

# Analytics of the Central and Eastern European Country Water Sector Management Strategic Documents

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**Abstract:** This article presents results of analysis of the water planning strategic documents of Bulgaria Poland, Hungary and Ukraine. It revealed the similarity of strategies. There is a pro-European vision for water management, implementation of an integrated water sector management system based on the basin principle and support for the development of environmental culture and open information policy.

**Key words:** water management, strategic documents, climate change, environmental policy

## 1. Introduction

Water resources are the foundation of sustainable development and are crucial to ecosystem health and human life. Despite the reduction of industrial and anthropogenic impact, a corresponding improvement in surface water is not observed. On the contrary, there are negative trends of depletion of water resources and degradation of aquatic ecosystems. The reason for this is the emergence of new sources of pollution and obsolescence of treatment systems. Significant pressure on water bodies is exerted by the processes of global climate change. This factor has been exacerbated in recent years by prolonged exposure to dry and hot weather in summer and lack of rainfall.

Meteorological forecasts for Eastern Europe show that the main trends in the region's climate change in the future are associated with rising temperatures and a decrease or insignificant change in precipitation, which will increase the aridity of the climate. According to the Borys Sreznevsky Central Geophysical Observatory, 63 mm of precipitation fell in Kyiv in autumn 2019 [1].

This is 47% of the climatic norm. In parallel with the shallowing, climatic imbalances cause severe floods and inundations. Now, even with the COVID-19 pandemic, global climate change remains one of humanity's most pressing challenges. The report issued by the World Economic Forum (The Global Risks Report 2021) a week before the virtual meeting in Davos notes that environmental issues such as extreme weather events and natural resource crises, will continue to pose serious challenges to business and society in the short and long term [2]. It is worth noting that at the moment there are no legislative acts that would define a clear and consistent algorithm of action of Ukraine in the direction of adaptation to climate change in the form of response to this problem. Therefore, water sector management is a priority in times of climate change.

European studies show that pollution reduction is economically justified only in the case of a slight deviation from the natural to anthropogenic state, and a complete reduction of pollution is simply impossible [3]. These considerations led to the establishment of the principle of restoration to "good status" in Directive 1000/60/EC of the European Parliament and of the Council on the establishment of a framework for

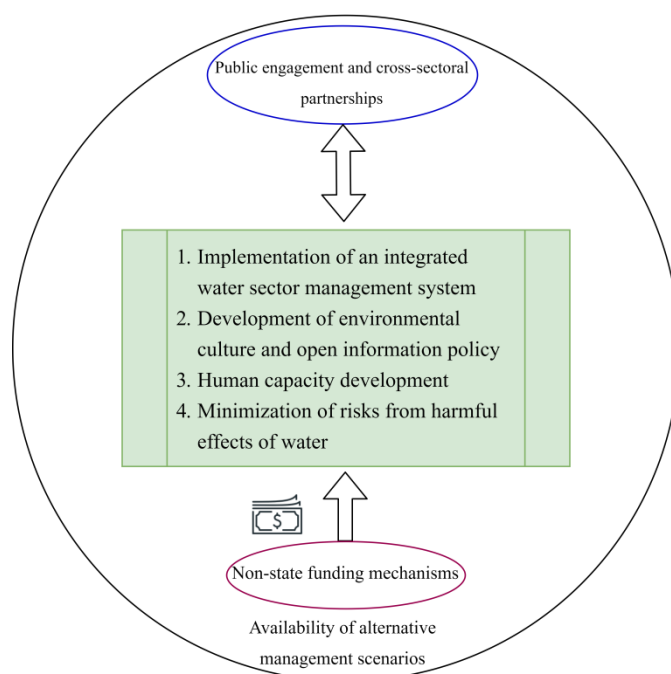
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Community action in the field of water policy of 23 October 2000 [4].

The basis of strategic planning is the creation of a system that allows leading government agencies and organizations to set priorities, have adequate resources for these priorities and assess the effectiveness of governing bodies. Therefore, for the effective management of the water sector of the state it is necessary to develop strategic documents of state planning. Also, strategic action plans are a tool for assessing the effectiveness of management and

communication between government, business and the public. With the right implementation of strategic planning, you can effectively take into account and manage the many variables that affect government plans and programs, and establish important links between stakeholders, allowing them to work in concert to achieve their goals (Fig. 1). Establishing effective management is a tool for solving problems related to the adaptation of the strategic vision of the management of the water sector of Ukraine to the requirements of European legislation.



**Fig. 1 Water sector management functionality.**

Currently, the management of water use and protection and the reproduction of water resources is mainly sectoral, administrative and territorial in nature, so that measures to regulate the use of water resources are often ineffective. Therefore, in order to implement the basin principle of water resources management and bring water management closer to the principles of sustainability, there is a need to develop river basin management plans.

Since the Association Agreement with the EU was signed in 2014, it provided a basis to compare the European experience of implementing strategic

planning documents and to consider successful cases of water sector management. The aim of our study was to analyze 6 strategic planning documents in the field of water management in Central and Eastern Europe.

In accordance with the goal, we set the following tasks:

- 1) Analyze the selected strategic planning documents
- 2) Identify similar/distinctive features and characteristics of planning
- 3) Compare management plans according to the proposed criteria

The object of the study were 6 strategic documents:

- a) Water strategy of the city of Kyiv 2020-2025.
- b) Green Paper “Strategy for Water Policy Ukraine”
- c) Water strategy of Ukraine for the period up to 2025 (scientific bases)
- d) Draft National Water Strategy of Hungary
- e) Strategy of development and management of the water sector and sanitation of 2014-2023 of the Republic of Bulgaria
- f) Draft water policy of Poland until 2030

## **2. Essentials of Water Policy in Ukraine**

Water problems are becoming more widespread every year. The dependence of society on water resources is increasing, and water quality requirements are increasing. At a time when the accelerating pace of industrialization and urbanization has led to a deterioration in the quality, pollution and depletion of water resources, we are aware of the limitations and vulnerability of water resources. Quality water is becoming a major factor in the development of society.

The main strategic objective of Ukraine’s national water policy is to achieve acceptable levels of water security and water risk, and to ensure the availability and balanced management of water resources and sanitation for all.

The current national environmental policy of Ukraine in the field of water resources is aimed at implementing the principles of the European Water Framework Directive 2000/60/EC (EPRD) on ensuring the sustainable use of natural resources — European Water Management Model.

EU WFD 2000/60 defines the basic principles of water management and the ways to achieve water quality and river and water safety. In accordance with the objectives of European integration, Ukraine is harmonizing its legislation with the EU Framework Directive. In October 2016, the Law of Ukraine “On amendments to some legislative acts of Ukraine on

introduction of integrated approaches in water resources management according to the basin principle” was adopted [5]. The Law introduces a number of principles of integrated basin management and introduces new units of water management — river basin areas with sub-basins and surface and groundwater bodies, introduces environmental objectives (achievement of “good” ecological status of natural bodies of surface waters and “good” ecological potential of artificial and substantially modified bodies of surface waters, as well as “good” quantitative and qualitative state of groundwater masses) proclaims river basin management plans, which should contain basin analysis and clear mechanisms (programmes of activities) to achieve the objectives set for these basins within a set time frame. Ukraine was in the process of reforming its water management system, the aim of which was to bring it into line with developments in the European Union. This is reflected in the Acts of Ukraine “On the State-wide Target Programme for the Development of the Water Management and Ecological Rehabilitation of the Dnieper Basin up to 2021” and “On Basic Principles (Strategy) State Environmental Policy up to 2030” which determined that “the system of state management in the field of water protection requires urgent reform in the direction of the transition to integrated water resources management” [6, 7]. According to the formation of the goal of the Decree of the President of Ukraine from 2019 “On the Goals of Sustainable Development of Ukraine for the period up to 2030” goal 6 declares “ensuring accessibility and sustainable management of water resources and sanitation” [8]. In the draft of the Concept of State Policy of the Programme of Activities of the Cabinet of Ministers of Ukraine it is stated goal 9.7 “Ukrainians preserve natural ecosystems for descendants” in which the Government envisages the introduction of integrated water resources management along a basin principle and the full implementation of the EU Water Framework Directive, as well as the

delineation of coastal protection strips of water bodies and prevention of degradation of coastal areas.

### 3. Ukrainian Water Management Strategic Documents

The first steps towards the integration of European legislation into Ukraine's water sector began in 2014. At the initiative of scientific and public organizations, the Water Strategy of Ukraine until 2025 (scientific bases) was issued [9]. Later, a draft Strategy for Water Policy of Ukraine in the Green Book format [10]. On the basis of the document, it is envisaged that a draft legal act, the Water Policy Strategy of Ukraine, will be drawn up. The Kyiv Water Strategy for 2020-2025 is unique of its kind, which has been developed in the light of world trends in water management: the basin principle of management in accordance with EU WFD 2000/60 and the implementation of compensatory measures to mitigate the effects of global climate change [11]. At the same time, unique principles were developed taking into account the current ecological status of the city of Kyiv.

It is worth noting that all Ukrainian strategic planning documents that have been analyzed have a pro-European implementation vector and are in line with the provisions of the EU WFD. The introduction of an integrated water resources management system is a powerful mechanism for achieving environmental goals. Currently, the management of water use and protection and the reproduction of water resources is mainly sectoral, administrative and territorial in nature, so that measures to regulate the use of water resources are often ineffective. Therefore, in order to implement the basin principle of water resources management and bring water management closer to the principles of sustainability, there is a need to develop river basin management plans.

Society's request for open and systematic information on the quality of the aquatic environment, in particular on the results of laboratory analyses and integrated assessments, remains relevant. The opening

of such data will help to strengthen public participation in the formulation and implementation of environmental policy in the water sector, strengthen public oversight and enhance the effectiveness of State policy. The strength of the strategic planning documents analysed is the production of an open information policy. Among the possibilities are the improvement of water cadastre and cartography visualization of diffuse groundwater and surface water pollution.

Many negative factors are exerting pressure on the implementation of policies in today's environment. In particular, the volatile political landscape is one of the reasons. Action by the Government and line ministries is fluid. Most of them are dictated by temporary economic or social challenges, political expediency or corporate interests of individual power groups, often contradicting the stated course of reform, long-term stabilization and economic growth goals.

Problems arising from the lack of a coherent strategic planning system include: inconsistencies between different strategic and planning documents; lack of a clear link between the planning documents and the budget; Lack of a unified approach to planning, uncertain status of some strategic documents, political and legal consequences of non-compliance; Poor evaluation of public policies and lack of accountability for poor management decisions.

The funding of activities to achieve the objectives of the strategy is particularly critical. Unfortunately, the allocation of the State budget to the water sector is low, so the question arises of finding additional sources of financing, including grant funds and stakeholders. The Water Strategy of the City of Kyiv 2020-2025 and the Water Strategy of Ukraine up to 2025 envisage the receipt of additional extra-budgetary funds.

In the Water Strategy of the City of Kyiv 2020-2025, and the Green Book "Water Policy Strategy of Ukraine" provides for key activities and ways to implement them. Such indicators will provide future information on whether the objectives have been achieved or the needs

of all stakeholders have been met, or on processes that need to be improved and where. However, it should be noted that Ukraine is not a member of the EU and is not a candidate for membership, therefore there are no mechanisms for monitoring compliance with environmental policy and law as in the EU, in turn creating a problem of ineffective implementation of the strategy objectives, Lack of responsibility for the implementation and implementation of strategic planning documents.

#### **4. EU Water Management Strategic Documents**

EU strategies provide the inclusion of professional specialties in water resources management to the educational programs of technical and higher educational institutions [12, 13]. Human resource development is an integral part of effective management in the water sector. It will create a base of young professionals with relevant knowledge in environmental water management which will cause increasing of effectiveness in development and implementation of strategic plans in the water sector. The Water Strategy of Ukraine for the period up to 2025 (scientific bases) covers partially the issues of human resource development.

A distinctive feature of EU strategies is a development of multiple scenarios for objectives and tasks [14]. Scenarios include differentiated funding mechanisms to achieve the objectives of the strategy. Thus, in case of restriction of the first, second ones are activated, which allows to continue the tasks implementation. The timing of results, policy implementation and financial costs depend on the choice of the appropriate scenario. Ukrainian strategies do not provide the development of analogous scenarios, which significantly reduces the efficiency and effectiveness of the goals in terms of unstable financial and political situation in the country. Here below is a comparative table of documents for strategic planning of the water sector in Central and Eastern Europe

according to the selected criteria obtained as a result of documents SWOT-analysis.

In such a way, the analysis of strategic planning documents of the water sector of selected countries showed the similarity of Ukrainian strategies in the following aspects:

- pro-European vision of water resources management, focusing on the provisions of the EU Water Framework Directive and other European documents;
- implementation of an integrated water sector management system based on the basin principle;
- development of ecological culture and open information policy.

The significant differences of EU strategies are the following:

- Alternative scenarios for water sector management, which provide different funding sources and timing for objective achieving;
- One of the important tools to improve the water management in the EU is the active development of human resources, which is not provided in Ukrainian documents. In general, the prestige of the profession of water sector worker in the Ukrainian labor market is meager, so it is necessary to create additional incentives to encourage young professionals;
- Taking into consideration that Bulgaria, Poland and Hungary are members of the EU, so they have developed procedures for monitoring, reporting and control of activities carried out, which minimizes the risks of avoiding liability for actions taken.

There are main disadvantages of Ukraine's water sector management: weak development of indicators, lack of open information during the strategy creation, the main content, development and implementation of strategies based on the approaches and concepts either outdated or not adapted to modern realities of Ukraine.

## 5. Instead of the Conclusion

To manage such significant nature resource as water resources it is required to have: highly qualified specialists, modern software products to create high-quality reports, effective monitoring system with international compliance, favorable political

background. Thus, the issue of water resources protection can be successfully implemented in case of successful consolidation of actions of the government, central executive bodies, local governments, businesses and civil society with appropriate funding.

| Criterion  | Water strategy of the city of Kyiv 2020-2025  | Green Paper on Water Policy Strategy Ukraine                        | Water strategy of Ukraine for the period up to 2025 (scientific bases)                              | Strategy of development and management of the water supply and sanitation sector in the Republic of Bulgaria 2014-2023 | National Water Strategy of Hungary (draft)   | Polish water policy project until 2030   |
|--|---|---|---|--|--|--|
| Existence of mechanisms of non-state sources of financing      | Own funds of the enterprise and funds of patrons  | Establishment of the Environmental Protection and Water Sector Fund | Inclusion of extra-budgetary funds mainly of business origin  | EU grants  | Financial support of EU beneficiaries  | EU financial support, investment activities, non-investment projects   |
| Public involvement and cross-sectoral partnership              | Cooperation of community, business and government   | Partially provided  | Involvement of the public in solving issues of ecologically safe use and protection of water bodies | An intersectoral strategy has been developed, covering a full range of relevant measures; increase customer service    | Strengthening the relationship between the water sector and stakeholders   | Public involvement in support of national water policy   |
| Development of human resources                                 | Not provided  | Not provided  | Improving the management system of development of human resources                                   | Not provided   | Developed by introducing a "water career" model for young professionals  | Provided   |
| Minimization of risks from harmful effects of water            | Not provided  | Adaptive measures to floods and droughts have been provided         | Flood management risk has been provided   | Not provided   | Flood risk minimization in accordance with Directive 2007/60/EC on the assessment and management of floods   | A set of measures to enhance flood safety and drought protection   |
| Implementation of an integrated water sector management system | Integrated water resources management in Kyiv is also envisaged   | Provided  | Provided  | Provided   | Provided   | Provided   |
| Development of ecological culture and open information policy  | It is outlined by providing cultural and recreational ecosystem services for the population of the city by water bodies | Introduction of automated information system "Open Environment"     | Open monitoring system  | Openness of the process of setting tariffs for water use for the population  | Simplification of access to information on water quality, dissemination of knowledge on environmental education in schools, religious and public institutions (libraries, museums) | Ensuring universal access to environmental information by implementing the principles of compatibility and exchange of information resources |
| Alternative management scenarios                               | Missed  | Missed  | Missed  | 5 development scenarios have been developed  | 3 development scenarios have been developed  | Missed   |

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