
Environmental Problem of Dirt Accumulation in Ukraine and its Impact on Labor Relations in the Sphere of Protection of Labor

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Abstract

The author raises an issue of the most serious environmental problems of modern Ukraine namely, catastrophic dirt accumulation in a worldwide context. Specific figures of this phenomenon and prospects as well as forecasts for near and middle-term outlook are shown. There has also been drawn a conclusion on real critical effect of a current situation on environmental safety and human health in Ukraine. The correlation between the increasing deterioration in the field of waste products of Ukraine and the necessity of normative strengthening of labor protection requirements (LP) has also been traced. It is recommended to pass a regulatory act on the issues of workers' labor protection in the sphere of waste disposal and to establish the Inspection, in a Gostrud structure, on supervision and control over the observance of ecostandards at landfills and waste disposal sites of all types which may have significant impact on the solution of many problems in this sphere and to improve ecological future prospects for the country.

Keywords: waste, domestic waste (DW), industrial waste (IW), solid domestic and industrial waste, hazardous waste, production and dirt accumulation, polymer waste, ecological crisis, waste industry, labor protection sphere

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INTRODUCTION

Rapid development of scientific and technological progress, industrial production in the last 200 years, significant increase in the number of population for the last 100 years (from 2 bn in 1927 up to 7,7 bn as of May 2019 (UN official site 2019), urbanization (in 2009, for the first time in human history, the number of urban population became equal to a rural one and amounted to 3,4 bn people (UN official site 2019) became catalysts of the avalanche-like increase in people consumption of industrial and foodstuff products. Together with the rise of consumption the production and dirt accumulation of industrial and domestic waste has also increased which called into being a new big environmental problem.

Global problem of dirt accumulation: statistics and forecast Implacable but impartial statistic data indicates that Ukraine in 2019, taking 18 place out of 60 the most ecological countries in the world explored, is the leading one in European continent at the rate of dirt accumulation in the number of unauthorized landfills

and its storing, in fact being in a state of a "waste" ecocatastrophe.

Legal implications of such a situation were displayed in labor relations in the sphere of labor protection where technical norms and orders do not meet state of affairs.

Prehistory of Waste Problem

In all fairness it must be said that negative ecological implications, as a result of production and dirt accumulation, are not a new phenomenon. It is enough to remember urban practice of medieval Europe when rubbish and sewage were thrown out of windows straight to the streets, which directly became one of the reasons for the pandemic of bubonic plague in XIV cen., killing 60 m. people. Strange as it may seem but by doing so the environment was practically not damaged as far as the waste was mainly of organic origin and decomposed very quickly.

The date of modern waste birth (waste of consumption and production) is assumed to be XIX cen., which is the period of emerging and spreading the manufactory and factory mass-

producing. Moreover, industrial plastic was invented and started to be produced in 1855.

A new stimulative steep turn happened in the history of the problem the mid XX cen. namely, the emergence of a so-called “waste immigration”. This is the export of industrial and domestic waste from the territory of Europe to Third World, first of all, to Africa for persistent storage. Taking into consideration that in European countries the cost of hazardous waste disposal can amount up to \$5 000 US per 1 t. the export to Africa costs \$10 US, such an approach is extremely economically sound for Europe. As a result there have appeared real African “waste cities”. The biggest landfill of lost clusters in the world is Agbogbloshie, Ghana (accepts about 200 000 t. of waste annually), a colossal landfill in Lagos, Nigeria (contains no less than 66 000 t. of waste, one fourth of which is toxic for the environment) and others (Nelechepriyatnaya Pravda ob exporte vusora v razvivayushiesya 2018).

Oppressive Statistics

It is necessary to say that full statistic data on this issue on a global scale, in spite of its social urgency and public importance, has emerged recently. By virtue of patent negative resonance of a state problem where intergovernmental and supergovernment organs try not to advertise facts and figures. Thus, EU system statistics on this issue appeared only in 2006 with the passing of the European Waste Catalogue.

According to the data of the United Nation Environment Program (UNEP), humanity produces more than 3,5 million t. of solid waste everyday (in mid. XX cen. this figure was ten times smaller). Whereas China, the most populated country in the world, produces 0,5 million t. (The official site of UNEP 2019). In accordance with the information of United Nations Economic Commission for Europe (UNECE) the formation of solid domestic waste (SDW) in the world exceeded 2 bn. t. in 2007 and the annual growth rate reaches 7% (The official site of UNECE 2019). This rate was almost 260 m. t. in EU-27 in 2007.

In this context the significant fact is the Synthesis report of the European Environmental Agency “The European Environment: State and Outlook 2015”, where it is clearly pointed out that “economic growth and consumption appeared to be stronger determining factors for waste generations than all the initiatives and measures to stop it” (The European Environment: “State and Outlook 2015).

The illustrative example of a negative urbanization effect on a world environmental problem of waste is the presence of the biggest landfills in some economically developed countries. Thus, the biggest in Asia and the most expensive landfill in the world namely, Xingfen (about 8 thousand t. of rubbish are exported there annually), is in Guangzhou, China. The scrap-heap area of 110 ha in Hong Kong namely, West New Territories accepts up to 15 thousand t. of rubbish daily. The landfill site Deonar in India (Mumbai), the area of 132 ha at the most estimated rate of waste acceptance of 2 thousand t. of rubbish processes 8 thousand t. of waste daily which led to the emergence of 30 meter waste heap as well as to critical stocking of methane and to a fire in 2016 (On approval of the National Waste Management Strategy in Ukraine by 2030. Rozporyadzhennya Kabinetu Ministriv Ukrayuni vid 8 lyustopada 2017). World cities exported 2,01 bn t. of solid waste (in terms of every citizen of the world it is 0,74 kg) in 2016.

More oppressing ecological implications are expected as a result of waste pollution of the World Ocean. One of the biggest scrap-heap in the world is the one created in North Pacific Ocean where mainly plastic and industrial waste is accumulated. The area of this “Velikogo tichookeanskogo musornogo pyatna” has been estimated to be almost equal to the area of Texas, USA. But recent research estimates its area to be from 700 thousand up to 15 m. km, it is about 8% of the total area of the World Ocean (Ogarkova and Shvedov 2017).

Polymeric material, the main material is plastic, has been the leader of the total amount of waste. According to some scientific data 8,3 bn of plastic, 6,3 bn of which is now rubbish, was produced in 2017 where 79% of waste are at landfill sites or in the environment (Sem’ graphicov ob’yasnyayushich pochemu plastic v oceane eto plocho 2017).

Unfavorable Forecast

In accordance with the research of the World Bank by 2050 the worldwide number of waste will rise up to 70% in comparison with 2018 and will amount to 3,4 bn t. (Official Website of the World Bank 2018).

This unfavorable forecast is supported by other international authoritative environmental organizations. Thus, Ecological Network “Zoe” and UNEP/GRID-Arendal (Norway) think that more than 13,1 bn t. of rubbish will be collected daily (which is 20% more than in 2009) by 2050 (Vital Waste Graphics 3 2012). Only in China waste production may rise to 1,4 m. t. by 2025. Thus, it is anticipated that between 2025

and 2050 South Asia and India will be the leading countries, whereas after 2050 countries situated to the South from Sahara, will produce about 3,2 m t. of waste daily which is almost one third of the worldwide volume.

The persistent tendency of the problem will be the increase in waste generation in cities where, according to the forecast, will live up to 70% of population by 2050.

Implications for the Environment

1. Biological and chemical pollution of soil as well as flora and fauna types dependent on it as a result of scrap-heap areas increase: anaerobic decomposition of organic waste, critical methane storage and the greenhouse effect.

2. Air pollution as a result of toxic chlorinated release (first of all dioxins and furans) and heavy metals produced while burning polymeric material. As a consequence the ozone layer destruction and the appearance of acid rains.

3. Pollution of the World Ocean and the extinction of the ocean flora and fauna.

Thus, statistics and scientific research directly point out that the production of waste and dirt accumulation even today constitute one of the most dangerous environmental problems which are able to be the reason for the ecological crisis with the most serious consequences for a man and the nature in a medium-term prospect.

The Problem of Waste in Ukraine as the Ecocatastrophe: Facts and Prospects

Facts

Pragmatic assessment of ecological and socio-economic threat by the production and especially by dirt accumulation is deteriorated by the absence of the official statistics on this issue in Ukraine. The unpopularity of the issue, (it is enough to remind of the epic with the "waste migration" from Lviv to other country regions), complicates the analysis of state facts. The profile environmental authority sporadically operates with the number of 35-36 bn t. of waste accumulated which composes of more than 50 thousand t./km² or more than 750 t. per one person in a specific figure. But at the same time annual production composes of 670 to 770 m t. or 15-17 t. per one person according to the Ministry of Ecology and Natural Recourses of Ukraine (The official site of the Ministry of Ecology and Natural Resources of Ukraine 2019).

Only These Figures allow to Tell about Ukraine as about one of the Most Environmentally Busy EU Countries

In accordance with the scientific and public health organizations data about 4 bn t. of contaminated flows come into water bodies of the country annually (Golovni pryuchyunny i dzherela rozvitku ekologichnoi krizhi 2015). This miser but horrifying statistics reveals one of the most important actual Ukrainian aspects of a waste problem namely, much of the unutilized waste forms hazardous waste in our country. **According to the official statistical report on the volume of hazardous waste Ukraine surpasses Europe and Russia taken together.** European sources attribute Ukraine to the main world producers of hazardous waste (Vital Waste Graphics 3 2012). Domestic experts claim that in the total amount of waste there prevails rubbish produced while mining and the enrichment of natural raw material as well as waste of chemical and metallurgical processing of raw material (Il'chenko and Machit'ko 2015), the storage of which in the form of waste banks, scrap-heaps and landfill sites occupy about 160 th. ha.

According to the data cited in the National Waste Management Strategy in Ukraine by 2030 the volume of produced solid domestic waste, in 2016, amounted to 49 million m³ or about 11 million t. The waste production indicator in average amounts to 250-300 kg per one person and has a tendency to rise. Only 5,8% of waste were processed and other 90% were located at 5470 landfill sites and scrap-heaps in 2016. But at the same time about 27 thousand of unauthorized scrap-heaps are created annually. In 2015 the volume of industrial waste (IW) was 312 million t. The total amount of accumulated hazardous waste was 5 bn. t. (8,5 thousand of which are especially hazardous chemical waste of plant defenders). The amount of saving wastes from among long-decaying polymers is 600 thousand t. (On approval of the National Waste Management Strategy in Ukraine by 2030, 2017).

Last figures uncover the main problem namely, the uncontrollable dirt accumulation at the official landfills as well as at the unauthorized scrap-heaps. Only first ones occupy the areas equal to Khmelnytskyi Oblast in Ukraine. Nobody has ever calculated and knows the real scale of landfills to date.

Perspectives

As of today policy documents, aimed at changing the situation with the waste in Ukraine (the National Waste Management Strategy in Ukraine by 2030 (2017) and

the National Waste Management Plan by 2030 (2019)), are actually not being fulfilled.

The rate of producing and dirt accumulation in Ukraine, raising tendency landfills self-creation as well as actual self-abolition of the state from these problem-solving, in all probability, allow to tell about the approaching environmental disaster and ecological crisis.

The impact of the problem on dirt accumulation and labor relations in the sphere of labor protection

The critical situation in the sphere of dirt accumulation and waste processing of Ukraine has to be legally compensated with the increased labor conditions (LC) of workers busy in this sphere. But is it correct?

The basic law shows the public policy and state approaches to this problem (by the way, one of the first laws adopted in Europe by Ukraine) namely, the Law of Ukraine "On Waste" 187/98-VR from 1998 (with amendments and additions). Being juridically a basic one, this law does not almost contain any specific direct norms dealing with labor relations of the workers busy in this sphere. In fact, one similar normative requirement is contained in paragraph 14 article 34: "K obrasheniyu s opasnyumi otchodami dopuskayutsya litsa kotoryue imeyut professional'nyu podgotovku svidetel'stvom (sertificatom) na parvo raboty s opasnyumi veshstvami i ne imeyut professional'nyuch protivopkazaniyu. Doposk rabotnikov k rabote obespechivaetsya sootvetstvuyushim dolzhnostnyum litsom predpriyatiya echrezhdeniya organizatsii" (The Law of Ukraine "On Waste", 2018).

Other legislative acts which are included in The Law of Ukraine "On Waste" do not consist of any concrete things on the issue of labor relations and other legislative acts namely, "Ob ochrane okruzhayushei prirodnoyu sredyu", "Ob obespechenii sanitarnogo I epidemicheskogo blagopoluchiya naseleniya", "Ob obrashenii s radioaktivnyumi otchodami", "O zhilishno-komunal'nyuch uslugach" and others. It is important to point out that such state of affairs is not a deficiency of law. For the Law of Ukraine, as a part of the European continental legal system, it is typical to make regulations which are not directly connected with the main juridical subject of the law in different (special) legislative or normative-legal acts. By the way, we also did not find any labor regulation norms in similar laws of Member States of the European Union.

Normative-legal acts (NLA) of Ukraine contain more specific regulations on this issue.

Thus, in the Requirements of maintaining the landfills of solid household waste adopted by the Order of the Ministry for Regional Development, Building and Housing of Ukraine № 435 from 01.12.2010 the whole VIII part is devoted to labor protection. **But we have not found any specific or reinforced measures in this direction connected with the catastrophic state of domestic branch of storing and waste processing.** In fact, normative requirements fully meet the standards of LP for the low and high dangerous rates according to the Law of Ukraine "On labor protection". Trebuet'sya provedeniye attestatsii rabotchich mest tam gde susshestvuet potentsial'naya ugroza zdorov'yu rabotnikov (p.8.2.); personal poligonov dolzhen proyiti neobchodimyye vidyu instructazhei po OT (p. 8.5.) I sootvetstvuyushiy medichinskiy osmotryu (pp. 8.4 i 8.9.); dlyu raboty s opasnyumi vidami otchodov predusmotrena spechodezhda (p.8.8.) i t.p. (Nakaz Ministerstva 2014).

Another important rate of insufficient state attention to the problem of labor protection in the sphere of storing and waste processing is the lack of inspection and control effective system. By the Government Regulation as a result of merging of Gossluzhbyu gornogo nadzora and Gosinspekchiya po voprosam truda a new executive body namely, Gosudarstvennaya sluzhba Ukrayuni po voprosam truda (Gostruda) was created. But normative functions of this subdivision are written out imperfect and inefficient and the real situation with the control in the sphere of waste allows to sign a nominative character of the function fulfilment.

CONCLUSION

The modern situation with the waste in Ukraine is critical and close to a real environmental disaster. Main reasons for such state of affairs are following:

- the lack of appropriate state attention to the problem and formal character of the measures taken;
- the production of a huge amount of dangerous and specially dangerous industrial wastes without meeting modern ecological standards and requirements;
- the outbreak of unauthorized landfills and the absence of modernization of landfill sites for solid waste storage.

If to continue these reasons in a middle and long-range perspective wholly it is possible to cause irreparable damage to the ecosystem and human health in Ukraine.

The labor protection problem of these sphere workers in a result of deterioration of labor conditions requires a separate approach. With a view to it there are seen the following measures:

1. To adopt a single NLA on the issues of LP of waste industry workers, at the legislative level (most probably the order of Gosudarstvennoi sluzhbyu Ukrainyu po voprosam truda.

2. To create a separate branch in a structure of Gostrud, at the organizational level – the Inspection on supervision and control over the observance of ecostandard at landfills for storage and waste disposal sites of all types.

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