Floods on Dniester River: events and lessons learnt

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Dniester River

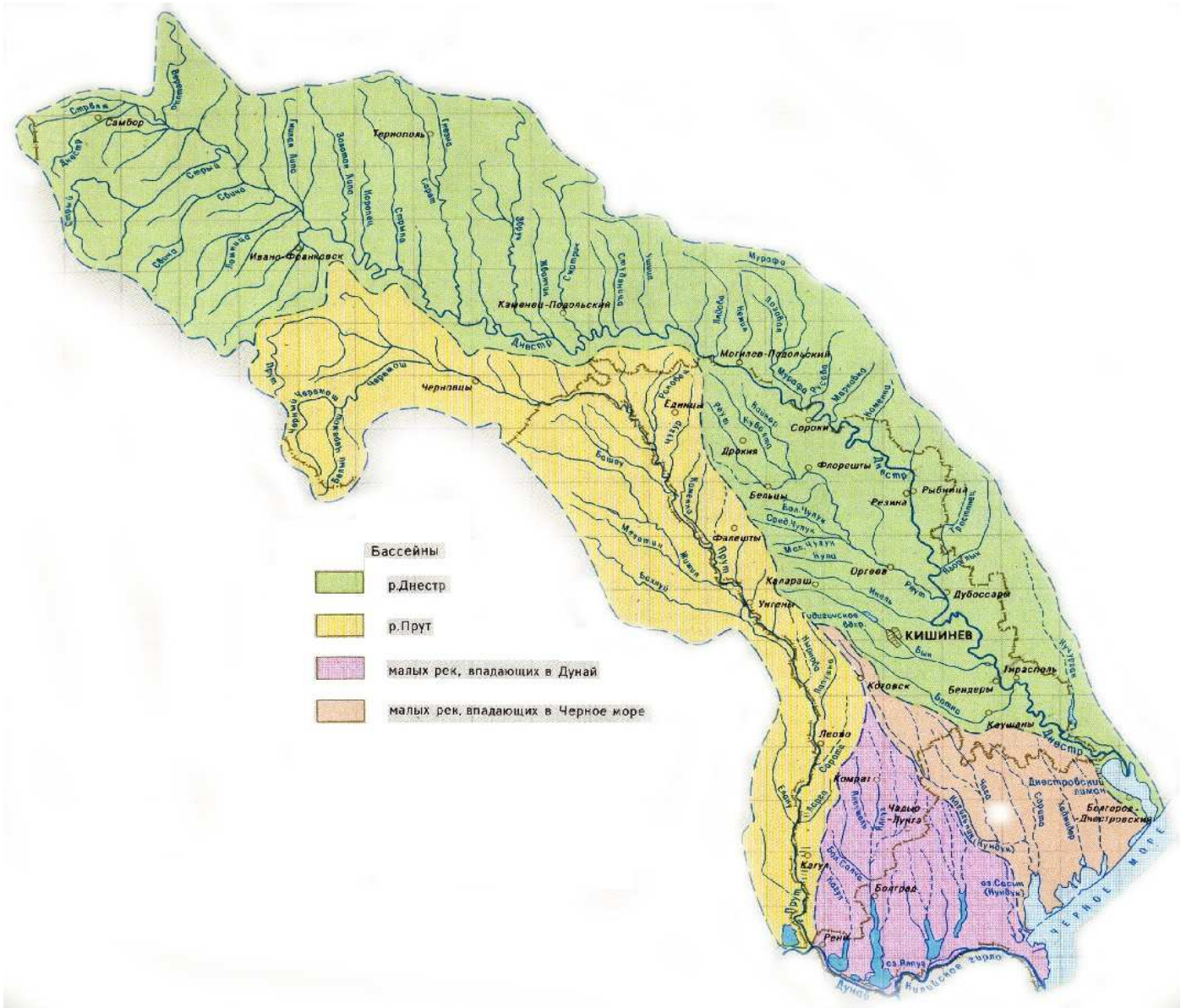
- Length 1362 km
- Basin 72100 km2

(MD -29%; UA – 71%)

- Population = 7.75 mln

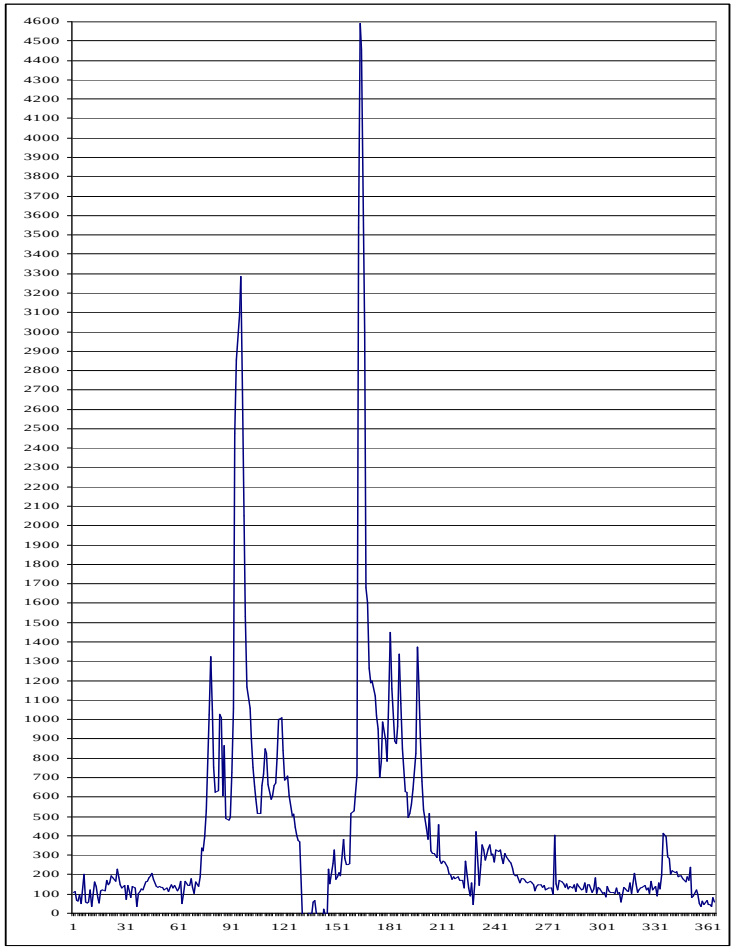
(MD – 2.75; UA – 5)

Dniester & Prut basins

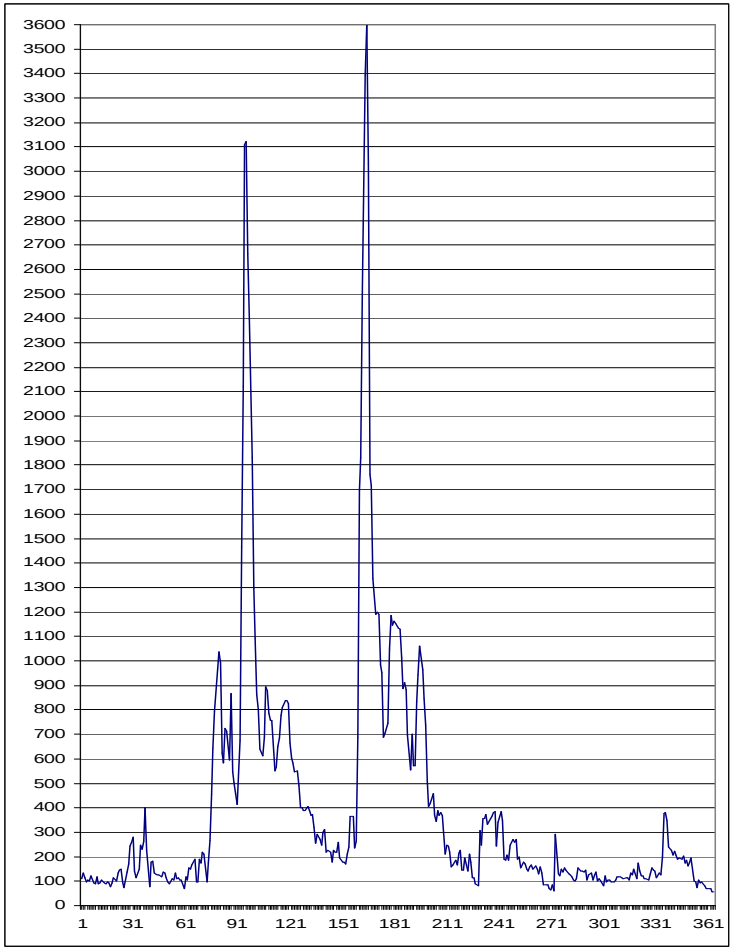


Flood 1969 (one dam on Dniester)

upstream

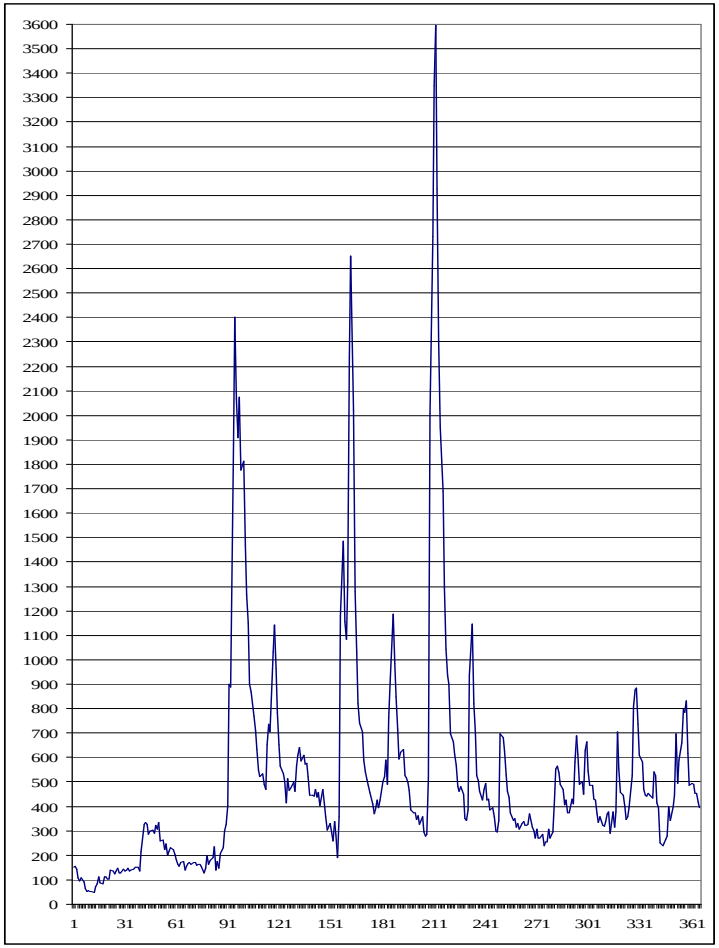


downstream

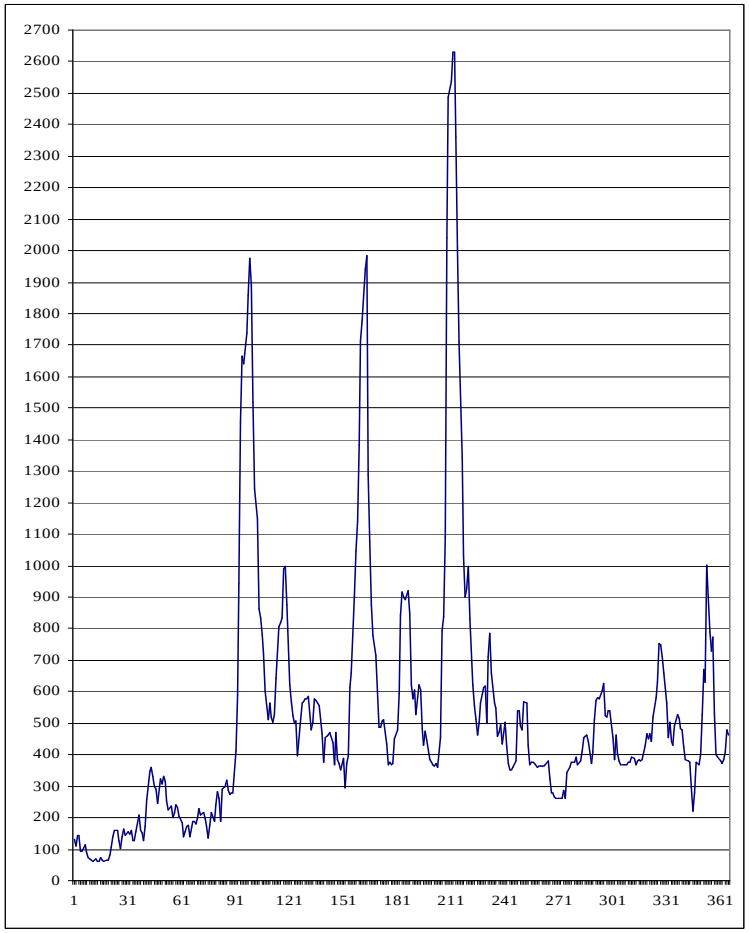


Flood 1980 (one dam on Dniester)

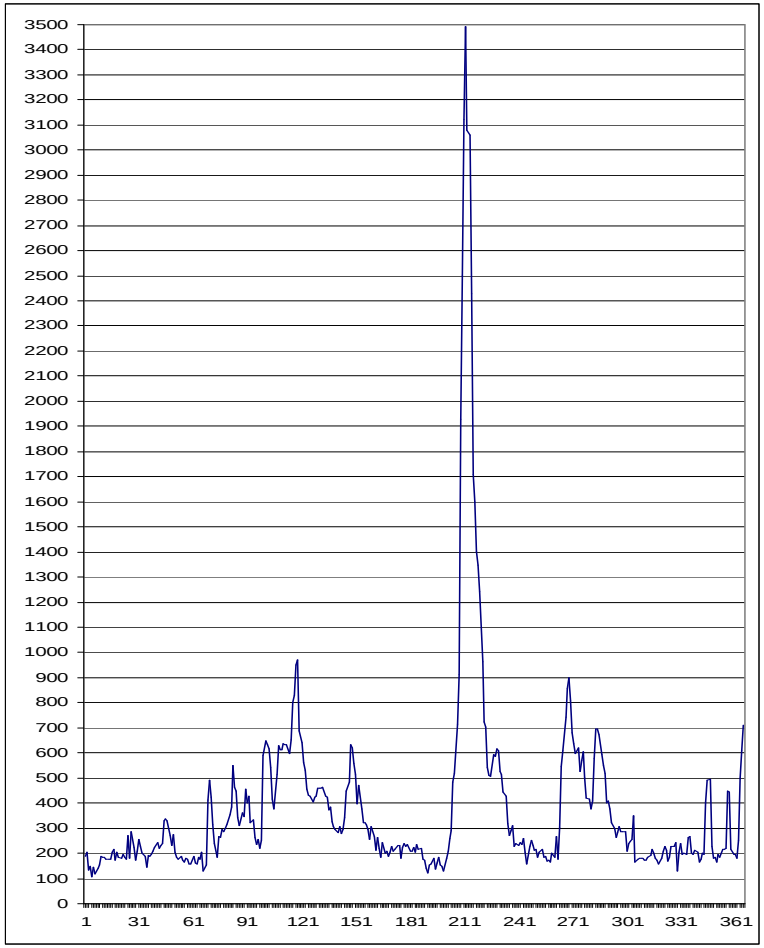
upstream

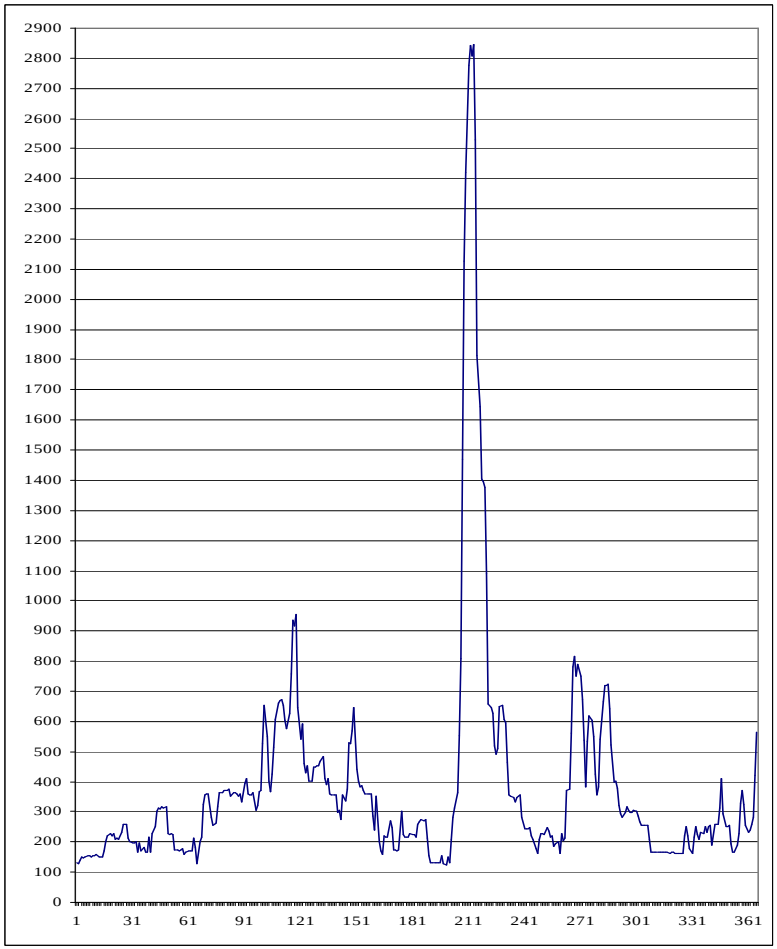


downstream



Flood **2008** (three dams on Dniester) upstream & downstream of Dubasari dam





Flood in Lower Dniester (2008)

Flooded houses in Moldova and Transdniester sector

Relation with other water issues in Moldova and Dniester basin

- Dramatic deforestation in Ukrainian Carpathians
- Land use in favour of agriculture

(arable lands > 76% in Moldova)

- Domination of Hydro Energetic interests among stakeholders (Dnestrovsk Hydro Power Complex management by two different juridical persons!)
- No effective mechanisms of stakeholders involvement in decision making
- Not effective land planning and violation of flooding zones' regime by construction
- Weak implementation of IRBM principles

Institutional and legal arrangements for cooperation – transboundary level

- **Intergovernmental Agreement MD-UA 1994 on border (not transboundary!) waters (responsible – water agencies)**
- **Intergovernmental Agreement MD-UA 1998 on prevention industrial accidents, calamities, natural disasters and liquidation of their consequences (responsible – emergency agencies)**
- **Protocol on floods control (2006) under 1994 Agreement on border waters:**

- **Related to only zone of joint borders**
- **Limited number of monitoring points**
- **No river basin approach**
- **Weak stakeholders involvement**

<u>Shortcomings</u>

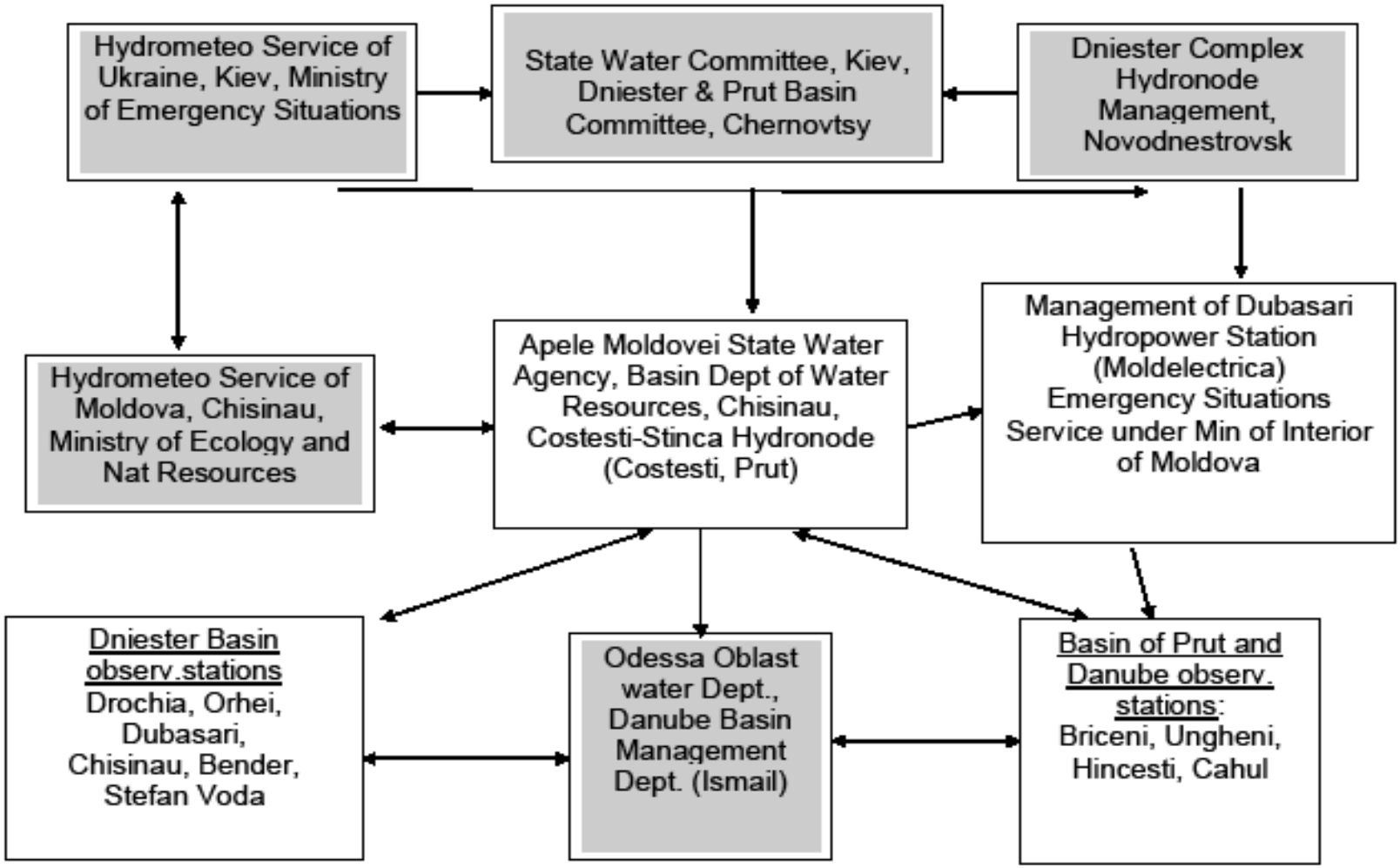
- **No river basin agreement (modern river basin agreement draft OSCE/UNECE exists, which provides river commission), but recently its necessity was opposed by governmental Plenipotentiaries of MD and UA**
- **No well established information exchange and in time notification**

Institutional and legal arrangements for cooperation on national level (2)

- Responsible on floods on national level in Moldova:

- *Emergency Service of the Ministry of Interior (system of notification)*
- *State Water Management Agency*
- *Ministry of Ecology and Natural Resources (Hydrometeoservice – system of notification)*
- *Local authorities*

Notification scheme between competent agencies of Moldova and Ukraine on hydrological situation on transboundary rivers in the period hydro meteorological events or accidents



Arrangements for transboundary cooperation

- Strong necessity of river basin agreements for both Dniester and Prut rivers
- Need of creation of river commissions as an institutional basis for floods prediction and management
- Overcoming of hydro energetic interests domination and harmonization of water uses with other interests
- Establishing of computerized transboundary information and flood broadcast systems

Achievements so far: success factors

- Willingness to cooperate
- Existence of external funds to support cooperation
- Existence of specialists
- Existence of understanding of the necessity to cooperate on river basin and transboundary levels

e. Potential improvements: knowledge gaps / learning needs

- Not enough experience in transboundary cooperation
- Lack of experience in modeling of floods on river basin level
- Problematic access to external funds (no enough experience) in projects like EU CBC & ENPI

Potential benefits of cooperation

- Prevention of damages by floods
- Better river basin management
- Harmonized interests of water users
- Flood forecasting and announcement
- Less pollution of the river
- Safeguard clean drinking water
- Urgent repairs and essential improvements to levees and flood control facilities
- Increased flood protection for urban areas
- Evaluation and repair of the current flood control system

Schemes of information and notification under Floods Prevention Protocol (2006)

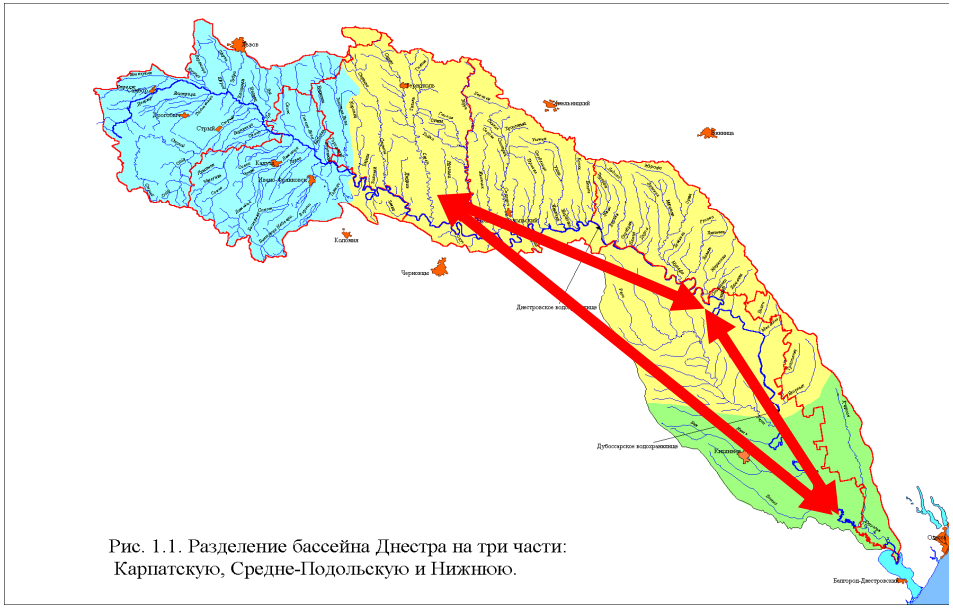


Рис. 1.1. Разделение бассейна Днестра на три части:
Карпатскую, Средне-Подольскую и Нижнюю.

Challenges and obstacles for transboundary cooperation

- Departmental interests contradict multi-stakeholder approach. Consequences:
- No river basin agreement and no river commission;
- Stakeholders interests are not taken into consideration;
- Notification is not efficient
- No coordinated emergency planning
- Flood prevention plans on national, not basin level

Possible solutions to improve transboundary flood management

- New river basin agreement
- Establishing of river basin commissions and basin transboundary councils
- Development of automatic information and notification systems basing on hydrometeo databases
- River basin flood management plans and basin programme
- Multistakeholder approach
- Simplifying of access and exchange of information in both countries

Conclusions:

- Dniester River basin presents a good example of the East European transboundary river to develop a flood forecasting and announcement model for the whole region
- Successful floods management for Dniester River needs legal and institutional improvement of cooperation based on Helsinki Water Convention principles