



RUSSIAN FEDERATION

Water Quality Evaluation and Prediction in Areas Affected by the Chernobyl Accident

Disaster Context

The explosion at the Chernobyl Nuclear Power Plant in 1986 released a large amount of radionuclides. The most affected area was Bryansk Oblast. The contamination is characterised by an extreme heterogeneity. It attacked the most important regional water-collecting basins and recharge areas of shallow ground water and some stratum aquifers.

This problem can be solved using up-to-date conceptual and scientific methods, taking into account the following basic factors:

- Intensity and spatial extent of surface contamination
- Protective ability of natural aquatic systems against radionuclide contamination
- Other acting and potential anthropogenic impacts

Project Title

Water Quality Evaluation and Prediction in Areas Affected by the Chernobyl Accident (Bryansk Oblast)

Sectors

- Water monitoring
- Water resources protection
- Water resources management

Funding

UNDP and Cost Sharing Financing contributed funds of \$278,000.

Partners

- Roshydromet is an executing agency
- Ministry of Natural Resources is an associated executing agency
- NPO "TAIFUN" is engaged in issues related to soil and surface water contamination

- VSEGINGEO will implement activities related to aeration zone and groundwater contamination
- The International Atomic Energy Agency acts as a cooperating agency and provides technical advisory, monitoring and backstopping inputs, as well as administrative and operational support to the project.

Programme Activities

The project studies the rate of contamination and endeavours to forecast water quality in terms of radionuclide content for the short term (10-15 years) and the long term (100 years). The objective of the project is to develop recommendations to ensure safe water use and a sustainable water supply.

- Evaluate the quality of water resources and degree of their contamination by radionuclides in the areas affected by the Chernobyl accident
- Forecast changes of water quality in terms of radionuclide content in surface and groundwater and degree of contamination regarding drinking water supply and recreational and industrial water use
- Assess the vulnerability of natural aquatic systems to radioactive contamination
- Prepare recommendations to ensure radiologically safe water supply in contaminated areas, and prepare protective measures to reduce the radiation risks and ensure sustainable water supply sources