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REGULATIONS GOVERNING THE IMPACT OF THE AQUATIC ENVIRONMENT ON TRANSPORT IN THE KINGDOM OF POLAND: REMOVING OBSTACLES FROM THE RIVERS, CREATING RIVERSIDE PUBLIC SPACES AND SIGNS AND LAND DRAINAGE

Summary. This work focuses on several aspects of water-related transportation laws as well as drainage law introduced in the Kingdom of Poland before 1860. Thus, while focusing on a) laws concerning the removal of diverse type of obstacles from the rivers used for official navigation; b) establishing of riverside towing routes; c) construction of rivers verst signs on the river banks, this research also deals with the introduction of provisions concerning draining and receiving of waters, which had a huge impact on the road construction and maintenance process in Poland for the first half of the 19th century.

Keywords: water-related transportation laws, drainage laws, Kingdom of Poland, 19th century

1. THE LAWS ON LIQUIDATION OF BUILDINGS, WATER FLOATING MILLS AND WEIRS ON RIVERS

The program of regulation of rivers of the Kingdom of Poland, initiated at the end of the second decade of the nineteenth century, forced the state to solve the problems of terracing

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rivers' course by numerous artificial buildings, especially by floating water mills (ship mills). And because the phenomena of these floating water mills on rivers became rampant, blocked ship and raft traffic became so widespread and common, as well as hindering the trade in the Kingdom of Poland, soon it became necessary that it was relatively dealt with by various Polish administrative authorities. For instance, on May 13, 1818, the Administrative Department of the Masovian Voivodship Commission issued a rescript No. 13,898, in which the officials warned the inhabitants of communes located on the "navigable banks of rivers" (in particular, on the Bug River, Narew River, Pilica River and Vistula River) about the need to remove the floating water mills. This procedure was to be enforced - by ordering the removal of unwanted structures - by the local district commissioners, and of course these "unnecessary buildings" referred mostly to: a) mills with the possibility of being towed from the shore; b) all the building likely to threaten, by their location on the rivers, the coastal dams; c) structures being the (main) reason for devastation (undermining or erosion) of the river banks².

Then, on a prior request of the Government Committee of Interior and Police, the Administrative Council issued on May 30, 1818, a decision signed by the then Tsar's governor - General Zajączek, which in practice prevents the placement of such buildings on watercourses without the administration's consent. As it occurred, there were two direct reasons for taking such legal action: a) first: the floating water mills apparently destroyed the river banks in many cases; b) second, and perhaps more importantly, they made the process of floating of ships and rafts more difficult. In addition, there was the observation of the existance of one specific and clear legal solution, according to which in the area of navigable watercourses, as a rule, no private investment could be established that could contribute to the occupation of the area of public property, that such rivers actually were.

As a consequence, the article 1 of the act of May 30, 1818, gave interested parties only three months from the date of its announcement for the liquidation of their floating water mills placed on the navigable rivers of the Kingdom. An exception was introduced only for those floating mills that would gain the appropriate certificate of functionality from the provincial commissions, or from the President of the Capital City of Warsaw. As it was stated in article 4, along with the expiration of the specified period of an inapplicability of newly introduced law, the legislator envisaged the removal at the expense of the owner of floating water mills that would not have obtained permission to conduct their business, and more: the owners of such mills themselves were subject to police penalties.

Permission to continue operation for a given water floating mill had to be issued by a local engineer, however, only if it was recognised that a particular floating mill was not the cause of any form of the destruction of the river banks, and did not impede the float traffic. After positive verification of the indicated mill, the local engineer was also required to accurately mark the location of this specific floating water mill. As a general rule, the location of the water mills was anticipated to gather near river clumps. If contrary to the engineer's findings, the mill owner places it in a different place other than the river clump, (that is, in a very place specified by the economic permit), he would be subjected to police penalties. With the repeated confirmation of the indicated unsuitable procedure, the "consensus" (that is, the permission of operation) was annulled.

² Government Commission of Masovian Voivodship, Administrative Department, rescript No 13 898, May, 13, 1818 [in] "*Official Journal of Masovian Voivodeship*", No 103, 25 May 1818, p. 1267-1268. In the same official note it was stated that: "/ ... / it is also forbidden to place poles in the riverbed, or to prepare places to hide Mills for the winter, and any obstacles having any impact on the current / free flow of water; and where by whom they were already made, they are to be immediately extracted /.../ ".

The engineer prepared a floating water mill's situational plan in duplicate. The first of the drawings was kept in the files of the local Voivodship Commission, the second was added to the tax files as an attachment to the "consensus" report, containing the business permit. It should be noted, though, that the mere approval by a voivodship (or sometimes by a district) engineer of a water mill operation on a navigable river did not whatsoever guarantee for long its continued legal operation. As it resulted from the content of article 3 of Act of May 30, 1818, if as time passed, a specific ship mill become an obstacle to conducting river rafting, then it had to be removed. The mill owner was obliged to do this, regardless of previously gained rights to conduct river grinding activities. All costs without exception, including those related to engineering verification, draft and "consensus" itself, were borne by those concerned³.

One would be surprised by the specific selectivity with which in May 1818, the Kingdom authorities treated floating water mills and their owners. A certain explanation can probably be given by a significant variety of the construction and location of these ship mills, which obviously might have given the verifiers, lots of freedom in their treatment. Implementation of the requirements of the thus developed law required, of course, "/.../ convincing [by the voivodship engineer] everywhere *in situ* that floating water mills at stake were harmful or harmless, and also indicating if there was a need of relocating of such mills /.../". Hence, the provincial authorities quickly provided the voivodship engineers with relevant instructions in this respect (in the case of the Masovian Voivodship Commission, it was done for instance by the official note of July 2, 1818), specifying, for example, the need for floating water mills' owners to pay the travel and diet reimbursements to "verifiers". The mayors in towns and chiefs of villages were strictly forbidden to allow anyone without formal permission to build floating mills in the future or to move them elsewhere on navigable rivers⁴.

The owners of floating water mills often caused the transport authorities various problems, not only related to the location of these mills in the riverbed or on the river bank. Such an issue was, for example, the arbitrary cutting of coastal shrubs by the "millers", which could have influenced the formation of the watercourse bed, and thus, the conditions of the rafting.

This practice had to be relatively widespread, since Tadeusz Mostowski, the then minister presiding in the Government Commission of Internal Affairs and Police, decided to intervene in such cases. He issued, on May 24, 1826, the rescript No. 127/678, in which he explicitly forbade the owners of floating water mills located on the Vistula River to cut down the scrub growing on the bank of the river. Specifically, the production of ropes twisted from willow or wicker and used for fixing mills to a certain position was banned, especially as the material for their production was obtained from the surrounding river banks. As the ban was addressed to the inhabitants of the Płock and Masovian Voivodships only, it probably would have suggested that in areas located more upstream of the river such proceedings did not have to be so distressing or widespread⁵.

Despite the adoption in 1818, the regulations regarding the arrangement of the state of floating water mills in the mid-1830s, the situation was still to some extent unregulated. In connection with the above, on October 19/31, 1835, state counsellor Mateusz Lubowidzki,

³ Administrative Council, 30 May 1818, Ordinance not to erect floating water mills on navigable rivers without government authorisation [in:] "*Official Journal of Masovian Voivodeship*", No 116, 3 August 1818, p. 1436; Ibidem, p. 1434 - 1436

⁴ Government Commission of Masovian Voivodship, Administrative Department, rescript No, 20, July 2, 1818 [in:] "*Official Journal of Masovian Voivodeship*", No 116, 3 August 1818, p. 1436

⁵ Government Commission of Internal Affairs and Police, rescript No 127/ 678, May 24,1826, Ordinance on the prohibition of owners of floating water mills on the Vistula river to cut bushes on the banks of this river [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 45

the then Director of the Department of Commerce and Trade in the Government Committee of Internal, Spiritual and Public Enlightenment Affairs, issued regulation No. 9528/30035, where he demanded the immediate removal of the floating water mills from the whole area of waterways of the Kingdom of Poland. While doing so, he especially had in mind that these water mills would be considered as "harmful". This official note indicated that Government Committee of Internal Affairs precisely obliged in the form of an open order given to each provincial communication inspector to eliminate the floating water mills that would be considered as dangerous for both navigation process and proper reservation of river banks. After the local voivodship inspectors found particular mills to be "harmful", the relevant administrative authorities were automatically forced to dismantle and remove them immediately. Additionally, state councillor Lubowidzki ordered the inclusion of clear information in the voivodship official press about the assigning of any costs resulting from the breakdown of any water transport vessel or raft by a floating water mill to their owners.

Meanwhile, Lubowidzki's regulation of October 19/31, 1835, ordered the absolute removal from the stream of navigable watercourses, all weirs, used for fishing.⁶ This rescript, issued once again formally by the Government Committee of Internal, Spiritual and Public Enlightenment Affairs, clearly indicated the effective lack in 1835, and thus, already in the era of Field marshal Paskievich, of a positive solution to the problem of the correct location and functioning of floating water mills, situated on navigable waterways of the Kingdom of Poland. Importantly enough, Lubowidzki's official note, directed as such to individual governorate governments, left this issue in the hands of the administrative inspectors, not engineers.

The process of clearing rivers of any obstacles became even more urgent when in 1838 official decisions were made, under which it was decided to arrange projects aimed at "/.../ improving the flow of ships" between Warsaw and Modlin (the Russian stronghold of Neogiergijewsk at that time). The reason was, still frequent in 1838, ships struggle passing along the local water route with numerous and dangerous obstacles⁷.

The issue of obstructing rafting through the illegal construction of floating water mills, weirs and even dykes appeared again in the interest of the Kingdom authorities relatively quickly, this happened precisely in 1840. At that time, acting on behalf of the Board of Land and Water Communications, the main director of this institution, Adjutant general Józef Rautenstrauch, wrote on October 12/24, 1840, his official order No 299, addressed to the governorate governments of the Kingdom, in which he reminded them of the need to obtain formal approval of building plans for the legal construction of mills or weirs, situated on watercourses, as well as depicting the laying of dykes there⁸.

Next, on 5/17 July 1845, the Board of Land and Water Communications issued command No. 5266, once again directed to the governorate governments, and concerned with the prohibition of arbitrarily placing of any buildings on rivers, without the approval of the transport authorities. By default, of course, it was about buildings that could limit the flow of these watercourses. Writing the above-mentioned note, the director of the Board of Communication,

⁶ Government Committee of Internal, Spiritual and Public Enlighment Affairs, rescript No 9528 / 30035, October 19/31, 1835, Ordinance on the removal of floating water mills considered harmful [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*, vol. 4, Warszawa 1866, p. 33

⁷ Central Archives of Historical Record in Warsaw. *The Second State Council of Kingdom of Poland:* 1838, Signature: 105: 163

⁸ Board of Land and Water Communications, rescript No 299, October 12/24, 1840, Ordinance warning that without approved plans it is forbidden to build water floating mills, weirs, dikes etc. on rivers, and to undertake any works harmful to floating process, [in:] "*Digest of Administrative Laws of the Kingdom of Poland*. *Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 35

Prince Teniszew referred here to legal solutions already existing in the Kingdom of Poland, according to which, as a rule, rivers of navigable nature were classified as public property (and this was based on article 538 applicable in the Kingdom Civil Code). This, in turn, obliged everyone to comply with the principle that waterworks carried out without proper supervision, especially those undertaken to protect the river banks, or make changes in the course of the watercourse itself, would not affect the overall reduction in the level of floatability, or would not violate the rights of third parties by changing the river banks: a) located on the other side of the current; b) neighbouring with the place of the change.

According to the rescript of July 5/17, 1845, all governorate governments were expected to include formal warnings in the local governor's press: a) about the prohibition of building on the rivers of any structures not approved by the Board of Land and Water Communications; b) about the need to approve a specific construction project by the government architects. In the event of stating by the local governorate/district (poviat)/commune authorities that residents were making illegal attempts to erect unapproved buildings on the rivers, the formal authorities were required to notify the Board of Land and Water Communications in Warsaw. The aim was to punish those responsible⁹. Undoubtedly, the reference made in 1845 for the need to notify the communication authorities of each riverside construction project (which indication was combined with the administrative reporting rule) was obvious evidence of the widespread occurrence of this phenomenon even in the mid-1840s.

Major-general Teniszew raised the important issue of sandbanks treatment in April 1848. Then, the Board of the (renamed) 13th District of Land and Water Communications recognised some sandbanks along the navigable rivers as "bars, or sites". It considered those of the sandbanks, where it was possible to accommodate or even overwinter river vessels. In accordance with the content of art. 538 of the Polish Civil Code once again, they were treated then as an area intended for the implementation/performance of works "serving the common good". Consequently, none of these sandbanks private owners gained the right to collect money as remuneration for the storage or even wintering of river vessels in their property. In this way, not only was the right of universal access to sandbanks suitable for logistical purposes secured but also the dispute over possible fees for their use was eliminated¹⁰.

Not surprisingly, in the late spring of 1852, the Administrative Council, acting this time under the leadership of General adjutant, Prince Gorczakow, prepared a decision on June 6/18 of the same year, describing what land can be seized by forced expropriation to widen and build canals or regulate river banks. This decision was made due to excessive outdating of existing regulations in terms of the occupation of private property in the expropriation procedure, for the purpose of its use by the state administration, or for the general public aim. Acting based on the authorisation of Tsar Nicholas I, the Administrative Council in article 1 of the new act of June 1852 specified that various types of property (that is, ownership of the commune, property belonging to institutes or, finally, private property) can be exclusively legally seized in the procedure of forced expropriation in order to implement the assumptions of the government or public plans, only under the provisions of the official orders approved by Tsar.

⁹ Board of Land and Water Communications, rescript No 5266, July 5/17, 1845, Ordinance warning that no water structures on navigable rivers may be taken and carried out without the government's knowledge and approval, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 17

¹⁰ Board of 13th District of Land and Water Communications, rescript No 1 594, April 6/18, 1848, Ordinance explaining that in navigable rivers, sandbanks, if they are capable of accommodating or wintering vessels, should be considered as bays, that is, vessel sites; [in:] "*Digest of Administrative Laws of the Kingdom of Poland*. *Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 19

Nonetheless, pursuant to article 2 of act of June 6/18, 1852, the Administrative Council guaranteed itself the right to take a series of immediate actions that would lead to the seizure of private property through forced expropriation. The above may have happened if the existing/emerging circumstances were deemed to lead to the necessity of such seizure. Particularly the immediate expropriation decision might occur when the necessity of such occupation would arise "in bringing about of the previously revealed will" of the Tsar "as to the continuation of works regarding buildings, or other endeavours requiring it". One limitation was the requirement to immediately inform the monarch about such regulations of the Administrative Council.

In regard to rivers or canals, the expropriation provisions described above were included mainly in article 3 of the act of June 1852, where it was indicated that such forced expropriation could take place so as to acquire the land (and buildings standing on it) needed to establish navigable canals, or possibly to make rivers not yet navigable suitable for usage as transport and commercial waterways. Another goal was to occupy the land to protect the banks and regulate navigable riverbeds and remove obstacles from their course. Additional assumption was the forced taking of land to build the coastal boulevards. Another subsection of article 3 verified in turn the possibility of forced appropriation of (construction) materials, for their use to protect the edges of navigable watercourses, regardless of whether these materials were on the surface or underground¹¹. The new expropriation act of June 6/18, 1852, quite precisely (although not covering certain atypical situations) set out the new conditions for taking over land, buildings and materials for the purposes of improving the access to the river current, and the construction of canals as well as making the current perfectly floatable on their whole length.

Already at the beginning of the 1850s, the authorities decided to release the new formal information on the conditions of work of water floating mills. On August 4/16, 1852, still being the chief of the 13th District of Communications, Prince Teniszew issued decision No. 3,565, in which he categorically prohibited the engineers, who took official care of the navigable rivers, from writing down permits/certificates for further maintenance of these floating mills under mills. Similarly, Teniszew forbade issuing permits for the building of new floating mills under any circumstances. So-called "floating engineers" were also unable (according to Teniszew's instructions) to rebuild the destroyed water mills, without possessing the appropriate certificate. By issuing his rescript in August 1852, General major Teniszew apparently referred back to the decision of the Tsar's governor Zajączek of May 30, 1818, ordering the then provincial commissions to exercise full control and supervision over floating water mills on the navigable rivers of the Kingdom¹².

Probably due to successively appearing problems with the negative impact of floating water mills on communication on navigable watercourses of the Kingdom of Poland, at the turn of 1852 and 1853, the same Prince Teniszew issued another decision on these "water hindrances". This time it concerned "the search for and control of floating water mills on navigable rivers during the months of May and August", and as such was presented to the department chiefs of the 13th District of Communications in the form of an appropriate rescript. According to the

¹¹ Administrative Council, Provision indicating what [land] can be taken by the way of forced expropriation for use of navigable canals and rivers, or the creation of their banks, June 6/18 1852, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 21-25

¹² Board of 13th District of Land and Water Communications, rescript No 3565, October 12/24, 1840, Ordinance on seeking to abolish floating water mills on rivers [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 39

official note of December 31, 1852 / January 12, 1853, as of May 1 and August 1 each year, the engineering services members were scheduled to carry out a comprehensive review of these floating mills, limiting the validity of this obligation only to those buildings that were located on the main rivers of floatable nature. The results of this research (including any comments) had to be forwarded to the provincial government offices¹³.

With reference to the above described regulation, which was after all, aimed at possible correction of irregularities in terms of location, work, and possible obstacles to general floating activities resulting from the existence of water mills, in April 1853, it was decided to additionally issue specific provisions, allowing any extra dislocation of such mills located on the Vistula River (the main river of the Kingdom). For this purpose, on April 3/15, 1853, Prince Teniszew issued decision No. 1,798, regarding "changes in the location of the water floating mill[s] in the Vistula river bed". Such dislocation could now only be done as a result of a "justified requirement", and only after obtaining appropriate confirmation from the state water administration services. The exact procedure was that after issuing such a dislocation permit by the water administration authorities, local district (poviat) chiefs had to be immediately notified about such a decision, and a new location of the specific floating water mill, as well as its situational plan, had to be submitted right away to the local governorate government¹⁴.

From the presented picture of numerous, sometimes overlapping in terms of meaning and content, laws concerning water floating mills, weirs or river banks, emerges a picture of a certain legal confusion in this area, which undoubtedly prevailed in the first half of the 19th century in the Kingdom of Poland. Furthermore, the numerous attempts undertaken by public transport and general administration in various years to aid the situation must have met with considerable social resistance.

2. ESTABLISHMENT OF RIVERSIDE TOWING ROUTES

Another matter regarding the impact of the water factor on transport in the Vienna Congress Kingdom of Poland was the provisions regarding the establishment of riverside towing routes for ships and rafts. In this regard, for example, "the freedom of staying in Warsaw at the banks of the Vistula River" was considered. Because when towing ships, barges, etc., it was necessary to provide an adequate strip of land at the river bank, which could be easily trailed by people pulling ropes. Consequently, it was only natural that on June 23, 1824, the Government Committee of Interior and Police issued a "regulation on marking the width of the Vistula river bank for public use and for towing of vessels".

This decision, signed by the government committee's President Tadeusz Mostowski, was initially addressed only to the Municipal Office of the Capital City of Warsaw, and in a temporary manner, "before [the Warsaw magistrate] rewrites the permanently marked width of this river bank". Basing once again on article 538 of the then Civil Code, Mostowski assumed that the appropriate Warsaw authorities would finally issue the applicable law over time. Meanwhile, at the behest of the Government Committee of Interior and Police's minister,

¹³ Board of 13th District of Land and Water Communications, rescript No8 055, December 31, 1852 / January 12, 1853, Ordinance on the inspection of floating water mills on navigable rivers in the months of May and August, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 41

¹⁴ Board of 13th District of Land and Water Communications, rescript No 1798, April 3/15, 1853, Ordinance on changes in the location of the floating water mills in the Vistula riverbed [in:]. "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 43

the Capital of Warsaw Municipal Office had to ensure in 1824 that all those involved in trade on the Vistula River (including rafting) had access to free stopping on both sides of the largest river in the Kingdom. However, the minister allowed unloading products there, provided that they were transported any further almost immediately¹⁵.

Clearing river towing tracks of any obstacles was another problem. However, art. 556 of the Civil Code of the Kingdom of Poland specifically required that owners of coastal areas adjoining navigable rivers fulfil the obligation of allowing "towing paths"¹⁶. Nonetheless, until April of 1843 only a few individual rivers in the Kingdom of Poland were issued "/.../ provisions aimed at ensuring cleansing of banks along these rivers and preparing their waterways to tow". In connection with the above, on March 26/April 7, 1843, the Administrative Council accepted (in addition to the existing fragmentary law and at the request of the Board of Land and Water Communications) a general provision unifying and extending the relevant provisions to the entire navigable network of the Kingdom of Poland¹⁷.

Pursuant to this lawful act, the width of the banks of navigable rivers, which had to be cleared of bushes, shrubs, trees, larger stones, etc., to enable "towing routes" was determined for the whole country. Article 1 of the new law defined such a standard width of obstacle-free bilateral banks of rivers along their navigable tracks at 7 1/2 fathoms, or 45 feet. This rule concerned in 1843, the following sections of the then Polish rivers: a) in Biebrza River, starting from the village of Debowa to the flow of this river to the Narew's River current; b) on the Bug River, from the border with the Austrian Empire to the flow of this river into the Narew's current; c) on the Narew River, from its entry into the territory of the Kingdom to the flow of that river (the so-called Bugo-Narew) to the Vistula's River current, d) on the Nida River, from the town of Sobkowo to its flow to the Vistula River's current ; e) on the Niemen (Nemunas) River, along the entire border of the Kingdom of Poland (and therefore only on the "Polish side" of this river; f) on Pilica River, in the area from Koniecpol to the flow of Pilica to the Vistula River's current; g) on San River, along the border of the Kingdom; h) on Warta River, from Działoszyn to the border with the Kingdom of Prussia; i) on Wieprz River, starting from locality of Krasnystaw to its flow to the Vistula River's current; j) on the Vistula River, the whole length from the Austrian border to the Prussian border¹⁸.

Article 2 of the lawful act mentioned here, indicated that it was acceptable or even required to clean the coastal area (from obstructing the movement or towing large stones, trees, shrubs, etc.) even on a greater width than the prescribed 45 feet. The above also applied to objects, which in the event of a possible falling into the riverbed, could threaten to "collapse" (that is, to stop) the current. Such cleaning of the coastal strip of land with a width of 7 $\frac{1}{2}$ fathoms or wider was to be carried out using the forces and means of local owners, that is, landowners.

Simultaneously, in 1843, the Board of Land and Water Communications was forced to set exact dates, which were provided for cleaning the banks of all navigable rivers of the Kingdom of Poland. When designing cleansing works, local owners were to be reasonably treated by the state administration, which meant that the Board of Land and Water Communications under the new law had a literal obligation not to "overload" landlords with such works.

¹⁵ Government Committee of Internal Affairs and Police, rescript no 432/1457, June 23, 1824, Ordinance on marking the width of the Vistula river bank for public use and towing of vessels, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 47 ¹⁶ "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 57

¹⁷ "Digest of Laws of the Kingdom of Poland", vol. 31, Warszawa 1843, p. 399-409

¹⁸ Administrative Council, March 26 / April 7, 1843, Order to clearing the navigable rivers suitable for towing vessels out of obstacles, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 49-51

In addition, there was also the possibility of engaging people living in neighbouring municipalities in the process of cleaning the river banks. This solution could, however, only take place in the event of a sudden and unexpected need to undertake such works as soon as possible. Support from the population living in the neighbouring communes could also have come to those who were (with relatively small areas of land possessed) at the same time the owners of land areas that "/.../ stretch a considerable length on the banks of a navigable river, and require, due to accumulated stones, or other obstacles /... /" a significant amount of work needed to properly clean the coastal towing roads.

Furthermore, in April 1843, the legislator guaranteed for the state administrative structures, the future right for the extension of the regulations currently being introduced to specifically mentioned rivers to some other watercourses that could be considered over time as navigable, or to new (not already mentioned in the new law) sections of already navigable watercourses¹⁹.

The Act of March 26/April 7, 1843, introducing compulsory easements for towing vessels and barges on the banks of rivers with a width of 7¹/₂ fathoms, obviously did not cause the general exclusion of coastal lands from their use by their owners. This, nonetheless, did not entitle local property owners to demand money from people floating items by watercourses for: a) temporary reloading some of these goods from ships to shore, exactly on the towing roads; b) mooring ships/barges at the shore. To curb this illegal practice, on August 10/22, 1844, the Board of Land and Water Communications sent to individual governorate governments "a regulation demanding from the landowners not to require float charges for temporary reloading of goods on the shores, or for mooring ships to the shores". By issuing this rescript, the Board of Communications also referred to the need to treat towing roads exactly the same way as it was done for all other types of tracks, namely, strictly as "public use" areas. Hence, it was possible to draw a simple conclusion, and the Warsaw's Board of Land and Water Communications obviously did just that, stating that on such and on all other roads, one could only charge fees that would be established by the state authorities. However, when those individuals transporting their goods by navigable rivers decided to store their items on the banks of the rivers for: a) a longer period of time, or b) for long-term storage of wood in one place; c) or for renting a yard needed for building rafts, then the ordinance allowed free determination of the amount due^{20} .

3. CONSTRUCTION OF VERST SIGNS ON THE BANKS OF THE RIVERS

One also has to focus on the impact of the aquatic environment on transport in the Kingdom of Poland in relation to "measuring of distances", mostly including placing some road signs in the riverside terrain. Here, essentially, the matter of the final settlement of the status of verst poles erected along the riverside was described in an official note, sent by the Board of the 13th Department of Land and Water Communications of March 11/23, 1859, and addressed to individual governorate governments. Observed from this official letter, in order to ensure proper supervision (and protection) over the verst riverside road signs located near the banks of

¹⁹ Administrative Council, March 26 / April 7, 1843, Order to clearing the navigable rivers suitable for towing vessels out of obstacles, [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 51-55

²⁰ Board of Land and Water Communications, rescript No 6997, August 10/22, 1844, "Regulation demanding from the landowners not to require float charges for temporary reloding of goods on the shores, or for mooring ships to the shores", [in:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 57-59

the largest Polish river, the members of the Vistula River Service were then instructed to notify their exact location to local commune chiefs as well as to the mayors in the cities. After completing the above action, it was necessary to forward protocols of verst markings to representatives of the local administration of the two types indicated above, that is, the chiefs of villages of mayors of bigger localities²¹.

Subsequently, the verst posts erected on both banks of the Vistula River were numbered, anchored "for the sake of their complete preservation", and handed over to the local village chiefs or town mayors, along with the preparation of the special report. According to the management of the Board of Land and Water Communications of the Kingdom of Poland, dated as of 1866, they proved to be "of great use". When using them, the engineering services were required to check the current state of the river banks, as well as to track any changes occurring in the riverbed, which, of course, had to result in the appropriate changes being applied to already existing maps. Another consequence of these supervisory activities was the ability to monitor the effectiveness of the overall working undertaken by water transportation services of the Kingdom on the Vistula River²². In the opinion of the transport authorities, it would be difficult and often impossible to carry out all these activities "/.../ without these [verst] signs". Ultimately, it turned out that the verst posts "dividing the river into verst parts" were considered the basic means to maintain technical as well as administrative order in the existence of floating routs on the main river of the Kingdom of Poland²³.

4. ACT OF OCTOBER 10, 1818, ON DRAINING AND RECEIVING OF WATERS AND ITS IMPACT ON THE ROAD NETWORK

The issue of an extremely important factor for the proper construction and maintenance of the transport network, that is, drainage of land, was regulated in the Kingdom of Poland relatively early, specifically in 1818. On October 10, 1818 (at the request of the Government Commission of Internal Affairs and Police, as well as having heard the general sentence of the first Council of State), the tsarist governor in the Kingdom, General Józef Zajączek, signed a law specifying the provisions: a) according to which local landowners were obliged "/.../ among themselves to collect and drain waters /.../"; as well as b) describing the procedures of plausible conduct of any disputes in this regard. As it was apparent from the preamble to that legal act that its content was developed and prepared mainly due to the high frequency of the manner that occurred between individual (and state) properties, when it came to "/.../ to ensure free drainage and reciprocal water intake", which was combined with bitter arguments and quarrels, and which, as such, required some quick settlement.

The issue of developing new regulations in this field became additionally more urgent because, until the autumn of 1818, the matter of draining and receiving waters was not covered by any provision of a police nature (referring directly or indirectly to the articles 651 and 652 of the Civil Code of the Kingdom of Poland)²⁴, besides, the road-building national plan was about to start at that time.

²¹ Board of Land and Water Communications, rescript No 677, March 11/23, 1859, Ordinance on entrusting to the supervision of commune chiefs and mayors of cities of the maintanence of verst poles ont he banks of Vistula river, [w:] "*Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications*", vol. 4, Warszawa 1866, p. 69

²² L.c.

²³ "Digest of Administrative Laws of the Kingdom of Poland. Department of Land and Water Communications", vol. 4, Warszawa 1866, p. 69 and 71

²⁴ "Official Journal of Masovian Voivodeship", No 143, October 28, 1818, p. 1843-1844

As formally stated in the article 1 of the Act of October 10, 1818, the new law basically guaranteed the administrative authorities of Kingdom of Poland, the possibility of undertaking all means of services for the free drainage of water, each time it would require to take the above measures as "higher necessity" related to: a) draining of the transport network, especially of (paved) roads; b) improving the conditions of agricultural activity; c) preventing the occurrence of infectious diseases which would have harmed the health of both humans and animals. All quarrels related to: a) property rights of flooded or drained land; b) claiming compensation for causing damage related to the unlawful raising or lowering of groundwater, the new law apparently referred to the court procedures. It was clearly expressed, however, that not all legal investigations of "seeking justice at court" could affect the freedom of action of the state administration bodies, and this in terms of any activities undertaken for building or draining of roads, improving agriculture, or preventing the emergence of health pathogenic areas.

Subsequently, in a bid to introduce clear rules for the free implementation of the drainage program, a number of general recommendations were introduced in Article 3 of the Act of October 10, 1818. The main principle was the maintenance of the right of each property to drain water from its land and to protect such an area against falling of "freely drained" water on it, outside the intended ditches and canals for these purposes.

At the same time, point b) of Article 3 of the new law openly indicated that in the event that the owner of the land "located above" would not be able to ensure of usage of sufficient means of proper drainage of rainwater from it, etc., then the land of neighbour situated below (for instance, belonging to the Board of Communications) would be obliged "to accept water" and allow the sewage right". An extremely important reservation was introduced here, as the owner of the land below could not be forced to take over the sewage from the higher land when such state-owned institution or private proprietor (due to reasons of an independent nature) would not be able to drain any further water flowing into it. Similar reservation was valid, of course, when the owner of the higher located land, which had been drained, was not able to spontaneously help with assuring the further outflow of water from the flooded property located below. In the face of such stalemate, the state authorities guaranteed themselves the right to order neighbours (owners of lower lands) to agree to continue the private drainage from the higher territory. This could happen when "/.../ the benefits of the owner of his own land far outweigh the damage that would be caused to neighbours whose land is lowly situated /.../". Such formal maintenance by the government administration of the already started outflow of water from one (private) land to another could also take place when the flooders had the means and willingness to remunerate the "victims". The situations described above could have immense impact on possible flooding of roads by private owners of land situated alongside the transportation routes.

The legislators also clarified the issue of digging drainage ditches, stating that due to the necessity of digging such ditches, the Administrative Council considered the costs of implementing a given investment necessary to allocate appropriately among all those who could gain economically in this respect. Contrarily, when the owner of the area where the drainage ditch was planned to be excavated did not obtain any material benefits in this respect, the Act of October 10, 1818, released such a property owner from the necessity of participating in the digging of the ditch itself, and from charging him for the costs of maintaining such a drainage investment. The principles of social justice required that the material loss incurred due to digging a new drainage ditch be rewarded. This usually was done by experts "/.../counting the soil lost by digging the ditch"²⁵.

²⁵ "Official Journal of Masovian Voivodeship", No 143, October 28, 1818, p. 1844-1845

The entire formal procedure of digging of ditches (at the request of one owner) for the following other premises, was described as follows. When, in accordance with the principles set out in Article 3 of the Act of 10 October 1818, the conditions for carrying out such an undertaking were to be formally recognised, the first step in the whole process for the interested landlord had to be to travel to the appropriate provincial commission to submit his application there. In support of the application, an appropriate situational plan had to be attached to such a request.

Consequently, the employees of the Voivodship Commission were obliged to analyse the application submitted for the sake of its assessment, and the voivodship authorities themselves had to delegate a "road and water transport engineer" (or his deputy) to overlook the exact location site. This engineer had to verify on the spot, the reliability of the situational plan submitted by the applicant, and then he was expected to submit to the local voivodship authorities a report of his detour.

Additionally, when the party demanding the outflow of water from its territory did not submit any situational plan, the duty of the "road and water transport engineer" was to draw up (on the recommendation of the Voivodship Commission, and at the expense of the applicant) a local situational plan. It was only after the engineer found *in situ* that there was a real need to ensure water drainage from a given area that the Voivodship Commission could send the plan of all works to the capital, together with an estimate of costs, for approval by the Warsaw's ministry (the Government Committee of the Interior and Police). The next stage of the entire procedure was the act of approval of the submitted drainage project by the ministry, which then, in turn, returned all documentation to the local provincial commission. Subsequently, having received these files, the latter agenda had to send the whole documentation to the district commissioner, exercising jurisdiction in a specific area.

Then the district commissioner summons all interested parties to appear before him. Their right and duty were to choose the so-called "amicable experts" (one for each interested party). Another appraiser was added to the group of these officials by articles of the law at stake alone, who in turn was to represent the government administration. The basic duty of the appraisers at this stage of the procedure was to estimate the percentage share of the persons concerned in covering the costs of the entire undertaking.

Due to the common consent for such cost accounting, fieldwork usually commenced immediately. However, when no agreement was reached on the financial terms, drainage works were normally postponed. The party to the conflict claiming to be "injured" had the right to go to the offices of the local Voivodship Commission to assert the possible complaints there. In view of the hypothetical disagreement of the participant of the proceedings claiming to be mistreated with the appeal decision taken by the provincial authorities, he/she still had the right to refer directly to the Government Committee of Interior and Police, issuing the final decision in the case.

For the avoidance of possible significant delay in conducting drainage works due to an emerging dispute, the Act of October 10, 1818, set a 15-day period (from the date of official delivery of a letter in a specific case) to appeal to the provincial Voivodship Commission, and a period of 30 days to appeal to the ministry. If within the time allowed for lodging appeals, no "complaining party" submitted applications contrary to expert opinions, the above was considered an expression of agreement on the distribution of financial burdens proposed by appraisers, or determined by the first appeal stage by the provincial commission, which resulted in immediate further execution of the work plan. As a rule, the cost of issuing opinions by the experts was borne by the person demanding to allow the outflow of water from his terrain,

possibly together with other properties "who would possibly take any advantage of these works".

Finally, the Administrative Council in article 6 of the new drainage law of October 1818, dealt with the problem of the possible renovation of formerly dug and then neglected drainage ditches. Particularly, it was envisaged that some local inhabitants could ask the Voivodship Commission to take legal actions in a case when there occurred ditches "/.../ destroyed by agriculture or residents in the area [that] suffered damage /.../". With the consent of the Government Committee of Interior and Police, provincial authorities could order (by way of execution) owners of lands, where the specific destroyed ditch was located, to renovate or cleanse these drainage canals. Any disputes resulting from this title were to be heard by the appraisers, and the Voivodship Commission was forced to issue a decision in this respect. Here, one could also appeal against such decisions of the provincial authorities to the Government Committee on Internal Affairs and the Police in Warsaw²⁶.

All regulations presented therein in this paper regarding both state authorities and private landowners participation in land drainage, clearly had a huge impact, though not so much on the very process of determining the scope of road construction, but on the sheer speed and regularity of the entire phenomenon of creating and developing the road network of the Kingdom of Poland. Eventually, the land drainage law offered the possibility of reporting countless appeals and protests, which as such might and could in principle, have delayed the road works.

5. CONCLUSIONS

First, worthy of mention is that between 1818 and 1859, many ordinances were issued regarding the liquidation of buildings, water floating mills and weirs on the rivers of the Kingdom of Poland. The above conclusion demonstrates two simultaneous processes: a) the state's constant interest in the improving of patency of the country's transport and water network; b) significant difficulties in achieving this goal. Similarly: a) laws relating to the possibility of stopping of ships and rafts at river banks (in particular. the act of 1824 relating to the Vistula River at the height of Warsaw); as well as, b) relating to ordering the maintenance of general navigability of rivers; and c) especially touching the phenomenon of riverside towing routes, attest to the authorities' extended care in relation to the proper functioning of the coastal communication structure. On the other hand, the elaboration of the dated act of 1818 "on the collection and draining" of water (as it seems) turned out to be an effective legal tool, extremely useful in solving drainage problems and difficulties facing the Polish road engineering, among others.

Nonetheless, considering the variety of the intensity of activities aimed at introducing in the first half of the 19th century, the provisions regulating the impact of the aquatic environment on transport in the Kingdom of Poland, one can thus, present a thesis on their evident various scale of implementation.

²⁶ "Official Journal of Masovian Voivodeship", No 143, October 28, 1818, p. 1845-1846

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