



# Regulating Waste Management: National Experience and International Practice

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Received: 09/06/2020

Accepted: 26/09/2020

Published: 20/12/2020

## Abstract

The article analyzes legal changes in the field of municipal solid waste management in Russia and considers situations that have already arisen and will arise in the future in connection with the need to qualify certain acts as offenses under the new legislation. In this regard, the authors of the article became the first to identify the problems relevant to many former Soviet republics. They have developed solutions that can be used by countries that experience similar difficulties. To reform the above-mentioned sphere, it is necessary to introduce new actors into the field of waste management and, accordingly, into the area of legal responsibility in case of non-fulfillment or improper fulfillment of their duties. The article examines the responsibility, rights and obligations of the parties to such relations. The authors have concluded that the legislator should clearly define possible violations and types of their punishment. The article also pays attention to such parties involved in waste management as "landowners". However, the list of possible violators cannot be denoted in such a way since not all owners of land plots with residential real estate are full-fledged owners of these plots. Some of them lease land plots or have limited property rights. As landowners, they should be recognized as parties to relations in the field of municipal solid waste management. One more issue which is especially relevant for the former Soviet republics is to determine an entity responsible for the collection and removal of waste from land plots, whose ownership is unclear. The article claims that responsibility for cleaning the territory of a land plot should be assigned to local authorities at the location of this contaminated land plot.

**Keywords:** Industrial and household waste, legal responsibility

## 1 Introduction

The National Project "Ecology" is among modern projects implemented in the Russian Federation. Special attention is paid to the issues of waste disposal. The Presidential Council for Strategic Development and Priority Projects held a meeting on November 25, 2016 and stated that Russia had accumulated about 100 billion tons of waste. It covers an area of 4 million hectares [1], which is similar to the territory of the Netherlands or Switzerland (41,526 sq. km and 41,290 sq. km [2], respectively). The vast territory of Russia allowed neglecting the legal regulation of waste management for some time.

The Russian Federal Law "On Waste Production and Consumption" was adopted only in 1998. Until that time, these relations had been regulated by by-laws. Abroad, similar laws began to come into force between the late 1960s and early 1970s [3]. For example, there are the Solid Waste Disposal Act (the United States, 1965), the Waste Management Act (Japan, 1971) and the Waste Management Act (Germany, 1971) [4], etc.

Despite the long-standing legislative regulation of these relations, other countries have enough problems subject to scientific analysis. We studied several scientific works to consider

waste management in the context of systemic challenges that arise in the social and legal sphere of modern Russia. In this regard, we paid much attention to R.Z. Abdulgaziyev's articles that indicate the need to follow clearly defined legal policies based on constitutional principles of forming new legislation [5, 6]. The study conducted by M.V. Voronin and I.V. Przhilenskiy also emphasizes the importance of legal policy and new opportunities for using social and legal technologies in its formation [7]. E.V. Kasevich, G.Y. Atayan, O.N. Amvrosova, G.V. Stankevich and T.V. Kara-Kazaryan consider the wider implementation of such technologies [8]. The above-mentioned studies are of great importance since our hypothesis is that systematic imperfections of the Russian waste legislation are caused by the insufficient development of legal policy in this sphere of public relations.

On the one hand, we should take into account the opportunity to use the achievements of large international organizations in improving this legal institute. On the other hand, it is necessary to introduce the best national practices of other countries at the stage of interstate integration. While considering these options, we analyzed the scientific works of I.N. Klyukovskaya, E.Y. Cherkashin, R.R. Gabrilyan, V.Y. Semenov and R.K. Melekayev

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concerned with the theoretical and legal research of integration processes in modern states [9]. Within the framework of international economic integration, the legal issues of waste management are considered by many modern sciences. It is worth mentioning G.V. Calster's research on waste management laws in the European Union [10] and M. Grosz's study on solving "waste-related problems" in the legislation of the World Trade Organization [11]. We are interested in such studies as a methodological basis for implementing our innovative approaches not only in Russia but also in other countries within the Eurasian Economic Union<sup>2</sup>, with which the Russian Federation has developed close economic ties. The possibility of such implementation is the most significant hypothesis of our research from the viewpoint of its application in Russia and foreign countries.

Due to the relative novelty of the current Russian legislation and its ongoing amendment, this study represents one of the first attempts to analyze the corresponding problems and, therefore, can be called innovative. Its proposals are addressed not only to the Russian legislator but also to the former Soviet republics experiencing similar problems related to the legal regulation of waste management.

## 2 Methods

The Russian legislation in the field of waste management was seriously amended in 2014. However, it was also changed in 2015 and 2016. In this context, both the existing norms and the rules adopted in 2014 (some of them still ineffective) were subject to adjustment, which, unfortunately, became a stable trend [12]. On November 12, 2016, the Russian Government adopted Resolution No. 1156 approving the "Municipal Solid Wastes (Handling and Management) Rules" which entered into force on November 25, 2016. Firstly, these Rules supplement the Federal Law "On Waste Production and Consumption" and, secondly, specify and clarify a number of its norms.

That being said, this study is based on the analysis of new legal norms and the on-going process of forming law enforcement by analogy with the latest research in other areas of jurisprudence using the cross-sectoral approach [13]. We focus on dynamic changes in the current Russian legislation on waste production and consumption, which indicates the absence of a clear and well-defined state policy in this area that could serve as a reference for the corresponding legislation. Unfortunately, there is no such policy, which has given rise to inconsistency, inadequacy and contradiction in the newly adopted norms. Firstly, we determined these shortcomings and indicated their possible negative consequences in law enforcement. Secondly, we synthesized the norms in this area and brought them to a common standard. Therefore, we made an attempt to identify weak points of the Russian legislation on waste management to eliminate them. Thirdly, we developed our own technique of solving the existing and potential problems, trying to make it applicable to other countries at a certain stage of their economic integration with the Russian Federation.

When selecting sources, the authors have been guided by the current trends prevailing in modern legal science regarding the analysis of new legislation and the emerging practice of its

application. In addition, when writing the article, the authors have analyzed the classic works devoted to the legal regulation of production and consumption waste management in accordance with both the international norms and standards in this area and the laws of individual countries. These works allowed formulating the research strategy for a comprehensive and effective analysis of the changing legislation on waste management in Russia.

Thus, the chosen methodology was based on the method of functional analysis of the current legislation. When using this method, the studied norms were considered not from the point of view of the perfection of their legal technique or other theoretical characteristics, but from the point of view of their applicability in practice, the presence in them of the potential for abuse, their probable corruption potential and, possibly, incomplete correspondence to the structure of social relations that had developed in the area under consideration. The authors believe that it is the functional analysis that allows adequately assessing the efficiency of legal norms and developing proposals for their further improvement.

## 3 Results

Although the main amendments to waste management laws were adopted several years ago, the persons and entities involved are not ready for them either technically or financially. Several innovations have been put into effect; therefore, the activity or inactivity of the parties to these relations will be perceived as an offense by supervisory bodies. Such proceedings are already used in law enforcement system of other countries [14].

In the light of the foregoing, we can assume that such innovations will hinder the classification of offenses in the near future, as exemplified by dynamic legal changes in similar spheres [15].

### 2.1 Terms

The terms used in the relevant legislation are crucial for defining both lawful and unlawful behavior, i.e. the classification of offenses [16]. Legal amendments in the field of waste management affected the conceptual framework of the Federal Law "On Waste Production and Consumption", which happened in the past [17].

In addition, the understanding of waste has also changed. The waste generated by production and consumption was supplemented with the waste produced through the execution of work and provision of services. We found an example in litigation practice that demonstrates the importance of expanding the existing conceptual framework and the possibility of changing the classification of some offenses [5, 6]. We mean the Resolution of the Federal Arbitration Court of the North-West District of April 13, 2011 in case No. A56-46698/2010. According to the case, a limited liability company executed its contract and built access ways to the facility under construction but failed to dispose of the soil formed as a result of such work in the location established by the corresponding regulatory requirements.

The court considering this case canceled the previous judicial decision of the authorized body on holding the above-mentioned company liable for dumping the soil outside the designated place.

<sup>2</sup> This article was carried out with the financial support of the Russian Foundation for Basic Research, project 20-511-00015 Bel\_a "The legal issues of forming a unified and eco-friendly environment of member states of the Eurasian Economic Union".

It referred to the previous concept of waste and claimed that the soil was not produced and could not be recognized as waste. We do not aim at criticizing the court that could have regarded the construction of access ways as production and the extracted soil as waste. In our opinion, the new legislation refers such an act to the scope of the Federal Law "On Waste Production and Consumption". According to this document, waste is substances or objects that were formed not only in the process of production or consumption and lost their consumer properties, but also the ones produced in the course of providing services or performing some work, which is true for the situation we described above.

Next, we should pay attention to the new concepts introduced by the Federal Law "On Waste Production and Consumption" of 2014.

The most significant innovation is the introduction of municipal solid waste that replaced the category of "solid domestic waste". The new category comprises domestic waste generated during individual consumption, waste having a similar structure and waste generated by the activities of legal entities and self-employed entrepreneurs. At the same time, these types of waste cannot be considered as municipal waste. For example, it refers to the following components of municipal waste having a similar structure: expired products of trade organizations, public catering organizations and food markets that get such waste through the process of production, i.e. entrepreneurial activity.

The above-mentioned law unreasonably uses the term "waste disposal" but does not reveal its content. This term is mentioned three times in the document but it is unclear what stands behind this concept: the transportation of waste, its disposal, burial or the simple transfer of waste from the workshop where it was formed to the place of temporary storage [18]. We listed the stages and types of waste management (that have their own legal regulation); therefore, the term introduced by the law causes legal uncertainty. According to I.O. Prokhorov, this term was ineffectively borrowed from the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal of 1989 [19]. We believe that it should be excluded from the law in question.

The new concepts introduced into the above-mentioned law are as follows: "waste treatment" that includes the preliminary preparation of waste for its subsequent disposal, sorting, disassembly and remediation; "waste disposal facilities" that are represented by subsurface sites and underground structures for the disposal of Class 1-5 hazardous waste; "waste storage facilities" and "waste disposal facilities" that are facilities specially equipped in conformity with the legislation in the field of environmental protection, ensuring the sanitary and epidemiological well-being of the population and intended for the long-term storage of waste for its subsequent disposal, neutralization or burial; "product waste", i.e. waste formed after goods or their packaging lose their consumer properties in whole or in part.

However, not all of these terms and concepts directly affect the classification of such acts as offenses. Indeed, the new definitions indicate additional cycles (stages) of waste management. For instance, to hold someone liable under Article 8.2 of the Code of Administrative Offenses of the Russian Federation, the non-fulfillment or improper fulfillment of these stages of waste management should violate the requirements of environmental protection.

## 2.2 Liable parties

The law introduces several new liable parties into the field of waste management, namely, a regional operator for municipal solid waste management and an operator for municipal solid waste management. The first actor is a legal entity obliged to conclude contracts municipal solid waste management with the owner of such waste. The second actor is a self-employed entrepreneur or legal entity that collects, transports, processes, utilizes, neutralizes and buries municipal solid waste. The Federal Law "On Waste Production and Consumption Wastes" does not clearly distinguish between the concepts of "regional operator" and "operator" but it regulates the procedure for acquiring the status of a regional operator.

Decree of the Government of the Russian Federation of November 12, 2016 No. 1156 (as amended on September 15, 2018) "On the address with solid utility waste and modification of the Order of the Government of the Russian Federation of August 25, 2008 No. 641" comments upon these two concepts. According to this official document, a regional operator can manage waste in the prescribed manner both independently and with the involvement of other operators handling municipal solid waste. The existing regulatory acts indicate the relationship between these entities, i.e. a contract on collecting and transporting municipal solid waste. All these issues have not only legal but also social significance [20]. In the context of the Decree of the Government of the Russian Federation, there can be several operators and each of them can manage municipal solid waste using a different set of actions (some entities collect and transport waste, while the others bury and dispose of it, etc.).

Throughout the procedure for acquiring the status of a regional operator, executive authorities of the constituent entity of the Russian Federation conduct competitive admission, define the validity period of this status (at least 10 years) and the grounds for its revoking. In this regard, operators should own garbage trucks that meet the technical and safety requirements established by the Russian federal legislation. Regional laws further develop the provisions of the federal legislation concerning operators. For instance, Decree of the Government of Stavropol Krai of August 7, 2017 No. 315-p "On the establishment of the Rules for implementing the activities of a regional operator for municipal solid waste management in Stavropol Krai" mentions several types of operators. Some of them collect and transport municipal solid waste while others process, dispose of, neutralize and bury municipal solid waste.

Following the "Municipal Solid Wastes (Handling and Management) Rules", a regional operator is responsible for municipal solid waste management from the moment such waste is loaded into their garbage truck. If such an operator fails to complete all the subsequent stages of municipal solid waste management, this violation can be punished in accordance with Article 8.2 of the Code of Administrative Offenses of the Russian Federation.

A regional operator is also obliged to notify land plot owners of unauthorized storage of municipal solid waste. If the latter does not clean the site from waste or does not conclude an agreement with the regional operator for its disposal, the regional operator needs to eliminate the unauthorized dumping ground on its own and at its own expense and then take recourse upon the land plot owner. If the regional operator fails to comply with this legal requirement, it might be held administratively liable.

According to Article 19.8.1 of the Code of Administrative Offenses of the Russian Federation, if operators (regional

operators) for handling solid municipal waste fail to provide information or provide fraudulent information about their activities, do not publish any information or publish fraudulent information about their activities, they will be subject to administrative liability, which predetermines high information standards and severe legal regime of these relations. It seems that violations of this legal regime might also be associated with corruption, which shows them from a different and more serious criminogenic perspective [21].

Under the Federal Law "On Waste Production and Consumption", liable parties to property relations are "owners of waste disposal facilities", "persons possessing or using waste placement facilities" and "owners of dumping sites for accumulating solid municipal waste". Along with the owners of municipal solid waste, the current legislation refers to land plot owners and owners of premises in an apartment house. However, the issue of land plot owners as liable parties to relations in the field of municipal solid waste management should be considered absolutely and irrespectively. Until recently, housing and utilities agencies have tried to conclude agreements with land plot owners in the so-called non-public area. The majority of owners refused to conclude such contracts for the disposal of municipal solid waste. When housing and utilities agencies applied to courts and tried to coerce such persons to conclude contracts with them, the courts refused to satisfy their claims since civil legislation proceeds from the free will of the parties concluding contracts. If one party does not want to conclude an agreement, there can be no agreement on the disposal of municipal solid waste. Due to modern changes in the relevant legislation, courts will not be able to protect the owners of land plots and residential buildings located on them to conclude an agreement by authority of law. In case of refusal to conclude a contract for the disposal of municipal solid waste, the person generating waste might be held administratively liable under Article 6.35 of the Code of Administrative Offenses of the Russian Federation "Failure to comply with sanitary and epidemiological requirements when handling production and consumption waste".

While generally approving the current legislative changes on waste management, we believe that the number of parties has been significantly reduced. Not all owners of land plots with residential property located on them are the owners of these plots. Some of them lease land plots or have lifetime ownership with hereditary succession. Such property rights are typical of land plots located in the territory of resorts, where land plots with residential buildings positioned in the first and second zones of sanitary (mountain-sanitary landfill) control cannot be fully owned but are assigned to the owners of residential houses on the right of lease. There is a similar situation with residential buildings built on other land plots with limited land use rights or removed from the stream of commerce. The list of such land plots is indicated in Article 27 of the Land Code of the Russian Federation. A few more issues arise in connection with the public ownership of land plots and land plots without state ownership, as well as situations related to delegated powers. The most common problem is illegal dumping in the territory of field-protective afforestation, the so-called forest belts, i.e. forest ranges artificially planted on agricultural land. The first forest belts were created in the middle of the 20<sup>th</sup> century and played an important role in protecting fields from winds and maintaining the hydrological regime of soils. During the privatization of agricultural land in the early 1990s, forest belts were not included

in land property. As a result, they can be in different forms of ownership. Most of them are either owned by constituent entities of the Russian Federation or are not assigned to any constituent entity, i.e. the lands they occupy are not classified by the forms of public ownership.

It would be logical to assign responsibility for cleaning the territory of forest belts and other land plots to local authorities in cases where the ownership of land plots is not apportioned but it is necessary to dispose of waste (if the perpetrators of illegal dumping are unknown). This statement is based on the analysis of the relevant legislation: according to Article 3.1 of Federal Law of October 25, 2001 No. 137-FZ (as amended on August 3, 2018) "On the introduction of the Land Code of the Russian Federation", local self-government bodies are responsible for handling non-delineated lands. Therefore, they are recognized as the owners of such lands before the delineation of state property.

Until 2015, the Russian local authorities had to participate in organizing activities for the collection and transportation of solid municipal waste in the territories of the corresponding settlements. However, the current version of Federal Law of June 24, 1998 No. 89-FZ (as amended on December 25, 2018) "On Waste Production and Consumption" excluded such an obligation. Under Article 8 of Federal Law of June 24, 1998 No. 89-FZ (as amended on December 25, 2018) "On Waste Production and Consumption", local self-governments are currently responsible for the creation and maintenance of dumping sites for municipal solid waste, as well as determining the layout of dumping sites for certain types of waste and maintaining a register of such sites. According to Russian legislation, the executive bodies of public-law entities can exercise any type of activity related to budget financing only if this type of activity is assigned to this body as a legal obligation. Therefore, local self-government bodies are generally not entitled to dispose of waste even from the land plots they own.

Article 6 of Federal Law of June 24, 1998 No. 89-FZ (as amended on December 25, 2018) "On Waste Production and Consumption" states that the accumulation, collection, transportation, processing, neutralization, burial and disposal of municipal solid waste is included into the powers of constituent entities of the Russian Federation. Consequently, if illegal dumping is located on non-delineated lands, the responsibility for their liquidation lies with a certain constituent entity of the Russian Federation.

A similar rule is contained in Clause 7.2 of Article 26.3 "Principles of financial support for public authorities of a constituent entity of the Russian Federation exercising their powers on the jurisdiction of the Russian Federation and on the joint jurisdiction of the Russian Federation and constituent entities of the Russian Federation" of Federal Law of October 6, 1999 No. 184-FZ (as amended on February 6, 2019) "On general principles of organization of legislative (representative) and executive bodies of state power of the constituent entities of the Russian Federation".

The legal analysis of constituent entities of the Russian Federation in terms of imposing powers on executive authorities gives reason to claim that the liable party in terms of waste disposal on non-delineated lands should be housing and utilities agencies of the constituent entity of the Russian Federation. For example, this approach is confirmed by Sub-Clause 29, Clause 10.6 of Decree of the Government of Stavropol Krai of December 25, 2014 N 545-p (as amended on February 26, 2019) "On

approving the Decree on the Ministry of Housing of Stavropol Krai". According to this law, the above-mentioned ministry is entrusted with the power to accumulate (including waste sorting), collect, transport, process, neutralize, bury and dispose of municipal solid waste.

Thus, in case of waste non-disposal on non-delineated lands, the liable party should be an official from housing and utilities agencies of constituent entities of the Russian Federation entrusted with such a duty. If there is at least some clarity on non-delineated lands, then the status of state forest funds is ambiguous. The forests growing on these lands are in federal ownership but a significant number of powers have been transferred to constituent entities of the Russian Federation. However, the organization of waste disposal from state forest funds is not included in these powers and such powers are not delegated to the Federal Agency for Forestry. This power in relation to such lands should be recognized as "dropped out" [22].

As we have already noted, the power to dispose of waste from the lands of forest funds is not assigned to anyone. At the beginning of 2019, the Federal Agency for Forestry issued "The Clarifications on the elimination of illegal dumping with due regard to decrees of the Constitutional Court of the Russian Federation". They state as follows: firstly, cleaning forests from garbage, pollution and other negative impacts is no longer a sanitary and recreational activity and, accordingly, is not included in the body's obligations. Thus, the Federal Agency for Forestry disengaged itself from an obligation for disposing of municipal solid waste from forest lands. Secondly, these Clarifications indicate that this obligation is not delegated to constituent entities of the Russian Federation. Therefore, it cannot be exercised at the expense of subventions allocated for the implementation of delegated powers [23]. Thirdly, the current legislation does not explicitly regard the obligation of constituent entities of the Russian Federation to dispose of waste as a delegated authority but a constituent entity of the Russian Federation must fulfill this obligation.

In this regard, the Federal Agency for Forestry provides several arguments. According to Article 1 of Federal Law of January 10, 2002 No. 7-FZ "On Environmental Protection" (hereinafter referred to as "Federal Law No. 7-FZ"), objects causing environmental damages include territories where such objects have been identified and disposal facilities that serve as a source of the above-mentioned damages. A similar trend is common in other countries [24].

Clause 2 of Article 80.2 of Federal Law No. 7-FZ states that the elimination of environmental damages should be carried out by state authorities of constituent entities of the Russian Federation and local self-governments. Clause 4 of Article 80.2 of Federal Law No. 7-FZ claims that the procedure for eliminating environmental damages is established by the Government of the Russian Federation. In addition, the Clarifications indicate that the Ministry of Natural Resources and Environment of the Russian Federation has developed a draft resolution of the Government of the Russian Federation "On approving the Procedure for eliminating environmental damages".

Constituent entities of the Russian Federation establish their own practice of imposing administrative sanctions through the issuance of appropriate decisions by prosecution authorities to initiate administrative proceedings against forestry officials [7]. However, the disposal of municipal solid waste is not an obligation delegated to constituent entities of the Russian

Federation, whose implementation is not financed and not provided with any subventions, therefore, forestries are not entitled to eliminate unauthorized dumps. Since it is not clear how responsibility for eliminating environmental damages, including waste, will be distributed among different levels of state power, it is inadmissible to prosecute forestry officials. The Code of Administrative Offenses of the Russian Federation and Criminal Code of the Russian Federation contain several articles related to the violation of waste management rules [25].

There are two contradicting articles, namely, Article 6.3 and Article 8.2 of the Code of Administrative Offenses of the Russian Federation. Article 6.3 dwells on the violation of sanitary rules and hygienic standards that include waste management rules. Article 8.2 also refers to non-compliance with environmental and sanitary-epidemiological requirements for handling production and consumer waste, which is of great importance for protecting public health [26]. The relevant scientific literature notes that the content of Article 6.3 is common to the provision of Article 8.2. This fact might mean that Article 8.2 of the Code of Administrative Offenses of the Russian Federation is applied in case of violating the rules for handling municipal solid waste that infringe on sanitary and epidemiological requirements. In practice, courts apply both Article 8.2 and Article 6.3. If the application of both articles is within the jurisdiction of Rospotrebnadzor (the Russian Agency for Health and Consumer Rights), then environmental supervision authorities consider the cases covered by the disposition of only Article 8.2 of the Code of Administrative Offenses of the Russian Federation.

#### 4 Discussion

Indeed, the "Municipal Solid Wastes (Handling and Management) Rules" has introduced many norms related to the responsibilities of regional operators in the field of waste management. However, the existing legislation does not regard the failure to fulfill these obligations as grounds for convicting them of an administrative or criminal offense [27]. These Rules mention administrative responsibility only once and in relation to consumers keeping their municipal solid waste outside the designated places. At the same time, the analysis of the current situation shows a significant increase in cases related to the unscrupulous work of regional operators. They can avoid concluding contracts for the disposal of municipal solid waste and even impose unreasonably high tariffs, which is typical of not only Russia but also other countries [28].

In this regard, it is necessary to expand the current Russian legislation or provide clarifications regarding the possibility of holding regional operators liable. In our opinion, it is not enough to deprive them of their status. Their unscrupulous behavior deserves more severe government responses. The same practice can be recommended to the former Soviet republics, which is especially important in connection with their ongoing integration into the Eurasian Economic Union.

Other countries, including developed economies (for instance, the European Union), also experience similar problems. Thus, the imperfection of the Italian legislation on waste production and consumption has already provoked major crises, when public authorities did not fulfill their basic functions in this area and large cities drowned in garbage. Scientific papers analyzing crisis data rarely provide any solutions [10]. The European Union does not offer any ready-made solutions, simply banning the common disposal of household hazardous waste

(storage and rechargeable batteries, plastic items, etc.) and making its members form specific public-private rules of waste management enshrined in their national legislation [9].

The issues that Russia is facing in this sphere are also relevant for its neighboring states (for example, the Republic of Belarus, the Republic of Kazakhstan, the Republic of Armenia, the Kyrgyz Republic, etc.). If one of them develops an acceptable legislative and law enforcement model for improving the above-mentioned relations, the others can adopt it as well [11]. However, it seems that such models can hardly be developed at the level of international agreements (namely, within the framework of the Eurasian Economic Union) but rather in leading countries, whose role can be fulfilled by Russia. The rest of the countries that have close ties with Russia will be able to subsequently borrow and assimilate the solutions developed. A common solution to the disposal of production and consumption waste can become one of the most important criteria for effective interstate integration at the stage of forming a unified and eco-friendly environment of the Eurasian Economic Union.

## 5 Conclusion

The study has proved that the adopted legislation in the field of municipal solid waste management is relatively new but needs to be improved. It is necessary to clarify some of its terms, in particular, to dwell on the concept of "waste disposal". The Federal Law "On Waste Production and Consumption" and the "Municipal Solid Wastes (Handling and Management) Rules" contain a different list of liable parties in the field of municipal solid waste management, which is unacceptable. It is also necessary to clearly define the responsibility of the persons and entities involved in municipal solid waste management. In this regard, we need to determine public authorities responsible for the disposal of waste from lands regardless of their form of ownership – the practice already utilized by other countries [29]. We believe that housing and utilities agencies of the constituent entity of the Russian Federation should be responsible for performing such work. In relation to forest lands, the Federal Agency for Forestry should remove waste or their powers should be delegated to the constituent entities of the Russian Federation and enshrined in the relevant law. We hope that this study will be useful for lawyers and environmental experts who start to analyze the recent Russian legislation on municipal waste and its application. Unfortunately, dynamic legislative changes have undermined the relevance of earlier scientific works written on this topic and based on the outdated legislation. However, new norms are not effective and need to be improved. The conclusions drawn in this study can be used in the course of further legislative changes and new scientific works on this issue.

## Acknowledgment

We express our gratitude to the Russian Foundation for Basic Research for providing financial support in the preparation of this article within the framework of the grant project "The legal issues of forming a unified and eco-friendly environment of member states of the Eurasian Economic Union" (project No. 20-511-00015 Bel\_a).

## Ethical issue

Authors are aware of, and comply with, best practice in publication ethics specifically with regard to authorship (avoidance of guest authorship), dual submission, manipulation of figures, competing interests and compliance with policies on research ethics. Authors adhere to publication requirements that submitted work is original and has not been published elsewhere in any language.

## Competing interests

The authors declare that there is no conflict of interest that would prejudice the impartiality of this scientific work.

## Authors' contribution

All authors of this study have a complete contribution for data collection, data analyses and manuscript writing.

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