

ACTION 5 OF THE EU STRATEGY FOR THE DANUBE REGION

Milestone No. 4:

Survey of the situation on alternative collection and treatment of wastewater in small rural settlements



Association Justice & Environment
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The Roadmap of Priority Area 4 of the EUSDR contains Action 5, “To establish buffer strips along the rivers to retain nutrients and to promote alternative collection and treatment of waste in small rural settlements”. Hungary was identified as primary responsible actor for this Action (beside PA4 and the ICPDR) The Priority Area 4 of the EUSDR decided to make further assessment and studies to contribute and fulfil its duties concerning Action 5 of the Action Plan. For this reason and partially based on Hungarian governmental funds, a contract with an international research organisation, Czech based Justice and Environment was concluded to prepare a complete research document analysing the situation in the Danube basin **on alternative collection and treatment of wastewater in small rural settlements** for the utilization of PA4.

Legal experts that are members of an international legal association worked on the project in each country to present the local situation. The aim of the study was to provide a general overview of the situation in each country and based on the findings, to make a general assessment. The situation differs in many countries, some are more developed and comply with all norms, while other countries face with several problems and difficulties; therefore a common statement applicable to all countries cannot be provided. Furthermore, NOTE that the legal situation is different in EU member states and in non-EU member states, as legal obligations derive from EU law are only nonbinding recommendations to non-members. This report has been prepared by Association Justice and Environment, on the request of PA4 of the EUSDR.

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Table of Contents

List of abbreviations	4
1 Executive summary	5
1.1 Main findings	6
1.2 Problems, bottlenecks, loopholes	7
2 Summary of the twelve country reports	9
2.1 Question 8 (local waste water treatment solutions)	9
2.2 Question 9 (legal control).....	14
3 Annex: Country Reports	19
3.1 Germany	19
3.2 Czech Republic.....	19
3.3 Austria	20
3.4 Slovakia.....	21
3.5 Slovenia	23
3.6 Croatia	26
3.7 Bosnia-Herzegovina.....	28
3.8 Montenegro.....	29
3.9 Romania.....	31
3.10 Bulgaria.....	34
4 Milestone No. 1: Survey of the situation of buffer zones	Hiba! A könyvjelző nem létezik.
4.1 Introduction – the system analysis of the relevant laws.....	38
5 Milestone No. 4: Survey of the situation on alternative collection and treatment of wastewater in small rural settlements.....	39
5.1 General rules of sewage water treatment and deposition	39
5.1.1 Design and operation of sewage treatment network	39
5.1.2 Individual sewage treatment.....	40
5.2 Small scale local household water treatment solutions	40
5.2.1 Facilities substituting public utilities	40
5.2.2 Individual, closed sewage water storage facility, household dehydration	41
5.3 Practical experiences concerning alternative collection and treatment of wastewater in small rural settlements in Hungary.....	42



6 List of laws and regulations cited in the Hungarian pilot study 46

List of abbreviations

BAT	Best Available Technique
DRB	Danube River Basin
DRBD	Danube River Basin District
DRBM	Plan Danube River Basin District Management Plan
DRPC	Danube River Protection Convention
EC	European Commission
EU	European Union
EU MS	European Union Member State
GEF	Global Environment Facility
JAP	Joint Action Programme
Non EU MS	Non-European Union Member State
EU WFD	European Union Water Framework Directive. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, p. 1–73.
ICPDR	International Commission for the Protection of the Danube River
IPPC Directive	Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control. OJ L 24, 29.1.2008, p. 8–29
Nitrates Directive	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L 375, 31.12.1991, p. 1–8
Overview Report	Interim Report on the Implementation of the Joint Program of Measures in the DRBD. ICPDR - International Commission for the Protection of the Danube River, 2012.
Regulation 648/2004	Regulation (EC) Number 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents OJ L 104, 8.4.2004, p. 1–35.
Regulation 259/2012	Regulation (EU) Number 259/2012 of the European Parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry



detergents and consumer automatic dishwasher detergents. OJ L 94, 30.3.2012, p. 16–21.

UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
UWWTD	Council Directive 91/271/EEC of 21 May concerning urban waste water treatment. OJ L 135, 30.5.1991, p. 40–52

1 Executive summary

In the following chapters we are studying and comparing the rules on protection of waters in Germany, Czech Republic, Austria, Slovakia, Hungary, Croatia, Bosnia-Herzegovina, Montenegro, Romania, Bulgaria, Moldova, Slovenia and Serbia. While in other studies¹ we focus first of all on the rules ensuring protection by territorial means, i.e. establishing water protection zones, stripes or any other forms of territorial protection (together: water protection territories), here we examine a major source of pollution of waters: local waste water – concentrating on small scale, flexible solutions and on the regulating, organising, managing roles of the local municipalities.

We have started our project with a detailed country analysis in one pilot country, Hungary and thereafter, based on our experiences here we have put together research questions with explanations and background materials and recruited our research team with the ambition of having a well-known environmental lawyer from all the Danube countries.

As concerns the overall methodology of our survey we have performed a *system analysis*, i.e. we have tried to reveal all the relevant elements of our administrative laws and regulations and map out their possible interrelationships.

We have found that quite several laws and regulations in the field of water management law, environmental and nature protection law, public health laws, several branches of agricultural administration and other laws target these issues from their specific angles. This is a mounting task – we just have made some initial steps in solving it – to evaluate the interplay of such parallel efforts of our laws.

Within this program we could undertake the following important parts of this work:

- analysed the detailed laws of all the concerned branches of administration that have relevance for ensuring water protection through management of the wastewater on municipal level and arrived at the major points of substantial legal protection of such territories and also tried to trace back cross references, if any, amongst these laws and regulations;

¹ See first of all Milestone No1.

- we have also examined the different administrative procedures, where the representatives of other branches of administration can take part in a joint decision-making procedure and the decisions in concrete cases of territorial water protection are brought.

In all aspects of our research we have met with a typical parallel activity from the side of all of the concerned branches of administration and their respective authorities and procedures. We are convinced that not the individual pieces of legislation but the whole system determines the effectiveness of the protection of our waters from overburdening amounts of nutrients and other polluting materials. We see plenty of strengths in the possibility of further reinforcing the cross references between and concerted efforts of these branches of administration, starting with regular exchange of information to performing joint monitoring and implementation efforts. Public participation in water related matters has a specific additional advantage in this compound situation: the members and organisations of the concerned communities are not at all interested in specific administrative procedures, rather they deal with the water management problems themselves their communities are facing. This problem oriented, inherently systematic approach of public participation might mean an extraordinary help in protecting the sensitive territories of our waters.

1.1 Main findings

(Local waste water treatment solutions) With the exemption of the most developed Danube countries, there are elaborated special regulations on the waste water solutions for small local settlements or scattered households that cannot reasonably connect to the general sewage systems.

In such places usually the individual transport of waste water shall be organized in order to carry the waste water to the larger treatment facilities. In the poorer countries at the lower part of the Danube, wastewater cleaning coverage lags behind drinking water supply, in certain places only 50% of the population or less have access to public sewers. Interestingly, the technical development and flexible legal regimes of waste water management bring hope that with smaller scale solutions this discrepancy between the better off countries and the countries with poorer waste management systems would decrease.

We can count on the appearance of one or two new, intermediary forms of small and medium scale waste water treatment facilities that might be affordable even for the poorer nations. In several countries even at present a couple of dozens of households might use their own, modern local treatment solutions. Such solutions might not be subject to a too burdensome permitting procedure, a certification of the type of the applications might be enough for their operation. Even larger communities around a couple of hundreds of households might decide that their waste water shall be handled separate from the regional sewage treatment systems.

(Alternative ways of small scale local waste water treatment – a complex solution) Depending on the environmental conditions, on the requirements of water management in the given territory and on the technical conditions, there are three main types of the individual wastewater collection and treatment



facilities: domestic wastewater treatment facilities, domestic wastewater treatment units and domestic closed wastewater containers. Once the amount of the waste water at a settlement makes it possible, nature friendly sewage treatment methods shall be given priority.

The general principles and interface with the other relevant fields of administration are: sewage sludge shall be used in agriculture, energy or in any alternative way as far as possible – landfill depositing is just the last resort. All the municipalities shall develop a local sewage treatment program, with proper evaluation of the situation of the status of their surface and underground waters and geological structures, the environmental, nature protection and social effects of the cleaning and depositing solutions selected, especially in connection with sensitive territories from water protection viewpoints.

The settlement sewage programs shall be brought into harmony with the local and regional spatial plans and environmental plans, as well. The possibilities of making use of the cleaned waste water locally shall be examined. Such plans, therefore, are usually subject to Strategic Environmental Assessment. In the same time, water without cleaning and rough sludge without proper treatment cannot be used for agricultural purposes. Sewage water sludge according to this regulation cannot be stored even transitionally on arable lands.

(The role of the local municipalities in waste water treatment administration) Even if there are quite a couple of viable local solutions for waste water handling, the major permitting and controlling responsibilities lie at the central or decentralized water management authorities rather than at the municipal authorities. Local municipalities therefore have much less role in local waste water management than in the management of solid waste of local origin.

The water management authorities in several countries are assisted by the water utility companies that might even have some “quasi administrative” roles. This arrangement is explained by the higher level technical requirements the treatment of waste waters need and the higher level danger to the environment and public health they represent. The local municipalities therefore are less in the role of administrators, they can play, however, important roles of organizing local waste water services as permit holders under the control of the relevant central/regional authorities.

Yet, paradoxically, in countries where the water management systems are much less developed, the local municipalities might have certain administrative roles, too, in permitting and supervising waste water management. Even in such cases the local authorities may apply for technical assistance from the professional water management authorities of the State level or shall submit the priority cases to them.

1.2 Problems, bottlenecks, loopholes

(local waste water treatment solutions) In the poorer countries along the Danube river the so called water utilities scissors are wide open. Wastewater is, therefore, generally discharged untreated into



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watercourses in these countries or alternatively stored in poorly insulated septic pits at every households not having connection to the sewage system, representing serious threat to the underground water.



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2 Summary of the twelve country reports

2.1 Question 8 (local waste water treatment solutions)

“Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions.”

a. Summary of findings concerning Question 8

With the exemption of the most developed Danube countries, there are elaborated special regulations on the waste water solutions for small local settlements or scattered households that cannot reasonably connect to the general sewage systems. In such places usually the individual transport of waste water shall be organized in order to carry the waste water to the larger treatment facilities. In the poorer countries at the lower part of the Danube, however, wastewater cleaning coverage lags behind drinking water supply, in certain places only 50% of the population or less have access to public sewers. Wastewater is, therefore, generally discharged untreated into watercourses in these countries or alternatively stored in poorly insulated septic pits at every households not having connection to the sewage system, representing serious threat to the underground water.

Interestingly, the technical development and flexible legal regimes of waste water management bring hope that with smaller scale solutions this discrepancy between the better off countries and the countries with poorer waste management systems would decrease. We can count with the appearance of one or two new, intermediary forms of small and medium scale waste water treatment facilities that might be affordable even for the poorer nations. In several countries even at present a couple of dozens of households might use their own, modern local treatment solutions. Such solutions might not be subject to a too burdensome permitting procedure, a certification of the type of the applications might be enough for their operation. Even larger communities around a couple of hundreds of households might decide that their waste water shall be handled separate from the regional sewage treatment systems.

b. Short survey of the country reports

- According to the German research and the expert’s opinions, there are no specific regulations on small, local settlements within the German waste legislation. For such settlements the same regulations as for every municipality are valid. In the case of very isolated houses or farms individual stand-alone solutions exist, which are not specifically regulated by law and are becoming increasingly rare.



- In the Czech Republic small wastewater treatment facilities (for up to 2000 inhabitants) can be further divided into three categories: first, wastewater treatment facilities from 5 to 50 inhabitants, called also household facilities. For installation of these facilities, certification for the type (not individual facility) is required. Facilities should also be CE compliant (in that case, operation does not require obligation for measurement of pollutant concentration in released water); Second: wastewater treatment facilities for up to 500 inhabitants are intended for small settlements or block of buildings, which cannot be connected to sewage system. Usually they are so called “packed” facilities, delivered to place of installation as a completed product; Third, wastewater treatment facilities for 500 – 2000 inhabitants, used similar technologies and identical legal procedures as common municipal facilities for small and middle-sized sources of wastewater.
- Wastewater treatment is regulated in Austria by the WRG and by numerous ordinances (e.g. Waste Water Emission Ordinance). In 2006 about 641 municipal wastewater treatment plants with a capacity from 2,000 EW₆₀ have been counted by the Federal Environmental Agency. The total capacity of these plants was about 20.6 million EW₆₀. In municipal wastewater treatment plants around 1,064 million m³ of wastewater was cleaned in 2006. The connection rate to municipal wastewater treatment plants was about 91.7% in Austria.

Due to the settlement structure (settlements in scattered sites, single objects), a 100 percent connection rate is considered to be unrealistic. Around 8-9 % of the Austrian population is connected to an alternative wastewater collection and/or treatment system. In these areas the collection of waste water is carried out in domestic sewage treatment plants, in cesspools and other systems.

The disposal of these wastewaters is usually organized by transport of the pit contents into larger municipal sewage treatment plants. In small rural settlements which are not connected to the canal system the method of wetlands for the treatment of agricultural and domestic waste are regularly applied. Waste water is collected in some kind of canal system and filtered in a reed body. Respectively advocacy and public information campaigns for possible substances in the waste waters are needed – this system does not work for industrial waste waters. In remote agricultural areas the waste water collection is regularly combined with the manure collection.

- The Slovakian Water Act regulates discharges of urban waste water into surface water. Any such sewerage system must guarantee adequate treatment of urban waste water. If installation of public sewerage system requires excessive costs or significant improvement of the environment is not to be expected after installation, other appropriate measures may be used. Urban areas with more than 10 000 inhabitants were obligated to install a sewage system by the year 2010. For urban areas with 2000 to 10000 inhabitants, this obligation must be fulfilled by the end of 2015.
Municipal sewage and organically polluted industrial wastewater discharged to surface waters must go through secondary treatment that will decrease levels of pollutant emissions to limits equal to those in regular conditions. In high mountain environment, where the effectiveness of



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biological treatment is very low, it may be that the degree of cleaning dispensed with if the expert assessment shows that there is no adverse impact on the environment.

- In Slovenia the treatment of household and household alike waste water (municipal or urban waste water) is a service in a general public interest, which has to be provided by each of 211 local communities in Slovenia. As such it is proclaimed in Article 149 of an Act on Environmental Protection.

The scope of infrastructure and minimal service standards of municipal waste treatment that a local municipality is obliged to provide are determined by state laws and regulations. The tasks which have to be provided by this service and demands on public infrastructure are different in (envisaged) settlement areas from those in other areas.

In (envisaged) areas of settlement a local community has to provide for a public sewage system, which has to end up with a treatment plant for waste water. Compulsory cleaning results (demands on purification) and emission parameters of a discharge from the treatment plant into surface water are regulated by law. Higher demands are made if a discharge is to take place into bathing water area. Local communities often decide for joint systems and not every community has a treatment plant on its territory.

Some exceptions are provided for and when prescribed criteria are met, waste water can be discharged in a small municipal wastewater treatment plant (little municipal sewage treatment plant with a capacity of less than 50 PE) or in a hermetic septic tank, which has to be managed by a public service provider of a service of waste water treatment. (A hermetic septic tank is allowed only in areas where the urban wastewater treatment in small municipal wastewater treatment plant is not technically feasible due to one of the prescribed reasons).

In other areas household waste water has to be discharged in a small municipal wastewater treatment plant with a capacity of less than 50 PE. Exceptionally (under fulfilled conditions) waste water can be discharged into a hermetic septic tank. The operator of a small municipal waste water plant or a septic tank has to ensure that sludge (and waste water) are taken (and therefore treated) by a public service provider. In areas not (envisaged) for settlement waste water discharges from non-residential buildings may be discharged in a little municipal sewage treatment plant with a capacity equal to or greater than 50 PE , which is not a public sewer facility. Its operator must ensure that sludge is taken by public service provider.

- According to the Croatian Act on Waters urban wastewater treatment means treatment of urban waste water by mechanical, physical, chemical and / or biological processes. The utility service of wastewater treatment as a public service is performed by local government units and legal entities and individuals. Local government units are obliged to provide collection and treatment of urban waste water, prior to their direct or indirect discharge into the water, in line with water permits for wastewater discharge.

Natural person owners, or other lawful possessors of small wastewater treatment devices are required to maintain them through the supplier of water services of public sewage or other person authorized in accordance with the decision on wastewater discharge. With the decision



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on waste water discharge mandatory deadlines for control must be set. Legal persons may obtain a concession for the public service of wastewater treatment and / or the right to perform or design and conduct activities in wastewater treatment. The concession for the provision of public services of wastewater treatment is given for a period of 5-10 years.

As concerns the practice, many municipalities did not yet constructed a waste water system. Some of the planned solutions of these municipalities are: first, acceptance of waste water in the first phase of construction will be addressed by building watertight septic tank facilities for up to 10 GB with secured system of discharge and drainage- for facilities with more than 10 GB it is envisaged to construct devices for biological purification of waste water to the hygienic sewage and disposition thereof through drainage wells while satisfying the prescribed parameters of discharge to the sanitary protection zone in which the facility is located; second, drainage of storm waste water from roads, parking and maneuvering areas will be solved by engaging in field the drainage wells with pre- treatment in the oil and fat separator and precipitators.

Clean rainwater from rooftops will be discharged in the ground through drainage wells; Third, wastewater collection will be solved by the sewer pipes placed in roadways of economic zones; Fourth, the construction of the unit for wastewater treatment plant with the highest degree of purification is planned; Fifth, wastewater from the facility where increased pollution is possible it is necessary to install a pre-treatment of waste water and bring them to the level of quality of urban waste water before connecting it to external drain; Sixth, the plan is to install a device that works on the principle of biological treatment with activated sludge. The device is technologically designed in such a way that it treats the sanitary wastewater, and engaging technology in wastewater collection system and treatment is conditional on their pre-treatment at the point of generation to a level of sanitary waste water.

- In Serbia wastewater evacuation coverage lags behind drinking water supply, such that only slightly more than 50% of the population has access to public sewers. Wastewater is generally discharged untreated into watercourses. Only a few percent of pollution sources (less than 10%) are equipped with functioning wastewater treatment facilities. About 50% of the settlements have access to public wastewater collection systems, additionally, only some 12% have wastewater treatment plants in place.
- In Bosnia-Herzegovina in areas where large scale sewage systems do not exist, waste water is collected by a separate sewage system which disposes waste water into individual cesspools and collective pits. The local utility services company in charge of waste management is in charge of emptying the cesspools and pits and deponing their contents to local solid waste depository or other location determined by the local municipality in coordination with local community. In all other cases a large scale sewage system is constructed and it encompasses even small settlements.



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- According to the Montenegro researcher's wastewater management analysis sewerage mostly covers urban and suburban areas. Depending on the municipality, from 40 - 100% of urban populations is connected to public sewer system; In areas where there is no sewerage system constructed people uses septic tank, and in some cases, wastewater is discharged directly into watercourses or into the ground; The recipient of the waste water in the northern and central regions, mostly in local waterflows, except two settlements where waste water is discharged into local sinks; In most municipalities there is a separate sewage system; Only four municipalities (three coastal Bar, Tivat and Herceg Novi and one central Niksic) has a decision on the establishment and maintenance of zones of sanitary protection of all water sources, which are used for public water supply. In all other municipalities, this question is only partially resolved or not resolved at all; Underdeveloped and inadequately maintained storm water sewerage leads to penetration of rainwater into sewers for sewage wastewater;
- According to the Romanian water management law the discharge of the waste water into groundwater, natural or accumulation lakes, puddles, ponds, except the decanting ponds is strictly forbidden. All users of waters must strictly respect the discipline and technical norms regarding the activities that are using water and discharging waste water as well as the stations and installations processing water quality.

A treatment of the waste waters is required through any process or systems that allows the receptors to comply with the relevant quality objectives established through the technical norms and the water permits in force. If installation of the sewage system is not justified because it is not producing any benefit to the environment or because excessive costs would be needed, individual systems will be used with the condition to ensure the same level of environmental protection. The individual systems can only be sealed septic tanks, not septic tanks so that the waste waters are collected and taken to a treatment facility. In general, those individual treatment processes are accepted that have no adverse effects on the environment, such as stabilization lagoons, mechanical-biological treatment plant piece (which may include process disinfection).

- The Bulgarian Water Act does not regulate in detail the wastewater treatment facilities in small local settlements. It only stipulates that discharge of wastewater could be carried out without permit beyond the limits of nucleated settlements and dispersed settlements and applicable to a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, provided that at least primary treatment of the wastewaters is done or for sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system.

There are still many such settlements in Bulgaria not yet connected to any sewage system and use household level waste management options. The most common type of individual household facility in the Bulgarian villages and small towns without central sewage treatment system are septic pits. For agglomerations with population equivalent less than 2000 the wastewaters which are flowing into the sewerage systems before being discharged into the water bodies shall be



treated appropriately according to the immission standards for the receiving water body and the requirements of the Decree.

Bulgaria shall achieve these standards by December 31, 2014. Nevertheless, we could find some regulation of the problem in the territorial planning law, and namely on the rules and norms for spatial development of different types of territories and developing zones, like the one that the strip of land to surround the pit is at least 2 meters. In addition, we should note that all alternative wastewater treatment facilities should comply with the sanitary-hygienic regulations. In population centres and settlement formations with zones without sewerage the household waste water could be discharged in individual facilities for discharge and treatment of waters (watertight cesspits) meeting the technical and the sanitary - hygiene requirements.

For example, Spatial Development Act stipulates that septic pits and temporary toilets could be built only if they comply with the sanitary-hygienic norms and should be placed at least 3 m. inside from the borders of the property. Conversely, if the septic pits or sewage facilities are not in compliance with the sanitary and health norms, the mayor of the municipality could require from the owners to remove, transform or repair them, even that the mayor could issue an order for removal of the facilities dangerous for the health and life of citizens or harmful in sanitary-hygienic aspect. We could conclude that in Bulgaria it is at the administrative discretion of the authorities (mayor of municipality) to enforce regulations protecting public health and spatial planning provisions in public interest.

2.2 Question 9 (legal control)

“Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).”

a. Summary of findings concerning Question 9

Even if there are quite a couple of viable local solutions for waste water handling, the major permitting and controlling responsibilities lie at the central or decentralized water management authorities rather than at the municipal authorities. Local municipalities therefore have much less role in local waste water management than in the management of solid waste of local origin. The water management authorities in several countries are assisted by the water utility companies that might even have some “quasi administrative” roles. This arrangement is explained by the higher level technical requirements the treatment of waste waters need and the higher level danger to the environment and public health they represent. The local municipalities therefore are less in the role of administrators, they can play, however, important roles of organizing local waste water services as permit holders under the control of the relevant central/regional authorities.

Yet, paradoxically, in countries where the water management systems are much less developed, the local municipalities might have certain administrative roles, too, in permitting and supervising waste water management. Even in such cases the local authorities may apply for technical assistance from the professional water management authorities of the State level or shall submit the priority cases to them.

b. Short survey of the country reports

- In Germany usually waste waters have to be discharged into waste water facilities. Local public waste water companies are responsible to insure this. However, in special cases, waste water can be discharged directly into water, if the quantity and harmfulness of the waste water is kept as low as possible according to the latest state of technology and best practice and the discharge is in accordance with other legal requirements. For this a special exception approval by the competent authority is necessary.
- According to the Czech law wastewater treatment facility is water construction in a sense of Water Act. They require permit for handling of surface waters, issued by “legal water authority”. Facilities up to 50 inhabitants CE compliant do not require building permit – they had to be only announced to relevant building office. Other types of facilities require building permit, issued again by legal water authority. After construction, the water authority has to agree with start of test operation, and after evaluation of test operation, another agreement has to be issued before full operation can be started. Facilities for more than 50 inhabitants or facilities not CE compliant has to be monitored – at least twice a year, samples has to be taken and analyzed by accredited laboratory.
- In Austria the disposal and treatment of waste water is based on the precautionary principle. Wastewater is to be treated according to the best available technics (state of the art – ‘Stand der Technik’). Secondly the quality of the wastewater is monitored as well as the quality and classification of the receiving waters. So general permitting is combined with a monitoring approach both by the water authority and the operators themselves. The water authority has the competence to control authorized facilities, to issue administrative orders with limit values for wastewaters etc..
- In Slovakia the competent State water administration bodies may impose measures to remedy damage caused to surface waters or request persons responsible for the damage to pay such related costs. State water administration bodies supervise the observance of the provisions of the Water Act, supervise whether the decision are adhered to. Competent authorities may request the cooperation of expert bodies. Competent authorities act ex officio or upon request of third parties. State water administration bodies may impose adequate measures to eliminate identified shortcomings. If, despite the measures imposed, discharged wastewater contains harmful substances in breach of permit or if there is a leak of harmful substances into surface



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water or groundwater (or in the environment associated with water) and when there is risk of damage to the environment or to natural heritage, the State water administration body is authorized to restrict or prohibit related production or activity. As concerns the practical implementation of these rules, according to the information obtained from the Slovak Environmental Inspection, the inspection of water abstraction aiming to control pollution is carried out by authorized laboratories. The producer of waste water is also obligated to conduct inspection. According to representative of the Inspection, their powers are sufficient.

- In Slovenia for the operation, or any substantial change in the operation of local or common sewage treatment plant, which is discharging wastewater directly or indirectly into water, the operator has to obtain an environmental permit. Nevertheless an environmental permit is not needed for a small local wastewater treatment plant with a capacity of less than 50 PE if: a) this plant has a declaration of conformity of the construction product or b) if the scientific (professional) evaluation indicates that the device complies with the regulations. For a small local wastewater treatment plant with a capacity of 50 PE or more an environmental permit is not needed if the scientific (professional) evaluation indicates that the device complies with the regulations and if the draining of the device is not indirectly into groundwater, in the water protection zone or in the impact area of bathing waters.

Supervision of the implementation of Regulations is provided by the Inspection for Environmental Protection. Beside inspection measures (such as prohibiting and commanding of an act), certain conducts are defined as offenses, which are punishable by a fine. Due to the lack of personal and financial capacities inspection supervision in practice is too often ineffective and insufficient.

- In Croatia reports on the implementation of waste management plans at local government offices must be submitted for a review to the Ministry of Environmental and Nature Protection and the Environmental Protection Agency. Besides that, Croatian Waters are monitoring quality of facilities for drainage and wastewater treatment and quality control of treated wastewater, sampling and analysis of waste water is carried by an accredited laboratory.
- In Bosnia-Herzegovina authorities that control local waste water treatment are municipal authorities and they do so through local municipality owned utility services companies. The companies have the authority to supervise implementation of bylaws and ordinances and order the citizens certain activities aiming at better quality of waste water management. However, these companies cannot fine anyone for breach of bylaws or ordinances. Instead, they can refer these cases to either municipal or cantonal/federal (in FBiH) or republic (in RS) inspectors who assess the situation and take adequate measures. This is a general permitting model.
- In Montenegro the responsibility of waste water treatments and water supply are divided between national and local level: the Ministry of Agriculture and Rural Development, the



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Ministry of Sustainable Development and Tourism Environment and Water Directorate on one hand and local governments provide for and regulate the activity of the public water supply and public communal and sanitation activities in their territory on the other hand. Local Governments establishes Public Utility Companies (PUCs) which are responsible for water supply and protection of waters from pollution. Different types of permitting and monitoring exist: the level of technical documentation proportion and project implementation/construction: main design approval, construction permit, EIA, water permit, etc. and monitoring by inspection on local level and national level: ecological inspection, construction inspection.

- In Romania the water management approval (the technical – juridical act issued for the financing and execution of the new investments, developing, modernization and refurbishment of the existing installations or technological processing and execution of public interest works build on water or connected to water) and the **water management permit** (the technical – juridical act issued for the commissioning or exploitation of the new objectives or of the existing objectives, build on water or connected to water) are issued by The National Administration “Romanian Waters” (NARW).

The water inspection is realized by the same authority. The water permits mentioned can be temporarily suspended, modified or cancelled. The monitoring of the treated waste waters is the obligation of the providers/operators of the public sewage systems and/or urban or industrial water treatment facilities and of any direct discharges in natural receptors. They are reporting the results of the monitoring (concentration and load of pollutants, the amount of treated waste water discharged and information related to the performance of the treatment facility) to the Basin Water Directions or Water Management Systems.

For the infectious disease hospitals, nursing TBC institutions, biological preparations - serums and vaccines - curative or preventive health facilities or from breeding units and slaughterhouses, a permit from the territorial public health inspectorate is also needed. Determination of the conditions of discharging waste water into the sewage systems of the localities without treatment facilities, is done by the operators of the public services that is exploiting and administrating the sewage network and depending on the final point of discharging (natural receptor or treatment facility).

- In Bulgaria the permits for local wastewater treatment activities are issued according to the provisions of Water Act. Wastewater discharge is permitted into surface waters for design of sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements; and for operation of existing sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements.

For the local wastewater solutions a water site use permit is not required in the cases of: 1. household wastewater discharge for works beyond the limits of nucleated settlements and dispersed settlements applicable to: (a) a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, and (b) provision of at least primary





MINISTRY OF FOREIGN AFFAIRS

treatment of the wastewaters; 2. sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system; the provisions of the Spatial Development Act shall apply to any such works.

The permits for wastewater discharge are issued by the competent Basin Directorate Director. Permits for use of water sites constituting parts of the River Danube, are issued by the competent Basin Directorate Director with the advance consent of the Minister of Defence and of the Minister of Transport, Information Technology and Communications. The authorities who control and sanction the activities of treatment of local wastewaters are the regional inspectorates of environment and water according to the Water Act in case there is in place a water site use permit for wastewater discharge. The persons to whom have been granted rights to water site use are obligated to conduct self-monitoring. Other persons fall also into this category, e.g. the holders of permits for wastewater discharge; operators of installations and equipment under the conditions of the integrated permit; and the person obliged to carry out self-monitoring according to the Bulgarian Nitrates Decree No.2.



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3 Annex: Country Reports

3.1 Germany

Question 8:

(local waste water treatment solutions) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Usually waste waters have to be discharged into waste water facilities. Local public waste water companies are responsible to insure this. According to § 54 WHG, in special cases, waste water can be discharged directly into water, if the quantity and harmfulness of the waste water is kept as low as possible according to the latest state of technology and best practice and the discharge is in accordance with other legal requirements. For this a special exception approval by the competent authority is necessary.

According to our research and the expert's opinions, there are no specific regulations on small, local settlements within the German waste legislation. For such settlements the same regulations as for every municipality are valid. In the case of very isolated houses or farms individual stand-alone solutions exist, which are not specifically regulated by law and are becoming increasingly rare.

3.2 Czech Republic

Situation in alternative collection and treatment of wastewater in small rural settlements

Small wastewater treatment facilities (for up to 2000 inhabitants) can be further divided into three categories:

Wastewater treatment facilities 5 to 50 inhabitants, called also household facilities. For installation of these facilities, certification for the type (not individual facility) is required. Facilities should also be CE compliant (in that case, operation does not require obligation for measurement of pollutant concentration in released water)².

Wastewater treatment facilities for up to 500 inhabitants are intended for small settlements or block of buildings, which cannot be connected to sewage system. Usually they are so called "packed" facilities, delivered to place of installation as a completed product.

Wastewater treatment facilities for 500 – 2000 inhabitants, used similar technologies and identical legal procedures as common municipal facilities for small and middle-sized sources of wastewater.

² Water Act, § 38.5

Wastewater treatment facility is water construction in a sense of Water Act³. They require permit for handling of surface waters, issued by “legal water authority” (see note ⁱⁱⁱ Facilities for more than 50 inhabitants or facilities not CE compliant has to be monitored – at least twice a year, samples have to be taken and analyzed by accredited laboratory.

3.3 Austria

Local Waste Water Treatment Solutions: Levels of Waste Water Treatment Facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Wastewater treatment is regulated in Austria by the WRG and in numerous ordinances (e.g. Waste Water Emission Ordinance).

In 2006 about 641 municipal wastewater treatment plants with a capacity from 2,000 EW₆₀ have been counted by the Federal Environmental Agency.⁴ The total capacity of these plants was about 20.6 million EW₆₀. In municipal wastewater treatment plants around 1,064 million m³ of wastewater was cleaned in 2006. The connection rate to municipal wastewater treatment plants was about 91.7% in Austria. Due to the settlement structure (settlements in scattered sites, single objects), a 100 percent connection rate is considered to be unrealistic.

Around 8-9 % of the Austrian population is connected to an alternative wastewater collection and/or treatment system. In these areas the collection of waste water is carried out in domestic sewage treatment plants, in cesspools and other systems. The disposal of these wastewaters is usually organized by transport of the pit contents into larger municipal sewage treatment plants.⁵

In small rural settlements which are not connected to the canal system the method of wetlands for the treatment of agricultural and domestic waste are regularly applied. Waste water is collected in some kind of canal system and filtered in a reed body. Respectively advocacy and public information campaigns for possible substances in the waste waters are needed – this system does not work for industrial waste waters. In remote agricultural areas the waste water collection is regularly combined with the manure collection.⁶

³ Water Act, § 55 and following

⁴ UBA, Abwasserentsorgung in Österreich: <http://ww2.umweltbundesamt.at/umweltsituation/wasser/abwasser/>

⁵ Austrian Waste Management Plan 2011: <http://www.bundesabfallwirtschaftsplan.at/>

⁶ Expert Interview: „die Umweltberatung“.

Legal control: Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring)

The disposal and treatment of waste water is based on the precautionary principle. Wastewater is to be treated according to the best available technics (state of the art – ‘Stand der Technik’). Secondly the quality of the wastewater is monitored as well as the quality and classification of the receiving waters. So general permitting is combined with a monitoring approach both by the water authority and the operators themselves.

The water authority has the competence to control authorized facilities, to issue administrative orders with limit values for wastewaters etc. (cp. Art 33ff WRG).

3.4 Slovakia

Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations

- *(local waste water treatment solutions)* Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

Answer:

Water Act regulates discharges of urban waste water into surface water. Any such sewerage system must guarantee adequate treatment of urban waste water. If installation of public sewerage system requires excessive costs or significant improvement of the environment is not to be expected after installation, other appropriate measures may be used.

Urban areas with more than 10 000 inhabitants were obligated to install a sewage system by the year 2010. For urban areas with 2000 to 10000 inhabitants, this obligation must be fulfilled by the end of 2015.

Municipal sewage and organically polluted industrial wastewater discharged to surface waters must go through secondary treatment that will decrease levels of pollutant emissions to limits equal to those in regular conditions. In high mountain environment, where the effectiveness of biological treatment is very low, it may be that the degree of cleaning dispensed with if the expert assessment shows that there is no adverse impact on the environment.

Water Act regulates also the protection of water from pollution caused by nitrates from agricultural sources. Such protection is ensured in particular by enforcing measures, which are necessary for the storage, handling and application of natural and chemical fertilizers and appropriate farming. In this regard, so called Code of Good Agricultural Practice is applicable, which must be prepared by the Ministry of Agriculture and must include general measures for farming with respect to different regions. Those general measures are:

1. Season when the application of fertilizer is inappropriate,
2. Application of fertilizer on the land with a large slope of the terrain,
3. Land application of fertilizer to water-saturated, flooded, frozen or snow covered land,
4. Conditions for land application of fertilizer near water flows,
5. Capacity and construction of storage tanks for organic fertilizers, including measures against leakage of organic fertilizers into groundwater and surface water and discharge of stored plant materials such as silage,
6. Procedures for application of fertilizers and organic fertilizers on land, including the amount and uniformity of their application, which will maintain the transport of nutrients from the soil into the water at an acceptable level.

The following measures as stipulated by the Code of Good Agricultural Practice may be included:

1. Farming should include the use of crop rotation systems and the proportion of land area dedicated on the permanent crops to annual crops,
2. Maintaining at least the minimum vegetation cover on land, especially during the rainy season, which removes nitrogen from the soil, otherwise there may be water pollution by nitrates,
3. Establishment of fertilizer plans for individual farmers and keeping records of the use of fertilizers,
4. Protection against pollution of water from surface drainage and seepage of irrigation water.

- *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

Answer:

Competent State water administration bodies may impose measures to remedy damage caused to surface waters or request persons responsible for the damage to pay such related costs.

State water administration bodies supervise the observance of the provisions of the Water Act, supervise whether the decision are adhered to. Competent authorities may request the cooperation of expert bodies. Competent authorities act ex officio or upon request of third parties.

State water administration bodies may impose adequate measures to eliminate identified shortcomings.

If, despite the measures imposed, discharged wastewater contains harmful substances in breach of permission or if there is a leak of harmful substances into surface water or groundwater (or in the

environment associated with water) and when there is risk of damage to the environment or to natural heritage, the State water administration body is authorized to restrict or prohibit related production or activity.

Practical information:

According to the information obtained from the Slovak Environmental Inspection, inspection of water abstraction aiming to control pollution is carried out by authorized laboratories. Producer of waste water is also obligated to conduct inspection. However, compliance with the Code of Good Agricultural Practice is monitored only following violations of the law, which result in water pollution (e.g. in an event of accident). According to representative of the Inspection, their powers are sufficient.

3.5 Slovenia

1. *(local waste water treatment solutions) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;*

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal with the rules concerning the large scale sewage systems here.

Answer PIC:

The treatment of household and household alike waste water (municipal or urban waste water) is a service in a general public interest, which has to be provided by each of 211 local communities in Slovenia. As such it is proclaimed in Article 149 of an Act on Environmental Protection.

The scope of infrastructure and minimal service standards of municipal waste treatment that a local municipality is obliged to provide are determined by state laws and regulations. The tasks which have to be provided by this service and demands on public infrastructure are different in (envisaged) settlement areas from those in other areas.

In (envisaged) areas of settlement a local community has to provide for a public sewage system, which has to end up with a treatment plant for waste water. Compulsory cleaning results (demands on purification) and emission parameters of a discharge from the treatment plant into surface water are regulated by law. Higher demands are made if a discharge is to take place into bathing water area. Local communities often decide for joint systems and not every community has a treatment plant on its territory.

Some exceptions are provided for and when prescribed criteria are met, waste water can be discharged in a small municipal wastewater treatment plant (little municipal sewage treatment plant with a capacity of less than 50 PE¹) or in a hermetic septic tank, which has to be managed by a public service provider of a service of waste water treatment.¹ (A hermetic septic tank is allowed only in areas where the urban



wastewater treatment in small municipal wastewater treatment plant is not technically feasible due to one of the prescribed reasons).

In other areas household waste water has to be discharged in a small municipal wastewater treatment plant with a capacity of less than 50 PE. Exceptionally (under fulfilled conditions) waste water can be discharged into a hermetic septic tank. The operator of a small municipal waste water plant or a septic tank has to ensure that sludge (and waste water) are taken (and therefore treated) by a public service provider.¹ In areas not (envisaged) for settlement waste water discharges from non-residential buildings may be discharged in a little municipal sewage treatment plant with a capacity equal to or greater than 50 PE¹, which is not a public sewer facility. Its operator must ensure that sludge is taken by public service provider.

On all territories where it exists (not only in areas of envisaged settlement) owners of buildings and other objects are as a rule (with some exceptions) obliged to use a public sewage system - that is to discharge their waste water into a public waste water system, where it is treated according to prescribed standards. Where there is (still) no public sewage system, a small municipal waste water plant is a priority to a septic tank. A septic tank is the last option (where there is no other chance or in areas of (envisaged) settlement it is a temporary option, which can be used only before a construction of a public sewer system.

For existing objects there is a transitional period for meeting the prescribed standards (31 December 2015 or 31 December 2017), depending on the location of an object and the existing capacity of municipal infrastructure). Among the prescribed changes the demand for a hermetical (waterproof) septic tank has to be highlighted, as it is often not (yet) the case of existing suburb households.

For new objects or reconstruction of existing objects in which urban waste water emerges, a building permit may only be issued if project documentation shows that the waste water will be properly handled- that is discharged into a public sewer system (where it exists) or treated in a small wastewater treatment plant that meets the prescribed requirements or (if the prescribed criteria are met) collected in a hermetic septic tank, which is regularly emptied in accordance with regulations.

- 2. (legal control) Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).*

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

Answer PIC:



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For the operation, or any substantial change in the operation of local or common sewage treatment plant, which is discharging wastewater directly or indirectly into water, the operator has to obtain an environmental permit.¹ Nevertheless an environmental permit is not needed for a small local wastewater treatment plant with a capacity of less than 50 PE if: a) this plant has a declaration of conformity of the construction product or b) if the scientific (professional) evaluation indicates that the device complies with the regulations. For a small local wastewater treatment plant with a capacity of 50 PE or more an environmental permit is not needed if the scientific (professional) evaluation indicates that the device complies with the regulations and if the draining of the device is not indirectly into groundwater, in the water protection zone or in the impact area of bathing waters.

First measurements and operational monitoring of a wastewater treatment plant are required and have to be assured by the operator of the device (periodic and continuous measurements of parameters). First measurements don't have to be carried out for a wastewater treatment plant with a capacity of up to 50 PE if an assessment of an operation is made according to prescribed procedure. An operational monitoring can also be skipped for such a plant if an assessment of the operation shows that the operation of small municipal wastewater treatment is in accordance with the legal provisions. First measurements and operational monitoring and an assessment of an operation have to be provided by a provider of a local public services, regardless of whether the little municipal sewage treatment plant is self-managed within the public service or managed by another person. The public service provider must keep a record of all small sewage treatment plants on its territory.

The Rules of Procedure for the operation of the plant and Keeping of the Operating Log have to be assured by the operator; with exception of small local wastewater treatment plants with a capacity of less than 50 PE. But for the latter the following documentation/data has to be kept: documentation of the work carried out on small sewage treatment plants, Information on the handling of sludge and Information on incidents that occur during operation.

Valid Regulation entered into force on 1. 9. 2012 and existing installations have to adopt their operation to the requirements of this new regulation as a rule (with some exceptions) not later than in five years' time (till 1.9.2017).

Supervision of the implementation of Regulations is provided by the Inspection for Environmental Protection. Beside inspection measures (such as prohibiting and commanding of an act), certain conducts are defined as offenses, which are punishable by a fine. Due to the lack of personal and financial capacities inspection supervision in practice is too often ineffective and insufficient.

Acts:

- A Regulation on discharges and treatment of urban (municipality) wastewater (slo: Uredba o odvajanju in čiščenju komunalne in padavinske odpadne vode; Uradni list RS, št. 88/2011, 8/2012, 108/2013)



- A Regulation on the discharge of emissions and of heat into water and public sewer (slo: Uredba o emisiji snovi in toplote pri odvajanju odpadnih voda v vode in javno kanalizacijo, Uradni list RS, št. 64/2012) and
- A Regulation on emissions of substances in the waste water discharges from small municipal wastewater treatment plants (Uredba o emisiji snovi pri odvajanju odpadne vode iz malih komunalnih čistilnih naprav; Uradni list RS, št. 98/2007, 30/2010)

3.6 Croatia

Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations

- (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

According to the Act on Waters, Art. 3, point 67 *Urban wastewater treatment* means treatment of urban waste water by mechanical, physical, chemical and / or biological processes .

Utility service of wastewater treatment as a public service is performed by local government units and legal entities and individuals. Local government units are obliged to provide collection and treatment of urban waste water, prior to their direct or indirect discharge into the water, in line with water permits for wastewater discharge. Natural persons owners, or other lawful possessors of small wastewater treatment devices are required to maintain them through the supplier of water services of public sewage or other person authorized in accordance with the decision on wastewater discharge. With the decision on waste water discharge mandatory deadlines for control must be set. Legal persons may obtain a concession for the public service of wastewater treatment and / or the right to perform or design and conduct activities in wastewater treatment. The concession for the provision of public services of wastewater treatment is given for a period of 5-10 years. Construction of the facilities and infrastructure for wastewater treatment is financed from: waste water treatment fees, local government budget, donations and other sources defined by



special regulations. Act on Waters determines that the construction of drainage and wastewater treatment systems must be designed, constructed and maintained to ensure protection of water. Devices for purification of waste water must be designed, constructed or reconstructed so that the discharge of treated wastewater into the receiver may take a representative composite sample before and after wastewater treatment.

Many municipalities did not yet constructed a waste water system. Some of the planned solutions of these municipalities are:

- acceptance of waste water in the first phase of construction will be addressed by building watertight septic tank facilities for up to 10 GB with secured system of discharge and drainage- for facilities with more than 10 GB it is envisaged to construct devices for biological purification of waste water to the hygienic sewage and disposition thereof through drainage wells while satisfying the prescribed parameters of discharge to the sanitary protection zone in which the facility is located
 - Drainage of storm waste water from roads, parking and maneuvering areas will be solved by engaging in field the drainage wells with pre- treatment in the oil and fat separator and precipitators. Clean rainwater from rooftops will be discharged in the ground through drainage wells
 - Wastewater collection will be solved by the sewer pipes placed in roadways of economic zones.
 - The construction of the unit for wastewater treatment plant with the highest degree of purification is planned.
 - Wastewater from the facility where increased pollution is possible it is necessary to install a pre-treatment of waste water and bring them to the level of quality of urban waste water before connecting it to external drains.
 - The plan is to install a device that works on the principle of biological treatment with activated sludge. The device is technologically designed in such a way that it treats the sanitary wastewater, and engaging technology in wastewater collection system and treatment is conditional on their pre-treatment at the point of generation to a level of sanitary waste water.
- *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water



management, environmental protection and public health rules are not always in total harmony.

Reports on the implementation of waste management plans at local government offices must be submitted for a review to the Ministry of Environmental and Nature Protection and the Environmental Protection Agency. Besides that, Croatian Waters are monitoring quality of facilities for drainage and wastewater treatment and quality control of treated wastewater, sampling and analysis of waste water is carried by an accredited laboratory.

Conclusion:

Experts in waste management in Croatia indicated several drawbacks related to waste management. For example, Croatia has no national waste management plan, which should be one overriding strategic document, and as such serve as guidelines for developing regional and local waste management plans. However, as there is no such document, in fact every local authority almost entirely independently decides how to plan and prepare its waste management system. For this reason, there are big differences in local waste management plans. Also, so far, until the new Act on sustainable waste management, in fact there was no political will to adopt good and enforceable legal solutions that would lead to the establishment of good waste management system. The new Act has set a good framework, and is much more advanced than the former one, but the question remains how its implementation will be done.

3.7 Bosnia-Herzegovina

In areas where large scale sewage systems do not exist, waste water is collected by a separate sewage system which disposes waste water into individual cesspools and collective pits. The local utility services company in charge of waste management is in charge of emptying the cesspools and pits and deponing their contents to local solid waste depository or other location determined by the local municipality in coordination with local community. In all other cases a large scale sewage system is constructed and it encompasses even small settlements. Technical standards concerning waste water facilities

Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Authorities that control local waste water treatment are municipal authorities and they do so through local municipality owned utility services companies. The companies have the authority to supervise implementation of bylaws and ordinances and order the citizens certain activities aiming at better quality of waste water management. However, these companies cannot fine anyone for breach of bylaws or ordinances. Instead, they can refer these cases to either



municipal or cantonal/federal (in FBiH) or republic (in RS) inspectors who assess the situation and take adequate measures. This is a general permitting model.

3.8 Montenegro

1. (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Wastewater management analyses:

- Sewerage mostly covers urban and suburban areas. Depending on the municipality, from 40 - 100% of urban populations is connected to public sewer system;
- In areas where there is no sewerage system constructed people uses septic tank, and in some cases, wastewater is discharged directly into watercourses or into the ground;
- Recipient: The coastal municipalities outflow waste water into the sea via sea outfalls. In the northern and central regions, mostly in local waterflows, except Cetinje and Zabljak where waste water is discharged into local sinks;
- WWTP exists in Podgorica (reconstructed) and Mojkovac, and ongoing activities exists on the construction of the WWTP Niksic (smaller one in Virpazar and Rijeka Crnojevića);
- In most municipalities there is a separate sewage system;
- The coastal region is a function of CS 27, in the northern and central regions, CS does not exist.
- Only four municipalities (three coastal Bar, Tivat and Herceg Novi and one central Niksic) has a decision on the establishment and maintenance of zones of sanitary protection of all water sources, which are used for public water supply. In all other municipalities, this question is only partially resolved or not resolved at all;
- In most of the water supply system is not only a basic analysis of the suitability of water for drinking because of the limited financial resources of public enterprises for water and sanitation;
- Un adequate use of water - daily consumption in the urban environment, as assessed by Institute for public Health from 2008, amounted to an average of 500 l / day;
- Large losses in water supply systems;
- Periodic blurring of water during rainy periods (Bistrica, Breznica, Oraška pit);
- The lack of a sufficient number of WWTP;
- A number of outfalls, usually inadequate length (without treatment);
- Underdeveloped and inadequately maintained storm water sewerage leads to penetration of rainwater into sewers for sewage wastewater;
- Pumping stations are in operation, but electromotive equipment is in poor condition, frequent interruptions in the power supply or cuts in order to reduce the consumption caused by the discharge through the emergency outfall;



MINISTRY OF FOREIGN AFFAIRS

- Outdated plumbing and insufficient funding of Public Utility Companies for Communal services (PUCs) for the rehabilitation and reconstruction;
- Irregular connections to the network.

2. (*legal control*) Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Responsibility of waste water treatments and water supply are divided between national and local level:

- the Ministry of Agriculture and Rural Development, the Ministry of Sustainable Development and Tourism Environment and Water Directorate
- local governments provide for and regulate the activity of the public water supply and public communal and sanitation activities in their territory.

Local Governments establishes Public Utility Companies (PUCs) which are responsible for water supply and protection of waters from pollution. At the coast of Montenegro the "Regional water supply company" for has been established for development and management of regional water supply system. In addition it has the competence to discharge and treatment of waste water and solid waste from the coastal area.

In addition to these structure DOO "Vodakom" - Tivat has been created to better coordinate investment activities in the field of water supply and wastewater management on the Montenegrin coast.

Different types of permitting and monitoring exist:

- the level of technical documentation proportion and project implementation/construction: main design approval, construction permit, EIA, water permit, etc.
- Monitoring by inspection on local level and national level: ecological inspection, construction inspection

INTERVIEWS:

1. Ministry of Sustainable Development and Tourism
2. Ministry of Agriculture and rural Development/Water Directorate
3. Institute for Hydro-meteorology and Seismology
4. EPA of Montenegro
5. NGO Ozon (through publicly available data-being published in newspaper on their activities in the respective fields)



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3.9 Romania

Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations

- (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

The water Law no 1071996 provides a definition and general principles for the waste water:

“Water from domestic social or economic activities, containing pollutants or residues that alter the initial physical, chemical and bacteriological characteristics and rain waters flowing on polluted land” (Annex 1 of the Law).

The main principles regarding the treatment of the waste waters are:

The right to use the surface or groundwater includes the right to discharge the wastewaters into the water resources (art.9 para 1).

The discharge of the waste water into groundwater, natural or accumulation lakes, puddles, ponds, except the decanting ponds is strictly forbidden (art 16 letter d);

All users of waters must strictly respect the discipline and technical norms regarding the activities that are using water and discharging waste water as well as the stations and installations processing water quality (art 17 letter c).

Violating the provisions of the water permits regarding the discharge of the waste water into the water resources is a contravention (art 87 para 4). The sanction is a fine between 10000 ron (aprx 2200 eur) and 40000 ron (aprox 8800 eur), smaller for individual and higher for legal persons.

A proper water treatment is defined into the Governmental Decision 188/2002 regarding approval of the norms for the discharge conditions into the aquatic environment of the waste waters: a treatment of the waste waters through any process or systems that allows the receptors to comply with the relevant quality objectives established through the technical norms and the water permits in force.

The waste waters treated must be reused with the approval of the competent authority according to the origin and the intended use, if the negative impact over the environment is reduced to the minimum (art 6 of GD 188/2002).

According to art 3 Annex 1 from GD 188/2002, for agglomerations with more than 10000 inhabitants, collecting the waste waters must be done through sewage system and advanced water treatment facilities

The agglomerations using sewage systems and water treatment facilities must be established and shown into the county land use plans. In these plans will be also included the area where individual water treatment facilities are needed (art 4 para 1 GD 188/2002).

If installation of the sewage system is not justified because it is not producing any benefit to the environment or because excessive costs would be needed, individual systems will be used with the condition to ensure the same level of environmental protection. The urban plan will take this into consideration (art 4 para 2 GD 188/2002). The individual systems can only be sealed septic tanks, not septic tanks so that the waste waters are collected and taken to a treatment facility. In general there are accepted those individual treatment processes to ensure a quality effluent which have no adverse effects on the environment, such as stabilization lagoons, mechanical-biological treatment plant piece (which may include process disinfection).

The agglomerations with more than 10000 inhabitants must use sewage systems until 31 December 2013. Until 31 December 2018 agglomerations with 2000 – 10000 inhabitants must also use sewage systems. There deadlines can be modified by the Minister of Environment.

All holders of houses collective or individuals or where socio - economic activities are organized, whose waste waters can't be treated separately, have the obligation to connect to the sewage systems of the localities, respecting the procedure and conditions stipulated in the technical norms given by GD 188/2002, Annex 1 or 2. (art 6 para 1 GD 188/2002)

If these users are already using individual systems for collecting the waste waters (sealed septic tanks, absorbing wells) they must take all necessary measures for decommissioning along with the connection to the sewage system (art 6 para 2).

The treated waters discharged into the natural receptors must not contain: -- pollutants with high toxicity provided in Tabel 2 of GD 188/2002 and also in specialized studies.

- Materials in suspension over the maximum limits
- Substances that can produce turbidity, foam or change of the organoleptic properties of the receptors compared to their natural status
- The waste waters coming from infectious disease hospitals, nursing TBC institutions, biological preparations - serums and vaccines -curative or preventive health facilities or from breeding units and slaughterhouses cannot be discharged into the receptors without specific disinfection according to the technical norms. The disinfection measures are periodically certified through analysis released by the territorial public health inspectorates.

According to art 9 from Annex 3 of GD 188/2002, to protect the water resources from pollution:

- It is recommended to use the waste water and nutrients for fertilising and watering the agricultural and forest areas with the agreement of the holders of the land and the permission of the competent authorities and according to the nature of the cultures, the permission of the territorial public health inspectorate.



- Ensuring the sealing of all deposits is mandatory; possible seepage and rainfall waters that drain from these deposits must be collected and treated so that they comply with the provisions of this regulation.
- (*legal control*) Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

The Governmental Decision no 188/2002 defines the water permits:

- **water management approval** – the technical – juridical act issued for the financing and execution of the new investments, developing, modernization and refurbishment of the existing installations or technological processing and execution of public interest works build on water or connected to water
- **water management permit** - technical – juridical act issued for the commissioning or exploitation of the new objectives or of the existing objectives, build on water or connected to water

These permits are issued by The National Administration “Romanian Waters” (NARW) according to The Order of the Minister of Environment no 799/2012. The NARW is divided into 11 Basin Administration, each sub having several county subdivisions named Basin Water Directions or Water Management Systems.

The water inspection is realized by The National Administration “Romanian Waters” (NARW).

The water permits mentioned can be temporarily suspended, modified or cancelled according to the situation described in Order of the Minister of Environment and Water Management 15/2006.

For exceeding the maximum permissible concentrations of pollutants of wastewater discharged The NARW can apply penalties according to the provisions of the Emergency Governmental Ordinance no 107/2002.

According to art 8 GD 188/2002, monitoring of the treated waste waters is the obligation of the providers/operators of the public sewage systems and/or urban or industrial water treatment facilities and of any direct discharges in natural receptors. They are reporting the results of the monitoring (concentration and load of pollutants, the amount of treated waste water discharged and information related to the performance of the treatment facility) to the Basin Water Directions or Water Management Systems.

The NARW is the responsible authority for The Integrated System of Water Monitoring in Romania, where waste water constitutes a subdivision.



Directions Basin Water / Water Management Systems county and loading concentration of pollutants discharged and the amount of wastewater treatment technology performance information

The treatment facilities are projected or modified so that the control points established allow representative sampling from the influent and effluent station or final effluent treated before discharge to the natural receptor

Monitoring of urban or industrial waste waters is done according to the provisions of GD 188/2002 described in art 10 Annex 1 of GD 188/2002.

The natural receptors where waste waters are being discharged is monitored through The Integrated System of Water Monitoring in Romania by NARW (GD 188/2002).

The discharge of teh waste water into the sewage system or in the treatment facilities is done according to the permission given in writing by the operator of the public services that is exploiting and administrating the sewage network, as well as according to the contract regarding the use of the public services concerning water supply and sewage system. For the users with high risk of pollution the water management permit is also needed. For the infectious disease hospitals, nursing TBC institutions, biological preparations - serums and vaccines -curative or preventive health facilities or from breeding units and slaughterhouses, a permit from the territorial public health inspectorate is also needed.

Determination of the conditions of discharging waste water into the sewage systems of the localities without treatment facilities, is done by the operators of the public services that is exploiting and administrating the sewage network according to the provisions of GD 188/2002 (provides maximum limits for substances in the water) and depending on the final point of discharging (natural receptor or treatment facility).

3.10 Bulgaria

6. Local wastewater treatment solutions

Please specify the levels of wastewater treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

The Water Act does not regulate in detail the wastewater treatment facilities in small local settlements. It only stipulates that discharge of wastewater could be carried out without permit beyond the limits of nucleated settlements and dispersed settlements and applicable to a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, provided that at least primary treatment of the wastewaters is done or for sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system¹. There are still many such settlements in Bulgaria not yet connected to any sewerage system and use household level waste management options. The most common type of individual household facility in the Bulgarian villages and small towns without central sewage treatment system are septic pits.



MINISTRY OF FOREIGN AFFAIRS

For agglomerations with population equivalent less than 2000 the wastewaters which are flowing into the sewerage systems before being discharged into the water bodies shall be treated appropriately according to the immission standards for the receiving water body and the requirements of the Decree. Bulgaria shall achieve these standards by December 31, 2014¹.

Nevertheless, we could find some regulation of the problem in the territorial planning law, and namely on the rules and norms for spatial development of different types of territories and developing zones, like the one that the strip of land to surround the pit is at least 2 meters¹. In addition, we should note that all alternative wastewater treatment facilities should comply with the sanitary-hygienic regulations. In population centres and settlement formations with zones without sewerage the household waste water could be discharged in individual facilities for discharge and treatment of waters (watertight cesspits) meeting the technical and the sanitary - hygiene requirements¹. For example, Spatial Development Act stipulates that septic pits and temporary toilets could be built only if they comply with the sanitary-hygienic norms and should be placed at least 3 m. inside from the borders of the property¹. Conversely, if the septic pits or sewage facilities are not in compliance with the sanitary and health norms, the mayor of the municipality could require from the owners to remove, transform or repair them, even that the mayor could issue an order for removal of the facilities dangerous for the health and life of citizens or harmful in sanitary-hygienic aspect. We could conclude that it is at the administrative discretion of the authorities (mayor of municipality) to enforce regulations protecting public health and spatial planning provisions in public interest.

7. Legal control

Please specify which authorities control the local wastewater treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local wastewater treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of wastewater treatment and also that water management, environmental protection and public health rules are not always in total harmony.

The permits for local wastewater treatment activities are issued according to the provisions of Water Act. Wastewater discharge is permitted into surface waters for design of sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements; and for operation of existing sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements¹. In some cases the permit referred to in Item 3 of Paragraph 1 of Art.46 of WA should be issued not according to the procedure established by the Water Act but according to the procedure established by the Environmental Protection Act for the issuance of an integrated permit. The local wastewater solutions are provided in Art. 46 (4) which stipulates that a water site use permit is not required in the cases of:

1. household wastewater discharge for works beyond the limits of nucleated settlements and dispersed settlements applicable to:



MINISTRY OF FOREIGN AFFAIRS

(a) a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, and (b) provision of at least primary treatment of the wastewaters;

2. sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system; the provisions of the Spatial Development Act shall apply to any such works.

The permits for wastewater discharge are issued by the competent Basin Directorate Director. Permits for use of water sites constituting parts of the River Danube, are issued by the competent Basin Directorate Director with the advance consent of the Minister of Defence and of the Minister of Transport, Information Technology and Communications¹.

The authorities who control and sanction the activities of treatment of local wastewaters are the regional inspectorates of environment and water according to the Water Act (Art.188 (1), item 4) in case there is in place a water site use permit for wastewater discharge according to Art.46 (1), item 3 of WA. As a result of their controlling authority they could draw up a written statement ascertaining the violation and issue a penalty decree for imposing a fine if the violator is a natural person or pecuniary sanction if the violator is a legal person if there is violation of the conditions in the permit. Another sanction is withdrawal of the permit in case of violation of the conditions of the permit¹. When the discharge is performed without an issued permit according to Art.46(1), item 3 of the Water Act then experts from the respective Basin Directorate are drawing up a written statement for use of water site use without permit.

The persons to whom have been granted rights to water site use are obligated to conduct self-monitoring according to the requirements of the Decree referred to in Item 14 of Article 135 (1) and under the terms and conditions in the permits issued for water quantity and quality and wastewater quantity and concentration of the pollutants emitted. The Decree No.1/2011 of the Minister of Environment and Waters on monitoring defines the persons who should carry out self-monitoring: e.g. the holders of permits for wastewater discharge; operators of installations and equipment under the conditions of the integrated permit; and the person obliged to carry out self-monitoring according to the Nitrates Decree No.2.



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Action 5: “To establish buffer strips along the rivers to retain nutrients and to promote alternative collection and treatment of waste in small rural settlements”

- the Hungarian pilot study -



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Introduction – the system analysis of the relevant laws

Before putting together a questionnaire on the systematic analysis of the situation on buffer zones, we have surveyed the Hungarian legal system for the relevant legal institutions defining, determining and protecting buffer zones in the vicinity of living waters of the Danube Basin. Based on this more detailed pilot survey we proposed a draft set of questions for the national research partners from the Danube basin countries and submitted it to the body responsible for the report on the Danube River Basin Management Plan. The questions thereafter were sent to 12 country researchers who sent their detailed answers. In the present study we introduce the pilot analysis that served the basis for initiating and performing a comparative analysis of the laws and practices of 12 Danube countries concerning the protection territories of waterflows.

As concerns the overall methodology of our national survey we have performed a *system analysis*, i.e. we have tried to reveal all the relevant elements of our administrative laws and regulations and map out their possible interrelationships. Such elements encompass legal institutions that contribute to the protection of water flows through establishing certain territories, zones or stripes where certain activities are prohibited or constrained, while other activities on these territories, such as maintenance and monitoring or best management practices are encouraged or even prescribed.

We have found that quite several laws and regulations in the field of water management law, environmental and nature protection law, public health laws, several branches of agricultural administration and other laws target these issues from their specific angles. This is a mounting task – we just have made some initial steps in solving it – to evaluate the interplay of such parallel efforts of our law. Within this program we have compared the definitions these laws and regulations provide for the different kinds of protecting territories alongside waters, we have also examined the different administrative procedures, where the representatives of other branches of administration can take part as so called co-authorities and also tried to trace back cross references, if any, amongst these laws and regulations. We are convinced that not the individual pieces of legislation but the whole system determines the effectiveness of the protection of our waters from overburdening amounts of nutrients and other polluting materials.



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Milestone No. 4: Survey of the situation on alternative collection and treatment of wastewater in small rural settlements

In this chapter we will analyse the several grades of possibilities of handling local waste water in small rural settlements, starting from the general rules and the major individual cleaning solutions serving a whole settlement, through facilities substituting public utilities to the smallest individual household dehydration solutions. We will see how this flexible system of multi-tiered solutions strives to ensure the consideration of the most important water protection and public health interests of the local communities.

1. General rules of sewage water treatment and deposition

1.1 Design and operation of sewage treatment network

The principle provisions of the Governmental Decree on the general rules of activities and facilities for utilisation and protection of water and prevention of damages caused by water¹ (hereinafter: Utilisation decree) stipulate that the sewage system of a settlement shall be designed with due care of the local specialities such as distances from and sensitivity of surface and underground waters. Large unified systems shall not be established unless all the technical, economic and environmental viewpoints support this solution. The decree warns against the so called public utilities scissors: whenever a settlement or a group of settlements jointly design their sewage systems they shall think of it as a unity system of the pipelines and the treatment capacities¹. The level of treatment of the sewages shall be accommodated to the tolerance level of the waters receiving the treated water.

Once the amount of the waste water at a settlement makes it possible, nature friendly sewage treatment methods shall be given priority. The sewage sludge shall be used in agriculture, energy or in any alternative way as far as possible – landfill depositing is just the last resort¹. All the municipalities shall develop a local sewage treatment program, with proper evaluation of the situation of the status of their surface and underground waters and geological structures, the environmental, nature protection and social effects of the cleaning and depositing solutions selected, especially in connection with sensitive territories from water protection viewpoints. The settlement sewage programs shall be brought into harmony with the local and regional spatial plans and environmental plans, as well. The possibilities of making use of the cleaned waste water locally shall be examined. Such plans, therefore, are usually subject to Strategic Environmental Assessment¹.

We note here that – contrary to the solid waste laws – according to the Hungarian sewage water regulations the main rule is the small and local management and large regional facilities can be established only under exceptional circumstances. Also in respect to sewage treatment and sludge management the long term, sustainable solutions are preferred in our law. Finally, it is important to underline that the responsibility to harmonize the local sewage plans with several other plans, and the SEA responsibility itself represent consequential system approach.



1.2 Individual sewage treatment

According to the Utilisation Decree, those settlements (or parts of settlements and other dwelled sites) that do not belong to the territories concerned by the National Sewage Treatment Program or their connection is not reasonable to the regular sewage systems, shall introduce individual sewage treatment solutions. The owners of real estates on such territories are responsible for the individual handling and safe deposition of waste waters¹. These solutions can be: *cleaning fields* or *dilution basins facilities* established according to the provisions of the Utilisation Decree. This means that the Hungarian legislator applies here the legal technique of „general permitting”, i.e. the operators shall not apply for individual permits but shall follow the rules of the Utilisation Decree. However, individual water treatment shall not be established if any other water protection rules, such as the rules of water sources and drinking water protection, rules of protection of karst territories or others exclude this solution¹. There is a quantitative condition of these facilities, too: they can be applied only in cases when the cleaned water emission exceeds 500 m³ per year. Also the operator of the individual facility shall obtain an at least middle level education background relevant to waste water treatment activities and shall have a contract with the dwellers served by the facility¹. We see that the individual sewage treatment facilities represent an intermediary level between the large sewage treatment networks and the last resort household solutions (public utility substitutions).

In the case when the individual sewage treatment facility is legally applicable, technical solutions shall be developed for enabling the water protection authorities to take samples from the effluent water. The authority can oblige the operator on regular monitoring too, unless it is not reasonable technically or economically (i.e. taking into consideration the size of the facility and the small community served by it)¹.

The simple, user friendly rules of the Utilisation Decree might ensure the proper operation of such individual treatment facilities: the operator shall check it every day only with human senses and initiate measures when odour, foam or other traits sign disorderly operation. However, the operator shall do the careful administration in connection with the whole amount of sewage sludge, because the water management authority might require the evidences of extending the sludge to a professional waste management facility¹. The sludge is subject to the general rules relevant to all kinds of water treatment sludge regulated by the Governmental Decree on the agricultural use and handling of sewage waters and sludge¹. Water without cleaning and rough sludge without proper treatment cannot be used for agricultural purposes. Sewage water sludge according to this regulation cannot be stored even transitionally on arable lands¹.

We note that while the rules on individual sewage treatment are flexible enough to accommodate to the local circumstances, they are taking into consideration all the long term, larger scale interests of water protection, too – this is the vested interest of the concerned local communities.

1.3 Small scale local household water treatment solutions

1.3.1 Facilities substituting public utilities

Water management, concerning either the natural water flows or the facilities (dwells, pipes etc.) of the drinking water utilities system is a bordering field of environmental administration with public health.



The Decree of the Minister of Health on the public health requirements of the solid and fluid wastes of the settlements¹ pays a special attention to the so called „*facilities substituting public utilities*”. As the Decree defines them: they can be facilities or pitches positioned on an individual real estate, established in a water proof manner or otherwise, serving for collection, storage, small scale handling of waste water produced by territories not connected to the public sewage system¹. Annex 1 of the decree enlists the factors that can enhance the dissolving and de-odouring of local fluid waste, first of all microorganisms and chemicals. Their operation shall be examined and consented by the public health authorities, especially concerning their toxicity, biological effects on the soil and their GMO free content¹.

The public health authorities' consent shall also be acquired for the operation of facilities substituting public utilities. For such consent the operator of such small scale waste water cleaning devices shall announce to the authority the number of persons (including visitors, in case of organisations) served by the cleaning system, the plans, the declaration from the designer, location, protecting territory around the facility and the water supply of the concerned real estates¹. The district level public health authorities shall register such facilities together with larger waste water utilities. Apart from the basic data such as size, capacity, possibilities of approaching, environmental features, further important water related data are also collected and registered: distance from the nearest water flow, existence of insulating at the bottom and side of the devices and establishing a protecting forest stripe¹.

We note that some of spatial planning regulations, such as the Decree on local spatial planning tools¹ encourage the dwellers to apply individual substitutions of public utilities, together with environmentally aware energy solutions and use of renewable energy sources¹. In harmony with that the basic general legislation on spatial planning, OTÉK included into its definition section the term facility for substituting public utility as a subsidiary building that helps the use and operation of a main building¹.

We note that the general public health law also regulates the facilities substituting public utilities. The Decree on the public health requirements in connection with municipality wastes¹ focusses on the emptying procedure of such facilities, stipulating that only a closed system, engine driven, dripping and spreading proof special machines shall do that work¹.

1.3.2 Individual, closed sewage water storage facility, household dehydration

The Utilisation decree defines such facilities as one kind of facilities of substituting public utilities standing of one or more storage tanks or basins, closed and water proof serving for transitional, harmless collection of household waste water in places where a public utility sewage system is not available¹.

The simplest way of individual handling of household waste water is dehydration which is regulated by the general water management administration Decree¹. The municipality authority (municipality clerk) shall grant a permit to the dehydration solution of handling of exclusively household origin waters not exceeding 500 m³ annually – only in the cases where sewage pipelines are not accessible or only available on excessive cost and the quality of the soil makes this solution possible. Water protection, environmental protection and public health viewpoints are to be considered, too in such permitting cases¹.



We see that the individual, smallest size and capacity sewage water management activities have a relative more stringent administrative control, compared to the medium size, small community devices. Even if this can be illogical at the very first glance, the technological and professional conditions of the medium size facilities allow a more lenient regulation, while the numerous, in many cases “last resort” individual solutions might really represent a serious danger to the safety of water flows and to public health, too.

Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations

- (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

- (*legal control*) Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

1.4 Practical experiences concerning alternative collection and treatment of wastewater in small rural settlements in Hungary

General background

In the case of small rural settlements the local non-eligible or illegal waste water disposals can increase the pollutant load to waters. The EU Urban Waste Water Treatment Directive¹ (UWWTD) stipulates the MSs obligations regarding urban waste water collection and treatment in case of wastewater agglomerations above 2000 population equivalent (PE).



Government Decree Number 25 of 2002. (II. 27) on the National Municipal Wastewater Collection and Treatment Program contains the national implementation programme of UWWD, in harmony with the agreed derogation periods of EU-compliance, and taking into consideration the specific Hungarian requirements to protect the underground resources of drinking water supply. The main objectives and deadlines are the followings:

- Until 31 December 2010 – agglomerations with a population equivalent (PE) of more than 15000 must be supplied with sewage network and biological (2nd level) waste water treatment plant
- Until 31 December 2015 - agglomerations with a population equivalent of 2000 – 15000 the collection of waste water and at least the biological (2nd level) waste water treatment must be solved
- Until 31 December 2008 - agglomerations with a population equivalent of more than 10000 in sensitive areas: the sewage network, biological (2nd level) waste water treatment and 3rd level treatment (Nitrogen and Phosphorus removal) must be solved.

For agglomerations under 2000 PE load an Individual Wastewater Treatment National Feasibility Program was developed by Government Decree Number 174 of 2003 (X.28).¹ Decree Number 174/2003 stated that following 1 January 2006 new buildings can be established only with individual wastewater treatment unit if there is no canalisation.

Government Decree Number 26 of 2002. (II. 27) stipulates the rules for demarcation of wastewater agglomerations in relation to the Urban Canalization and Wastewater Treatment Implementation Program.

For projects implemented since 2007 the Environment and Energy Operational Program¹ assisted in the designing of tenders. The investments are typically co-financed at present and in the future combining the obligatory own resources, EU's grants and finance from the central budget. Many investments have already been completed or are in progress, other projects are under preparation and there are some places where the full planning, completion and implementation process remain a task to be done in the future.¹

Status of wastewater treatment in Hungary¹

96% of Hungary's surface water comes from the neighbouring countries. Due to this fact, the quality and quantity of the Hungarian water bodies depends greatly on the interventions of these countries. However, Hungarian industrial and agricultural pollution contributes to the contamination of these water bodies as well and untreated or not well treated sewage plays a great role in the pollution load of the water supply. Since more than 90% of drinking water comes from groundwater, its protection is a strategic task in Hungary.¹



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In Hungary the proportion of settlements with less than 2000 inhabitants is high (75.3%) and 16.9% of the population lives here.¹ The implementation of the EU UWWTD had a positive influence on urban wastewater treatment in Hungary; the proportion of population connected to wastewater treatment plants with at least secondary (biological) treatment technologies was 70%, primarily due to the implementation of a new central wastewater treatment plant in Budapest in 2010.

According to the regional analysis of the estimated proportion of population connected to wastewater treatment plants with at least secondary (biological) treatment technologies it can be concluded that the highest values are in Central Hungary (80%) and Western Transdanubia (77%), while the lowest in Southern Great Plain (54%). Regional disparities are caused by the regional distribution of wastewater treatment plants with at least biological treatment technologies.

Municipal liquid waste is waste water that is not treated by sewerage network and/or sewerage treatment plants, and according to the relevant legislation comes from:

- emptying waste water storage facilities belonging to buildings suitable for human residence,
- drainage and sewerage networks beyond public service,
- technological activities excluding production processes.

The volume of municipal liquid waste has continually decreased since 2005 along with the expansion of the sewerage network.

Alternative collection and treatment of wastewater in small rural settlements

In a continuation of the National Municipal Wastewater Collection and Treatment Program, Hungary aims to construct wastewater collection and treatment systems and facilities, including works for the treatment of liquid waste, extend and modernize existing wastewater treatment and wastewater collection systems, develop wastewater sludge treatment and recycling and, in the framework of diverse and comprehensive technical projects and accomplish „semi-natural” and „individual” wastewater treatment where sewerage is not justified by environmental or economic reasons.

In addition, at settlements or part of settlements in highly vulnerable areas without a sewer system, where professional, individual wastewater disposal is not an option, the Government of Hungary aims to ensure the transportation of adequate liquid waste (on road), treatment and development of utilization. Hungary also aims to reduce the generation of municipal liquid waste and improve and expand sludge treatment and utilization.



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The development of the wastewater collection and treatment systems has to be in harmony with other infrastructure development investments (for example, development of rainwater collection systems), to avoid extra costs caused by repeated operations in the same area (for example, re-pavement). Selection among options – as long as they comply with legal regulations – is based on long-term cost efficiency.¹

Decree Number 16 of 2002 (IV.10.) of the Ministry of Health on public health requirements with respect to solid and liquid urban waste shall be applied to the collecting, transport, pre-treatment, storage, utilization and neutralization of solid and liquid urban waste. The Decree determines hygienic requisites of waste treatment and of containers used for waste collection.

Building up sewage networks for the collection of wastewater is not the appropriate solution in all cases from economic and environmental point of view. Where the density of the population is very low, settlements with a small population or outlying areas with scattered buildings, farm houses, etc. individual wastewater treatment solutions are preferred. For these cases Governmental Decree Number 147 of 2010 (IV.29.) on the general regulations related to the activities and establishments serving the utilization, protection and damages of waters stipulates the main legal conditions for the establishment of individual wastewater treatment facilities.

Depending on the environmental conditions, on the requirements of water management in the given territory and on the technical conditions, there are three main types of the individual wastewater collection and treatment facilities: domestic wastewater treatment facilities, domestic wastewater treatment units and domestic closed wastewater containers.

From the above listed systems only the application of domestic wastewater storing containers has tradition in Hungary.¹ However the application of these raised in the last decades economic and environmental problems, like the illegal discharge of sludge collector trucks, the limited volumetric capacity of waste treatment and waste water cleaning units, the unaffordable transportation prices for the public etc.

The development of wastewater treatment systems of small rural settlements under 2000 PE load is a complex issue depending also on the available financial resources. In the absence of the respective deadline in the WWTD for the building up the wastewater collection and treatment system of these settlements, the implementation is expected in Hungary beyond 2015.

The practical implementation also highly depends on the priorities of the certain municipalities, as the elaboration of the Municipal Wastewater Treatment Programmes is the responsibility of the local municipalities, based on the environmental hydro-geological, demographic etc. conditions of the given settlement. The respective national legal regulations do not stipulate exact deadlines for the implementation of the Municipal Wastewater Treatment Programmes.



2. List of laws and regulations cited in the Hungarian pilot study

Act LIII. of 1995

Act LVII of 1995

Act LV of 1996

Act CXXIX of 2007

Act II of 2012

Act CLXXXV of 2012

Governmental Decree No. 72/1996. (V. 22.)

Governmental Decree No. 123/1997. (VII. 18.) Korm.

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Governmental Decree No. 190/2013. (VI. 17.) Korm.

Governmental Decree No. 250/2013. (VII. 2.) Korm.

Governmental Decree No. 293/2013. (VII. 26.) Korm.

Decision of the Government No. 49/2001. (IV. 2.) Korm.

Decree of the Minister of Health No. 16/2002. (IV. 10.) EüM





SZÉCHENYI PLAN



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