

SIGNIFICANT ASPECTS OF THE FLOOD PROTECTION OF THE CENTRAL VISTULA RIVER

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Abstract : *The works on the Flood Protection Programme in the Central Vistula River Basin are co-ordinated by the Mazovian Voivode, who acts under the authority of the Minister of Internal Affairs.*

The objective of the Programme is to develop an operational, medium-term tool for minimizing the risk of flooding in the river basin of the Central Vistula River. Both representatives of the world of science, the government and local government administration and non-governmental organizations participate in the works.

The Programme envisages measures restricting development on the flooded areas, education of the public, investment projects in the flood defence infrastructure that are compliant with the requirements of nature protection (including Natura 2000 areas) and will include preventive measures that could reduce the risk of flooding. The programme's affected area covers the water region of the Central Vistula River inhabited by c. 14 million people.

The works on the Programme are to last two years (until 2013), during which it will be subjected, inter alia, to a Strategic Environmental Impact Assessment. It will subsequently be submitted for approval to the Council of Ministers. The programme is planned to be completed by 2030, in accordance with the related strategic documents of the Government.

Key words : *Flood Protection Programme in the Central Vistula River Basin, Central Vistula River*

Introduction

Anyone, who can limit losses due to flooding, should take action in this direction. The works on the *Flood Protection Programme in the Central Vistula River Basin* (hereinafter referred to as the *Programme*) are conducted by the Mazovian Voivode under the authority of the Minister of Internal Affairs, and its assumptions and time schedule is approved by the Steering Committee comprised of seven voivodes, the President of the Capital City of Warsaw and the Director of Regional Water Management Board (RZGW). The procedure of works on the draft of the Programme was commenced in accordance with the Act of Law of 6 December 2006 *on the principles of the development policy making* and in accordance with the Act of Law of 3 October 2008 *on the provision of information about the environment and its protection, public participation in the protection of the environment and about environmental impact assessments*.

To date, the issues relating to flooding in the river basin inhabited by around 14 million people have not been covered in any systemic, long-term document of a strategic nature, and in view of the government's considerable financial expenditures for removal of flood-related damages the importance of systemic measures to be undertaken by the government in the field of flood prevention is increasing. The percentage share of inhabitants by voivodeship in the river basin of the Central Vistula River is shown below.

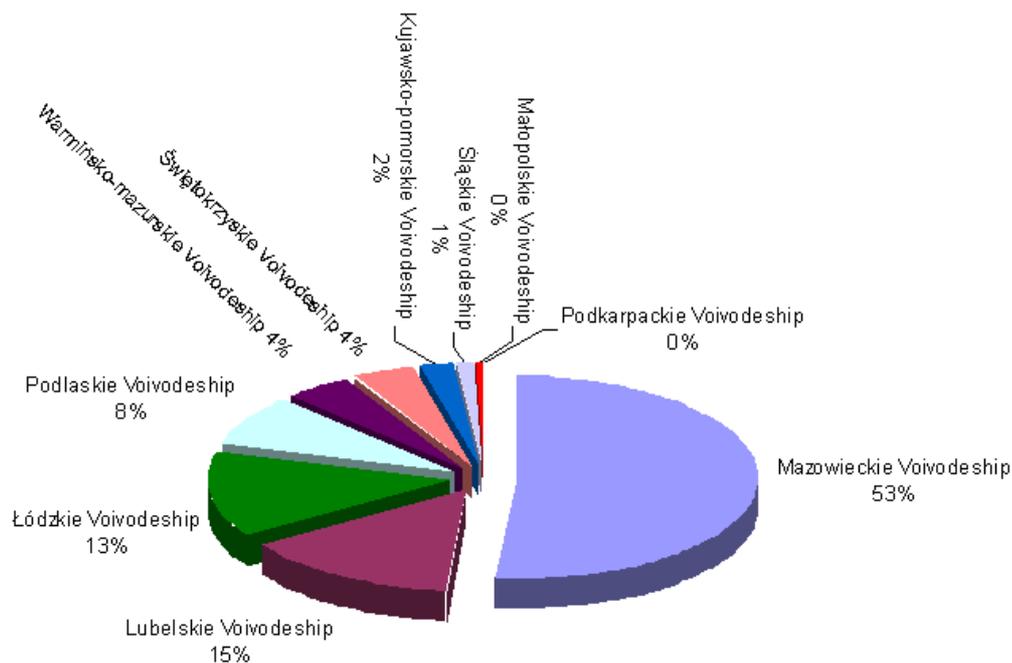


Fig. 1. Percentage share of the number of inhabitants by voivodeship in the river basin – prepared by M. Bogucka – Szymalska, PhD, Eng., Mazovian Voivodeship Office

1. Objective of the Programme

The objective of the *Flood Protection Programme in the Central Vistula River Basin* is to develop an operational, medium-term tool for minimizing the risk of flooding in the river basin of the central Vistula River. The *Programme* envisages measures restricting development on the flooded areas, education of the public, investment projects in the flood defence infrastructure that are compliant with the requirements of nature protection (including Natura 2000 areas) and will include preventive measures that could reduce the risk of flood events – similar to those which occurred in 2010. The *Programme* is based on the co-ordinated actions of both the government and local government administration. Extensive consultations with the participation of partners from the world of science, non-governmental and business organizations are being conducted at the stage of both the development of the assumptions, the draft of the *Programme* and the Strategic Environmental Impact Assessment presenting the project together with the forecast [1].

2. Territorial coverage

The area affected by the *Flood Protection Programme in the Central Vistula River Basin* covers the Vistula River basin from the outlet of Sanna river (this overlaps with the lower profile closing the basin of the programme of the Upper Vistula River) to the barrage at Włocławek. It is also the area of operation of the Regional Water Management Board in Warsaw (Fig. 2).

The agreed priority objectives ensuring the protection of the basin's area that are commensurate with the natural and cultural assets within the area of the Central Vistula River basin, which comprises seven voivodeships: Mazovian, Lubelskie (*Lublin*), Podlaskie, Świętokrzyskie, Kujawsko-Pomorskie (*Kujawy-Pomerania*), Warmińsko-Mazurskie (*Warmia-Masuria*) and Łódzkie (*Łódź*), have been incorporated within the framework of the *Programme*.



Fig. 2. Location of the Central Vistula River basin – Source: Mazovian Voivodeship Office

3. Time span

In August – September 2011 the programme assumptions were subjected to extensive consultations, and after the Steering Committee had approved these assumptions the works on the actual document commenced. After having subjected the programme to a Strategic Environmental Impact Assessment in 2012 it will be submitted for approval to the Council of Ministers as a government project of a strategic importance for the country. The programme is planned to be completed by 2030, in accordance with the related strategic documents of the Government.

This provides two years for completing the necessary expert reports, inventories and defining the projects, which, given the pan-regional scale of the *Programme*, is a relatively short period of time. The need for expedited completion of works on the programme document is primarily determined by the interests of the inhabitants in the inundated or flooded areas, whose security is ultimately the highest objective of the programme.

4. Implementers

The tasks of the persons involved in the works on the document have been divided, commensurate with the scale of the problem, into the strategic level (relating to the entire river basin) and the regional level (relating to the territorially-appropriate voivodeship). At the strategic level – for the whole area the following bodies have been appointed: the **Steering Committee** of the *Flood Protection Programme in the Central Vistula River Basin* as the decision making body of the programme at the Voivode of the Mazovian Voivodeship that is the largest in terms of area (at the Representative of the Government, in the future) and as the **Programme Committee** (composed of the Marshals of voivodeships, representatives of the National Water Management Board (KZGW), ENERGA S.A. (company involved in the generation, distribution and sale of energy),

TUP (Society of Polish Town Planners), SARP (Association of Polish Architects)) as consultative and recommendation bodies to the Steering Committee.

In order to effectively co-ordinate the development of the programme the Mazovian Voivodeship together with the territorially-competent voivodeships as well as the President of the Capital City of Warsaw, the Director of the Regional Water Management Board in Warsaw, the Under Secretary of the State at the Ministry of Environment forms the Steering Committee of the *Programme*.

Several teams of experts with different competences work on the document under the direction of the Chairperson of the Steering Committee:

- the team of assistants to the seven voivodes and the President of the Capital City of Warsaw – the co-ordinators of works;
- the team of Experts – the direct advisors;
- the team of the Programme Office – the editors of the document.

AT the regional level the document is by definition consulted with the local-government, social and business representatives grouped in the Regional Consultative Teams (Fig. 3).

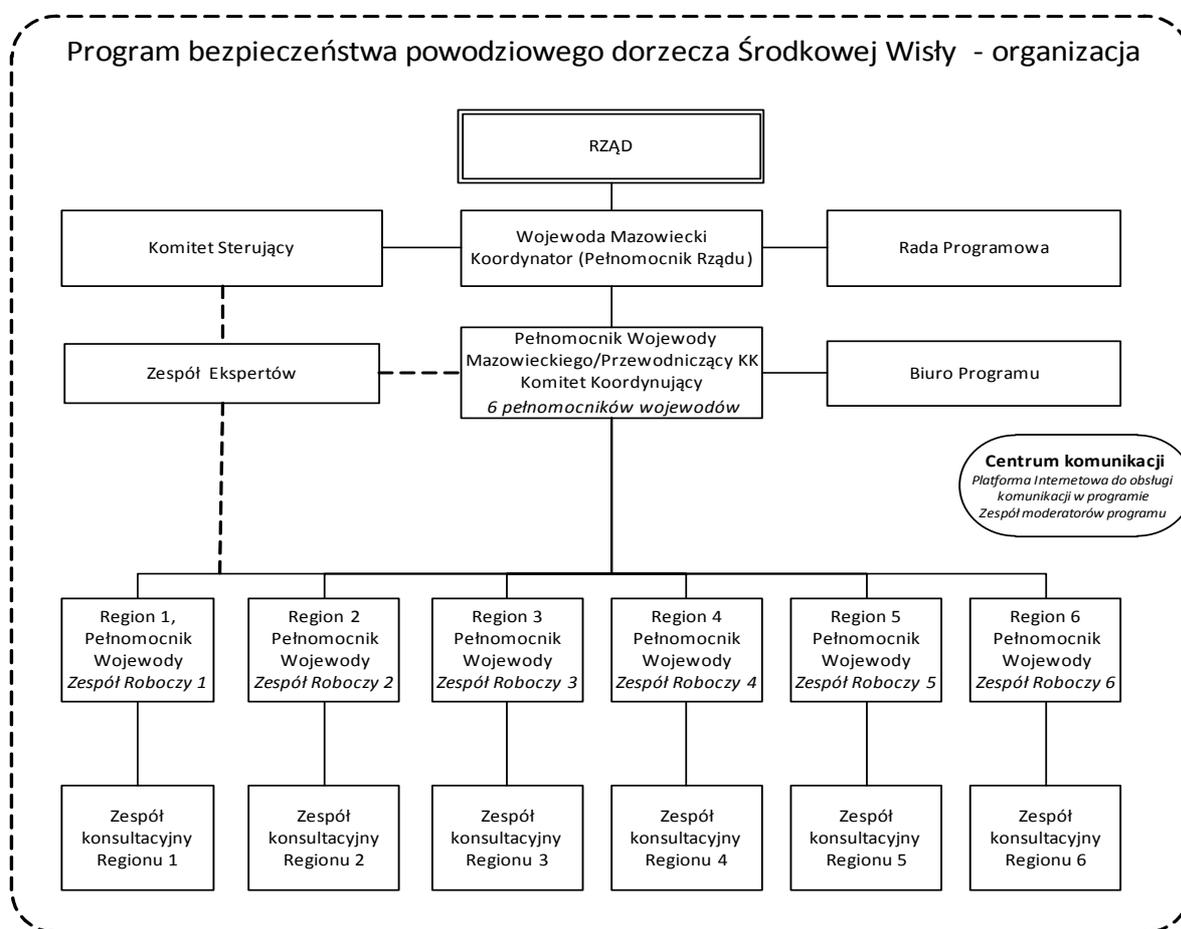


Fig. 3. Schematic diagram of the organization of works – prepared by A. Czyżewska, Mazovian Voivodeship Office

5. Integrated approach

In terms of its nature the flood protection programme is a programme of an operational character that is linked to the development strategy of a given area and related to the rejuvenation activities undertaken simultaneously in three spheres: spatial, economic and social.

The interdisciplinary programme requires an integrated approach, including the involvement of experts from many disciplines (hydrology, geology, ecology, public finance, spatial planning, social communication, crisis management, to name a few). The *Programme* also requires collation of data from various institutions, from all levels of the public administration and from the seven regions; therefore it will be developed with the use of available instruments from different institutions and disciplines.

The authors of the *Flood Protection Programme in the Central Vistula River Basin*, based on the EU directives and national legislation, treat flooding as a phenomenon, whose effects can be minimized by means of appropriate prevention measures. Following the experiences of Western countries (Germany, the Netherlands, USA) they regard high water levels as a natural element of the “life” of the river and focus primarily on the expert management of high waters, taking into consideration periodic inundations and floods that may be caused by them. During the course of the works on the *Programme* its authors have mainly taken advantage of the experiences of the programmes for the Odra river and the Upper Vistula River, therefore the works are proceeding smoothly and the final document will be completed and adequate to the requirements and needs of modern flood protection [2] [3] [4].

The interdisciplinary *Programme* focuses on the priorities associated with the protection against flooding formulated in the **problem areas – strategic intervention of the state**. Those include: flood defence infrastructure (mostly embankments and storage reservoirs), water management (land drainage and irrigation, natural retention, recreational use of rivers), spatial management (legal status of flood protection measures, flood-related issues in spatial development plans at various levels), as well as the public and crisis and disaster management (preparation, response, prevention, removal of the effects of flooding, education). Under the *Programme* a typology of problems areas will be defined and funds from the EU, the World Bank, the budgets of local government units will be concentrated in a commensurate manner to the specifics a given type of area. Such measure is necessary, especially in view of the size of the area covered by the *Programme* and its large diversity in terms of the floodplains, human settlement, critical infrastructure, or the condition of the natural environment.

In each of the priorities referred to above, after a careful analysis of the diagnostic documents specific technical or non-technical measures are being developed, which together will form a coherent flood protection programme taking into consideration the Central Vistula River basin in the macro-regional scale, but also referring to the local needs of the population and the protection of the natural environment.

In the programme a particular importance is assigned to the role of spatial planning in the flood management in conjunction with the results of the surveys conducted in June 2011 in 818 communes affected by the *Programme*. They demonstrated in a disconcerting manner that the communal authorities do not regard the Local Spatial Development Plan (MPZP) as a means of flood protection.

Under the *Programme*, the editorial team attaches a paramount importance to the stream of education at both the regional and local level in raising awareness of the population and organizations with respect to emergency procedures in the event of flooding. Based on the experiences of the floods in 2010 the crisis management experts point to the increasing role and importance of crisis management in the flood management, the need for strengthening co-ordination of actions of governmental and non-governmental organizations during the periods of high water levels. In order to prevent the occurrence of crisis events representatives of the local governments will be actively trained in the flood management due to the fact that the level of their knowledge with respect to alerting and implementing the flood emergency procedures varies greatly. It is also important to educate the inhabitants in that respect. The flow of information about emergency and

crisis situations at the pan-voivodeship level forms an important element of the crisis and emergency management.

6. Participative method

The present problems in developing and implementing the effective flood mitigation policy are caused by the dispersal of competences, therefore it is very important that many institutions and organizations, not only the government and local government administration, but also non-governmental organizations, environmentalist and scientists from various fields work closely together. A dialogue between all the partners needs to be conducted in a rational manner until compromises have been reached.

Last year, each of the seven voivodeships conducted public consultations with respect to the assumptions of the *Flood Protection Programme in the Central Vistula River Basin*. The purpose of these consultative meetings was to gather from the local government, social and business partners from each region the comments and opinions with regard to the draft assumptions of the *Programme* and provide an appropriate direction for further works.

In the first half of 2012 the Representatives of the Voivodes together with the Representative of the President of the Capital City of Warsaw, supported by the Team of Experts, co-ordinate the works at regular working meetings. During those meetings a decision on the final shape of the document for consultations has been made, the key areas for further examination have been selected, the results of the expert reports have been evaluated and the system of communication with the programme's partners have been approved. The meetings are attended by representatives of the Regional Water Management Board (RZGW), the Voivodeship Board for Land Drainage and Irrigation and Water Infrastructure (WZMiUW), the Regional Directorate for Environmental Protection (RDOŚ), district and local governments, agricultural advisory centres, voivodeship nature and monument conservation officers, voivodeship building supervision inspectors as well as voivodeship veterinary officers and non-governmental organizations.

7. Summary

Through the *Programme* the Government in co-operation with its social and business partners wishes to better prepare itself to deal with disasters that result from abnormal weather conditions.

The undertakings planned for in the *Programme* will by definition be financed from the next EU budget for the years 2014 – 2020 from: the state budget, from the budgets of local government units, from the environmental protection funds, from the EU as well as private funds.

Within the framework of the works on the *Programme* the model that includes the following elements will be developed:

- a baseline assessment,
- a typology of problem areas,
- defined scenarios of measures in the problem areas,
- defined long-term objectives, medium-term sub-programmes, tasks,
- a defined evaluation and monitoring system,
- a defined multi-year financial plan and funding sources of the programme,
- defined projects to be implemented by 2020 and 2030.

The *Programme* is being developed as a result of the interdisciplinary work of the experts, participants of the public consultation with the participation of non-governmental organizations, environmental and ecological organizations, local governments and government institutions involved in the water management and the protection of the natural environment in the seven

voivodeships. Owing to the participatory method of works the adopted solutions will provide an answer to the needs of the broadly defined flood protection and ensure the participation of many entities in the implementation of the *Programme*.

SELECTED LITERATURE:

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[3] *Programme for the Odra river, 2006* – revised ed., 2009, Wrocław

[4] *The flood protection programme for the Upper Vistula River basin. The publication containing the consolidated version of the document of May 2010, supplemented with the formally required elements associated with the evaluation of the effects as well as with the financial requirements for the implementation of the Programme*, 2011