SUPPORTING THE DEVELOPMENT OF AN IRRIGATION STRATEGY FOR THE REPUBLIC OF SERBIA

COST FOR USAGE OF IRRIGATION WATER AND COST FOR USAGE OF WATER FACILITIES AND SYSTEMS IN PUBLIC OWNERSHIP FOR THE PURPOSES OF IRRIGATION IN THE REPUBLIC OF SERBIA

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Key messages and figures

In the Republic of Serbia, persons[1] who use water for irrigation pay a charge for the use of water for irrigation (charge for resources) and a charge for the use of water facilities and systems in public ownership if they use those facilities and systems for irrigation (conveyance or transport).

Charge base for usage of surface waters and groundwaters (*charge for resources)* is:

1) Quantity of abstracted or delivered water expressed in cubic meters (m^3), when there are devices for measuring the amount of abstracted, i.e. delivered water
2) Area of agricultural land that is irrigated, expressed in hectares (ha), when there is no possibility of measuring the amount of delivered water

Persons who use water for irrigation that is delivered to them through water facilities and systems in public ownership, in addition to the charge for the use of water as a natural resource, also pay a charge for the use of water facilities and systems in public ownership.

This charge varies and depends on the use of water facilities, whether a high pressure pump is used and the type of publicly owned system:

1) Water facilities of reclamation irrigation systems, including the charge for the use of a high-pressure pumping station for water delivery;

2) Water facilities of the Hydro System "Danube-Tisa-Danube";

3) Facilities of regional irrigation systems and other water facilities on the territory of AP Vojvodina.

These charges are paid either based on the area of irrigated agricultural land or according to the amount of delivered water (there where measuring devices are installed).

If the charge is paid according to the area of irrigated agricultural land, the charge varies based on the type of agricultural product that is irrigated (only on the territory of AP Vojvodina). There are two different charges:

- Vegetables, fruits and perennials
- Field crops

Collective irrigation is not developed in Serbia, except for a few sporadic examples. So far, no special charge has been set for water distribution, except for the charge for the use of electricity for purposes of water distribution.

About 30% of persons pay a charge according to the amount of delivered water, while 70% of persons pay a charge according to the area of irrigated agricultural land.

Persons pay an irrigation charge for about 40% of irrigated agricultural land (based on irrigation statistics from 2018), while mostly smaller farms do not pay an irrigation charge. However, persons that pay an irrigation charge make up only 0.00089% of all persons that irrigate agricultural land.

There is no difference in the cost of irrigation water in relation to the quality of irrigation water (the same cost is paid for all water suitable for irrigation.

In the central part of Serbia the most common water source according to the total surface area of irrigated land are groundwaters, while in the territory of Vojvodina mostly surface waters are used for land irrigation.

[1] Persons are natural persons, entrepreneurs and legal persons

When compared to countries in the region (cost for resources) and some of the EU countries, the cost for irrigation water in Serbia is the lowest.

The dominant source of water for irrigation (by the amount of delivered water) in Serbia are ground waters (69%), and by irrigated area are surface waters (55%).

The total annual runoff of domicile waters on the territory of Serbia is 500 m^3/s, i.e. 16 billion m^3. Ten times that amount of water (162.5 billion m^3) enters Serbia from neighboring countries via the largest rivers that flow through Serbia along the Danube, Sava, Tisza, Drina, Nishava and Timis. Water resources are unevenly distributed in different parts of Serbia. The mountainous parts of Serbia are the richest in water, especially the western and southwestern part of Serbia. The estimated groundwater potential in Serbia is 67.13 m^3 / s (that is 1.2% of the total amount of water in Serbia, i.e. 13.4% of the amount of domicile waters), but about 30% is already used for water supply and it is primarily intended for water supply (except for groundwater first released).

Due to economic reasons aas well as climate change, it is necessary to consider using irrigation technologies that use as little water as possible when planning the construction of new irrigation systems.

Water is not abundant in Serbia, but with adequate water resources management enough water can be provided for irrigation in the future. In that case, the cost for irrigation water will largely depend on the cost of construction and maintenance of facilities (including energy prices) for transporting water to the user, and the charge cost for the water which is already delivered to the user will mostly depend on the source of irrigation energy (diesel, electricity, solar energy, gravity).

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Acronyms

AP – Autonomous province

DTD – Dunav-Tisa-Dunav

MAFWM - RWD – Ministry of Agriculture, Forestry and Water Management - Republic Water Directorate

PWC – Public Water Company

PSAWMF- Provincial Secretariat for Agriculture, Water Management and Forestry

SORS – Statistical Office of the Republic of Serbia

AC – Agricultural Company

WFD – Water Framework Directive

WUA – Water User Association

1 Introduction

1.1 Aim of the brief

This brief provides elements for a discussion around the legal framework on the cost of water for irrigation and drainage and cost for the use of water facilities and systems in public ownership for irrigation and drainage in Serbia and it aims to serve as a starting point for developing a discussion on the cost of irrigation water and the cost for the use of water facilities and systems in public ownership for irrigation with various stakeholders in Serbia.

The analysis made here does not aim to establish an approach for an economic analysis that assists in establishing the cost of irrigation water or the cost for the use of water facilities and systems in public ownership for the purposes of irrigation. It is thus complementary to the analasys made in brief 5 on economic opportunities, value drivers and key risks of public and private investment in irrigation.

This brief provides basic information on common approaches to formation of irrigation water cost and the cost for the use of water facilities and systems in public ownership for irrigation and compares them to the legal approach and common practice in Serbia. It also compares prices of irrigation water in some European countries as too discuss how much water prices across Europe actually reflect water supply recovery costs as stipulated in the WFD[2]. Key recommendations revolve around the need for both detailed economic analysis and wide stakeholders consultations in order to establish water prices that effectively promote an efficient use of resources.

1.2 The role of price policies in water management

Water is often scarce resource, which needs to be used efficiently and sustainably according to the level of scarcity and its uses in each single case.

Water pricing is <u>one of the</u> instruments often used to promote an optimal use of resources, not just the water resource but also the other resources of land, labour, capital and energy used in agricultural production which uses irrigation (economic function). The over-riding objective of allocating and pricing the water resource is to ensure that it is used in the best interests of society as a whole, including domestic consumers, agriculture, industry, hydropower, navigation, recreation and the environment. For optimum allocation, the price assigned to the water resource should be equal to its "opportunity cost"[3]**Error! Reference source not found.**. If water is abundant and so its opportunity cost is zero, then the water price should also be zero.

Additionally, charges charged for water may enable the recovery of the costs related to its management. Water management costs (investment, maintenance and operation) occur both for its

[2] Irrigation must be seen as an agrotechnical measure used for increasing the yield of agricultural crops (and for growing other crops (post sowing/harvest)) and a requirement (perhaps the most important one) for changing the sowing structure. The price of irrigation water, beyond contributing to pay for supply costs, has an important role in determining whether a farmer will invest in irrigation or not, or whether the investment in the construction of an irrigation system will pay off and how long is the payback period.

[3] A study by Castellano et al. (2008) in the region of Navarra, found that the environmental value, which results from the average environmental cost that internalizes the value of all the externalities generated by irrigation water consumption, is 0.0601 EUR/m^3. The economy of Navarra has a capacity to internalize the environmental and social cost of water. An increase of 0.0375 EUR/m3 in the present price of water for agriculture—optimal social price—internalizes 65.67% of the environmental cost of water, whereas an increase of 0.0601 EUR/m3 guarantees the total internalization of the environmental cost, the maintenance of regional wealth, and a loss of 20013 jobs. A price increase of 0.0975 EUR/m^3 would result in a variation of the regional GDP of -0.31% (16.88 Million EUR). Employment would decrease by around 400 jobs. In these cases, governments may prefer to internalize the cost with taxpayers money than through increases in water price. (OECD, 2010).

supply (for domestic, industrial and agricultural uses), as well as for drainage and control against floods (financial function). Additionally the government may choose to set a small charge to raise revenue, but this pursues a fiscal or distributional objective and does not directly contribute to economic efficiency or financing of water management.

In cases where water is largely abundant (i.e. its use has no impact others' use or the environment, the opportunity cost being zero) and is used to irrigate low value added crops, its price may only reflect the costs related to management. In some cases, where it is argued that supplying water for irrigation has social benefits beyond the income it generates in irrigated farms, water price may even be subsidized.

Where water is scarce or, being abundant, only a limited amount of land suitable for irrigation is available, water governing bodies may decide that they which to maximise its return (or the return on the irrigated land). By setting a higher "opportunity cost" to be embedded in the price for the water, they may render unfeasible growing low value added crops, thus inducing the use of the available land for crops capable of remunerating the cost of water.

In practice, water allocation and pricing tend to develop over time, and various groups of users acquire formal water rights that carry political weight even if they have no legal basis and are not economically optimum. Additionally, farmers may not always make economically "rational" choices as they are tied to a certain crop or value-chain which risks and market they know. Hence, a systematic analysis of supply, demand, allocation and pricing can be a useful tool to check whether practice has diverged too far from optimum and so reform or additional types of incentives for improved water management/use are required. It can also be very useful when planning a new irrigation system, before expectations have been raised and water rights established.

In the specific case of Serbia, this means that it is necessary to identify different zones in which water pricing is made according to context. This principle is already enshrined in the European Water Framework Directive (WFD) and partially in the legislation of the Republic of Serbia. The next sections provide a short description of these two key norms and of how they are applied across Europe and Serbia. The brief concludes with some recommendations on further analysis of option for "water services" pricing in Serbia.

2 Setting the analysis framework

2.1 Water pricing and the European Water Framework Directive (WFD)

The WFD is based on the concept of 'water services' defined in detail in the WATECO guide (2003) and the full cost recovery for these services. Such costs include maintaining and operating infrastructures for water management and supplying water, as well as the resource cost itself. The WFD establishes that national programmes should be implemented to recover these costs. Cost recovery for water services, whereby those who benefit from using water (as a resource or a sink for waste) pay for such services, including the environmental costs, which presently are associated with remediation costs. In particular, the WFD identifies three categories of irrigation costs (EC, 2003):

- Financial costs (i.e. full supply costs): Include the costs of providing and administering these services. They include all operation and maintenance costs, and capital costs (principal and interest payment), and return on equity where appropriate).

- Resource costs: Represents the costs of foregone opportunities which other uses suffer due to the depletion of the resource beyond its natural rate of recharge or recovery (e.g. linked to the over- abstraction of groundwater).

- Environmental costs: Represent the costs of damage that water uses impose on the environment and ecosystems and those who use the environment (e.g. a reduction in the ecological quality of aquatic ecosystems or the salinisation and degradation of productive soils).

The WFD recognizes that these costs change at national level and stipulates, particularly for irrigation, that water resources be managed at the integrated catchment level (including both surface and underground resources). These means that water management directives, including those on water pricing may be defined at subnational level according the different recovery costs in each context.

In addition, water programmes, including water cost (prices) definitions, must be made with the participation of stakeholders in the planning and decision-making process, given that, as mentioned above, water pricing, is not straightforward.

In practice this results in prices (tariffs/cost) of water used in agricultural production that are quite heterogeneous across countries, regions and even within regions. Mediterranean countries, such as France, Portugal, Italy and Spain, have implemented different tax systems on agricultural water abstractions to recover the costs of regulation, storage, and management of basin-level water services with various levels of cost recovery. France, Portugal and Italy have implemented an abstraction tax applied to any water source (surface or groundwater) as an instrument to induce water saving and internalize environmental and resource costs in the irrigation sector. On the other hand, Northern European countries (including Netherlands, Germany and Denmark) have no fiscal instruments related to agricultural abstractions (neither for surface nor for groundwater resources) (OECD, 2010).

Water prices also vary within countries. For example, per-area charges are generally set per crop; in 2015 within Greece there was a variation in water price from 90 to 210 €/ha.

In addition, the implementation of price policies alighned with the WFD does not automatically translate in their application. In the case of Cyprus, the volumetric irrigation charges increase by 41%, while the fixed per-area charges almost tripled. However, irrigation water users are not yet charged these rates due to the lack of political will to impose additional costs on them as farmers experience the raising of irrigation water prices as a penalty (Molden et al. 2010; Levidow et al.2014). For example, farmers in Alentejo region (Portugal) have lobbied authorities to delay the increase of irrigation water prices towards full cost recovery as they used to pay a low water price set at only 30% of full cost recovery (Levi-dow et al. 2014).

Within the Balkans, there is also a very heterogenous application of water prices. The price of irrigation water in Croatia depends on the quality of irrigation water and its source (surface water or groundwater), but the price is the same in all regions for the same quality and source. The price of irrigation water in Bosnia and Herzegovina is identical for surface and groundwater, as well as for all regions.

In addition, as a result of these complex geographical, technical and institutional factors[4], tariffs structures apply almost exclusively to surface water and they rarely reflect relative water scarcity.

2.2 Key aspects influencing Serbia's choices in terms of water management and pricing

Irrigation is the largest water user in the EU and exhibits great variability, increasing from the temperate climates of the north to the semi-arid climates of the south. The share of irrigated land in

[4] Not only estimating and agreeing on environmental and resource costs is very difficult, monitoring groundwater abstraction is also particularly challenging (see brief 2).

the total utilized agricultural area in EU-27 is 6.7%, but this is mainly concentrated in the Mediterranean region, which accounts for 8.49 million ha or 85% of the total EU-27 irrigated land.

In Serbia, according to the official data (SORS), only 159,587 ha are irrigated, corresponding to 4.6% of the total used agricultural land or 5.1% of the total used arable agricultural land[5]. Serbia is placed within the group of European countries with high rainfall throughout the years and therefore, thus far less dependent on irrigation. It is also amongst the countries in which water excess is perceived has causing higher economic costs than water scarcity. As a result its investment in flood protection (as well as its O&M expenditure) has historically always been much higher for drainage that for irrigation[6].

The next section will provide a short account of the main features of regulations for determining the cost of irrigation and the cost for the use of water facilities and systems in public ownership used for the purposes of irrigation in Serbia comparing it with the examples from EU countries presented above. It will also discuss how the zoning used to establish different water pricing mechanisms in Serbia matches the zoning proposed in throught this series of briefs in terms of opportunities for irrigation.

Finally, the last section will advance a few possible fields of research that may inform an adaptation of the existing water pricing mechanisms that renders them more effective in terms of promoting full cost recovery for „water services“.

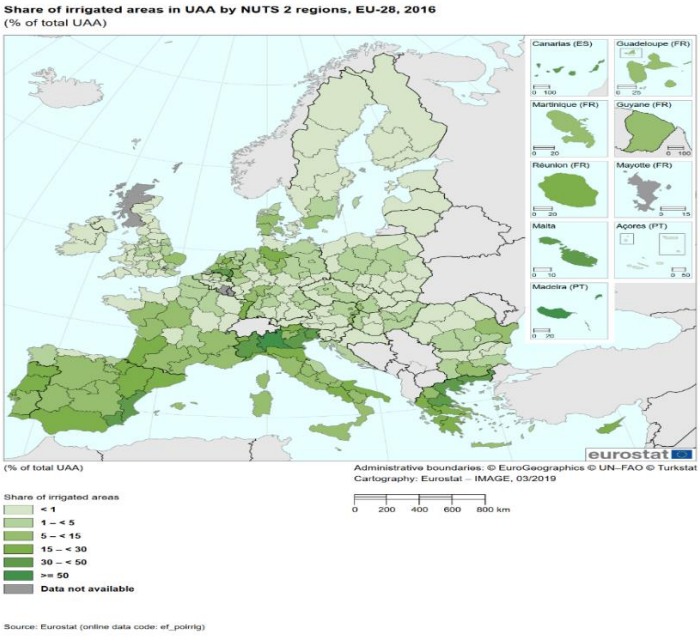

Figure 1 Share of irrigation areas in UAA by NUTS 2 regions, EU - 28

3 Legal framework concerning irrigation water pricing in Serbia

Serbia is harmonizing its legislation with EU legislation and therefore its legal framework is partially aligned with the WFD as it seeks to promote the efficient use of water resources by urging users to be responsible and to enable the country to provide adequate “water services” with their activities.

The Law on Waters[7] defines water as a natural resource owned by the Republic of Serbia. The law stipulates that everyone who uses a water resource and a water facility, i.e. system in public ownership

[5] Registered users who pay the irrigation charge own only 2.1% of the total used arable agricultural land.

[6] See more details on Budgetary expenditures for water management in Brief 2

[7] "Official Gazette of the RS", No. 30/10, 93/12, 101/16, 95/18 i 95/18

(for different purposes (water supply, drainage, irrigation, fishing, etc.)), as a good of general interest, is obliged to pay a fair price for its use.

The Law on Charges for Usage of Public Goods[8] issues the charge for the use of water for irrigation and the charge for the use of water facilities and systems in public ownership for the purposes of irrigation. The same Law also regulates the drainage charge. According to the article 273 of this law, costs of charges in dinarsare annualy adjusted with the annual consumer price index for the period from October 1st of the previous year to September 30th of the current year, published by the republic authority in charge of statistics.

The Law on Determining Jurisdiction of the Autonomous Province of Vojvodina[9] determines that the establishment of a public water management company, the preparation of water management plans, water management activities, and the issuance of water management acts and inspection supervision on the territory of AP Vojvodina are entrusted to the governing bodies of AP Vojvodina.

3.1 Irrigation water supply chain: tiers to consider in Serbia for full cost recovery

Irrigation charges in Serbia are established for the use of water for irrigation (resource cost) and for the use of water facilities and systems in public ownership (conveyance or transport cost). This means that each tier responsible for resourcing, conveying and distributing the water should be remunerated for its expenses by the persons (or in some cases by the WUAs) who use irrigation water.

Serbia has three main models of the water supply chain for irrigation, each one with its pricing mechanism. These water supply chain models are in line with the WFD, as they make a clear distinction between water resource, conveyance, distribution and use of irrigation water.

In the first model, persons abstract water directly from a surface or groundwater source, convey it to the farm if necessary, then distribute it to the fields and irrigate land (agricultural crops or other crops). This is the most common case in Serbia, especially in the central part of country. In Vojvodina, most large farms have a formal contract (water permit) with Vode Vojvodine to use the water. However, many small farms in Vojvodina, as well as most individual farms in Central Serbia, use the water resource informally. In these cases, the resource costs is not embedded in the total cost of water for farmers, which only includes the costs directly incurred by the farmers to convey and distribute the water and irrigate their plots.

The right to use water is given by water acts. All those who capture water, no matter in what way, from the system of water facilities or directly from watercourses or groundwater, are only formal (legal) when they have a water permit. A water permit is not required for the abstraction of water for irrigation of up to 1 ha and up to the total amount of water in the vegetation period of 2.500 m³. For irrigation of 1-50 ha, a water permit is issued by PWC, and for irrigation of over 50 ha, water permit is issued by MAFWM-RWD. The charge, in accordance with the law, must also be paid by those who do not have a water permit.

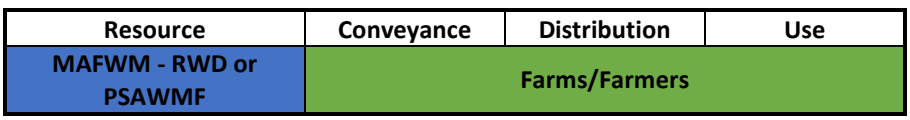

Figure 2 Irrigation water supply chain in Serbia (model 1)

[8] "Official Gazette of the RS", No. 95/18, 49/19 and 86/19

[9] "Official Gazette of RS", No. 99/09 and 67/12 – Constitutional Court decision

The second model is that in which Vode Vojvodine or Srbijavode[10] operate multipurpose water facilities and systems in public ownership (dual-purpose canals (for irrigation and drainage), regional systems for irrigation and HS DTD) that convey water to farms. Farmers are responsible for pumping the water out of these canals and distributing it around their farm, applying it by sprinkler, drip or surface irrigation, or for arranging for water to flow to their land directly. These systems exist in the territory of AP Vojvodina and in the Belgrade region.

Resource	Conveyance	Distribution	Use
MAFWM - RWD or PSAWMF	PWC Srbijavode or PWC Vode Vojvodine	Farms/Farmers	

Figure 3 Irrigation water supply chain in Serbia (model 2)

The third model consists of water company (or by a local partner as it happens in Negotin) **supplying water from an elevated reservoir (by gravity) or a pumping station** and then have a WUA in charge of distribution[11]. In Serbia, there are a few systems that operate through WUAs (7-8), none imposing a full charge. Normally WUA[12] charge for energy consumption, but do not recover the full irrigation costs (O&M plus investment). Although an annual membership fee has been planned in most cases, it is not being collected everywhere.

Resource	Conveyance	Distribution	Use
MAFWM - RWD or PSAWMF	PWC Srbija vode or PWC Vode Vojvodine	WUA	Farms/Farmers

Figure 4 Irrigation water supply chain in Serbia (model 3)

Serbia has recently been experimenting with some variations of this model. Under two new investments being funded by EBRD and implemented by Srbijavode, farmers in Negotin and Svilajnac will be provided with pressurised water through systems managed by the municipalities[13] (in charge of both conveyance and distribution). In both cases, water will be conveyed by relatively short pipelines and distributed through buried pipes to field hydrants.

3.2 Cost for usage of irrigation water as a natural resource

Cost for the use of water as a natural resource for irrigation (resource cost) is prescribed by law and is charged by the MAFWM - RWD for the territory of the Republic of Serbia except for the territory of autonomous province and the PSAWMF for the territory of AP Vojvodina. This charge is paid by all persons who use water (surface and/or groundwater) for irrigation. Persons who use water for irrigation from wells and watercourses (including reservoirs) only pay this charge. Amendments of the law as well as changes to the cost of irrigation water require consultations with stakeholders and they are negotiated by the different relevant institutions (ministries).

Determining the cost for the use of irrigation waters (resource cost) is made according to:

1. Quantity of abstracted or delivered water expressed in cubic meters (m^3), when there are devices for measuring the amount of abstracted or delivered water (***engaged capacity cost***)
2. Area of agricultural land that is irrigated, expressed in hectares (ha), when there is no possibility of measuring the amount of delivered water (***installed capacity cost***).

[10] Srbijavode operates dual-purpose canals (they do not operate regional systems for irrigation or HS DTD)

[11] Associations are registered as non-governmental organizations.

[12] In most cases in Serbia, WUA are owners of only low voltage power grid, but not pipelines or pumping stations.

[13] Final details have yet to be agreed, but it is expected that the municipalities will take overall or partial responsibility, with operations and maintenance probably carried out by their respective public enterprises responsible for communal services.

According to the data for 2019, only 38 companies that irrigated 19,696 ha had a device for measuring the amount of delivered water for irrigation, which means that determining the cost for usage of irrigation water on the basis of the amount of delivered water in m^3 is more of an exception than it is the rule.

The cost for the use of irrigation water does not change with the source (surface or groundwater) **or water quality** as described in Table 1 in the annex.

3.3 Cost of water conveyance - charge for the use of water facilities and systems in public ownership

A charge for the use of publicly owned water facilities and systems (conveyance or transport cost) is applied to all users of these systems. Cost of irrigation water varies between different regions in Serbia and are charged by PWC as prescribed by law (the revenue from charges is incorporated in the budget of the Republic of Serbia, while revenue from those charges that is generated on the territory of AP is incorporated in the budget of AP). The charge can be paid based on water consumption or based on the irrigated area. Area-based chargess, differ according to the agricultural crops in Vojvodina, while in the central part of Serbia area-based charges are the same regardless of the agricultural crop. In the central part of Serbia, except in the Belgrade region, water facilities and systems in public ownership for irrigation are much less present (the system in Macva is in the final phase).

Chargess on the use of publicly owned water facilities and systems for irrigation are applied to the user of agricultural or forest land that benefits from the irrigation water from these facilities, i.e. systems. Such charges are calculated as *a*+*b* where:

a) Installed capacity for irrigation:

(i) fixed charge per hectare;

b) Engaged capacity:

(i) variable charge per cubic meter, if there is a device for measuring the amount of delivered water.

(ii) fixed charge per hectare if there is no device for measuring the amount of delivered water for irrigation.

Example of a case of a user without a water meter: if the installed irrigation capacity is 500 ha and the user irrigates 500 ha, the user pays a fixed cost (for installed and engaged capacity) for an area of 500 ha. However, if the user irrigates only 300 ha (due to crop rotation or other reasons), then s/he'll pay a fixed charge for 500 ha and an engaged capacity charge for 300 ha.

This same rule applies for the different irrigation water supply chain models as follows:

1 - Water facilities of reclamation irrigation systems (see Table 2 in the attachment), including the charge for the use of the high-pressure pumping station for water delivery (see Table 3 in the attachment);

2 - Water facilities of the Hydro System "Danube-Tisa-Danube" (Table 4 attached);

a – installed capacity charge differs for arable and fruit and vegetable crops;

b – single volumetric tariff where consumption is measured; or different area based tariff for arable crops and fruits and vegetables otherwise – the cost of charge for irrigation of perennial

crops, orchards and vegetables is about 60% higher when compared to irrigation of other agricultural crops (see Table 4 in annex);

3 - Facilities of regional irrigation systems and other water facilities on the territory of AP Vojvodina (Table 5 attached).

The current pricing method is based on equalization with the maintenance expenses of water facilities and systems in public ownership (marginal method). This method is based on determining the amount of the cost for the use of water facilities and systems in public ownership, which will cover all long term system expenses, with optimization of the use of the system and maximum creation of added value. Since water facilities and systems in public ownership are multipurpose, the cost for the use of water facilities and systems in public ownership for the purposes of irrigation is determined as the percentage used for irrigation (in relation to other purposes of use). The charge consists of a charge for installed capacity and represents the amount of fixed maintenance costs and a charge for engaged capacity which represents the amount of variable system maintenance costs.

3.4 Total amount of paid charges for usage of irrigation water and for usage of water facilities and systems in public ownership for the purposes of irrigation in 2019

The highest charge in 2019 (for usage of resources and for usage of water facilities and systems in public ownership for the purposes of irrigation) in Serbia amounted to 5,665 dinars/ha/year (48,18 €/ha/year) (the charge for the use of the high pressure pumping station is not included, because none of the users of the irrigation system uses the high pressure pumping station).

According to data from PWC "Vode Vojvodine", the total amount collected in irrigation charges in the territory of AP Vojvodina for 2019 was 95.541.187,34 dinars. This charge was billed for about 64.000 ha (installed capacity) and about 45.000 ha (engaged capacity). In AP Vojvodina, of the total number of registered irrigation systems users, only 20 (or 11%) paid the charge based on the amount of delivered water in m^3 (based on measuring devices), while other users were charged based on irrigated area.

The highest total charge cost paid by a person during 2019 in the territory of AP Vojvodina was 5.626.434 dinars (47.848 €) which was paid by AC "Sava Kovacevic" from Vrbas for irrigation of 1.695 hectares. This company paid a charge of 3.319,43 dinars per hectare (28,23 €/ha), corresponding to a monthly cost per hectare of 276,62 dinars (2,35 €).

On the territory of the central part of the Republic of Serbia the total amount of collected charges in 2019 was around 1 million dinars (€ 8.725). These charges were collected for irrigation area of about 2.500 hectares of agricultural land which corresponds only to 3% of total irrigated land surface in this part of Serbia. There was a total of six decisions issued on the payment of irrigation charges which is only 0,0036% of the total number of persons which irrigated land (according to 2018 SORS research, with the assumption that similar number of persons irrigated land during 2019).

The highest charge cost during 2019 on the territory of Central Serbia was paid by the AC "Al Dahra" from Belgrade in the total amount of 926.045 dinars (€ 7.875). AC "Al Dahra" irrigated a total of 1.350 hectares of agricultural land and paid a charge of € 5,83 per hectare. The other five users of the irrigation systems paid an irrigation charge per m^3.

4 Comparative prices of irrigation water: Serbia - region - EU

Compared to other countries in Europe (*Giannakis et al.* 2016 and *Alberto Garrido and Javier Calatrava 2010* (*OECD study*)), in 2019 the Republic of Serbia had the lowest charges for the use of water for irrigation. The lowest cost of irrigation water in Serbia is 5% lower than the lowest cost of irrigation water in Bosnia and Herzegovina, 4,62 times lower than the lowest cost of water in Croatia,

55,67 times lower than in Greece, 237,11 times lower than in France, 10,31 times lower than in Italy, 20,62 times lower than in Spain and 11,34 times lower than in Portugal. The highest cost of irrigation water in Serbia is 13,15 times higher than in Bosnia and Herzegovina, 1,29 times higher than in Croatia, while it is 48,09 times lower than in Greece, 111,86 times lower than in France, 59,66 times lower than in Italy, 13,72 times lower than in Spain and 6,86 times lower than in Portugal. (see Table 7 in annex).

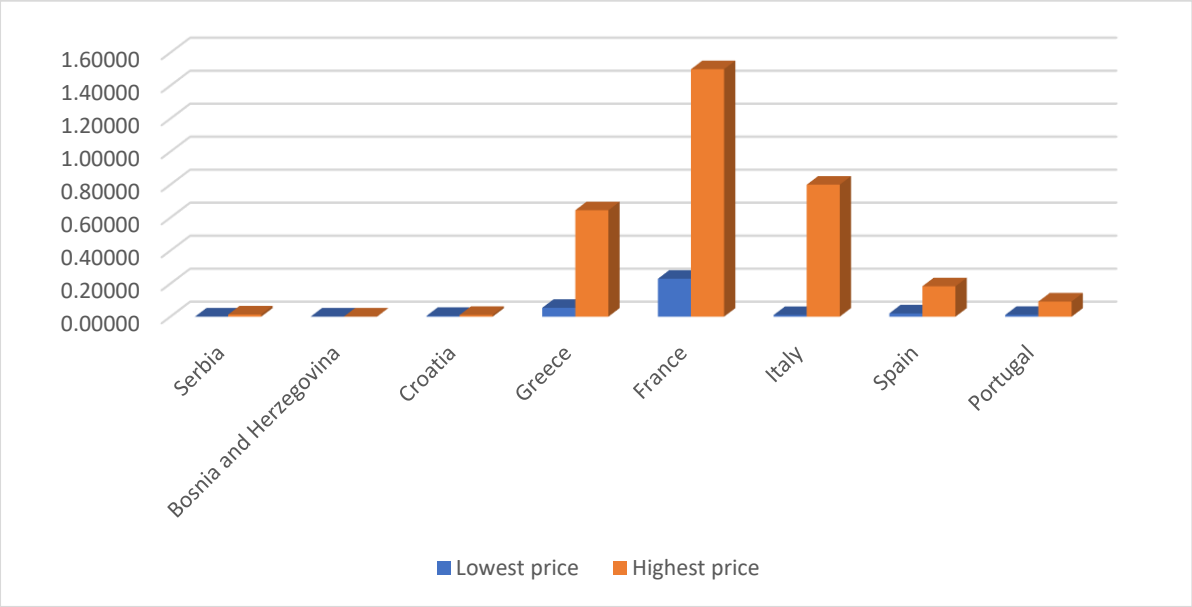

Figure 5 Water pricing for irrigation in €/m³ Source: (Giannakis et al. 2016, Alberto Garrido and Javier Calatrava 2010)

Irrigation charges per hectare in Serbia are at least 1,35 to 11 times lower than in Croatia, 4,36 to 15,48 times lower than in Greece, 36,32 to 77,19 times lower than in Italy, 2,85 to 5,35 times lower than in the Netherlands, 2,23 to 4,38 times lower than in Portugal. In Spain, the lowest price of irrigation water is lower than the lowest price in Serbia (almost 2 times), but the highest price in Serbia is 9,83 times lower than the highest price of irrigation water in Spain. Although making a comparison to water prices in other countries is only of limited value, as there is tremendous variation in the systems, their operating costs and the scarcity of the water resource, such a wide difference in water price ranges costs across countries and regions within each country cannot only be due to differences in recovery costs.

Note: The cost of irrigation water fee for Serbia, Bosnia and Herzegovina and Croatia refers to the cost for the use of resources and water transfer (see Figures 3 and 4) in both cases (EUR / m³ and EUR / ha), while for others countries, the cost includes, in addition to these costs, the costs of distribution and use of water.

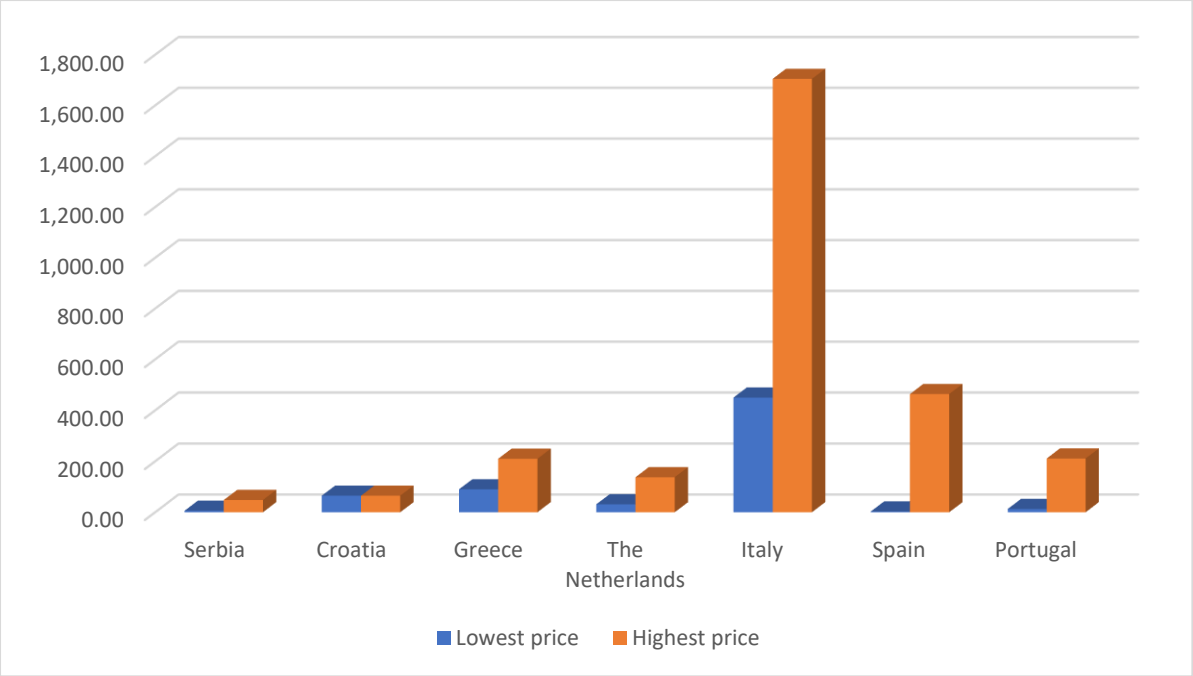

Figure 6 Water pricing for irrigation in €/ha Source: (Giannakis et al. 2016, Alberto Garrido and Javier Calatrava 2010)

In general most European countries, including Serbia, have adapted their legislation to enable them to follow the European WFD on full cost recovery. However, the figures above suggest that there is a large disparity in the approach to water price setting across Europe and even within each European country, and according to a study from OECD, in 2010 irrigation water prices generally did cover full recovery costs[14]. This study concludes that *O&M costs are reasonably covered, capital costs poorly covered and resource and environmental costs totally neglected by pricing policies, though they may be addressed by other policy instruments.* Rural settings – often with an ageing and poorly trained farm population, small farm size and low level of farm investment – do not provide fertile ground for the uptake of irrigation and associated agricultural technologies that would enable an increase in water prices to match cost recovery.

This signals that water pricing cannot be seen by policy makers as a standalone tool for more efficient irrigation and that it normally has to go hand in hand with other tools[15]. Some of these include irrigation monitoring and establishment of water rights/quotas and water rights markets in case of water scarcity, or subsidies for the adoption of technologies, cropping systems and/or agricultural practices to increase productivity. In fact, the literature (e.g. Zhu et al. 2018, or Molle, 2017) argues that, in water resource management models, water-pricing policy needs to be supplemented by groundwater protection and agricultural subsidy policies to effectively incentivize uptake/guarantee farmers' income, regulate farmers' water-use behavior, and protect groundwater sources.

[14] This scenario should not have changed dramatically, as farms' structure has not suffered deep changed in the EU in the last decade.

[15] Molle and Berkoff (2007) provide a detailed historical account of the issues around water pricing.

5 Conclusions

It is not a simple task to design water pricing schemes in agriculture that a) are acceptable to both the agricultural sector and society, b) minimize negative impacts on farms' income, and c) give incentives to save water and recover a larger share of costs including external costs. Reflecting on the information provided in the sections above, some general conclusions can be drawn.

Costs (prices) result from complex equations comprising economic, social and environmental factors

A new pricing scheme (or higher price levels) needs to reflect local and regional circumstances regarding water use and water rights, water availability, farm sizes and agricultural crops grown, possible alternative crops and marketing channels, alternative technologies to save water or change irrigation techniques and existing subsidies.

These factors will certainly vary from region to region, and can best be assessed through a broad stakeholder consultation involving all users concerned. Such consultations would at the same time increase the chances of successful implementation, while making the price changes socially and politically more acceptable. At the same time, the consultation should develop a common understanding of the objectives of the new pricing scheme/of higher prices. As "no pricing policy will ever make progress if irrigators' benefits are severely compromised as a result of its full implementation", an ex-ante assessment of the social and welfare effects is needed, drawing on the information gained during the stakeholder consultation process.

Thus, the price changes could be flanked by equity-raising measures or subsidies to prevent or limit social hardship and to take into account the economic and social concerns that may be raised on the behalf of small-scale farming or low income farmers.

Different regions and irrigation water supply facilities in Serbia have and need different approaches to price setting enshrined in the law

There is a difference in the cost of irrigation water that is delivered (conveyed) to the user through different types of water facilities and systems in public ownership used for the purposes of irrigation. This difference in the cost of irrigation water is especially pronounced on the territory of AP Vojvodina, where there is a developed network of water facilities and systems in public ownership used for the purposes of irrigation. The cost of water paid by users varies depending on the water facilities and publicly owned systems used to deliver water. Water prices for HS DTD water users also depends on the agricultural products being irrigated.

Since most of water facilities and systems in public ownership used for the purposes of irrigation are multipurpose (they are used for drainage, irrigation, supplying water for the industry, transport of goods, etc.), the attribution of costs to each „water service" is complex. Detailed economic analyses with different price scenarios for charges both for irrigation and drainage can help explore more efficient alternatives to the current prices.

A strategic view of the future of irrigation implies considering options in terms of wider agricultural policies affecting the regions with potential for irrigation. Irrigation systems serving large and very profitable farms seem to have large scope to cope with increases in water costs, as water expenses represent a very small fraction of its users' revenues. However, in other cases, irrigation may never be adopted unless there is some level of subsidization of irrigation water cost. Subsidies can either be embedded in irrigation water cost or be delivered through other mechanisms, including subsidized technical assistance. However, subsidization of agriculture is only justifiable if it addresses existing market failures in cases where there is an opportunity to irrigate competitive crops that produce a

positive impact in the countries economy. Assessing these options requires knowledge of the economics and social factors affecting each area being considered for investment in irrigations.

Generally, very little is collected every year in irrigation charges

In 2019, Serbia collected irrigation charges for about 41% of irrigated land area (irrigation charges were collected for about 66.500 ha out of 159.587[16] ha of total irrigated area). The total amount of collected charges was around 96,5 million dinars (820 thousand euros in total or about 12,3 euros per hectare on average). The country needs a strategy to be able to cover a larger share of irrigation costs and introduce fair irrigation water pricing for the majority of the users.

Comparing Serbia to EU

The cost of irrigation water in Serbia is lower than the price of irrigation water in the countries of the European Union.

In most EU countries, and especially in the Mediterranean, irrigation water is paid according to consumption, while in Serbia the dominant way of irrigation water pricing is based on the total area of irrigated land.

The price of water in EU countries, especially in the Mediterranean countries, is determined by basins, while in Serbia the cost of water as a natural resource is the same for the whole country, and differs based on the use of water facilities and systems in public ownership used for the purposes of irrigation.

In most EU countries, the price of water is calculated on the basis of financial costs (full water supply costs), resource costs and environmental costs, although in some EU countries farmers do not pay the full amount of all costs and some countries do not yet take into account the environmental costs. In Serbia, the cost of irrigation water is calculated on the basis of resource expenditure and maintenance expenses of water facilities and systems in public ownership used for the purposes of irrigation (most of the infrastructure is built as multipurpose (used for other purposes as well and not just irrigation)), thus maintenance expenses of water facilities and systems in public ownership used for the purposes of irrigation only make up a part of total maintenance expenses of all facilities.

Capital facilities, i.e. construction of irrigation infrastructure in EU countries (especially Mediterranean countries) are financed by the state or by EU funds with significant subsidies.

In some EU countries, especially Spain, Portugal, Greece, France and Italy, water users 'associations and local communities have a significant role in irrigation, while in Serbia, water users' associations, and especially local communities (municipalities) do not have a significant role in irrigation.

Recommendations (for the Strategy, for the Action Plan and for the Investment Plan)

Irrigation water cost can determine the sustainability of water services and should be based on detailed economic analysis that considers the multitude of factors affecting irrigation uptake and economic performance of each system.

Economic analysis on different options on water pricing (and complementary water management tool) should be made for each scenario proposed in brief 5. Brief 5 proposes the analysis of the economic feasibility of investments under different scenarios defined by (i) the water source, (ii) type of investment/technology chosen, (iii) the farming systems that are adopted, and (iv) the expected level of uptake.

[16] According to SORS data from 2018, and with the assumption that the same surface area was irrigated in 2019

Economic analysis should inform decision, but not drive decision. Molle and Berkoff (2007) provide an extensive and detailed argument for reducing the expectations politicians and analysts should have with respect to irrigation water pricing. The authors argue that *positive models that rely on optimisation models may not incorporate many uncertainties involved in farming decisions to the extent that they operate in the real world*, although *the literature so far is skewed towards the use of positive models*.

Hence, the results of the economic analysis stimulate discussions with key stakeholders on the mechanisms that should be used to set prices (costs) in each main type of system identified in the analysis. Such mechanism should allow defining costs (prices) according to the estimated recovery costs (including resource costs), as well as to what can deliver greater economic efficiency in each *real* case. For example, full recovery costs can result in lower adoption/use (and therefore expenses not being recovered as anticipated) and some level of well-targeted subsidization (e.g. on efficient irrigation systems for small farmers) being necessary to ensure maximum economic efficiency and social inclusion. Potential beneficiaries are best placed to confirm assumptions on incentives or hindrances to irrigation uptake and to signal what price levels would be acceptable.

Funds collected from drainage and irrigation charges must be earmarked funds used to maintain and improve the operation of publicly owned water facilities and systems used for the purposes of drainage and irrigation.

Given that irrigation and drainage water management in Serbia is centralised and that those jobs are carried out by MAFWM - RWD and PSAWMF, as well as by two PWC (Srbijavode and Vode Vojvodine), irrigation water cost in one region which is producing high value crops may be set as to cover recovery costs of other regions where there is an economic rational to irrigate, but where full cost recovery water costs would would have a large (negative) impact on farmers' business.

5.1 References

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6 Annex

6.1 Tables

Table 1 Water usage cost, based on the quality of the water and the purpose

Number	Quality and purpose of abstracted or delivered water		Base	Cost in	
				dinars	€
1.	Water used for irrigation	if there is a device for measuring the amount of water delivered	m^3	0,1143	0,00097
		if there is no device for measuring the amount of water delivered	ha	685,9595	5,83

Table 2 Cost for the use of water facilities of reclamation irrigation systems

Number	Usage of water facility		Base	Cost in					
				On the territory of the Republic of Serbia, except for the territory of AP Vojvodina and the city of Belgrade		On the territory of the city of Belgrade		On the territory of AP Vojvodina	
				dinars	€	dinars	€	dinars	€
1.	Installed capacity		ha	1.085,87	9,23	1.005,44	8,55	1.097,76	9,33
2.	Engaged capacity	If the charge payer has a measuring device	1.000 m^3	724,88	6,16	671,2	5,71	731,79	6,22
		If the charge payer doesn't have a measuring device	ha	1.085,87	9,23	1.005,44	8,55	1.097,76	9,33

Table 3 Cost for the use of a high-pressure pumping station for water delivery

Number	Water facility	Base	Cost in					
			On the territory of the Republic of Serbia, except for the territory of AP Vojvodina and the city of Belgrade		On the territory of the city of Belgrade		On the territory of AP Vojvodina	
			dinars	€	dinars	€	dinars	€

1.	High pressure pumping stations	each l / s of installed capacity in the pumping station for its surface	1.085,87	9,23	1.005,44	8,55	1.097,76	9,33

Table 4 Cost for the use of HS DTD water facilities for irrigation on the territory of AP Vojvodina

Number	Usage of water facility			Base	Cost in	
					dinars	€
1.	Installed capacity	for irrigation of land under field crops		ha	237,81	2,02
		for irrigation of land under vegetable crops, orchards and other perennial plantations		ha	330,82	2,81
2.	Engaged capacity	if the charge payer has a measuring device		1.000 m^3	731,79	6,22
		if the charge payer does not have a measuring device	for irrigation of land under field crops	ha	841,53	7,16
			for irrigation of land under vegetable crops, orchards and other perennial plantations	ha	1.354,82	11,52

Table 5 Cost for the use of regional irrigation systems and other water irrigation facilities on the territory of AP Vojvodina

Number	Usage of water facility		Base	Cost in	
				dinars	€
1.	Installed capacity		ha	2.925,79	24,88
2.	Engaged capacity	if the charge payer has a measuring device	1.000 m^3	217,30	1,85
		if the charge payer does not have a measuring device	ha	367,80	3,13

Table 6 Price of irrigation water in some countries of the region and Europe

Number	Country	Price of water for irrigation in €/m³	Price of water for irrigation in €/ha	Note
1.	Bosnia and Herzegovina (Federation)	0,00102	-	
2.	Bosnia and Herzegovina (Republic of Srpska)	0,00102	-	
3.	Croatia		65	The cost depends on the quality of irrigation water.
	Surface waters			
	- Very good water condition	0,0104		
	- Good water condition	0,00936		
	- Moderate water condition	0,00728		
	- Bad and very bad water condition	0,00468		
	Underground waters			
	- Good water condition	0,0104		
	- Bad water condition	0,00468		
4.	Greece	0,054-0,0645	90-210	
5.	France	0,23-1,50	-	
6.	Italy	0,01-0,80	450-1705	
7.	The Netherlands		31,19-137,51	
8.	Spain	0.02-0.184	3-463.8	Water from inter-regional basins is more expensive (113-463.8 €/ha) than water from Spanish irrigation districts and RBAs (3-211€/ha)
9.	Portugal	0.011-0.092	13-210.9	

Table 7 Comparing cost of irrigation water in Serbia to irrigation water price in region and European countries

Country	Lowest price in €/m³	Highest price in €/m³	Lowest price in €/ha	Highest price in €/ha
Serbia	0.00097	0.01341	5.83	48.18
Bosnia and Herzegovina	0.00102	0.00102		
Croatia	0.00468	0.0104	65.00	65.00
Greece	0.05400	0.6450	90.00	210.00
France	0.23000	1.5000		
The Netherlands			31.19	137.51
Italy	0.01000	0.8000	450.00	1,705.00

Spain	0.02000	0.1840	3.00	463.8
Portugal	0.01100	0.0920	13.00	210.90

Cost of charges for drainage of agricultural land, except for reeds and swamps, unforested forest land and construction land on the territory of Republic of Serbia, excluding the territory of AP Vojvodina

Table 8 Charge for drainage of agricultural land, except reeds and swamps, unforested forest land and construction land for:

1) cadastral municipalities located on the territory of the municipality Novi Beograd, in particular: Novi Beograd, municipality Surčin, in particular: Bečmen, Boljevci, Dobanovci, Jakovo, Petrovčić, Progar, Surčin and municipality Zemun, in particular: Batajnica, Ugrinovci, Zemun Polje, which are covered by the reclamation area "Beograd Sava 1";

2) cadastral municipalities located on the territory of the municipality Barajevo, in particular: Barajevo, Baćevac, Boždarevac, Veliki Borak, Vranić, Guncati, Meljak, Šiljakovac, municipality Čukarica, in particular: Velika Moštanica, Železnik, Ostružnica, Rušanj, Sremčica, Umka, Čukarica, municipality Lazarevac, in particular: Burovo, Veliki Crljeni, Vrbovno, Vreoci, Dren, Županjac Zeoke, Junkovac, Lazarevac, Leskovac, Lukavica, Mali Crljeni, Medoševac, Petka, Sakulja, Stepojevac, Stubica, Cvetovac, Čibutkovica, Šopić, Šušnjar, municipality Obrenovac, in particular: Baljevac, Barič, Belo Polje, Brgulice, Brović, Veliko Polje, Vukićevica, Grabovac, Draževac, Dren, Zabrežje, Zvečka, Jasenak, Konatice, Krtinska, Ljubinić, Mala Moštanica, Mislođin, Obrenovac, Orašac, Piroman, Poljane, Ratari, Rvati, Skela, Stubline, Trstenica, Urovci, Ušće, which are covered by the reclamation area "Beograd Sava 2";

3) cadastral municipalities located on the territory of the city of Šabac, in particular: Bela Reka, Bogosavac, Bojić, Bukor, Cerovac, Culjković, Desić, Dobrić, Drenovac, Duvanište, Dvorište, Gornja Vranjska, Grušić, Jelenča, Jevremovac, Korman, Krivaja, Lipolist, Mačvanski Pričinović, Majur, Mala Vranjska, Maovi, Metlić, Miloševac, Miokus, Mišar, Mrđenovac, Nakučani, Orašac, Orid, Petkovica, Petlovača, Pocerski Metković, Pocerski Pričinović, Predvorica, Prnjavor, Radovašnica, Ribari, Rumska, Šabac, Ševarice, Sinošević, Slepčević, Štitar, Tabanović, Varna, Volujac, Žabar, Zablaće, Zminjak and for cadastral municipalities located on the territory of the municipality Bogatić, in particular: Badovinci, Banovo Polje, Belotić, Bogatić, Crna Bara, Dublje, Glogovac, Glušci, Klenje, Metković, Očage, Salaš Crnobarski, Sovljak, Uzveće, which are covered by the reclamation area "Podrinjsko Kolubarsko";

4) cadastral municipalities located on the territory of the municipality Palilula, in particular: Besni Fok, Borča, Kovilovo, Komareva Humka, Krnjača, Lepušnica, Ovča, which are covered by the reclamation area "Beograd Dunav 1";

5) cadastral municipalities located on the territory of the municipality Malo Crniće, in particular: Veliko Selo, Kravlji Do, Malo Crniće, Vrbnica, Kalište, Salakovac, Toponica, Šljivovac, Batuša, Veliko Crniće, municipality Negotin, in particular: Bukovče, Dušanovac, Kobišnica, Miloševo, Negotin, Prahovo, Radujevac, Samarinovac, Srbovo, city of Požarevac, in particular: Bare, Beranje, Bradarac, Bratinac, Bubušinac, Drmno, Dubravica, Kasidol, Kličevac, Maljurevac, Nabrđe, Požarevac, Rečica, Trnjane, Ćirikovac, municipality Kostolac, in particular: Klenovnik, Kostolac, Selo Kostolac, Ostrovo, Petka, city of Smederevo, in particular: Vučak, Šalinac, Lipe I, Kulič, Smederevo, municipality Veliko Gradište, in particular: Đurakovo, Majilovac, Popovac, Topolovnik, Veliko Gradište, Zatonje, Kisiljevo, Kumane, Biskuplje, Kurjače, Ostrovo, Požeženo, Ram, Sirakovo, which are covered by the reclamation area "Donji Dunav";

6) cadastral municipalities located on the territory of the city of Požarevac, in particular: Brežane, Dragovac, Lučica, Požarevac, Poljana, Prugovo, Živica, grada Smederevo, i to: Binovac, Drugovac II, Kolari, Landol, Lugavčina, Mala Krsna, Osipaonica, Saraorci, Skobalj, Vodanj, Vranovo, Vrbovac, municipality Smederevska Palanka, in particular: Vodice, Glibovac I, Kusadak, Mala Plana, Pridvorice, Ratari, Smederevska Palanka I, Smederevska Palanka II, Smederevska Palanka III, municipality Svilajnac, in particular: Crkvenac, Dublje, Kušiljevo, Svilajnac, municipality Velika Plana, in particular: Donja Livadica, Krnjevo, Lozovik, Miloševac, Novo Selo I, Novo Selo II, Staro Selo, Trnovče, Velika Plana I, Velika Plana II, Veliko Orašje, municipality Žabari, in particular: Aleksandrovac, Vlaški Do, Žabari, Žabarsko blato, Oreovica, Porodin, Simićevo, which are covered by the reclamation area "Velika Morava", has a determined cost, in particular for:

Type of land		Base	Cost of the charge	
			dinars	€
Agricultural land	1st class field	ha	1.656,50	14,09
-	2nd class field	ha	1.492,36	12,69
	3rd class field	ha	1.293,39	11,00
	4th class field	ha	1.012,42	8,61
	5th class field	ha	623,87	5,31
	6th class field	ha	376,09	3,20
	7th class field	ha	297,64	2,53
	8th class field	ha	172,43	1,47
	garden, orchard, vineyard, 1st to 4th class and pond	ha	1.284.82	10,93
	garden, orchard, vineyard, from 5th to 8th class	ha	476,16	4,05
	meadow and pasture, 1st to 8th class	ha	194,29	1,65
Forest land	unforested	ha	226,57	1,93
Construction land for legal entities	uncategorized roads, ports, wharves, airports and other construction land and goods in general use, except land under residential buildings and buildings intended for performing activities	ha	1.213.71	10,32
	construction land under residential buildings and buildings intended for performing activities	ha	1.6991,9	144,50
	construction land under a public road	ha	13.170,46	112,00
	construction land under railway infrastructure	ha	9.292,29	79,02
Construction land for individuals (natural persons)	construction land other than land under residential buildings and buildings intended for performing activities	m^2	1,70	0,01

Table 9 Charge for drainage of agricultural land, except reeds and swamps, unforested forest land and construction land for:

1) cadastral municipalities located on the territory of the municipality Grocka, in particular: Boleč, Vinča, Vrčin, Zaklopača, Leštane, Ritopek, and municipality Palilula, in particular: Veliko Selo, Slanci, which are covered by the reclamation area "Beograd Dunav 2";

2) cadastral municipalities located on the territory of the municipality Barajevo, in particular: Arnajevo, Beljina, Lisović, Manić, Rožanci, municipality Lazarevac, in particular: Barzilovica, Brajkovac, Dudovica, Sokolovo, opštine Rakovica, i to: Resnik and municipality Sopot, in particular: Babe, Dučina, Guberevac, Slatina, Stojnik, which are covered by the reclamation area "Beograd Sava 2";

3) cadastral municipalities located on the territory of the municipality Grocka, in particular: Begaljica, Dražanj, Kamendol, Pudarci, Umčari, municipality Mladenovac, in particular: Amerić, Velika Krsna, Vlaška, Dubona, Granice, Jagnjilo, Koraćica, Kovačevac, Mala Vrbica, Markovac, Međulužje, Mladenovac (selo), Mladenovac (varoš), Pružatovac, Rabrovac, Rajkovac, Senaja, Šepšin, municipality Sopot, in particular: Đurinci, Mala Ivanča, Mali Požarevac, Nemenikuće, Parcani, Popović, Ralja, Sopot, which are covered by the reclamation area "Beograd Morava";

4) cadastral municipalities located on the territory of the city of Valjevo, in particular: Babina Luka, Balinović, Bačevci, Belić, Beloševac, Beomužević, Blizonje, Bobova, Bogatić, Brangović, Brankovina, Brezovica, Bujačić, Valjevo, Veselinovac, Vlaščić, Vragočanica, Vujinovača, Gola Glava, Gornja Bukovica, Gornje Leskovice, Grabovica, Degurić, Divci, Divčibare, Donja Bukovica, Donje Leskovice, Dračić, Dupljaj, Žabari, Zabrdica, Zarube, Zlatarić, Jasenica, Joševa, Kamenica, Klanica, Klinci, Kotešica, Kovačice, Kozličić, Kunice, Lelić, Loznica, Lukavac, Majinović, Miličinica, Mrčić, Oglađenovac, Osladić, Paklje, Paune, Petnica, Popučke, Pričević, Prijezdić, Rabas, Ravnje, Rađevo Selo, Rebelj, Rovni, Sandalj, Sedlari, Sitarice, Sovač, Stanina Reka, Stapar, Strmna Gora, Stubo, Suvodanje, Sušica, Taor, Tubravić, Tupanci, municipality Ub, in particular: Banjani, Brgule, Brezovica, Vrelo, Vrhovine, Vukona, Gvozdenović, Gunjevac, Dokmir, Zvizdar, Joševa, Kalenić, Kalinovac, Kožuar, Kršna Glava, Liso Polje, Lončanik, Milorci, Murgaš, Novaci, Paljuvi, Pambukovica, Radljevo, Raduša, Ruklada, Slatina, Sovljak, Stublenica, Takovo, Tvrdojevac, Trlić, Trnjaci, Tulari, Ub, Crvena Jabuka, Čučuge, Šarbane, municipality Lajkovac, in particular: Bajevac, Bogovađa, Vračević, Donji Lajkovac, Jabučje, Lajkovac (varoš), Lajkovac (selo), Mali Borak, Markova Crkva, Nepričava, Pepeljevac, Pridvorica, Ratkovac, Rubribreza, Skobalj, Slovac, Stepanje, Strmovo, Ćelije, municipality Mionica, in particular: Berkovac, Brežđe, Bukovac, Virovac, Vrtiglav, Golubac, Gornji Lajkovac, Gornji Mušić, Gunjica, Donji Mušić, Dučić, Đurđevac, Klašnić, Ključ, Komanice, Krčmar, Maljević, Mionica (varošica), Mionica (selo), Mratišić, Nanomir, Osečenica, Paštrić, Planinica, Popadić, Radobić, Rajković, Rakari, Robaje, Sanković, Struganik, Tabanović, Todorin Do, Tolić, Šušeoka, municipality Ljig, in particular: Ba, Babajić, Belanovica, Bošnjanović, Brančić, Veliševac, Gukoš, Dići, Donji Banjani, Živkovci, Ivanovci, Jajčić, Kadina Luka, Kalanjevci, Kozelj, Lalinci, Latković, Liplje, Ljig, Moravci, Paležnica, Poljanice, Slavkovica, Cvetanovac, Štavica, Šutci, municipality Aranđelovac, in particular: Aranđelovac, Bosuta, Bukovik, Venčane, Vukosavci, Garaši, Gornja Trešnjevica, Jelovik, Partizani (Daroslava), Progoreoci, Ranilović, Tulež, municipality Koceljeva, in particular: Batalage, Brdarica, Bresnica, Đukovine, Donje Crniljevo, Draginje, Družetić, Galović, Goločelo, Gradojević, Kamenica, Koceljeva, Koceljeva - Varoš, Ljutice, Mali Bošnjak, Subotica, Svileuva, Zukve, municipality Osečina, i to: Bastav, Belotić, Bratačić, Carina, Dragijevica, Dragodol, Gornje Crniljevo, Gunjaci, Komirić, Konjuša, Lopatanj, Osečina, Ostružanj, Pecka, Plužac, Sirdija, Tuđin, municipality Krupanj, in particular: Banjevac, Bela Crkva, Bogoštica, Brezovice, Brštica, Cerova, Cvetulja, Dvorska, Kostajnik, Krasava, Krupanj, Kržava, Likodra, Lipenović I, Lipenović II, Mojković, Planina, Ravnaja, Šljivova, Stave, Tolisavac, Tomanj, Vrbić, Zavlaka, city of Loznica, in particular: Banja Koviljača, Bradić, Brnjac, Veliko Selo, Voćnjak, Gornja Badanja, Gornja Borina, Gornja Sipulja, Gornje Nedeljice, Gornji Dobrić, Grnčara, Donja Badanja, Donje Nedeljice, Donja Sipulja, Donji Dobrić, Draginac, Zajača, Jadranska Lešnica, Jarebice, Jelav, Joševa, Jugovići, Kamenica, Korenita, Kozjak, Lešnica, Lipnica, Loznica, Milina, Novo Selo, Paskovac, Pomijača, Ribarice, Runjani, Simino Brdo, Slatina, Straža, Stupnica, Tekeriš, Trbosilje, Trbušnica, Tršić, Filipovići, Cikote, Čokešina, Šor, Šurice, municipality Vladimirci, in particular: Vladimirci, Vladimirci selo, Beljin, Belotić, Bobovik, Debrc, Dragojevac, Jalovik, Jazovnik, Kaona, Kozarica, Krnić, Krnule, Kujavica, Lojanice, Matijevac, Mehovine, Mesarci, Mrovska, Novo Selo, Pejinović, Provo, Riđake, Skupljen, Suvo Selo, Trbušac, Vlasenica, Vučevica, Vukošić, Zvezd, municipality Ljubovija in particular: Ljubovija, which are covered by the reclamation area "Podrinjsko Kolubarsko";

5) cadastral municipalities located on the territory of the city of Zaječar, in particular: Zagrađe, Zvezdan, Veliki Jasenovac, Klenovac, Mali Jasenovac, Planinica, Brusnik, Metriš, Selačka, Lubnica, Šljivar, Veliki Izvor, Vratarnica, Gradskovo, Grljan, Zaječar I, Zaječar II, Mali Izvor, Borovac, Vrbica, Vražogrnac, Gamzigrad, Grlište, Jelašnica, Koprivnica, Šipikovo, Tabakovac, Marinovac, Leskovac, Gornja Bela Reka, Lenovac, Nikoličevo, Prlita, Trnavac, Halovo, municipality Petrovac na Mlavi, in particular: Bistrica, Veliko Laole, Ždrelo, Kladurovo, Malo Laole, Melnica, Pankovo, Stamnica, Ćovdin, Rašanac, Petrovac na Mlavi, Starčevo, Trnovče, Orljevo, Veliki Popovac, Šetonje, Ranovac, Vitovnica, Dubočka, Zabrđe, Kamenovo, Knežica, Leskovac, Manastirica, municipality Boljevac, in particular: Sumrakovac, Osnić, Savinac, opštine Bor, i to: Zlot I, Zlot IV, Zlot V, Metovnica, Šarbanovac, municipality Golubac, in particular: Braničevo, Vinci, Golubac, Žitkovica, Klenje, Kudreš, Mrčkovac, Sladinac, Usije, Maleševo, Vojilovo, Dušmanić, Bikinje, Donja Kruševica, Miljević, Ponikve, Šuvajić, Barič, Radoševac, municipality Malo Crniće, in particular: Crljenac, Smoljinac, Šapine, Kobilje, Malo Gradište, Aljudovo, Zabrega, Boževac, Kula, opštine Negotin, in particular: Mala Kamenica, Mihajlovac, Brestovac, Vidrovac, Jasenica, Čubra, Dupljane, Karbulovo, Trnjane, Štubik I, Sikole II, Štubik II, city of Smederevo, in particular: Lipe II, Petrijevo, Seone, Udovice, municipality Veliko Gradište, in particular: Garevo, Kamijevo, Kusiće, Pečanica, Češljeva Bara, Srednjevo, Doljašnica, Carevac, Makce, Desine, Ljubinje, Tribrode and municipality Žabari, in particular: Tićevac, Svinjarevo, which are covered by the reclamation area "Donji Dunav";

6) cadastral municipalities located on the territory of the city of Smederevo, in particular: Badljevica, Dobri Do, Drugovac I, Lunjevac, Malo Orašje, Mihajlovac, Ralja, Radinac, Suvodol, municipality Aranđelovac, in particular: Aranđelovac, Banja, Brezovac, Vrbica, Kopljare, Misača, Orašac, Stojnik, opštine Smederevska Palanka, i to: Azanja, Bačinac, Baničina, Bašin, Cerovac, Glibovac II, Golobok, Grčac, Grčac Palanka, Mramorac, Selevac, Stojačak, Vlaški Do, municipality Velika Plana, in particular: Radovanje, municipality Lapovo, in particular: Lapovo, municipality Batočina, in particular: Badnjevac, Batočina (Selo), Batočina (Varošica), Brzan, Crni Kao, Dobrovodica, Gradac, Kijevo, Prnjavor, Žirovnica, municipality Svilajnac, in particular: Bobovo, Bresje, Dubnica, Gložane, Grabovac, Kupinovac, Lukovica, Mačevac, Proštinac, Radošin, Roanda, Roćevac, Sedlare, Subotica, Troponje, Vojska, Vrlane, municipality Žabari, in particular: Viteževo, city of Jagodina, in particular: Glogovac, Dobra Voda, Dražmirovac, Duboka, Končarevo, Kočino Selo, Lanište, Majur, Mali Popović, Miloševo, Rajkinac, Ribare, Ribnik, municipality Ćuprija in particular: Ćuprija (Grad), Ćuprija (Van Grad), Dvorica, Isakovo, Jovac, Krušar, Mijatovac, Ostrikovac, Supska, Virine, Vlaška, municipality Paraćin, in particular: Bošnjane, Busilovac, Čepure, Davidovac, Donje Vidovo, Drenovac, Glavica, Golubovac, Gornje Vidovo I, Gornje Vidovo II, Krežbinac, Lebina, Lešje, Mirilovac, Paraćin grad, Paraćin, Plana, Popovac, Potočac, Raševica, Ratare, Šavac, Sikirica, Sinji Vir, Striža, Svojnovo, Tekija, Trešnjevica and municipality Despotovac, in particular: Balajnac, Beljajka, Bogova, Brestovo, Bukovac, Despotovac, Grabovica, Jasenovo, Jezero, Lomnica, Medveđa, Miliva, Plažane, Popovnjak, Trućevac, Veliki Popović, Vitance, Vojnik, which are covered by the reclamation area "Velika Morava has a determined cost, in particular for:

Type of land		Base	Cost of the charge	
			dinars	€
Agricultural land	1st class field	ha	562,68	4,79
	2nd class field	ha	460,67	3,92
	3rd class field	ha	389,24	3,31
	4th class field	ha	290,48	2,47
	5th class field	ha	237,39	2,02
	6th class field	ha	159,41	1,36
	7th class field	ha	105,07	0,89
	8th class field	ha	57,41	0,49
	garden, orchard, vineyard, 1st to 4th class and pond	ha	642,41	5,46
	garden, orchard, vineyard, from 5th to 8th class	ha	173,56	1,48

	meadow and pasture, 1st to 8th class	ha	81,21	0,69
Forest land	unforested	ha	159,41	1,36
Construction land for legal entities	uncategorized roads, ports, wharves, airports and other construction land and goods in general use, except land under residential buildings and buildings intended for performing activities	ha	570,21	4,85
	construction land under residential buildings and buildings intended for performing activities	ha	8.495,95	72,25
	construction land under a public road	ha	6.585,23	56,00
	construction land under railway infrastructure	ha	4.646,15	39,51
Construction land for individuals (natural persons)	construction land other than land under residential buildings and buildings intended for performing activities	m^2	0,85	0,01

Table 10 Charge for drainage of agricultural land, except reeds and swamps, unforested forest land and construction land for:

1) cadastral municipalities located on the territory of the municipality Bajina Bašta, in particular: Bajina Bašta, Beserovina, Crvica, Gvozdac, Jagoštica, Lještansko, Lug, Mala Reka, Obajgora, Okletac, Ovčinja, Perućac, Pilica, Pridoli, Rača, Rastište, Rogačica, Sijerač, Solotuša, Strmovo, Svojdrug, Višesava, Zaugline, municipality Gornji Milanovac, in particular: Boljkovci, Brezovica, Cerova, Davidovica, Dragolj, Kriva Reka, Mutanj, Nakučani, Reljinci, Ručići, Šilopaj, Trudelj, Ugrinovci, Zagrađe, municipality Ljubovija, in particular: Čitluk, Berlovine, Carapić, Crnča, Donja Ljubovića, Donja Orovica, Donje Košlje I, Donje Košlje II, Drlače, Gornja Bukovica, Gornja LJubovića, Gornja Orovica, Gornje Košlje, Gračanica, Grčić, Leović, Lonjin, Postenje, Rujevac, Savković, Selenac, Sokolac, Tornik, Uzovnica, municipality Mali Zvornik, in particular: Brasina, Budišić, Čitluk, Culine, Donja Borina, Donja Trešnjica, Mali Zvornik, Radalj, Sakar, Velika Reka, which are covered by the reclamation area "Podrinjsko Kolubarsko";

2) cadastral municipalities located on the territory of the municipality Bela Palanka, in particular: Kozja, Miranovac, Pajež, Vitanovac, municipality Bor, in particular: Brestovac, municipality Golubac, in particular: Brnjica, Dvorište, Dobra, Krivača, Snegotin, municipality Kladovo, in particular: Brza Palanka, Vajuga, Velesnica, Velika Kamenica, Velika Vrbica, Grabovica, Davidovac, Kladovo, Kladušnica, Korbovo, Kostol,

Kupuzište, Ljubičevac, Mala Vrbica, Manastirica, Milutinovac, Podvrška, Rečica, Reka, Rtkovo, municipality Knjaževac, in particular: Balanovac, Beli Potok, Berčinovac, Božinovac, Bulinovac, Vasilj, Vina, Vitkovac, Glogovac, Gornje Zuniče, Grezna, Debelica, Donje Zuniče, Drenovac, Žlne, Zorunovac, Jakovac, Jelašnica, Knjaževac, Koželj, Krenta, Manjinac, Miljkovac, Minićevo, Mučibaba, Ponor, Potrkanje, Ravna, Rgošte, Slatina, Svrljiška Topla, Trnovac, Štipina, Šuman Topla, municipality Kučevo, in particular: Blagojev Kamen, Bukovska, Velika Bresnica, Voluja, Vuković, Gložane, Duboka, Zelenik, Kaona, Kučajna, Kučevo I, Kučevo II, Kučevo III, Lješnica, Mala Bresnica, Mišljenovac, Mustapić, Neresnica, Popovac, Rabrovo, Ravnište, Radenka, Rakova Bara, Sena, Srpce, Turija, Ceremošnja, Cerovica, Ševica, municipality Majdanpek, in particular: Boljetin, Donji Milanovac, Klokočevac, Majdanpek, Miroč, Mosna, Topolnica, municipality Negotin, in particular: Aleksandrovac, Braćevac, Veljkovo, Vratna, Glogovica II, Jabukovac, Kovilovo, Malajnica, Mokranje, Popovica, Rajac, Rečka, Rogljevo, Sikole I, Slatina, Smedovac, Tamnič, Urovica, Crnomasnica, Šarkamen, municipality Svljig, in particular: Beloinje, Burdimo, Bučum, Varoš, Vlahovo, Galibabinac, Grbavče, Gulijan, Guševac, Drajinac, Đurinac, Željevo, Izvor, Lalinac, Lozan, Lukovo, Manojlica, Mečji Do, Merdželat, Niševac, Okolište, Okruglica, Palilula, Periš, Plužina, Prekonoga, Radmirovac, Ribare, Svrljig, Slivje, Tijovac, Šljivovik, Crnoljevica, municipality Žagubica, in particular: Gornjak, which are covered by the reclamation area "Donji Dunav";

3) cadastral municipalities located on the territory of the municipality, in particular: Saranovo, Sepci, municipalit Topola, in particular: Belosavci, Božurnja, Gorovič, Žabare, Zagorica, Jelenac, Junkovac, Kloka, Lipovac, Maskar, Natalinci, Pavlovac, Rajkovac, Topola (varoš), Topola (selo), Trnava, Donja Trnava, Šume, municipality Varvarin, in particular: Obrež, which are covered by the reclamation area "Velika Morava";

4) cadastral municipalities located on the territory of the municipality, in particular: Babin Kal I, Babin Kal II, Bela Palanka (varoš), Bela Palanka (van varoš), Bukorovac, Vrgudinac, Draževo, Dol, Donja Glama, Donji Rinj, Gornja Glama, Klenje, Klisura, Kremenica, Ljubatovica, Moklište, Novo Selo, Oreovac, Sinjac, Telovac, Trešnjaci, Crvena Reka, Čiflik i Špaj, city of Pirot, in particular: Barje Čiflik, Berilovac, Berovica, Blato, Vranište, Veliki Suvodol, Veliki Jovanovac, Gnjilan, Gradišnica, Dobri Do, Držina, Izvor, Kamik, Kostur, Mali Suvodol, Nišor, Orlja, Osmakovo, Pasjač, Petrovac, Pirot (grad), Pirot (van varoš), Poljska Ržana, Ponor, Prisjan, Ragodeš, Rasnica, Sinja Glava, Sopot, Staničenje, Cerev Del, Crvenčevo i Crnoklište, which are covered by the reclamation area "Nišava";

5) cadastral municipalities located on the territory of the municipality Aleksinac, in particular: Aleksinac (Van Varoš), Beli Breg, Belja, Bobovište, Bradarac, Veliki Drenovac, Vrelo, Vukašinovac, Golešnica, Gornje Suhotno, Gornji Adrovac, Gornji Krupac, Grejač, Dašnica, Deligrad, Donje Suhotno, Donji Adrovac, Donji Krupac, Draževac, Žitkovac, Jasenje, Lužane, Mozgovo, Moravac, Moravski Bujmir, Nozrina, Prekonozi, Prćilovica, Rsovac, Rutevac, Stublina, Tešica, Đićina, municipality Doljevac, in particular: Belotinac, Klisura, Knežica, Malovište, Perutina, Ćurlina, Čapljinac, municipality Merošina, in particular: Azbresnica, Aleksandrovo, Balajnac, Baličevac, Batušinac, Biljeg, Brest, Gradište, Dudulajce, Krajkovac, Lepaja, Merošina, Oblačina, Rožina, municipality Palilula (Grada Niša), in particular: Bubanj, Gornje Međurovo, Donje Vlase, Donje Međurovo, Krušce, Lalinac, Mramor, Novo Selo, Pasi Poljana, Čokot, Opštine Pantelej, i to: Cerje, municipality Ražanj, in particular: Varoš, Lipovac, Poslon, Praskovče, Ražanj, Rujište, Crni Kao, municipality Svrljig, in particular: Gojmanovac, Davidovac I, Davidovac II, Kopajkošara, Labukovo, Pirkovac, Popšica, municipality Sokobanja, in particular: Jezero, Novo Selo, Radenkovac, municipality Crveni Krst, in particular: Berčinac, Vele Polje, Gornja Toponica, Gornja Trnava, Donja Toponica, Donja Trnava, Kravlje, Leskovik, Mezgraja, Miljkovac, Paligrace, Paljina, Sečanica i Supovac, which are covered by the reclamation area "Južna Morava";

6) cadastral municipalities located on the territory of the city of Čačak, in particular: Prijevor, Trbušani, Ljubić, Preljina, Donja Trepča, Gornja Trepča, Ostra, Bečanj, Bresnica, Katrga, Mrčajevci, Donja Gorevnica, Mojsinje, Stančići, Baluga (Ljubićska), Konjevići, Čačak, which are covered by the reclamation area "Zapadna Morava", has a determined cost, in particular for:

Type of land		Base	Cost of the charge	
			dinars	€
Agricultural land	1st class field	ha	202,74	1,72
	2nd class field	ha	163,81	1,39

	3rd class field	ha	139,01	1,18
	4th class field	ha	102,3	0,87
	5th class field	ha	81,38	0,69
	6th class field	ha	57,8	0,49
	7th class field	ha	38,52	0,33
	8th class field	ha	20,48	0,17
	garden, orchard, vineyard, 1st to 4th class and pond	ha	173,91	1,48
	garden, orchard, vineyard, from 5th to 8th class	ha	20,41	0,17
	meadow and pasture, 1st to 8th class	ha	28,77	0,24
Forest land	unforested	ha	28,97	0,25
Construction land for legal entities	uncategorized roads, ports, wharves, airports and other construction land and goods in general use, except land under residential buildings and buildings intended for performing activities	ha	205,44	1,75
	construction land under residential buildings and buildings intended for performing activities	ha	3.061,14	26,03
	construction land under a public road	ha	2.261,60	19,23
	construction land under railway infrastructure	ha	1.674,03	14,24

Construction land for individuals (natural persons)	construction land other than land under residential buildings and buildings intended for performing activities	m^2	0,3	0,00

Cost of charges for drainage of agricultural land, except for reeds and swamps, unforested forest land and construction land on the territory of AP Vojvodina

Table 11 Charge for drainage of agricultural land, except reeds and swamps, unforested forest land and construction land for:

1) cadastral municipalities located on the territory of the municipality Bela Crkva, in particular: Kaluđerovo I, Kaluđerovo II, Kaluđerovo III, Kruščica, Kusić III, municipality Bačka Palanka, in particular: Neštin, opštine Beočin, i to: Banoštor, Beočin, Čerević, Grabovo, Lug, Rakovac, Susek, Sviloš, grada Novi Sad, municipality Petrovaradin, in particular: Bukovac, Ledinci, Sremska Kamenica and municipality Sremski Karlovci, in particular: Sremski Karlovci, which are covered by the reclamation area "Gornji Dunav", has a determined cost, in particular for:

Type of land		Base	Cost of the charge	
			dinars	€
Agricultural land	1st class field	ha	828,25	7,04
	2nd class field	ha	746,07	6,34
	3rd class field	ha	646,69	5,50
	4th class field	ha	506,21	4,30
	5th class field	ha	400,27	3,40
	6th class field	ha	283,90	2,41
	7th class field	ha	222,82	1,89
	8th class field	ha	151,83	1,29
	garden, orchard, vineyard, 1st to 4th class and pond	ha	642,41	5,46
	garden, orchard, vineyard, from 5th to 8th class	ha	238,09	2,02
	meadow and pasture, 1st to 8th class	ha	136,67	1,16
Forest land	unforested	ha	198,26	1,69

Construction land for legal entities	uncategorized roads, ports, wharves, airports and other construction land and goods in general use, except land under residential buildings and buildings intended for performing activities	ha	606,86	5,16
	construction land under residential buildings and buildings intended for performing activities	ha	6.585,23	56,00
	construction land under a public road	ha	4.646,15	39,51
Construction land for individuals (natural persons)	construction land other than land under residential buildings and buildings intended for performing activities	m^2	0,85	0,01

Table 12 Charge for drainage of agricultural land, except reeds and swamps, unforested forest land and construction land for:

1) cadastral municipalities located on the territory of the municipality Bačka Palanka, in particular: Vizić (southern part), municipality Inđija, in particular: Ljukovo (south-western part), Maradik (western part), municipality Irig, in particular: Bankovci, Velika Remeta, Vrdnik, Grgetek, Dobrodol, Irig, Jazak Prnjavor, Jazak Selo, Krušedol Prnjavor, Krušedol Selo, Mala Remeta, Neradin, Rivica, Šatrinci, municipality Pećinci, in particular: Ašanja, Brestač, Deč, Donji Tovarnik, Karlovčić, Kupinovo, Obrež, Ogar, Pećinci, Popinci, Prhovo, Sibač, Sremski Mihaljevci, Subotište, Šimanovci, municipality Ruma, in particular: Buđanovci, Vitojevci, Voganj, Grabovci, Dobrinci, Donji Petrovci, Žarkovac, Klenak, Kraljevci, Mali Radinci, Marđelos, Nikinci, Pavlovci, Platičevo, Putinci, Ruma, Stejanovci, Hrtkovci, municipality Šid, in particular: Adaševci, Batrovci, Bačinci, Berkasovo (southern part up until the northern border), Bingula, Vašica, Višnjićevo, Gibarac, Ćipša (south-western part), Erdevik, Ilinci, Jamena, Kukujevci, Ljuba, Molovin, Morović, Privina Glava (južni deo do severne granice), Sot (southern part up until the northern border), Šid (southern part up until the northern border), city of Sremska Mitrovica, in particular: Bešenovo Prnjavor, Bešenovo Selo, Bosut, Veliki Radinci, Grgurevci (southern part up until the northern border), Divoš (southern part up until the northern border), Zasavica, Jarak, Kuzmin, Laćarak, Ležimir (southern part up until the northern border), Manđelos (southern part up until the northern border), Martinci, Mačvanska Mitrovica, Noćaj, Ravnje, Radenković, Salaš Noćajski, Sremska Mitrovica, Sremska Rača, Čalma, Šišinci, Šuljam (southern part up until the northern border), municipality Stara Pazova, in particular: Vojka, Golubinci (southern part up until the northeastern

border), Krnješevci, Nova Pazova, Novi Banovci (western part), Stara Pazova (southern part), Stari Banovci (western part), which are covered by the reclamation area "Srem",

2) cadastral municipalities located on the territory of the municipality Ada, in particular: Ada, Mol, Obornjača, Utrine, municipality Alibunar, in particular: Alibunar, Banatski Karlovac, Vladimirovac, Dobrica, Ilandža, Janošik, Lokve, Nikolinci, Novi Kozjak, Seleuš, municipality Apatin, in particular: Apatin, Kupusina, Prigrevica, Svilojevo, Sonta, municipality Bač, in particular: Bač, Bačko Novo Selo, Bođani, Vajska, Plavna, Selenča, municipality Bačka Palanka, in particular: Bačka Palanka, Bačka Palanka - Grad, Vizić (severni deo), Gajdobra, Despotovo, Mladenovo, Nova Gajdobra, Nova Palanka, Obrovac, Parage, Pivnice, Silbaš, Tovariševo, Čelarevo, municipality Bačka Topola, in particular: Bajša, Bačka Topola, Bačka Topola - Grad, Gornja Rogatica, Gunaroš, Mali Beograd, Novo Orahovo, Njegoševo, Pačir, Stara Moravica, opštine Bački Petrovac, i to: Bački Petrovac, Gložan, Kulpin, Maglić, municipality Bela Crkva, in particular: Banatska Palanka I, Bantska Palanka II, Banatska Subotica, Bela Crkva, Vračev Gaj I, Vračev Gaj II, Grebenac, Dobričevo, Dupljaja, Jasenovo, Kajtasovo, Kusić I, Kusić II, Crvena Crkva i Češko Selo, municipality Bečej, in particular: Bačko Gradište, Bačko Petrovo Selo, Bečej, Mileševo, Radičević, municipality Čoka, in particular: Vrbica, Jazovo, Ostojićevo, Padej, Sanad, Crna Bara, Čoka, opštine Kanjiža, in particular: Adorjan, Velebit, Kanjiža, Male Pijace, Martonoš, Orom, Trešnjevac, Horgoš, city of Kikinda, in particular: Banatska Topola, Banatsko Veliko Selo, Bašaid, Iđoš, Kikinda, Mokrin, Nakovo, Novi Kozarci, Rusko Selo, Sajan, municipality Kovačica, in particular: Debeljača, Idvor, Kovačica, Padina, Samoš, Uzdin, Crepaja, municipality Kovin, in particular: Bavanište I, Bavanište II, Gaj, Deliblato, Deliblatski Pesak, Dubovac, Kovin, Mramorak, Pločica, Skorenovac, municipality Kula, in particular: Kruščić, Kula, Lipar, Ruski Krstur, Sivac, Crvenka, municipality Mali Iđoš, in particular: Lovćenac, Mali Iđoš, Feketić, municipality Nova Crnja, in particular: Aleksandrovo, Vojvoda Stepa, Molin, Nova Crnja, Radojevo, Srpska Crnja, Toba, municipality Novi Bečej, in particular: Bočar, Kumane, Novi Bečej, Novo Miloševo, municipality Novi Kneževac, in particular: Banatsko Aranđelovo, Đala, Majdan, Novi Kneževac, Srpski Krstur, city of Novi Sad, municipality Novi Sad, in particular: Begeč, Budisava, Veternik, Kać, Kisač, Kovilj, Novi Sad I, Novi Sad II, Novi Sad III, Novi Sad IV, Rumenka, Stepanovićevo, Futog, Čenej, city of Novi Sad, municipality Petrovaradin, in particular: Petrovaradin, municipality Odžaci, in particular: Bački Brestovac, Bački Gračac, Bogojevo, Deronje, Karavukovo, Lalić, Odžaci, Ratkovo, Srpski Miletić, municipality Opovo, in particular: Baranda, Opovo, Sakule, Sefkerin, city of Pančevo in particular: Banatski Brestovac, Banatsko Novo Selo, Vojilovica, Glogonj, Dolovo, Ivanovo, Jabuka, Kačarevo, Omoljica, Pančevo, Starčevo, municipality Plandište, in particular: Banatski Sokolac, Barice, Velika Greda, Veliki Gaj, Dužine, Jermenovci, Kupinik, Margita, Markovićevo, Miletićevo, Plandište, Stari Lec, Hajdučica, municipality Sečanj, in particular: Banatska Dubica, Boka, Jarkovac, Jaša Tomić, Konak, Krajišnik, Neuzina, Sečanj, Sutjeska, Šurjan, municipality Senta, in particular: Batka, Senta, Tornjoš, grada Sombor, in particular: Aleksa Šantić, Bački Breg, Bački Monoštor, Bezdan, Gakovo, Doroslovo, Kljajićevo, Kolut, Rastina, Riđica, Svetozar Miletić, Sombor I, Sombor II, Stanišić, Stapar, Telečka, Čonoplja, municipality Srbobran, in particular: Nadalj I, Srbobran, Turija, grada Subotica, i to: Bajmok, Bački Vinogradi, Bikovo, Donji Grad, Đurđin, Žednik, Novi Grad, Palić, Stari Grad, Tavankut, Čantavir, municipality Temerin, in particular: Bački Jarak, Sirig, Temerin, municipality Titel, in particular: Vilovo, Gardinovci, Lok, Mošorin, Titel, Šajkaš, municipality Vrbas, in particular: Bačko Dobro Polje, Vrbas, Vrbas - Grad, Zmajevo, Kucura, Kosančić, Ravno Selo, Savino Selo, grada Vršac, in particular: Vatin, Veliko Središte, Vlajkovac, Vojvodinci, Vršac, Gudurica, Zagajica, Izbište, Jablanka, Kuštilj, Mali Žam, Malo Središte, Markovac, Mesić, Orešac, Pavliš, Parta, Potporanj, Ritiševo, Sočica I, Sočica II, Straža, Uljma, Šušara, municipality Žabalj, in particular: Gospođinci, Đurđevo, Nadalj II, Žabalj, Čurug, opštine Žitište, in particular: Banatski Dvor, Banatsko Višnjićevo, Banatsko Karađorđevo, Begejci, Žitište, Međa, Novi Itebej, Ravni Topolovac, Srpski Itebej, Torda, Hetin, Čestereg, city of Zrenjanin, in particular: Banatski Despotovac, Belo Blato, Botoš, Elemir, Ečka, Zrenjanin I, Zrenjanin III, Jankov Most, Klek, Knićanin, Lazarevo, Lukino Selo, Lukićevo, Melenci, Mihajlovo, Mužlja, Orlovat, Perlez, Slovački Aradac, Srpski Aradac, Srpski Elemir, Stajićevo, Taraš, Taraš I, Tomaševac, Farkaždin, Čenta, municipality Inđija, in particular: Beška, Inđija, Krčedin, Ljukovo (eastern part), Maradik (eastern part), Novi Karlovci, Novi Slankamen, Stari Slankamen, Čortanovci, municipality Stara Pazova, in particular: Belegiš, Golubinci (northeastern part), Novi Banovci (eastern part), Stara Pazova (northern part), Stari Banovci (northeastern part), Surduk, municipality Šid, in particular: Berkasovo (northern part), Đipša (northeastern part), Molovin, Privina Glava (northern part), Sot (northern part), Šid (northern part), grada Sremska Mitrovica, in particular: Grgurevci (northern part), Divoš (northern part), Ležimir (northern part), Manđelos (northern part), Šuljam (northern part), which are covered by the reclamation area "Gornji Dunav", has a determined cost, in particular for:

Type of land	Base	Cost of the charge	
		dinars	€

Agricultural land	1st class field	ha	1.656,50	14,09
	2nd class field	ha	1.492,12	12,69
	3rd class field	ha	1.293,39	11,00
	4th class field	ha	1.012,42	8,61
	5th class field	ha	800,54	6,81
	6th class field	ha	567,79	4,83
	7th class field	ha	445,62	3,79
	8th class field	ha	303,66	2,58
	garden, orchard, vineyard, 1st to 4th class and pond	ha	1.284,82	10,93
	garden, orchard, vineyard, from 5th to 8th class	ha	476,16	4,05
	meadow and pasture, 1st to 8th class	ha	273,34	2,32
Forest land	unforested	ha	396,52	3,37
Construction land for legal entities	uncategorized roads, ports, wharves, airports and other construction land and goods in general use, except land under residential buildings and buildings intended for performing activities	ha	1.213,71	10,32
	construction land under residential buildings and buildings intended for performing activities	ha	16.991,90	144,50
	construction land under a public road	ha	13.170,46	112,00
	construction land under railway infrastructure	ha	9.292,29	79,02
Construction land for individuals (natural persons)	construction land other than land under residential buildings and buildings intended for performing activities	m^2	1,7	0,01

6.2 Method of calculation and payment (cost for usage of water as a natural resource)

The charge for the use of water is determined by the ministry in whose jurisdiction the water management affairs are, i.e. the jurisdictional body of the autonomous province for the territory of the autonomous province by a decision, for that calendar year.

The determined cost is paid, as an advance payment, in equal monthly rates, until the 15th of the month for the previous month and finally after the end of the year if after the end of the year there is a difference in relation to the basis of the charge, i.e. the jurisdictional body of the autonomous for the territory of the autonomous province by a decision, for that calendar year.

If the cost of advance payments paid during the year is less than the amount of the final calculation of the cost after the end of the year, the difference is paid within 15 days from the date of receiving of the decision. If the amount of paid advance payments during the year is higher than the final calculation of the charge the paid charge is included as an advance payment for the next period.

Until the decision on determining the charge for the current year is made, the charge payer is obliged to pay in advance the amount of the monthly obligation for the previous year.

After the decision on determining the charge referred to in paragraph 1 of this Article for the current year, the charge payer is obliged to increase or decrease the advance payment for the current year so that the total advance payments from the beginning of the current year are brought to the amount as if the advance payment was made in accordance with the decision determining the charge referred to in paragraph 1 of this Article for the current year.

A person who starts using water for the first time during the year, is obliged to submit to the body responsible for determining the charge, within 15 days from the day of the beginning of water use, on the prescribed form data relevant for determining the monthly advance payment (data on estimated amount affected, i.e. delivered water and other data).

The decision issued by the ministry, i.e. the jurisdictional body of the autonomous province, is final and an administrative dispute can be initiated against it.

The charge payer is obliged to submit the data on the affected amount of water in the previous year, if he has a measuring device, or other data that is the basis for determining the charge for water use to the body responsible for determining the charge, by January 20 of the current year, on the issued form .

The Minister in whose jurisdiction the water management affairs are shall prescribe in detail the content and appearance of the forms.

6.3 Charge exemption

There is no reduction and exemption from the payment of irrigation charge.

6.4 Method of calculation and payment (transport cost)

The charge for the use of water facilities and systems in public ownership is determined by a decision of the public water management company in whose jurisdiction the management of those water facilities and systems is, for the calendar year.

The determined charge is paid, as an advance payment, in equal monthly installments, until the 15th of the month for the previous month and finally after the end of the year if after the end of the year there is a difference in relation to the base of the charge on which the advance payment is determined.

If the amount of advance payments paid during the year is less than the amount of the final calculation of the charge after the end of the year, the difference is paid within 15 days from the date of receipt of the decision, and if the amount of paid advance payments during the year is higher than the final calculation of the charge, the paid charge for the use of water facilities and systems is included as an advance payment of the charge for the next period.

Until the decision on calculation of the charge for the current year is made, the charge payer is obliged to pay in advance the amount equal to the monthly charge for the previous year.

After the decision on calculation of the charge for the current year is made, the charge payer is obliged to increase or decrease the advance payment for the current year so that the total sum of all the advance payments paid from the beginning of the current year are equal to the amount as if the advance payments were made in accordance with the decision on calculation of the charge for the current year.

A person who starts using water facilities and water systems for the first time during the year, is obliged to submit to the public water management company, within 15 days from the day of use of the water facility and water system, data on the prescribed form relevant for determining the monthly advance payment charge for the use of water facilities and systems.

The charge payer is obliged to submit to the body responsible for determining the charge data on the amount of abstracted water in the previous year, if he has a measuring device, or other data that serves as a base for calculating the charge for the use of water facilities and systems, by January 20 of the current year using the prescribed form.

An appeal may be lodged against the decision on calculating the charge for the use of water facilities and systems in public ownership to the ministry in charge of water management, or on the territory of the autonomous province to the body responsible for water management of the autonomous province, within 15 days of delivery of the decision.

An appeal does not delay the execution of the decision.

6.5 Charge payer offenses

If a legal entity, i.e. an entrepreneur, i.e. a natural person:

1) Does not pay the established charge;

2) Does not submit data of importance for calculating the charge for the use of water and the charge for the use of water facilities and systems;

A fine of 500,000 (4.252 €) to 2,000,000 (17.008 €) dinars will be imposed on a legal entity for the offense.

A fine of 10,000 (85 €) to 500,000 (4.252 €) dinars will be imposed on the charge payer liable for the offense - an entrepreneur.

A fine of 5,000 (42 €) to 50,000 (425 €) dinars will be imposed on the charge payer liable for the offense – a natural person.

A fine of 10,000 (85 €) to 100,000 (850 €) dinars will also be imposed on the responsible person in the legal entity for the offense.