

Interaction between Floods Occurrence and Gender and Age Structure of Population in Belarus

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The high spring snow-melting or rainfall flooding is the most important and actual event in hydrological cycle for the territory of Belarus. It caused an inundation that means exceeding of water level in the river above safe line and water floods to the adjacent territories. Inundations led to significant destruction of adjoining territories, huge financial damage and threat for human being. The frequencies of spring flooding in Belarus is defined by intensity of river network, its morphometric characteristics and hydrometeorological conditions during the season before floods.

The aim of the present study is to estimate the spatial distribution of flood inundation frequency and gender and age structure of national population which might be suffer under extreme phenomena on the rivers. We analysed dangerous thresholds in the river water levels and the frequency of floods of various severity within different river basins, quantity of men and women and their ratio, the quantity of people in the age upper 70 years old as a most sensitive to the flood risk group of population and ratio of rural houses to the entire housing resources as a most vulnerable infrastructure in the different regions of the country.

During floods the dangerous levels which cause the inundation have been recorded in the 4 largest river basins passes the territory of Belarus. The most frequent inundations (every two years) occur in the south of the country in the Prypyat' river basin, and in the Dnepr river basin (every 4-5 years) on the majority of the rivers.

The hypothesis of our study is that quantity of women population is higher in the flood risk regions (we defined 30 regions with highly frequent inundations) and their ratio high with the age. The majority of them live in potential flood dangerous regions.

The strong connections between size of the river basin, its potential flood risk and quantity of population in the region was established. The ratio of men and women over country varied within 6-7 %. But in the flood risk regions (mentioned above) the quantity of women rapidly increase up to 7-18%. And the largest ratio (15-18%) have been obtained for the regions with highest floods inundation frequency (low stream of the Dnepr, Berezina, Sozh and Neman rivers).

The most sensitive group of population to flood risk is rural population who live in private houses in the large river valleys. And their average number for entire territory of Belarus lies within 37-47%. Another point of potential risk group concerns people in the age of 70 years and elder. According to the last census of enumeration the ratio of elderly people equal 11-12%. These people are the most open to injury from extreme phenomena on the rivers. In general, 772 thousands (8% of national population) women lives in the flood risk regions, almost 80 thousand among them are women elder 70 years who need extra care in the period of flood occurrence. This must be considered by stakeholders in support of making design in social policy of the country.