Public administration of economic and ecological urbanization consequences

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Urbanization is main demographic issue measured with relative terms: population increase and decrease, international migration. Nowadays, more than half world’s population lives in cities. Ukraine is a part of world’s urbanization processes, even if the positive dynamic does not exist. This is due to lack of investigations those processes, the gap between the world agenda and the processes of public policy formation and implementation in Ukraine in various fields, as well as a number of other factors, both internal and external, which in turn provoke a certain amount of risks and threats. The totality of the consequences of urbanization processes form before the domestic system of public administration several problems, the solution of which in the future is the key to respecting the rights and freedoms of people and their safe coexistence.

The key urbanization trends in Ukraine and around the world. The urbanization issue is the subject of research and activity by some organizations, such as the United Nations, the Central Intelligence Agency and the International Bank for Reconstruction and Development. The Organization of Union Nations conducts the investigation of the urbanization’s pace and dynamic processes in the world and highlights the data in World Urbanization Prospects: The Revision.

The urbanization development processes are caused by several prerequisites, factors and factors that relate to different spheres of human life, but it is undeniable that urbanization is primarily a consequence of the human civilization development. The rapid urbanization processes began in the 1950s, but it should be noted that those processes are often uncontrolled and require a detailed investigation of their condition, identification of trends and risks that may arise.

Key words: world’s urbanization processes; public administration; ecological urbanization consequences.
Table 1. The stages of urbanization processes in the world

<table>
<thead>
<tr>
<th>The period</th>
<th>The characteristic features of the period</th>
<th>The city type</th>
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<tbody>
<tr>
<td>1. Neolithic - second half of 18 century.</td>
<td>- the slow economical growth; - the low rate population consumption (at the level of the physiological minimum); - the population growth is slow; - the social and spatial mobility are practically absent; - the urban population growth at 0.5-1% over the centuries</td>
<td>Pre-industrial city</td>
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<td>2. Second half of 18 centuries - 1900's</td>
<td>- the accelerated economic growth; - the population growth; - increasing the quality and living standards of the population - the agricultural mechanization; Between 1700 and 1800, urban population growth reached 2.3%. Since 1800 to 1900, growth was 9.1%</td>
<td>Industrial city</td>
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<tr>
<td>3. 1900's-1950's</td>
<td>- the steady economic growth; - the population growth slowed, but the urban population continued to grow rapidly; - the high level of social and spatial mobility; The urban population growth in the period since 1900 to 1950 was about 13%</td>
<td>Postindustrial city</td>
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<tr>
<td>4. 1950's- till nowadays</td>
<td>- the intensive urbanization processes beginning; - in the period from 1950-2020 the share of urban population is 26.16%</td>
<td>Modern city</td>
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The urbanization issues and urbanization processes consequences. The totality of consequences of urbanization processes should also be understood, along the general tendencies urbanization development processes in the world and Ukraine. The urbanization development tendencies cause the following consequences:

1. The rapid growth of urban population density leads to problems of overcrowding and lack of affordable housing for the new middle class.

2. The urbanization can increase social inequality. The monetary capital will be concentrated in the cities and resulting in an uneven distribution of capital.

3. The infrastructure development won’t confirm to the rapid cities’ growth or population needs’ growth. The Organization for Economic Co-operation and Development estimates that the state will spend about $ 71 trillion by 2030 to provide adequate global infrastructure for electric supplement, roads and rails telecommunications and water supply.

4. The intensive urbanization can lead to the poverty problem along with the inability of local authorities to provide services to all residents.

5. The air pollution, low water quality and its inaccessibility, waste management and high energy consumption will be actualized according to increasing population density and increasing needs in an urbanized environment. It can also cause natural disasters and catastrophes.

6. The environmental pollution can lead to great amount population diseases appearing. Moreover, pathogens are more likely to "migrate" from one city to another with the
likelihood of large-scale outbreaks of infection, in today’s hyper-connected world.

7. The urbanization development, overcrowding, poverty and limited social services lead to other social problems such as violence, drug addiction, and increasing crime rates.

While designing public policies to eliminate and / or minimize the negative impact of urbanization processes and to ensure sustainable development in the current environment, the following factors should be taken into account. Considering the trends of urban population growth decrease the total population in Ukraine, the concentration of the most urban dwellers in cities with a population of up to 300,000, the enlargement of cities causing urban sprawl, etc., there are also a number of consequences that can cause stagnation areas such as: country’s economy, social status, environmental status, etc., which in turn will act as objects of public administration.

The urbanization and sustainable development. Urbanization development is connected to evolution of human economic activity, because the expansion of volumes and differentiation of activities of economic agents is, first and foremost, an opportunity to satisfy their needs, which causes the concentration of population around economic centers. The rapid pace of industrial expansion production for several decades in the mid-twentieth century, caused the development of the world economy and the society economic well-being improvement. Instead, such changes have exacerbate global environmental degradation problems, natural resources depletion and climate change, which in turn marked the 21st century, as a period of global environmental crisis [8].

The urbanization are affecting all social life systems, but they are most acutely observed in social, economic and environmental systems. The global trends of population growth, urban enlargement, natural depletion resources, social inequality increasing, inability to meet the needs of existing tools, etc., lead to the search for new management models and thinking philosophy change.

The current Sustainable Development Concept and the 2030 Sustainable Development Goals envisage action to end poverty, protect the planet and ensure peace and prosperity for all people in the world and set a global agenda. Seventeen Sustainable Development Goals are directly or indirectly aimed at avoiding / minimizing the effects of urbanization processes from the social standpoint, economic and environmental equilibrium. As outlined in the 2030 Sustainable Development Goals [1], in particular in Description 11 of the Sustainable Urban and Community Development Goal, “more than half of the world’s population lives in urban areas. By 2050, that number will grow to 6.5 billion people, or two-thirds of all humanity. Sustainable development cannot be achieved without substantially transforming how we build and manage urban areas. The rapid growth of cities in developing countries, coupled with increased migration from rural to urban areas, has caused a boom in metropolitan areas. In 1990, there were 10 metropolitan areas with a 10 million population or more. In 2014, there were 26 metropolitan areas with 453 million population. The rural poverty is often concentrated in urban areas, and it is not easy for national and urban authorities to accommodate population growing in such areas. The safety achieving and sustainable urban...
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- health and well-being (ensuring a healthy lifestyle and promoting well-being). The circular economy, aims to promote organic products and eco-products. The circular system, which provides for the waste recycling and the use of eco-materials, ensures a minimal adverse impact on the environment and the life of each individual, unlike linear economy products;

- quality education (providing inclusive and equitable quality education and promoting lifelong learning). The gender equality (ensuring gender equality, empowering all women and girls). Peace, justice and effective institutions (promoting a peaceful and open society for sustainable development, ensuring access to justice for all and creating effective, accountable and participatory institutions at all levels). The savings achieved through the transformation of the economic system to a circular type allows to invest in other projects that ensure the achievement of sustainable development goals;

- clean water and sanitation (ensuring availability and rational use of water resources and sanitation for all). Full recycling and recycling as a basis for the circular economy is the key to minimizing harmful emissions, polluting the planet's water resources and maintaining overall sanitation, and rational consumption of resources, including water, is a fundamental position of the circular economy;

- accessible and clean energy (providing access to inexpensive, reliable, sustainable and modern energy sources). Landfill waste, in circular economy cycles, can become an inexpensive and sustainable source of energy;

- decent work and economic growth (promoting sustainable, inclusive and sustainable economic growth, full and productive employment and decent work for all). The introduction of the circular economy system implies the creation of a new sector - the manufacturing industry, which in turn promotes job creation in particular and economic growth;

- industry, innovation and infrastructure (creation of sustainable infrastructure, promotion of inclusive and sustainable industrialization and innovation). The circular economy envisages the creation of a rational infrastructure, where innovation in product development will be ensured, and the industrial sector will be systematically serviced with minimal use of input raw materials;

- reduction of inequality (reduction of inequality within and between countries). Construction of a new economic system of circular type, creation of new jobs will allow to reduce the share of the unemployed, which, in turn, is partially solve inequalities caused by urbanization processes;

- sustainable cities and communications (ensuring openness, security, sustainability and environmental sustainability of cities and towns). The rapid pace of urbanization causes environmental problems in terms of the accumulation of waste and harmful emissions into the atmosphere, which, in turn, violates the resilience of cities and towns. The realization of the circular economy will help to reduce not only industrial waste but also consumer waste; production of organic products and eco-products (ensuring transition to rational consumption and production models).

The concept of circular economy is an alternative and rational model of responsible consumption and production;

- climate change (taking urgent action to tackle climate change and its effects). Climate change, the depletion of natural resources are the impetus for a radical change in existing economic systems. The circular economy is a fundamentally different concept that slows down the rapid rate of degradation of the planet and, as a consequence, solves global problems;

- underwater life (conservation and sustainable use of oceans, seas and marine resources for sustainable development). Land life (protection and restoration of land ecosystems and promotion of their rational use, rational forest management, desertification, cessation and reversing (deployment) of land degradation. Rational use of natural resources, their conservation, through the recycling of industrial waste and waste change in awareness of the use of things and the consumption of goods is a key factor that will ensure the sustainability of development and preservation of underwater life and life on earth. The land degradation concerns, including those caused by inefficient waste management policies that have led to their critical accumulation and landfill use, can be addressed through recycling, which is one from cycles of economic system of circular type;

- Partnership for Objectives (Strengthening the implementation means and Global Partnership for Sustainable Development activation) the realization of the circular economy at the international level will enhance cooperation not only among states but also between companies operating in the world arena by building relationships between them to provide cycles that are relevant to sustainable development interests.

Public Administration of the Economic and Environmental Consequences of Urbanization: Forming and Implementing State Circular Economy Policy. Public administration of urbanization processes, the need to formulate and implement public policies in the economic and environmental sphere are a consequence of humanity's inability to meet the growing population needs through the use of natural resources. Public policy is essential consequence of the awareness of the government and the government in particular, as well as of the population as a whole, of problems that threaten the development of the country and society and require their immediate resolution.

According to data from the National Institute for Strategic Studies [7]“In Ukraine, there is practically no single consistent state policy on greening the economy, which envisages the introduction and implementation of the principles of rational use of nature and minimizing the negative impact on environmental objects in carrying out anthropogenic activities. Analysis of the dynamics of absolute and integrated indices of technogenic load on the environment shows that the ecological situation in the natural environment, as a vital environment for human existence, remains quite complex.”

The problem of public policy in the sphere of circular economy lies in the prerequisites for the formation of the very concept of economic model of circular type. An alternative circular model of the economic system is the answer to finding tools for solving economic and environmental problems and ensuring social development. Awareness of the problem of public policy of the circular economy in particular and in the field of sustainable
development in general has taken place in almost all countries of the world and their leaders, which essentially led to the formulation of the problem of global policy for ensuring sustainable development. After all, at a number of global meetings to address global issues in the field of sustainable development, the Heads of State have pledged to pursue public policy in certain areas.

The problem of public policy in the sphere of circular economy is a system of three interrelated problems:

- the problem of inefficiency of the linear model of production, which consists in changing not only the process of "raw material-production-waste", but also the need to move to a sustainable model of production and consumption, dictated by the following two problems;
- the problem of resources, which lies first in their limited nature; secondly, misuse and significant depletion;
- the problem of environmental pollution, which is the formation of large quantities of waste and the deterioration of the overall environmental situation, which in turn cause the problem of climate change. State policy for addressing this problem lies in the context of different environments: economic, environmental and social, and requires the study of stakeholder interests in order to further formulate public policy directions in this context.

Studying the interests of stakeholders in the public administration system in the development of state policy of the circular economy, it is necessary to consider:

- first, the particular interests of different groups in relation to public policy as a whole;
- secondly, the features of stakeholder groups in implementing the concept of circular economy;
- thirdly, the peculiarities of the interests of individuals in the public policy in the sphere of circular economy, and national circular economy policies are the key to achieving national goals, which are in turn declared internationally.

The stakeholders of the circular economy state policy, depending on their interests and influence, can be divided into five groups:

- authorities, which in turn are divided into national authorities and regional authorities. The authorities of the national level include: the President of Ukraine as a subject of guaranteeing national security and developing policy directions to ensure it; the Government - the Verkhovna Rada of Ukraine as a legislative body that forms the regulatory legal framework for the implementation of state policy and the Cabinet of Ministers of Ukraine as the supreme body of executive power in terms of ensuring the formation and implementation of state policy; executive bodies directly shaping and implementing state policy in the circular economy. Authorities at the regional level include: executive bodies providing implementation of state policy at the local level and bodies of local self-government providing the formation of regulatory space, to promote the implementation of state policy and regional policy in the field of circular economy at the local level, within its competence;
- research institutions, including research institutions, design institutions and centers, scientific-industrial establishments and the center and departments of higher educational establishments. The allocation of these organizations to a separate group of stakeholders of the state policy of circular economy is conditioned by the tasks that they solve, namely: scientific substantiation of urgent problems of national importance and working out ways of their resolution;
- NGOs, as a stakeholder group, should be divided into public associations with international, national and local status. International NGOs guide the governments of the countries in developing policies to address specific problems of a global scale and multi-country problems. The NGOs with national and local status are the initiators of certain changes, ideas that may underlie the government's awareness and development of state policies to solve them;
- business entities that are divided by scale of doing business into small, medium and large businesses. State policy in the circular economy aims at transforming the activities of business entities in terms of adapting their activities to the provisions of the circular economy. In this aspect, it is worth noting that large business within the scope of its activities can completely close the cycle, in turn, small and medium-sized businesses for the most part, given the scale of their activities, available financial and other resources, will only be part of the closed cycle in the field its activities;
- the population as a separate group of stakeholders in circular economy policy should be considered in terms of its scope. If a policy is implemented within a particular region, then it is advisable to consider the population, who will be the object of influence on one side and the object of receiving benefits from such government on the other.

In the context of public policy making in the circular economy, stakeholder research should pay attention to their interests, since in the process of achieving certain goals, they may conflict with each other, which leads to the impossibility of effective implementation of the developed measures for the implementation of the circular economy.

The search for an optimal balance of stakeholder interests is driven by the need to take into account, in the process of policy making, their behavior and the development of mechanisms to influence them in order to formulate and implement an effective strategy for the transition to a circular economy. It is believed that stakeholder conflicts of interest in any activity cannot be completely overcome, however, by assessing their expectations and taking into account their interests, the possible consequences of the behavior of stakeholder groups can be minimized.

The interests of the above-mentioned stakeholders in the state policy of circular economy can be characterized as follows:

- authorities, research institutions and public organizations are interested, first and foremost, in solving the problem of public policy in the sphere of circular economy, which is represented by three blocks of interrelated problems: problems of inefficiency of the linear model of production; resource and environmental problems;
- business entities whose interest may be manifested in two aspects: first, commercial - profit, which is essentially the main purpose of their operation and, subsequently, profit maximization; secondly, non-profit - the achievement of public goods, because business must be socially responsible;
In the context of meeting the needs of the population, the prioritization of environmental protection, and social protection, it is necessary to consider the economic behavior of stakeholders. The primary stakeholders of public policy in the circular economy are groups of stakeholders who have a direct influence in the form of public policy in the field and involve the authorities. Secondary stakeholders in the circular economy are groups of stakeholders who indirectly participate in public policy-making and involve research institutions and NGOs. Research institutions, through research in the context of finding ways to improve the effectiveness of circular economy decisions, indirectly participate in policy making and influence the target group.

A similar situation is observed with another group of secondary stakeholders - public organizations, promoting the ideas of the circular economy, promoting environmental awareness of the population and initiating eco-projects, thereby ensuring the process of public policy-making - a target group that includes: first, business entities; second, the population. Business entities are stakeholders, whose status is gradually but completely changing as a result of public policy making in the circular economy, as they will need to reorient their activities to ensure closed cycles. Another target group of stakeholders is the state, which will change in the process of public policy making is the population. The population, as a result of public policy making in the field of qFirst of all, the peripheral economy will change its own consumption model to a sustainable one. The introduction of the provisions of the circular economy as a subject of public policy will change the ecological consciousness of the population in terms of raising and improving it;

- beneficiaries involving business entities and the general public. First, the benefits in the process of public policy making will benefit the population in terms of improving quality of life, ecology, economic well-being and social protection. Despite the fact that business entities in the first phase will suffer significant losses of financial resources in order to reorient their activities, in the long term, developing a state policy in the circular economy, will allow economic entities to reduce resource dependence and increase their competitiveness. After all, the low competitiveness of domestic production in comparison with foreign, first of all, is due to the high resource and energy dependent models of production, which influences the formation of cost of production. On the other hand, the foreign market is focused on eco-products, because awareness of the problems of resource depletion, scale and consequences of environmental pollution occurred in developed countries about a century ago. It should be noted that the beneficiaries of public policy in the circular economy include the other three groups of stakeholders, as in the long run they will also benefit from the introduction of a closed production model. For example, the authorities, public associations and research institutions will satisfy the primary purpose of their calling and existence. Stakeholder research in the context of public policy making in the circular economy makes it possible to form an effective mechanism for public administration of the circular economy, taking into account the interests of stakeholders in order to avoid conflicts between them in the course of the implementation of the state policy in the circular economy.

Conclusions

Trends in the development of urbanization processes in Ukraine and in the world indicate the aggravation of problems in the economic, environmental and social spheres. The current model of production and consumption does not satisfy the needs of society and shows its failure under the current conditions, which creates new tasks for the authorities. The transition to a circular economy, especially for developing countries, is a necessary step in achieving sustainable development and addressing, first and foremost, the economic and environmental consequences of urbanization processes. The creation and implementation of the state policy of the circular economy is a necessity on the way of Ukraine's integration into the EU, namely the fulfillment of the conditions of the Association Agreement, the promotion of European values and the restoration of European identity. Outlining the problem of the state policy of the circular economy, identifying stakeholders and studying their interests from the point of view of forming and implementing the state policy in the sphere of circular economy, are the basis for building an effective mechanism for public management of the economic and environmental consequences of urbanization processes. Awareness of the scale and projected indicators of urbanization requires the establishment and use of effective governance mechanisms to achieve security, sustainable development, infrastructure development, improved urban governance, inclusiveness and equal participation. The main task of public administration and administration is to take into account the interests of society and ensure their balance, as well as to formulate and implement a state policy that meets the needs of the country and communities, which are significantly constrained in the context of rapid urbanization.

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