sup>38</sup> Salamon, *Kolozsvár népesedésének*, [Population] 25.

<sup>39</sup> *Ellenzék*, May 2, 1882.

<sup>40</sup> *Közgazdasági és statisztikai évkönyv*, [Economic and statistical yearbook] (Budapest 1894-1895), 157.

<sup>41</sup> Salamon, *Kolozsvár népesedésének*, [Population] 4. 10.

<sup>42</sup> Salamon, *Kolozsvár népesedésének*, [Population] 20.

<sup>43</sup> Simon, Elek, *Évi jelentése Simon Elek kir. tanácsosnak, mint Kolozsvár sz. kir. város polgármesterének Kolozsvár sz. kir. város önkormányzati, igazgatási, anyagi és szellemi állapotáról az 1877-dik évben*, (Kolozsvár, 1878), 69. [Elek Simon’s annual report on the municipal, administrative, material and intellectual status of Kolozsvár in 1877]

the urgent need for a water and sewage system.”<sup>44</sup> According to contemporary observations, some of the deaths were indeed related to the lack of water and sewerage.<sup>45</sup>

### The Stimulant of the Economy?

In some cases, the construction of the water and sewage network was built due to pressure from the manufacturing industry. In the case of Kolozsvár, however, we cannot speak of a significant manufacturing industry. At the end of the 1860s, with the exception of the state-run tobacco factory, there were only three minor factories in Kolozsvár.<sup>46</sup> None of the 34 industrial joint-stock companies established between 1867 and 1873 in Transylvania and its smaller neighbourhood was located in Kolozsvár: this fact shows the considerable backwardness of the town.<sup>47</sup> The arrival of the long-awaited railway did not move things forward in the manufacturing industry either, only two new factories were established.<sup>48</sup> However, the factories in Kolozsvár had one thing in common: without exception, each was located next to a natural watercourse which meant that the amount of water needed for production - and everything else - was fully available. Therefore, the majority of the factory owners were not interested in building a water facility covering the entire town. Although there were some plants that were located far from the Szamos and the water supply would have been important for them. However, these were not influential enough to encourage the town start a development that would have cost hundreds of thousands of forints.

Nevertheless, some experts in Kolozsvár considered the economic significance of the water and sewage system crucial. In his work published in 1880, József Salamon claimed that two hundred people - or as he wrote “200 hundred adult workers” - a year could be saved as a result of the establishment of public sanitation infrastructure. He also calculated that the town would be “richer as we would save two hundred thousand forints with all this.”<sup>49</sup> The 1881 design of chief Engineer Mihály Kugler approached the economic significance

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<sup>44</sup> *Ellenzék*, April 13, 1882.

<sup>45</sup> *Magyar Polgár*, April 27, 1877; *Magyar Polgár*, May 22, 1879; *Ellenzék*, February 15, 1881; *Ellenzék*, February 18, 1882; *Magyar Polgár*, December 17, 1903.

<sup>46</sup> A gyáripar fejlődésének akadályairól lásd: [Obstacles to the development of manufacturing industry, see]: Fazakas, László, “A kolozsvári gyáripar fejlődését gátló tényezők a dualizmus korában,” [Factors hindering the development of the Kolozsvár manufacturing industry in the age of dualism] *Erdélyi Krónika* May 29, 2020, <https://erdelyikronika.net/2020/05/29/a-kolozsvari-gyari-par-fejlodesenek-gatlo-tenyezoi-a-dualizmus-koraban/>

<sup>47</sup> Egyed, Ákos, *Falu, város, civilizáció*, [Village, city, civilisation] (Kolozsvár, 2002), 223–224.

<sup>48</sup> Fazakas, László, “Ipar és infrastruktúra kapcsolata a dualizmus kori Kolozsváron,” [The relationship between industry and infrastructure in Kolozsvár in the age of dualism] *Erdélyi Múzeum*, no. 1 (2020): 101–102.

<sup>49</sup> Salamon, *Kolozsvár népességének*, [Population] 35.

of the water and sewage system from a different perspective.<sup>50</sup> Kugler believed that the two utility networks would increase the value of local properties, bring new life to construction, and lead to significant investment. In his view, if they created those conditions of public cleanliness that met the needs of richer citizens, they would be happy to move into the city and build houses and, more importantly, they would also bring their property and capital as well. They would spend or invest their money there which would significantly assist in expanding the town's economy. At the same time, he was also aware that such a development would cost a sizeable amount of money. But, according to him, this could be solved in a manner that would also strengthen the economy of Kolozsvár eventually. Kugler suggested that the construction of the water and sewerage network should be established by local craftsmen and their salaries would remain in the town: in this way, a part of their tax would go back to the Treasury of Kolozsvár: "Bear in mind that at least half of the invested money would remain in Kolozsvár since day laborers, carriers, and such craftsmen involved in technical work as masons, blacksmiths, carpenters, household joiners, locksmiths and tinsmiths would find this a good source of income for at least half of the amount". In addition, a modern water facility could significantly help the town's economy by reducing the severity of accidental fires. Among the inhabitants of the town, the memory of the 1876 fire was still very much alive: 88 houses were burned down and 167 families became homeless.<sup>51</sup> In his account, Mihály Kugler wrote: "If they do not meet with human resistance, natural forces know no boundaries in destruction: a town without a water facility could be burned down overnight, millions of belongings could be lost in an hour: all of these could have been saved by spending a few hundred thousand forints."<sup>52</sup>

Although it is unknown to what extent Mihály Kugler's account influenced the decisions of the town leaders, the general assembly soon put the issue of water and sewage network on the agenda and they even announced a tender to which three companies applied. Eventually, referring to the town's unfavourable financial situation, none of these were accepted: "Yes, yes, water facilities and sewage systems would be great, but we shouldn't go over the top because Kolozsvár is a small and poor town and spending hundreds of thousands or millions would be a disaster for us" – recalled Antal Salamon, councillor, referring to the economical, cost-effective view of the town leaders.<sup>53</sup>

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<sup>50</sup> *Magyar Polgár*, April 1, 1881.

<sup>51</sup> Simon, Elek, *Simon Elek polgármester jelentése Kolozsvár sz. kir. város 1876. évi önkormányzati, igazgatási, anyagi és szellemi állapotáról*, Elek Simon's annual report on the municipal, administrative, material and intellectual status of Kolozsvár in 1877] (Kolozsvár, 1877), 30.

<sup>52</sup> *Magyar Polgár*, April 1, 1881.

<sup>53</sup> Cited by Ferenczi, Szilárd: *Kolozsvár várospolitikája 1890–1914*, PhD disszertáció, [Urban policy of Kolozsvár 1890-1914. PhD dissertation] (Kolozsvár, 2018), 156.

### Ministry intervention

The Ferencz József University, founded in 1872, was one of the most important milestones in the development of Kolozsvár (as it is even today). In addition to science, education, culture and economy, it has also had a significant impact on the modernisation of the town. For example, the town established a waterworks thanks to the medical, life and public health institutes of the university. Later this functioned as the basis of the entire water supply system of the town.

The buildings of the university’s research institutes were almost completed by 1885 and a constant water supply was essential for their optimal operation. In order to solve this problem, the Minister of Religion and Public Education notified the council of Kolozsvár and ordered the construction of a waterworks for the university institutes.<sup>54</sup> Taking advantage of the opportunity and after a series of debates and negotiations, (the city council did not want to accept the financial plan submitted by the ministry), Kolozsvár’s leaders finally decided to finance the waterworks.<sup>55</sup> “The city has excellent intellectual and material interests in the university...” – that was the reason. The waterworks in Fásberek<sup>56</sup> was inaugurated in 1888. However, at this stage it only supplied water to the university, the promenade and two streets of the town.

The Ministry of Religion and Public Education and the university established in 1872 played a crucial role in the construction of the first modern waterworks and water facility in Kolozsvár. Negotiations with the ministry or in the general assembly were not straightforward. The main cause of the conflicts was the cost of the facility. The long hesitation of the local representatives demonstrated that, even if there were water supply problems in the town, they did not want to spend money to solve them. This is also confirmed by the fact that the water supply system built with the Ministry was only a partial solution as neither the water supply nor hygiene problems were solved. There are several reasons as to why the the town’s leaders were satisfied with this partial solution. Firstly, the waterworks implemented with the Ministry did not pose such a financial risk. No substitute taxes had to be imposed and this way, a politically sensitive and unpopular measure could be avoided. At the same time, the investment allowed them to claim that the town’s administration had done its best to improve the public cleanliness of

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<sup>54</sup> Román Nemzeti Levéltár Kolozs Megyei Igazgatóság, Fond. 1. Kolozsvár Polgármesteri Hivatala - Közgyűlési jegyzőkönyvek, mikrofilmen [Romanian National Archives Cluj County Directorate. Cluj Mayor’s Office - Minutes of the General Meeting, on microfilm] (hereinafter: RNLt KMI, F1. Kgy. jk.): 1885. 96–97. f.

<sup>55</sup> RNLt KMI, F1. Kgy. jk. 1886. 218–219. f.; *Magyar Polgár*, 1886. október 16; *Ellenzék*, 1886. október 16.

<sup>56</sup> It is located in the eastern part of the city, enclosed by the Szamos and the mill-run.

Kolozsvár. Furthermore, they expressed their intention to extend the Fásberek water line to the entire town. This is indicated by their aim to advertise a tender for the works for which they started negotiations in the following years. It is important to note here that the construction of the sewage line was also planned at this time. However, both issues progressed very slowly, due to this, demands for the construction and expansion of the two systems increased. “The water facility is expected to be our salvation.”<sup>57</sup> – László Kőváry summed up the situation.

### Consequences of the 1893 Cholera Epidemic

The Cholera epidemic reached Hungary in 1892. Considering the rapid spread of the epidemic, the city council of Kolozsvár took a series of preventive measures. A cholera hospital was built and passengers arriving at the train station and their luggage were disinfected daily. Meanwhile, aware of the city’s water supply and hygiene problems, Kőváry stated that: “[...] at whatever cost, the water facility is absolutely necessary...”<sup>58</sup> Regardless of Kőváry’s statement, the city assembly decided to extend the sewage line to the town’s main square.<sup>59</sup> Although there is no specific evidence of this, it can be assumed that the social background – “where the houses of our lords and wealthy people stand...”<sup>60</sup> – of the main square inhabitants played a major role in the extension of the sewage line. In addition, in May 1893, a new regulation of public sanitation entered into force stipulating that some of the public cleanliness tasks shall henceforth be carried out by the city authorities. This meant that the town would take care of the cleaning of streets, public spaces, pavements and the removal of litter (this did not include animal waste and manure as it was still to be disposed of by the owner of the apartment). However, the main points of the regulation were only relevant to certain parts of the town, mostly to the downtown and its surroundings.<sup>61</sup>

Despite the hasty measures, the cholera epidemic, compared to other Transylvanian cities, severely affected the population of Kolozsvár in 1893. If we take a look at the public health statement of the Hungarian Statistical Bulletins, we can see that in 1893, 128 people died as a result of the cholera epidemic in the town. The number of deaths alone was not high but if we compare this with the number of deaths in the surrounding counties

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<sup>57</sup> Kőváry, *Kolozsvár köztisztasági*, [Sanitation] 27.

<sup>58</sup> Kőváry, *Kolozsvár köztisztasági*, [Sanitation] 30.

<sup>59</sup> Ferenczi, *Kolozsvár*, 159; Kőváry, *Kolozsvár köztisztasági*, 29.

<sup>60</sup> *Magyar Polgár*, Jun 12, 1883.

<sup>61</sup> RNLt KMI, F1. Kgy. jk. 1893. 41–42. f.

and cities, significant differences can be observed. For example, in Marosvásárhely, only one person died from cholera while eleven deaths were registered in the whole county. 54 deaths were reported in Torda-Aranyos county, 8 in Beszterce-Naszód county and 61 in the county of Kolozs. In addition, in Transylvania, only 453 people died from cholera. From this perspective, the 128 registered deaths in Kolozsvár is comparatively high. This accounted for 28% of the total deaths in Transylvania. In Kolozsvár, the first cholera disease was registered on 21st July 1893 and the last on 30th October. During this time, 209 people became infected, 0.58% of the population. Out of the 209 registered patients, 128 died accounting for 61.24% of all infections. Therefore, over half of the patients died from health complications caused by cholera. The most critical month of the epidemic was August when 151 people became infected and 91 died.<sup>62</sup>

The inhabitants of Kolozsvár were deeply affected by the cholera epidemic in several ways. On the one hand, the severity of the epidemic and the high mortality rate caused panic among the residents. On the other hand, the prestige of the town was also seriously impacted. The city produced the highest number of deaths in Transylvania despite having the second most excellent medical department in the country since 1872 with several prestigious medical professors founding the Medical-Natural Science Society in 1876 as well as launching a prestigious medical journal. In addition, the Institute of Chemistry was founded in 1882, while the State Chemical Experimental Station and the Institute of Life and Public Health were established in 1887. The first modern waterworks of the town was also inaugurated in 1887. Although the latter provided water to only a small part of the town, it did not matter in this case: the fact that Kolozsvár (for the first time in Transylvania) had established a waterworks was much more important. This symbolized progress and, as many contemporary studies claimed, the water facility played a significant role in preventing the epidemic.<sup>63</sup> Conversely, the local press reported that the sewage system transported contaminated water during the worst period of the epidemic.<sup>64</sup> Although it is unknown to what extent it was related to the spread of cholera, it certainly reflected negatively on the city administration and on local health institutions. In addition, the cholera epidemic was deliberately called “acidic gut inflammation”<sup>65</sup> which also give the authorities a bad name. It is unexplained why this was done, their goal was probably to conceal cholera. This step

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<sup>62</sup> “*Magyar Statisztikai Közlemények 1894*,” [Hungarian Statistical Bulletins] (Budapest, 1895), 83–85.

<sup>63</sup> Of course, only if the sewage line carried uninfected water. In a study by Asa Briggs, it was claimed that many people in Hamburg fell ill due to the sewage line. This is explained by the fact that the sewage carried contaminated water and there were no filtering facilities: therefore, nothing could prevent the spread of the cholera. In Asa Briggs “Cholera and Society in the Nineteenth Century,” *Past & Present*, no. 1 (1961): 78.

<sup>64</sup> *Kolozsvár*, August 28, 1893.

<sup>65</sup> Gastritis.

was somewhat counterproductive and made things even worse. The suburban population had no confidence in public health measures, and they were constantly revolting as a result, Kolozsvár came to the attention of the national press.<sup>66</sup> These events significantly reduced public confidence in the authorities.

After the epidemic, it became clear that the situation of public cleanliness, the regulation of water supply and the issue of a sewage system required immediate solutions. Accordingly, the construction of water and sewage system became paramount. In 1894, the town administration signed a contract with the Zellerin Corporation (which was responsible for the construction of the water facility) and Melocco (which was responsible for the sewage system) and building work started during that year.<sup>67</sup> The main pipes of the water and sewage network were laid within four years. By that time, however, the capacity of the Fásberek river basin, which had been built jointly with the Ministry, had been reduced to a minimum.<sup>68</sup> Some city councillors suggested that it should be expanded immediately, however, another group of city representatives did not support this idea since the river basin was constantly criticised from the public health point of view.<sup>69</sup> Eventually, the Interior Minister intervened and the two parties finally came to an agreement: they decided to build a new basin which was finally put into operation in 1898. By February 1897, only 315 lands had their own water facility (160 of them even had their own sewer), the demand for water and sewage had increased after the construction of the new basin. By 1903, 1,400 lands had their own water and drainage, with 3609 flush toilets and 925 bathrooms in use.<sup>70</sup>

## Summary

The construction of a modern water supply and sewerage infrastructure in Kolozsvár was primarily determined by the needs of society and the education sector while economic considerations were secondary in this case. As far as causes and events are concerned, four played a pivotal role in the town's life. The first was the growth of the population, the

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<sup>66</sup> *Fővárosi Lapok*, August 22, 1893; *Pesti Napló*, August 22, 1893; *Pesti Hírlap*, August 22, 1893; *Budapesti Hírlap*, August 23, 1893.

<sup>67</sup> RNLT KMI, F1. Kgy. jk. 1894. 160–164. f.

<sup>68</sup> As soon as the water facility was established in a street, it was immediately used by the residents causing the water level in the catchment area to fall.

<sup>69</sup> Without water, neither the water supply nor the sewage network could function properly: therefore, water and sewage charges could not be levied. Due to this, they were unable to start repaying the loan. At the same time, there was a barn near the catchment area; later a pig farm was also established and it turned out that the adjacent plots were used as dumps.

<sup>70</sup> Riegler, Gusztáv – Filep, Gyula, *Vezető Kolozsvár városába*, [Leader to Kolozsvár] (Kolozsvár, 1903), 91–93.



deteriorating public cleanliness situation and the unfavourable mortality rates. The second was the increasing prestige of Kolozsvár and the resulting desire for modernization which was mostly represented by the press and the local elite. The third was the newly established university promoted by the ministry. Finally, the fourth was the 1893 cholera epidemic which forced the city administration to take action.

All these events made it possible for Kolozsvár to have one of the most modern technology-based sewage and water supply networks in the country before the turn of the century. The two utility networks brought immense benefits to the people of Kolozsvár and contributed greatly to the development of the modern urban way of life.

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