



*Available Online through*

**www.ijptonline.com**

**CONCERNING THE ENVIRONMENTAL MARKETING OF WASTE MANAGEMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT**

**M.V. Smolyagina<sup>1</sup>, A.A. Lubnina<sup>2</sup>**

<sup>1</sup>Kazan Cooperative Institute (branch) of the Autonomous Non-profit Educational Organization of Higher Education of the Central Union of the Russian Federation "Russian University of Cooperation", Department of "Economy and Innovation", Ershova Str. 58, 420081, Kazan, Russian Federation

<sup>2</sup>Federal State Budgetary Educational Institution of Higher Professional Education "Kazan National Technological University", Department of "Logistics and Management", Tolstogo Str. 3/31, 420081, Kazan, Russian Federation.

*Received on 04-03-2016*

*Accepted on 29-03-2016*

**Abstract**

The paper deals with the evolution of attitudes to waste and outlines the problems of introduction of the selective collection of waste in the Russian Federation. Typical mistakes of municipal authorities in the implementation of the municipal solid waste recycling project within the city have been analyzed. A sociological survey has been conducted, on which basis the guidelines on improving the separate waste collection system were provided.

**Keywords:** Waste, municipal solid waste (MSW) recycling, environmental tension, environmental marketing, sustainable development, environmentalization.

**Introduction**

Over the past decade, the worldwide growth of benefits of human consumption led to a significant increase in the volume of municipal solid waste (MSW). Annual production of MSW in Russia is about 35-40 mln. tons. 3-4% of the total production of municipal solid waste in the country undergo mechanized processing, the remaining 96-97% are disposed of at innumerable disposal sites and landfills, therefore having a very negative impact on the environment [1]. The decomposition substances pollute the air, contaminate and infect the open water bodies and groundwater.

All this is extremely unfavorable for both the environment and economic development. To ensure the proper quality of the natural environment it becomes relevant to develop the sphere of handling with municipal solid waste and the control system for such sphere that will ensure the minimization of waste production and a steady decline in their negative impact on the environment. Final consumers play key role in this system. In this case it is advisable to use

environmental marketing in the management of sustainable development of the municipal solid waste handling sphere.

**Methods:** The dialectical method was used in our study to isolate the objective prerequisites of the genesis of environmental marketing concept in terms of waste management. The questionnaire and interview survey method was used to identify attitudes of residents of large cities to the production, collection and disposal of waste.

### **The evolution of attitudes to solid waste**

Waste is an integral part of human activity. The problem of waste management originated in the times of the prehistoric people. However, human life in harmony with nature used to solve this problem by involving waste in the natural ecological cycle. When the waste completely filled the cave, the family started searching for a new home. The advent of the first cities and the urbanization development, increase in the concentration of people and their waste in a confined space has aggravated the situation. For centuries, the streets of major cities, even such of the economically and culturally developed Europe, were filled with feces of humans and animals, as well as with other debris. The turning point in the history of waste management was the late 18th and early 19th century. Due to the scientific discoveries, education of the population, and exacerbated problem of the increased life expectancy the movement of hygienists has gained popularity. It was headed by doctors, scientists, politicians, who paid special attention to the quality of food and water, as well as unsanitary conditions in the streets. People began to associate the degradable waste around the house and their stench with the rapidly spreading diseases.

Since that time, waste dumping on sidewalks and roads was prohibited. Both science and technology have contributed to the emergence of decontamination techniques. The cities were gradually provided with drinking water and sewage, and the waste collection and recycling has been organized.

The industrial revolution has exacerbated the problems associated with waste management. Their volume was constantly growing. The time of “production - consumption - waste production” cycle has also reduced. Consumers ceased to follow the age-old traditions kept by rural communities, and started carelessly handle with waste, renewing their clothes after the fashion, filling their house with trinkets and often changing their house interior. Manufacturers and traders encourage acceleration of the turnover, offer more and more new models with a large number of functions and features, thereby making previous ones quickly become obsolete, because the consumption in our affluent societies plays not only a utilitarian role, but must inspire a sense of security and nurture emotionally. Every Russian throws away daily about one kilogram of waste, which is about two times more than forty years ago. Nothing is

repaired now, but discarded. Things have become ephemeral and are considered outdated even when having served for a brief period. They fray, degrade and are withdrawn from use in the accelerating rhythm, while waste do not disappear anywhere. This mechanic - to produce for consumption and consume for the sake of production - contributes to the technological updating of the latter and increases its dynamism. Therefore, it is very difficult to slow down the increase in production and the bulimic consumption, although in some social groups there is a growing intolerance of such economic casus that incites senseless spending for the sake of enhancing the economic growth.

Thus, an increasing environmental intense strengthens the social responsibility of business. The introduction of green products to the business practices is a challenging task in the formation of a new culture of consumption. The consumer choice for green products and services plays an important role in supporting the environmentally responsible business and reducing the burden on the environment. However, even such green products, in case of their wasteful use and uncontrolled disposal, become a part of hazardous waste. A vivid example of the growing, ineffective consumption can be the data of the American non-governmental environmental organization "Natural Resources Defense Council" (NRDC). Every year in the US, almost half of the purchased products worth about 165 billion dollars goes to the trash. It is important to note that one of six Americans is on short commons. The same indicator in Russia, according to experts, is about 10%, while 20% of food products are fresh and suitable for consumption. Therefore, there is a problem of environmentally responsible consumption in all stages of the lifecycle starting from purchase and ending with disposal. "Responsible consumption" can be called the next frontier of environmental marketing, which is the preservation of the resources associated with the use of products, including the promotion of consumers to use only necessary things and that will ensure deliberate reduction in the amount of waste. Thus, a "zero waste" way of life must be developed. This means the acquisition of high-quality, eco-friendly goods and services from the environmentally responsible enterprises. Activities of companies implies a minimum degree of discharges, emissions and waste, as well as the efficient use of resources, including power ones, and the involvement of recycled materials in the production processes. Long-term use of the purchased goods, or their transfer to a third party for re-use, as well as the disposal according to their labeling and morphological structure. The movement of "sharing economy" becomes popular in the developed countries. Its members like saying that "green product is the one that already exists". Our country has the fairs for goods exchange, as well as websites for barter held under the same slogan. The Japanese, in connection with the acute problem of limited resources, adhere to the principle of "Mottainai", which literally means "nothing goes to waste". Careful attitude to the things and food is

instilled from the very childhood. Japan is the ancestor of the lean production system. The world famous company “Toyota”, according to an authoritative study in the field of sustainable development “Sustainability Survey”, is among the top three most sustainable companies in the world. At struggle for the preservation of trees and reduction of electricity costs, neither paper towels nor hand dryers are provided in the public toilets of the Land of the Rising Sun. So, every Japanese must have for this purpose his/her own reusable cotton handkerchief. Gifts are also packaged in a beautiful reusable cloth. The principle of “Mottainai” builds a sense of gratitude and respect to the resources into the entire Japanese culture.

In Sweden, where, as in many other Scandinavian countries, working the «Jante» principle operates, leaving an expensive car along the road in public is considered bad style. Tending to social stability and harmony, the Swedes try to destroy an attractive status of a “consuming person”. It is not surprisingly that Sweden today features the highest level of a sustainable way of life on the planet and has such brands as “Ikea” with its utilitarian designs and an impeccable style of long-lived “Volvo” automobiles. All this is of great importance for the development of the cult of the "simple" life.

In Canada, Chef Hunter Moyes, from Vancouver, inspired with the use of reusable food-delivery containers in India, has provided discounts to the customers who bring their own containers. The French have an old tradition to use the residues of bread and food for cooking a “soup of the day”.

In Russia, people has always adhered to the principle of non-waste production and consumption. The struggle for the environment and the city cleanliness began to fluster the Russians many years ago. In the time of Peter I, a decree was issued that set the standard of waste discard. This decree forbade to litter on the streets [2].

In the times of the Soviet Union, the country was undergoing powerful industrial changes, however, a significant emphasis was laid on garbage and waste disposal. There were uniform standards developed for the manufacture of bottles for soft drinks and milk. They could not be confused with each other, and even a small village had its glass collection point. In fact, environmental problems concerned each person at that time, because both students and academics returned bottles and scrap paper. Packing of piece-goods and in bulk were mainly in form of craft-bags and wrapping paper with a short decomposition period. There was an active process of collection and recycling of non-ferrous metals. Thus, secondary raw materials were collected and stored by four main directorates: Firstly, the Main Directorate for collection, storage, and processing of secondary raw materials (the Ministry of Light Industry). This organization carried out collection of secondary raw materials in the cities and villages.

Secondly, the Central Union of Consumer Societies. It carried out collection and utilization of waste in rural areas.

Thirdly, the Main Directorate for collection and storage, processing, and realization of secondary ferrous metals. (the Ministry of Ferrous Metal Industry). It carried out waste disposal at industrial enterprises, state farms, and the machine and tractor stations.

Fourthly, the Main Directorate for collection and storage, processing, and realization of secondary non-ferrous metals (the Ministry of Non-ferrous Metal Industry). It also carried out waste disposal at industrial enterprises and the machine and tractor stations.

It is interesting that most over-thirties people were raised on almost waste-free method of consumption, when a beautiful print dress, which served its owner for many years, turned further into excellent cloth for household needs.

The revolution in our consciousness occurred in the late nineties. With the improvement of the quality and standard of living, we started treating our waste products with negligence. We believe that everyone litters except for ourselves. Thus, going back to the level of primitive human cannot solve our waste problem, we just hide them and throw it away from our homes. We are not pleased to root throw our own garbage by sorting it. Psychologists argue that in order to change the attitude to the problem it is necessary to educate the next generation based on the new ideology. In this regard, it becomes unclear how the genetic rationalism and environmentally friendly farming could disappear from the public consciousness of Russians?!

We think that the whole point is that we reject as a nation our ancestors and their foundations. The Russian have been imposed that our history is totally wrong, and everything that had happened before is a mistake. We are moving away from our own identity and self-sufficiency, being fixed on the only sure way of the "western"-type development. However, one would do well to learn from us the responsible attitude to the environment and the global community. Today, every Russian produces daily almost a kilo less waste than an American. However, the psychology of consumer society is a way of life for many people.

Identifying attitudes of residents of large cities to the production, collection and disposal of waste. In order to identify attitudes of residents of large cities to the production, collection and disposal of waste, the authors have conducted the study using the city of Kazan as an example. Total 210 people were surveyed, mostly young men and women under the age of 35 years. The majority of respondents (76%) were at a loss to answer the question of how much waste they daily produce on average, and chose the minimum value of the proposed - a half of kilo a day. Opinions divided after identifying the loyalty to reduction in consumption, in order to improve the state of environment. 52% of respondents

are ready to buy items of higher quality at higher prices so as to enjoy them longer. However, 48% of respondents got used to diversity and fragility of household items, and do not see any direct relation of their increasing consumption and the impact on the environment. 70% of respondents gave positive answer to the question about selective collection of waste. However, 62% of them doubted that this principle would help to resolve the garbage problem. It was due to the fact that numerous experiments on the separate collection of waste have been already conducted in Kazan, but the whole sorted waste was further thrown again to the same landfill.

The issue of timeliness of separate collection of municipal solid waste in Kazan has gathered 80% of respondents, which indicates the understanding of the garbage problem in general.

An interesting fact is that Kazan citizens are sure that there is no waste recycling in their country. 58% of respondents answered that there is no sorting and recycling of waste in the Republic of Tatarstan, while 42% said that this process is at a satisfactory level.

44% of the respondents chose firstly education with a penalty scheme as the most effective measure for the integration of the selective collection of waste. Radically-minded respondents were 37%, who insisted that the only effective method is punishment. Adherents of only loyal measures such as the popularization and education were in a minority - 13%.

In many cities of Russia, in particular, Kazan, Moscow, St. Petersburg there were attempts to selective waste collection, but, unfortunately, these experiments failed. In that case, a common mistake of most such attempts was that they started with the installation of multi-colored containers for different fractions without any preliminary marketing research of the markets of secondary raw materials, or prepared ground for the subsequent sorting, or pre-sale preparation and sending to consumers. As a result, after filling these containers were exported by the same garbage truck for disposal, which is the failure of the experiment, moreover, it has a negative impact on the population's initiative for separate waste collection. Therefore, planning of introduction of selective collection in a particular region should start "from the end of the process chain towards its beginning".

The first step in the chain is to determine the available markets for each type of secondary resources. Then, a place of primary and pre-sale processing of raw materials should be organized. Such a place for secondary "dry" resources will be a conveying waste sorting complex (CWSC) with presses for baling of secondary resources. For "wet" biodegradable waste - an enterprise for aerobic fermentation (composting) or anaerobic fermentation (methanation) [1]. Only after completing all these steps, it makes sense to start the installation of special containers in households.

The main “PR-event” that best of all attracts people to participate in the selective collection is well organized separate collection process: beautiful garbage cans and container yard, and timely removal and proper installation of containers. And conversely, removal of separately collected MSW with general waste, or containers installed with their receiving slot to the wall or to the garden area have a huge negative effect [3].

According to the "golden rule", primarily, an explanatory and information activity should be carried out among janitors, management companies and drivers of garbage trucks, and supported by economic interest.

We also consider that media coverage of the implemented system should be kept a long time before the installation of special containers, in connection with the preparation of the population to future changes. Information must be made available to citizens at all stages, with well-organized and continuously maintained promotional activities. Leaflets, banners, and posters should be pasted quite locally, i.e. in the place of container installation. In addition, the implemented system should be widely covered through the media and outdoor advertising; speeches of influential government officials and TV-celebrities in support of recycling shall be equally effective.

Installation of additional containers for separate waste collection in schools and nursery schools will be a good educational measure that will have a positive effect in the future, since such obvious demonstration of separate collection can teach children to be responsible for the nature that surrounds us.

For better efficiency of MSW collection the citizens can be economically motivated. It is worth noting that this method has already been successfully implemented in Germany for a long time, where residents receive eco-vouchers for compliance with the rules of separate collection, which reduce payments for utilities or provide certain benefits. Introduction of such benefits in our country will only improve the proactiveness of our population.

Undoubtedly, the selective collection of waste has to be maintained at the governmental level, and therefore there is a need to change the federal law on waste. In addition, the transition to separate waste collection involves the revision and complication of the structure, tariff and information policy related to the handling of waste at all stages, starting from its collection to final product manufacture. Insufficient attention to governance matters (including ones at the legislative level) and coordination of the various services, both private and state or municipal, including the fair distribution of costs and benefits between the members of the system is the most common mistake of the local authorities [4]. This problem should be addressed gradually and the government should act as an initiator of these actions. Garbage is the concentration of valuable resources, which involvement in economic turnover instead of raw materials will allow changing the ecological situation in the country [5]. Addressing the social aspect of the problem

by involving various non-profit organizations in the project will accelerate the process of implementation and take it to a higher quality level.

## **Conclusion**

The problem of waste management seems indeed relevant in the light of the environmental situation in the country. Separate waste collection and sorting of municipal solid waste at the special facilities is a promising solution to the problem, as both dumping and incineration are the cause of the emergence of new threats to the ecological balance, and the concept of reusing, processing and, ideally, zero-waste production is most consistent with the concept of the city of sustainable development. The key to the successful implementation of the system of selective collection of municipal solid waste is a collaboration of the population and the state for its implementation.

## **Acknowledgements**

This article is published with the support of ANO "Kazan Open Talent University 2.0" on the results of the "Talent Cooperation" contest.

## **References**

1. Organization of selective waste collection. Methodological recommendations [Online resource]. - Access mode: <http://www.greenpeace.org/russia/Global/russia/report/2009/11/4043679.pdf>
2. Smolyagina M.V. Use of foreign experience in the improvement of the industrial and municipal waste management system in the Republic of Tatarstan / Sh.M. Valitov, M.V. Smolyagina // *Kazan Economic Bulletin*. - 2013. - No. 5, ed. 7. - pp. 8-12.
3. Smolyagina M.V. Implementation of environmental marketing and eco-labeling as a basis for the development of environmentally responsible business in the Republic of Tatarstan / Sh.M. Valitov, M.V. Smolyagina // *Kazan Economic Bulletin*. - 2013. - No. 6, ed. 8. - pp. 8-14.
4. Smolyagina M.V. Use of modern greening tools for production to improve the waste management system in the enterprises of the Republic of Tatarstan / Sh.M. Valitov, M.V. Smolyagina // *Kazan Economic Bulletin*. - 2014. - No. 5, ed. 13. - pp. 13-20.
5. A. Shinkevich, A. Lubnina, F. Galimulina. Concerning modeling of economic activities in the context of sustainable development of innovative high-tech mesoeconomic systems - *Bulletin of Kazan Technological University*. No. 13; Kazan National Research and Technological University - Kazan: Publ. house of KNRTU, 2013. - p. 300.