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Waste: The Experience Of Creative Approach, Innovative Suggestion And Practical Classification

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ABSTRACT

The article gives an innovative scientific definition of waste terms through a creative approach to the literature and assets. For the first time, a new classification was developed to take into consideration the waste created in emergencies, and its practical significance was revealed.

KEYWORDS

Waste, trash, commentary, literature analysis, innovative definition, situation, problem, creative approach, emergency, practical classification.

INTRODUCTION

According to the World Bank [1], by 2050, global human action will generate more than 70% of its waste compared to 2016. As of now, 13.5 percent of them are recycled, 5.5 percent are composted, and the rest cause noteworthy harm to the environment as a result of the accumulation or incineration of expansive zones of landfills. In order to diminish the impact of waste on the environment, reduce natural safety, and establish administration at distinctive scales (neighborhood, regional and global), the need to create a single logical premise for it can be demonstrated by the following simple case.

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For example, one of the essential requirements for science in sciences and science methodology is to characterize them scientifically to clarify the terms, abbreviations, or words used in them [2, pp. 25-33]. In our case, that is, the foremost commonly used terms within the science of "Garbology" or "Waste Science" are "waste" and "rubbish". At a look, these are synonymous words and terms that can be simply defined. Be that as it may, if you dive more profoundly into their meaning and observe them from a scientific point of view, you'll realize that it is a big problem that has not yet been solved and that it is a partitioned scientific field and branch of science.

THE MAIN FINDINGS AND RESULTS

An analysis of the literature and sources shows (Table 1) that although the terms "waste" and "rubbish", which are the most commonly used words in people's daily activities, do not appear in universally binding laws, encyclopedias, dictionaries, or scientific literature. They have the following problems with both terms:

- That they can occur only as a result of human activity, ie they are anthropogenic in nature;
- Neglect of wastes and wastes generated as a result of natural phenomena, processes and events that have a significant impact on the environment;

Table 1

Definitions of the terms "waste" and "rubbish" in the literature and Internet sources

Types	*Literature and sources*	*Definitions of the terms "waste" and "rubbish"*
1.	***Waste.*** Article 2 of the Law of the Republic of Uzbekistan "On Waste" of April 5, 2002. https://lex.uz/docs/42423. Declared 15.11.2019.	***Waste*** - a residue formed by raw materials, materials, sketches, other items or products in the process of production or consumption, as well as goods (products) that have lost their consumer properties.
		Rubbish - not defined.
2.	***Waste.*** Annotated dictionary of the Uzbek language. Volume 4 - Tashkent: "**State Scientific Publishing House of the National Encyclopedia of Uzbekistan**", 2008. – p. 497. https://www.ziyouz.com/ Published time 25.03.2018.	***Waste*** - leftovers from the use of the required part. In this case, the words waste and rubbish have become synonymous.
	Rubbish. Annotated dictionary of the Uzbek language. Volume 1 - Tashkent: "**State Scientific Publishing House of the National Encyclopedia of Uzbekistan**", 2006. – p. 120. https://www.ziyouz.com/ Published time 25.03.2018.	***Rubbish*** - sweeped and discarded, dirty items collected as a result of sweeping.

3.	***"W".*** National Encyclopedia of Uzbekistan. Volume 9. – Tashkent: "UzME DIN", 2003.	***Waste*** **-** not defined.
	"G". National Encyclopedia of Uzbekistan. Volume 1. – Tashkent: **"State Scientific Publishing House of the National Encyclopedia of Uzbekistan"**, 2000.	***Rubbish*** **-** not defined.
4.	***Waste.*** Definition of waste by Oxford Dictionary on Lexico ...www.lexico.com › definition. https://dictionary. cambridge. org/ dictionary/english/waste	***Waste*** - any items or useful parts of materials left over after use.
5.	***Waste. Rubbish.*** WIKIPEDIA. Free encyclopedia. https://ru.wikipedia.org/wiki. Date of publication. 4.10.2020.	***Waste*** - a substance or thing formed in the process of production, performance of work, provision of services or consumption.
		Rubbish - a category of human activity waste.
6.	***Waste.*** EUROPEDIA. Popular encyclopedic illustrated dictionary. - Moscow: "Olmapress", 2004. – p. 642	***Waste*** - an additional (secondary) product of personal activity that is useless at the place and time of its formation.
		Rubbish - not defined.
7.	***Waste.*** UNEP. Basel Convention on the control of transboundary movement of hazardous wastes and their disposal. Adopted March, 22. 1989.	***Waste*** - substances or things that are to be disposed of or intended to be disposed of or to be disposed of.
8.	***Waste.*** Lox F. 1994. Waste Management - Life Cycle Analysis of Packaging. Final Report. Vrije Universiteit Brussel, Vlaamse Instelling voor Technologisch Onderzoek, Belgian Packaging Institute, XI/A/4.	***Waste*** - a product from an industrial system or any substance or object that is economically "worthless" or used by a consumer for a specific purpose or that performs its function.
9.	***Waste.*** Pongrácz, E. 2002. Re-defining the Concepts of Waste and Waste Management: Evolving the Theory of Waste Management. Doctoral Dissertation. University of Oulu, Department of Process and Environmental Engineering. Oulu University Pres.	***Waste*** - something produced in a certain time and place, in its true structure and condition, which is not useful to the owner or is not the owner and has no purpose.

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- Consideration of the terms "waste" and "rubbish" as synonymous words;
- Incomplete understanding of both terms in normative legal documents, encyclopedias and dictionaries, which are generally accepted and are the main source for all;
- That the given definitions are not scientifically substantiated and that one denies the other, and so on.

First, the definitions of waste are purely anthropogenic in nature. Global, regional and national waste data are based on these definitions. For example, the Global Environment Facility (GEF) has been reporting on a project to use chemicals in the manufacturing process [3]. However, data on all types of anthropogenic waste is, for some reason, disseminated by the World Bank [4]. Data on waste in Uzbekistan are provided in the annual reports of the State Committee for Ecology and Environmental Protection in the section "Waste Management" on 8 indicators of anthropogenic activity [5, p. 4].

Second, waste and rubbish that are the result of natural phenomena, processes and events and have a major negative impact on the environment are being overlooked. After all, waste occurs not only as a vital activity of human society, but also as a result of processes and events taking place in nature. This is especially true for emergencies of a natural nature. For example, the eruption of "Merapi Volcano" on October 26, 2010 on the Indonesian island of Java alone, lava flows covered lands within a radius of five kilometers with natural waste. More than 50 million m3 of waste mixed with basalt powder and sand was released into the atmosphere. As a result of the natural disasters released into the environment, 347 people were killed, more than 400,000 people were evacuated, and aircraft flights on the island of Java were suspended for several weeks [6]. Thousands of tons of waste generated during these emergencies were also taken to landfills. Some were sent for recycling as a secondary resource; a certain part was disposed of. This natural situation had to use a single waste system. Because in no country is there a separate "waste storage", special recycling or disposal facilities for such natural emergencies.

Third, in some literatures, the terms "waste" and "rubbish" are considered synonymous. For example, Article 2 of the Law of the Republic of Uzbekistan "On Waste" does not define the word rubbish. Because legislators don't rule out the idea that both words mean the same thing. The same is true of the influential "EUROPEDIA". It is also repeated in "Popular Encyclopedic Illustrated Dictionary".

Fourth, the National Encyclopedia of Uzbekistan, which has the official power to reflect the definitions and concepts of the Republic, does not contain any comments on "waste" and "rubbish".

Fifth, the definitions given to both terms in the scientific, popular, and official literature are not scientifically based or one denies the other. The Explanatory Dictionary of the Uzbek Language describes it as "rubbish - filth collected as a result of sweeping". Waste generated as a result of multi-sectoral economic activities such as production, service, and construction is not taken into account at all. The examples given in it are based only on words taken from fiction.

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The only way out of the above problematic situation is to develop an appropriate management mechanism by scientifically based interpretation of the terms "waste" and "rubbish" and to reflect the objective existence of them, to classify and classify (statistical information) that allows evaluation.

Taking into account the above shortcomings, waste is a secondary product that has no direct (indirect) use in human life as a result of natural phenomena and the activities of human society and has a negative impact on the environment. Rubbish is the part of waste that cannot be recycled as a result of human activities.

These concepts are defined in terms of the generation (genesis) of waste, its condition for human society, and its safety. It is not possible to recycle all of the waste or it is a very time consuming process. Therefore, "waste" is collected as "rubbish" in order to ensure environmental safety in the designated area, device or warehouse.

The definition of the term waste allows to classify it [7, p. 179], that is, to classify according to the purpose set. We believe that this will be the primary priority to address the problem of waste education of the population (Nigmatov, 2014). Depending on the beginning of the waste, it is advisable to classify them as follows (Table 2).

In addition to D.L. Armand's opinion [8, pp. 2-45], in classifying wastes by genesis:

- Be able to meet the requirements of the methodology of philosophy;
- Goal-oriented;
- Scientific and practical significance;
- Non-return of separated groups;
- The naming of parts is expressed in a simple and fluent manner;
- We tried to follow the rules, to be able to study it methodically.

In classifying wastes by genesis (Table 2), we have separated them into two major parts - natural processes (or maybe, emergencies in which human activity is not ready for it) and wastes generated as a result of meeting the daily vital needs of human society. According to the law of the Republic of Uzbekistan, emergencies are divided into three sorts: man-made, natural, and ecological [9]. However, according to international standards, it is an axiom that crises happen not only as a result of man-made, but too as a result of human non-man-made exercises, and biological ones are both man-made and natural. Hence, within the proposed classification of wastes, we have isolated the squanders created in crises into natural, anthropogenic and blended sorts. In naming them, we found it expedient to incorporate not as it were the process that causes emergencies (e.g., volcanoes, seismic tremors, storms), but also the variables that lead to the formation of waste as a result of them.

In the classification table, "mixed" types of emergencies are separated into two types: natural-anthropogenic and anthropogenic-natural. March 11, 2011, a 9.1-magnitude earthquake within the Pacific Ocean triggered a torrent [10]. On the coast of Miyagi Prefecture, Japan, the world's third-largest economy, the tide rose to a height of 35 meters and shut down units 1-3 of the Fukushima nuclear control plant. Within 20 minutes, a million-strong city of Syondai was flooded and millions of tons of cinders were formed. More than 80% of this was within the form of rubbish.

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Even since there is no radioactive squander transfer location in Japan, the secure disposal or disposal of this "rubbish" is still the biggest issue. This type of waste started from a natural-anthropogenic, ie natural phenomenon, and through the catastrophe of man-made nuclear power plants, it led to the release of twice as dangerous waste (Figure 1). In this way, there are dozens of examples of the anthropogenic-natural waste era.

Table 2

Experience in classifying waste by genesis

WASTE				
Emissions as a result of emergencies				***Waste generated as a result of meeting the daily vital needs of human society***
Natural	***Anthropogenic***	***Mixed***		
		Natural-anthropogenic	***Anthropogenic-natural***	
Earthquake and destructive	Defense and security	Earthquake → Defense and Security	Defense and Security → Earthquake	Household
Drought and natural fire	Mining industry	Natural fire → mining industry	Mining industry → natural fire	Construction
Strong winds and devastation	Agriculture	Strong wind → agriculture	Agriculture → strong winds	Agro-industry
Floods and flooding	Transport	Flood → transport	Hydraulic engineering → flood	Heavy industry
Heavy rains and floods	Energy	Flood → energy	Livestock → flood	Light industry
Heavy snow and avalanches	Service and maintenance	Avalanche → service	Forestry → snow removal	Mining industry
Tsunami and devastationчили	Hydraulic engineering	Tsunami → hydraulic engineering	Economy → hot temperatures	Military operations and security
Volcanic and destructive, etc.	Urban development, etc.	Volcano → urban planning, etc.	Urban planning → drought, etc.	Tourism-recreation, etc.

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Fig. 1 Waste caused by the tsunami in the Japanese city of Syondai and the anthropogenic loss of the Fukushima nuclear power plant

Therefore, the possibility of generating four types of waste in emergencies ought to be considered in terms of their management. Because there is no country or region on Earth where emergencies do not happen and waste is not generated as a result.

CONCLUSION

In short, the scientifically based definition of waste terms and their classification in a way that takes under consideration the types that occur indeed in emergencies are vital to constrain of normative documents at the international and national levels, objective organization of economic action, accounting, evaluation, monitoring, forecasting, training for the relevant field, ensuring environmental security, social protection of the population, shaping people's awareness and culture, that is, it serves to set up global, regional, and local governance.

REFERENCES

1. https://datatopics.worldbank.org/.
2. Nigmatov, A. N., & Allanov, K. A. (2020). The Science Of Geographical Ecology: Problems And Solutions. The American Journal of Interdisciplinary Innovations and Research, 2(08), 25-33.
3. http://www.saicm.org/Portals/12/Documents/GEF-Project/Amalty-WS/ Agenda _Workshop_Almaty_RU.pdf
4. https://www.vsemirnyjbank.org/ru/about/annual-report#anchor-annual
5. National report on the state of the environment and the use of natural resources in the Republic of Uzbekistan (2008–2011). – Tashkent. "Chinor ENK", 2013. – p. 4. (Нацинальный доклад о состоянии окружающей среды и использоывнии природных ресурсов в Республике Узбекистан (2008–2011). – Ташкент:«Chinor ENK», 2013.– С.4.)
6. https://tass.ru/proisshestviya/692315
7. Class. Classification. A short dictionary of foreign words. – Moscow: "State Publishing House of Foreign and National dictionaries", 1952. – p. 179. (Класс. Классификация. Краткий словарь иностранных слов. – Москва: «Гос.изд иностр. и нац. словарей», 1952. – С. 179.)
8. Armand D.L. (1975) Landscape Science. – Moscow: "Science". – pp. 24-45. (Арманд

Д.Л. Наука о ландшафте. – Москва: «Наука», 1975. – С. 24-45.)

9. Law of the Republic of Uzbekistan dated August 20, 1999 "On protection of the population and territories from natural and man-made emergencies". https://lex.uz/docs/68564 (Ўзбекистон Республикасининг 1999 йил 20 августдаги «Аҳолини ва ҳудудларни табиий ҳамда техноген хусусиятли фавқулодда вазиятлардан муҳофаза қилиш тўғрисида»ги қонуни. https://lex.uz/docs/68564)
10. https://habr.com/ru/post/546898/ OlegSivchenko 14 марта 2021.
11. Waste. Article 2 of the Law of the Republic of Uzbekistan "On Waste" of April 5, 2002. (Чиқинди. Ўзбекистон Республикасининг 2002 йил 5 апрелдаги «Чиқиндилар тўғрисида»ги қонунининг 2-моддаси.)
12. Waste. Annotated dictionary of the Uzbek language. Volume 4. – Tashkent: "State Scientific Publishing House of the National Encyclopedia of Uzbekistan", 2008. 497-p. https://www.ziyouz.com/ Published time 25.03.2018. (Чиқинди. Ўзбек тилининг изоҳли луғати. 4-жилд. – Тошкент: «ЎзМЭ ДИН», 2008. 497-б. https://www.ziyouz.com/ Эълон қилинган вақти 25.03.2018.)
13. Rubbish. Annotated dictionary of the Uzbek language. Volume 1. – Tashkent: "State Scientific Publishing House of the National Encyclopedia of Uzbekistan", 2006. 120-p. https://www.ziyouz.com/ Published time 25.03.2018. (Ахлат. Ўзбек тилининг изоҳли луғати. 1-жилд. – Тошкент: «ЎзМЭ ДИН», 2006. 120-б. https://www.ziyouz.com/ Эълон қилинган вақти 25.03.2018.)
14. "W". National Encyclopedia of Uzbekistan. Volume 9. – Tashkent: "State Scientific Publishing House of the National Encyclopedia of Uzbekistan", 2003. («Ч». Ўзбекистон миллий энциклопедияси. 9-жилд.–Тошкент: «ЎзМЭ ДИН»,2003.)
15. UNEP. Basel Convention on the control of transboundary movement of hazardous wastes and their disposal. Adopted March, 22. 1989.
16. Lox F. (1994) Waste Management - Life Cycle Analysis of Packaging. Final Report. Vrije Universiteit Brussel, Vlaamse Instelling voor Technologisch Onderzoek, Belgian Packaging Institute, XI/A/4.
17. Pongrácz, E. (2002) Re-defining the Concepts of Waste and Waste Management: Evolving the Theory of Waste Management. Doctoral Dissertation. University of Oulu, Department of Process and Environmental Engineering. Oulu University Pres.
18. Nigmatov, A. N., & Ravshanova, N. N. (2020). Scientific Preschool Environmental Education And Training Research Methodology. The American Journal of Social Science and Education Innovations, 2(08), 23-31.