

SEVERE STORMS IN BELARUS AND ECONOMICAL EFFECTIVENESS OF ITS PROMPT WARNINGS

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I. INTRODUCTION

The annual amount of severe weather events that occur in Belarus is about 25 - 30. Most dangerous are strong frosts and spring frosts, high winds, rains and heavy snowfall, floods, hail, drought, etc. They involve serious environmental and economic consequences. They are detrimental to transport, communications, heat-, gas-, electricity- and water- industry to citizens and organizations, agriculture, environment and in some cases leads to the losses of human lifes.

II. PRESENTATION OF RESEARCH

The peer reviews issued by the experts of International Bank for Reconstruction and Development together with specialists from several Ministries and departments found that different sectors of the national economy have varying degrees of economic dependence on dangerous hydrometeorological events. This fact can be confirmed by the assessment of the damage caused by these phenomena to industries:

- agriculture - 42%;
- fuel and energy complex - 19%;
- civil engineering - 12%;
- utilities - 8%;
- transport - 7%;
- others - 12%.

The most weather dependent sector of economy is agriculture. Its vulnerability to the dangerous impacts of severe weather mostly determines the level of the overall damages and losses of the state economy.

In this connection preliminary estimates issued by the experts of International Bank for Reconstruction and Development show that losses in the economics of Belarus for today take over \$ 93 million (according to the prices of 2005). Practice has proved that the increase of warnings' lead even for an hour can reduce damage to 0,5 - 0,8 % (depending on the clarity and coherence of the services). Enlargement of warnings lead time overnight reduces losses in 12 - 15%, over two days - 25-30%. Through several examples can be represented the way of successful usage of information of Hydrometeorological Services that allows to avoid heavy losses like those that exceed the amount of budgetary financing of Hydrometeorological Services. These examples allow substantiating the need of development and acceptance of the State Plan for expansion of National Hydrometeorological Services by the Government of Belarus.

III. RESULTS AND CONCLUSIONS

The results of studies carried out by the International Bank for Reconstruction and Development showed that the implementation of the State Plan for expansion of National Hydrometeorological Services may give a significant effect on the economy of the Republic of Belarus in general.

The final evaluation of the cost-effectiveness of this plan estimated in the range of 480-550%. It means that every dollar invested in technological modernization and development of the Hydrometeorological Services can benefit the state economy from \$ 4,8 to \$ 5,5 as prevented losses.

IV. ACKNOWLEDGMENTS

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V. REFERENCES

International Bank for Reconstruction and Development, 2006: The assessment of the economic performance of the Hydrometeorological Services of Belarus. *Report on the pilot study*, 56 pages.