Meeting Report

Second CABRI-Volga Expert Group Meeting
Kazan, Russia
5-7 April 2006

Foreword

The CABRI-Volga project (www.cabri-volga.org) held the second of its three Expert Group Meetings in Kazan, Russia, on 5-7 April 2006.

Sixty distinguished project-external experts from various institutional, scientific and geographical backgrounds from the EU and Russia joined about thirty CABRI-Volga project partners to continue discussion that started at the First Expert Group Meeting (28-30 September 2005, N.Novgorod, Russia). They shared expert assessments on major problems and future directions of coordination and cooperation between stakeholders in environmental risk management in large river basins in Europe, with a particular emphasis on the Volga Basin.

The main goals of the meeting were:

- To strengthen links between the scientific community and policy-making processes
- To develop a dialogue that helps to identify challenges, opportunities and constraints for coordination and building partnerships between stakeholders in environmental management
- To exchange expert assessments on the major problems and their future dynamics, as well as factors affecting them
- To share expert insights about future strategies, measures and joint actions in environmental problem solving

The Second Expert Group Meeting took place in the framework of the CABRI-Volga project phase “Scenarios of Development” in environmental risk management in large river basins. Objectives of this phase have been:

- To identify problems, challenges, opportunities and constraints for coordination and cooperation between stakeholders in environmental risk management in large river basins in the EU and Russia, with a major focus on the Volga Basin
- To forecast the dynamics of the problems, and short-term, mid-term and long-term changes in the challenges, opportunities and constraints in environmental risk management in large river basins
- To develop strategies of environmental risk management in the Volga basin that are directed towards solving of the problems already identified and towards enhancing effectiveness of management actions
- To develop measures and actions for improving environmental risk management in the Volga Basin.

The major findings and results of expert brainstorming and discussion during the sessions are to be summarised in the CABRI-Volga Report on scenarios of development, and they will be available for the wide public on the project website. These results also lay down the basis for the following CABRI-Volga phase “Recommendations and Future Actions”.

The present Meeting Report provides a summary of the "discussion results" obtained in the five thematically structured CABRI-Volga Expert Groups:

The "List of Participants" is provided on page 35. It includes the names and affiliation of the participants from Russia (57), Kazakhstan (1), the EU countries of Austria (1), Belgium (1), France (5), Germany (8), Greece (1), Italy (4), Hungary (2), the Netherlands (7), Poland (1) and UK(2) as well as from Thailand (1) and the United States (1).

The CABRI-Volga project would like to thank the sixty experts for their active and constructive participation at the Second CABRI-Volga Expert Group Meeting in Kazan!

Expert Group 1

"River and Environmental Rehabilitation"

Introduction

The Second CABRI-Volga Expert Group Meeting in Kazan fell into the project's phase during which major problems, opportunities and constraints for coordination and cooperation in environmental risk management in large river basins were analysed. At the meeting experts explored the dynamics in major problems and possible variations in the set of underlying factors over time, and identified possible scenarios and strategies of actions focusing both on the regional and the European contexts. The general focus of Expert Group 1 (EG1) is on environmental rehabilitation of large river basins with a special emphasis on improvement of water quality in the Volga Basin.

Foci of discussion

During the Second Expert Group Meeting, EG1 concentrated on exploring major problems in water quality management and coordination of policies, tools and measures of multiple stakeholders. It analysed the dynamics of the problems and underlying factors, and identified possible future strategies and actions in environmental problem solving. The major themes of EG1 discussion included:

- Water quality management: standards and setting priorities;
- Environmental monitoring and data dissemination to stakeholders;
- Integrated water basin management;
- Lessons from the Volga Revival program;
- Multi stakeholder approach as a tool to improve water quality and basin management.

Within these themes the main problems were identified and ranking of priority problems had been made. Major factors promoting for and constraining the problem-solving had been discussed. Future measures and actions proposed by the experts for solving each of the problem discussed had been formulated. EG1 experts also provided a summary of expectations related to the future of the Volga Basin environmental amelioration.

Methodology

Similarly to discussions in other expert groups the EG1 applied the following methodological approaches to the interactive expert brainstorming exercise:

- The UNESCO Volga Vision and CABRI-Volga "State of the Art" and "Good Practices" reports provided comprehensive information on the Volga Basin and formed a good basis for the identification of the main problems. Therefore, during the Second Expert Groups Meeting the focus had been on assessment of problems, factors defining problem-solving and future actions;
- The identification of problems, factors and measures is a result of interactive discussion and contributions from different stakeholders represented in the expert groups at the sessions;

- The interactive CABRI website to support the process leading to compilation of the challenges and obstacles report;
- The EG1 applied transparent mechanism for identification and discussion of problems, opportunities and measures;
- The discussion involved expert assessments based on integration of economic, social and environmental dimension.

The structure of the EG1 discussion included three following components:

1. Policy objectives
2. Problems and opportunities
3. Measures

Findings and results

1. Priority problems in the Volga Basin

The main problems of the Volga Basin have been considered during the EG1 discussion. The following issues were identified as the most important:

- Water pollution
- Insufficient basin management
- Ecological problems (loss of habitats and biodiversity)
- Lack of public awareness and participation
- Improper monitoring and information / data sharing and exchange

Indicated problems were then ranked according to their significance and priority. The results of the ranking are presented in the list below.

***Priority problems*:**

1. Water pollution
   - technical sources
   - legislation (licensing, standards)
   - communication (image, values)
   - awareness

2. Inefficient basin management

3. Ecological problems
   - loss of habitats
   - loss of biodiversity
   - lack of data

3.2. Measures suggested for priority problem-solving

Outlined priority problems were considered in a more detail, and results of assessments are presented in **Tables 1 – 3.** Such results are necessary for identifying possible solutions for these problems-solving.

Table 1. Water Pollution

No.	Measures	What helps?	What impedes?	What blocks?
1.	Application of new technologies	• Investments • Image, priority valuables and guiding lines of businesses • Increase of fees for waste discharges • Inventories of existing technologies	• Lack of finances • High prices of purification equipment	• High water quality standards
2.	Inventory of "hotspots"	• Studies and knowledge	• Lack of information	• Lack of cooperation between science and decision makers
3.	Improvement of the licensing legislation	• Enforcement		
4.	Taxation changes	• Withdrawal of the environmental expenses from profit • Wider use of the "polluter pay principle" • Annual increase in payments for pollution		

Table 2. Inefficient basin management

No.	Measures	What helps?	What impedes?	What blocks?
1.	Government control and enforcement of environmental measures implementation	• Cooperation and coordination between all levels of administration • Stepwise approach to responsibility and image of business • Balance between interests and responsibilities of the government • Dialogue and partnerships between the government and the environmental organizations	• Lack of realism on the governmental level, • Conflicts between the interests of the federal level and regions • Conflict of goals pursued by the government and business • Lack of transparency in relations between government - business - society	• Strong business lobby • Lack of environmental lobby
2.	Information about state of the Volga Basin	• Information dissemination to the public through mass-media • Nongovernmental organizations (NGOs) actions • Coordination and partnerships between researchers and policy makers and practitioners • Clear and meaningful indicators (sturgeon, etc.)	• Lack of internal criticism in scientific circles	• Lack of openness with the civil society • Low priority of environmental issues

Table 3. Ecological problems

No.	Measures	What helps?	What impedes?	What blocks?
1.	Increase in natural protected areas	• Increase of agricultural productivity • Multipurpose use of lands and engineering structures	• Poverty of rural population • Conflict between economic development and environmental conservation • Expansion of oil-gas fields	• Conflicts of interests and lobbies
2.	Application of Environmental water discharges from hydropower plants principle	• Balance of interests, • Improvement of technical instruments • Development and application of basin modeling	• Policy of the Energy ministry regarding water discharge • Lack of information (monitoring, forecasts) • Absence of institutional coordination	• Unsustainable economic development • Lack of governmental support of environmental protection
3.	Introduction of payments for the use of natural resources and damage of the environment		• Inefficient taxation • Absence of a methodology for assessment of costs of natural resources and of damages to the environment	

3.3. Summary of measures proposed

3.3.1. Measures proposed by experts to solve the priority problems related to Water pollution:

- Application of purification works and new technologies
- Introduction of quotas on discharges
- Introduction of environmental management standard ISO 14000
- Improvement of water quality standards
- Assessment of risks
- Treatment of sewage from households
- Introduction of environmental protection into plans of economic development

3.3.2. Measures proposed by experts to solve the priority problem related to inefficient basin management:

- Increase area of special natural protected areas up to 3 times (from 43 km^2 to 120 km^2)
- Enhancing international cooperation
- Development of "Ecologically friendly" infrastructure
- Application of "Environmental water flow" guiding principle. Environmental water discharges from hydropower plants
- Introduction of payments for resource use and damage
- Wider application of economic instruments to promote ecologically friendly practices
- Improvement of public ecological consciousness
- Investments in ecological information
- Reduction of agricultural pollution
- Removal of illegal dumping sites

3.3.3. Measures proposed by experts to solve the priority problem related to Loss of habitats and biodiversity:

- Involvement of all stakeholders in discussion of the Volga's problems
- Raise of government awareness about ecological problems
- Exchange of civil servants between the Russian Federation and the European Union
- Governmental regulation and control over environmental measures
- Cooperation between different governmental institutions and departments
- Enhancement of public awareness; improvement of communication with the public
- Involvement of the public in Environmental Impact Assessment (EIA)
- Water pricing
- Better information about state of the Volga basin (clear and meaningful indicators)

3.4. Expectations related to the state and development of the Volga Basin

A set of possible changes in the Volga Basin suggested by EG1 is the following:

- Economy of Russia will develop in coming years
- In a 'business as usual' scenario, economic development may lead to serious pollution problems
- There is a necessity in setting good water quality standards separately for waste waters and surface water in consultation with stakeholders
- Accept on short term higher contamination levels
- Effective implementation of policies regarding water pollution (licensing and enforcement by the government, compliance by industries)
- Make clear that demands will increase in time, which is an incentive for industry to invest
- It is high time to take measures, and this window of opportunity has to be used

3.5. Major lessons learned from expert discussion

- It is very difficult to find solutions suitable for all water consumers. Their requirements are contradictory[1];
- To decrease costs in river and environmental rehabilitation and to use them in an efficient way, it is reasonable to combine territories used for flood protection with those of nature-conservation and recreation purposes;
- Experience of the Netherlands in water taxation could be applied in the Russian Federation[2].

[1] For instance, water transport needs navigable depths in downstream water, which requires discharges from upstream. Hydro-power stations have different aims. They are interested in water accumulation during the year to have reserve of water to be used in winter (low-water) season. Same conflict is between fishery and hydro-power stations, etc.

[2] High taxes for water pollution introduced by the Dutch government in 1971 forced stakeholders to make investments into purification works. Taxes for pollution and costs of purification works are almost the same at the moment. This indicates that measures adopted by the government were efficient.

Expert Group 2

"Human Security and Vulnerability"

Introduction

The Second CABRI-Volga Expert Group Meeting in Kazan fell into the project's phase during which major problems, opportunities and constraints for coordination and cooperation in environmental risk management in large river basins were analysed. During the meeting experts explored dynamics in priority problems and variations in the set of underlying factors over time, and identified possible strategies and scenarios and programmes of actions focusing both on the regional and the European contexts. The general focus of Expert Group 2 (EG2) is on human and environmental security in large river basins with a special emphasis on reducing risks from floods and technological accidents associated with water quality deterioration and potential accidents at dams and power plants in the Volga river basin.

Foci of discussion

During its session in Kazan EG2 explored major problems in flood risk reduction, as well as problems in coordination of policies, tools and measures by multiple stakeholders. It analysed the dynamics of the problems and underlying factors, and identified possible future strategies and actions in problem solving.

The major themes of EG2 discussion included:

- Flood management: Technical issues and planning
- Institutional considerations
- Public participation and socio-economic issues

Within these themes the main problems were identified by the experts and ranking of priority problems had been made. Major factors promoting for and constraining the problem-solving had been discussed. Future measures and actions proposed by the experts for solving each of the problem discussed had been formulated. EG2 experts also provided a summary of expectations related to the related aspects of future human security in the Volga Basin.

Methodology

For enhancing interactive discussion between experts, the methodology used in EG2 had the following features:

a) Addressing two main questions for any particular issue:

1) What are the challenges to assuring equitability in different kinds and scales of sustainability?

2) What are the domains in which vulnerability persists? (E.g. threats to biodiversity)

b) Round table discussions for specific issues, starting with the Russian experts
c) Listing of the problems and every expert "sticked" his priority
d) Brainstorming
e) For the 3 top priorities, a detailed analysis for remedial measures followed.

Findings and results

I. Priority problems

Expert discussion started with presenting the major goals of the session and structuring the brainstorming exercise. The foci of discussion on priority problems and its major conclusions are presented below.

EG2 discussion focused in 2 main areas:

1) Developing an inventory of the main problems and their priorities, and

2) Analysing in detail the 2-3 most important problems.

EG2 enumerated 5 key conclusions from discussion:

1) *Definitions*
- Human security = Equitability of benefits from sustainable socio-economic development.
- Vulnerability = Degree of damage, in case of an incident (e.g. flood).

2) *Review of EG2 conclusions from First EGM in Nizhny Novgorod (problems)*

- Smaller rivers are flood prone, the Volga is not under threat because of the dams
- Lack of flood monitoring
- Infrastructure maintenance
- Primary and secondary consequences of flood damages under-estimated
- Foreign know-how not optimally utilised
- Flood risk not considered in economic development plans
- Climate change increases the risk of flood
- Poor implementation and enforcement of legislation
- Limited public preparedness
- High vulnerability of small rivers and towns
- Weak institutional preparedness and response to flood threats
- Absence of modern up-to-date early warning systems
- Insufficient cooperation and exchange of information between institutions and stakeholders

3) *List of important problems (problems inventory, Table 1)*

4) *Priorities (Table 2)*

5) *Lessons learned and possible cost-effective remediation measures (see below).*

Pressing Problems (*not necessarily restricted to floods***)**

1) Hydrotechnical constructions (dams) ensure that Volga citizens are protected from floods; however, the dams are extremely old, more than 100 years in some cases and are deteriorating.
2) Considerable flood vulnerabilities exist with those constructions more than 50 yrs old.
3) Limited funding and poor fund management are contributing factors to their continuing deterioration.
4) Questions remain on what kind of risks (polluted water, irrigation) and which structures are most vulnerable?
5) "Sluice locks" are vulnerable structures. The last dam is located in Volgograd and accumulates all industrial grime.
6) Unclear responsibility for monitoring leads to a deficit of knowledge regarding the capacity of the Volga Delta to naturally clean the river water, so environmental and mainly biological vulnerabilities are high.

Problems Inventory ("Y*ellow sticker exercise"*)

Table 1. **List of technical, environmental, institutional and socio-economic problems**

Techno-logical Concerns	Environmental Problems	Institutional Shortfalls	Social and Economic Vulnerability
1. Safety of dams& hydro facilities 2.Technical disasters/ failures 3. Poor quality of pipelines that cross the river	1. Flood impact on groundwater 2. Accumulation of pollutants in the Volga Delta 3. Poor air quality in Volga cities 4. River bank erosion 5. Increase of dangerous meteorological events & processes due to climate change 6. Water quality, incl. microbiological contamination 7. Biodiversity and wetland losses 8. Floods within small tributaries	1. Shortage of communication & coordination between authorities and public participation (incl. information exchange) 2. Lack of public education (schools) 3. Lack of ecological monitoring in the delta 4. Inefficient control of flood processes 5. Insufficient monitoring of floods 6. Poor legal definition of flood-prone areas 7. Poor implementation & enforcement of legal norms 8. Lack of capacity building on how to be prepared for, and live with floods	1. No insurance system for damages 2. Residual risks due to uncertainty 3. Vulnerability of poor populations 4. Lack of social, economic and environmental dimensions considered within risk assessment of flood prone areas 5. Human health impacts

Summary of key problems

From the list of problems shown in the above Table 1, the majority of experts considered the following 3 problems as the most crucial:

1. Safety of dams & hydro-facilities
2. Water quality, incl. microbiological contamination
3. Lack of social, economic and environmental dimensions to be considered within the risk assessment of flood prone areas

II. Response Measures: Major lessons learned from expert interactive discussion

The summary of conclusions from the expert brainstorming exercise targeting identification of priority measures and a set of factors enhancing or restricting problem solving is presented in the section below.

Table 2. **Response measures, lessons learned and promoting/inhibiting factors for the 3 main problems**

Major Problem	**Response Measures (within the Volga)**	**Lessons Learned (outside the Volga)** (Existing experiences)	**Promoting / Inhibiting Factors - within the Volga** (+ve & -ve Driving Forces)	**Critical Success Factors (Feasibility)**
Safety of dams & hydro facilities (Technological Concern)	**A. Inventory & Risk assessment** **B. Planning** **C. Financing & Implementation**	* Forthcoming EU flood risk assessment directive * World Bank Dam Safety project in Sri Lanka *ICOLD – Int. Com. Of Large Dams (Guidelines&materials) * Int. HydroPower Assoc. * GEF Dnieper project	* Economic development (in general +ve but in light of the current situation, perhaps more -ve) * New Water Code (+ve) * Lack of institutional cooperation, transparency and approachability (-ve) * CABRI-Volga (+ve ;)	

For problem 1, the following detailed response measures were concluded from the discussion:

1. Establish an investment programme / Financing plan
2. Explore a green taxation as a financing mechanism
3 Rehabilitation & maintenance of existing structures based on risk assessment (Planning)
4. Risk zoning (of land-use activities) downstream of dams
5. Clarify ownerships and responsibilities (Planning)
6. **Risk assessment** and hydro-facilities modelling and ranking
7. Hydro-facilities **inventory** - define the purpose of the facility (Planning)
8. Inspection of dams (older than 50 yrs) and decommission if necessary (ranking)
9. Assessment of sedimentation problems
10. Maintain safety within the programme
11. IRWM planning
12. Enforce existing rules for equipment inspection
13. River basin plan for infrastructure

Table 2. (Cont.)

Major Problem	**Policy Response Measures - within the Volga**	**Lessons Learned - from outside the Volga** (Existing experiences)	**Promoting/ Inhibiting Factors - within the Volga** (+ve & -ve Driving Forces)	**Critical Success Factors (Feasibility)**
Poor Water quality, incl. microbiological contamination (Environmental Problems)	**A. Assessment, monitoring and planning** **B. WW treatment stations & technologies, legislation** **C. Natural wastewater treatment systems**	* EU Water Framework Directive *Danube river management/DABLAS Task Force Priority Investment & Financing Scheme * OECD/EECCA Strategy investments *IUCN Treatise on Environmental Flows *Forthcoming REACH Directive *MEDPOL – Mediterranean Pollution * Arsenic and Lead remediation research from UNESCO-IHE	* New Water Code (+ve) * Economic development (in general +ve but in light of the current situation, perhaps more -ve) * Lack of institutional cooperation, transparency and approachability (-ve)	

For problem 2, the following detailed response measures were concluded from the discussion:

1. *Legislation and control for point-source and diffuse pollution*
2. *Polluter pays principle (taxes)*
3. *Promote natural water purification systems (reeds, wetland restoration etc.)*
4. *Enforce legislation for water quality treatment*
5. *Promote law enforcement to prevent point source pollution*
6. *Promote public awareness of non-point source pollution via campaigns*
7. *Construct wastewater treatment plants and/or reconstruct WWTPs in small cities to limit discharges*
8. *Monitoring water quality*
9. *Environmental flow assessments*
10. *Maintain water quality as a 'quality of life' issue*
11. *Upgrade quality of water distribution networks*
12. *Water discharge and regulation from reservoirs*
13. *Introduction of efficient disinfection techniques within waterworks*
14. *Water use restriction*
15. *Strict control of norms related to concentration of contaminants in wastewaters*
16. *Financing of reconstruction of modern water works*
17. *Cooperate with industrial enterprise (to obtain discharge information)*
18. *Define sources of pollution*

19. *Identify arsenic hotspots in groundwater & educate public on water purification techniques*
20. *Educate public on water purification costs*

Table 2. (Cont.)

Major Problem	***Policy Response Measures - within the Volga***	***Lessons Learned - from outside the Volga*** *(Existing experiences)*	***Promoting/ Inhibiting Factors - within the Volga*** *(+ve & -ve Driving Forces)*	***Critical Success Factors (Feasibility)***
Risk assessment of flood prone areas omits social, economic and environmental dimensions *(Vulnerability)*	***A. Integrated risk assessment and management*** ***B. Tool building (e.g. technology development)*** ***C. Institutional Improvement***	** USEPA guidelines on risk assessment & management* ** Forthcoming EU risk assessment directive* ** IWI Programme – Int. Water Man. Inst. (Sri Lanka)* ** UNU Vulnerability Assessment Introduction* ** World Bank Training materials on risk assessment*	** Russian guidelines on risk assessment (+ve)* ** Russian methodology for flood risk assessment (+ve)*	*A.* *B.* *C.*

For problem 3, the following detailed response measures were concluded from the discussion:

1. *Perform flood mapping*
2. *Determine economic losses in flood zone areas*
3. *Estimate environmental losses due to flood*
4. *Identification of mitigation measures (incl. establishing early warning systems…)*
5. *Improve access to information*
6. *Do socio-economic assessment*
7. *Incorporate participatory approaches to risk assessment*
8. *Create a system of social-vulnerability indicators*
9. *Multi-disciplinary approach to risk assessment*
10. *Insurance*
11. *Education & Public awareness on flood areas*
12 *Employ network-based GIS technology to improve assessment of risk*
13. *Survey the willingness of inhabitants to accept a degree of risk*
14. *Cross-institutional risk assessment*
15. *Ready-made responses according to scenarios (Emergency preparedness)*
16 *Reduce barriers to institutional coordination*

Expert Group 3

"Natural Resources and their Sustainable Use"

Introduction

The Second CABRI-Volga Expert Group Meeting in Kazan fell into the project's phase during which major problems, opportunities and constraints for coordination and cooperation in management of natural resources in large river basins were analysed. During the meeting experts explored dynamics in priority problems and variations in the set of factors over time, and identified possible strategies and scenarios of actions focusing both on the regional and the European contexts. The general focus of Expert Group 3 (EG3) is on management of natural resources in large river basins with a special emphasis on sustainable water use, land cover change and biodiversity conservation in the Volga Basin.

Foci of discussion

During its session in Kazan EG3 explored major problems in sustainable use of natural resources and coordination of policies, tools and measures by multiple stakeholders. It analysed the dynamics of the problems and underlying factors, and identified possible future strategies and actions in problem solving.

The major themes of EG3 discussion included:

- Identification of priority problems and goals,
- Defining strategies and measures for problem-solving,
- Overview of opportunities and constraints for problem solving.

Methodology

In Kazan, the experts had the chance to continue and to intensify the discussion started during the First Expert Group Meeting in N.Novgorod. The EG3 leader had developed a working mode including a general guidance for the expert group which was compatible to discussion formats used by the other expert groups. The work process was led by major tasks and questions. Expectations regarding the outcomes were mentioned including an overview of the *major problems* in natural resources sustainable management in the Volga Basin, key *factors* and possible *measures* for problem-solving.

The session started with the definition of the priority problems. Each expert got cards to indicate his personal assessments relating to major problems in the Volga Basin. The cards were collected by the moderator who clustered and sorted them in groups. Afterwards all experts named and defined these groups. Finally the named topics were compared with the results of Nizhniy Novgorod, and the refined list was produced. The identification and definition of the problem clusters finally led to the following collection of problem areas:

- Administrative problems
- Decrease of biodiversity
- Bad water quality
- Inefficient use of natural resources
- Life quality in the Volga basin needs to be improved
- Quantity of water – water management
- Degradation of natural resources

Further prioritization of problems was undertaken. Each topic was weighted with points with a total amount of 42. The top four results of the ranking look as follows:

- Administrative problems (8/42)
- Degradation of natural resources (7/42)
- Inefficient use of natural resources (7/42)
- Quantity of water – water management (7/42)

Then, experts were asked to assess the problems and to identify and to characterise the key underlying factors for each of the problem. Evaluation and characterization of the factors that are inhibiting or promoting actions and measures aimed to achieve the policy goals is essential. Afterwards each problem area was discussed in detail and possible measures and scenarios were outlined.

The suggested methodology worked perfectly well in practice. The tasks posed before the EG3 session were met and expected results were reached. The listing and ranking of the main problem areas worked quite well.

Finding and results

Priority problems and goals

Basing on the list of problems compiled by EG3 during the previous First Expert Group Meeting in Nizhny Novgorod the refined list of priority goals was made, and it looks as follows:

- increase of ecological data availability,
- solution of institutional problems,
- strengthening of partnerships between stakeholders,
- integration of economic and ecological priorities.

A qualitative and quantitative assessment of problems, problem areas and a selection and ranking by importance is needed to identify challenges, opportunities and constraints for natural resources management in the Volga Basin. To forecast

the dynamics of problems and to develop strategies the named topics need to be defined in a more detail. The approach should be based on the qualitative and quantitative aspects of use and conservation of natural resources with a special emphasis on water resources in the Volga Basin.

During the session the EG3 experts indicated priority problem areas, ranked them according to their importance and compared them with the results of the First EGM in N.Novgorod. The four most important problems were named and discussed further in detail:

- Administrative problems
- Degradation of natural resources
- Inefficient use of natural resources
- Quantity of water – water management

Suggested policies and measures for problem solving

1. Administrative problems

This problem has been already discussed at the last meeting in Nizhny Novgorod. "Administrative problems" is the problem area including organization and management executed by government bodies at federal, regional and municipal levels. Both, the vertical and horizontal coordination and communication among agencies, and coordination with the public is poor.

It was suggested that the establishment of one agency responsible for the whole Volga basin could be a possible solution.

This problem area was considered important for the purpose of EG3 but should be treated in an integral manner in EG5.

2. Degradation of natural resources

"Degradation of natural resources" describes a complex problem area including water and land resources, terrestrial and aquatic ecosystems subjected to degradation processes. The most relevant parts here are the water and land resources. The water resources include the surface- and groundwater.

It was summarised that the groundwater resources in the Volga Basin are affected by pollution in zones of shallow surface and in the area of oilfields. For example, inhabitants of the coastal areas can not use it for drinking purposes. The Volga reservoirs, such as the Cheboksary or the Rybinsk reservoir directly affect the groundwater level (rise up to 0.6 m).

The experts noted that the water quality in the Volga Basin is an important discussion topic. Although analysis showed that the water quality has improved during the last years, in N. Novgorod, for example, no beach was opened for the public last summer and the Volga still is among the dirtiest rivers in Russia. In general, the water quality has improved during recent decade, but in urban areas it remains to be low. Among

the reasons for this are changes in the structure of polluters. Today, small and medium size industries and households are the big polluters. They can not afford to invest in purification systems, or to provide their maintenance. In some cases, it is easier to pay a fine instead of buying a treatment system. This leads to a lack of purification systems of small and medium scale polluters.

Even worse than some years ago is the microbiological pollution in the Volga Basin. The surface water resources are affected by pollution through microorganisms. Supporting this, the big reservoirs in the Volga basin heat up in summer, a perfect environment for microorganisms.

Possible strategies and measures to improve the water quality suggested by the experts were the following:

- Facilitation of acquisition of data and information, including monitoring and communication of results.
- Installation of water treatment facilities for small industries and households. An incentives for installing waste water treatment facilities should be given, e.g. tax benefits, or increased penalties.
- Improvement of the control of waste water discharge at origin. This control system should be unified for the whole Volga Basin.
- Enforcement of environmental and water codes.
- Allocation of financial provisions at governmental level (budgeting, vertical transfer mechanisms).
- Spatial planning is important. There should be additional assessments related to special protected areas, nature reserves, national parks.

3. Ineffective use of natural resources

This complex problem area including water, land and mineral resources was defined by key factors. The most relevant parts are the water and land resources used for different purposes such as agriculture, energy, municipal water supply and navigation. The experts mentioned the following key issues:

For irrigation: water quantity, allocation of water among different users,
For energy production: storage in reservoirs,
For human settlements: land occupation, stability in economic activities.

Ineffective water-use in the Volga Basin is a serious problem. The experts concluded that there is an ineffective use of water resources in the energy sector, in the agriculture, in the fish industry and in the transport sector. The allocation of water resources is a prior problem in comparison with water availability.

The reservoirs of the Volga Basin are a network of hydropower plants which are operated by a central agency. Operational problems of these hydropower reservoirs are a reason for inefficient use of water resources in the energy sector. In most cases

the water level does not reach the optimum water level (e.g. Cheboksary reservoir). A number of reservoirs needs the reconstruction and renovation; at some of them construction has not been completed.

For agricultural needs about 300.000 ha are irrigated annually, and it accounts for about 50 percent of lands irrigated during the Soviet period. But due to old and outdated irrigation systems, the water canals are in a poor state and loosing a lot of water. An intensive soil salinization is another effect of the leaking water supply networks.

It is difficult to optimise the allocation of the water because of the lack of knowledge how much water the different users need. There are different prices for water users. Households pay less then, for example, businesses. The result is the trading between the different water consumers, and it makes it very difficult to optimally define and control the real water use of the different consumers. Another problem is the fixed water prices applied to water users independently from the amount they have consumed.

Along the Volga, inland waterway transport and traffic problems occur mainly between the Rybinsk and Gorki reservoirs. The water level is not high enough for passing vessels. There are discussions to deepen the river for navigation and to ensure a minimum needed water level.

Possible strategies and measures towards sustainable use of water resources suggested by the experts were the following:

- Improvement of operation of hydropower reservoirs. A number of technical measures for the whole Volga Basin should be set up to optimize the hydropower operations. The monitoring, the data and the forecast systems need to be improved. A better communication and cooperation between the energy sector, the environmental agencies and the representatives of the water-users could help to use the reservoirs more effective.

- Rehabilitation and maintenance of irrigation structures should reduce the losses.

- It was indicated that it will be difficult to define the real water use and to set up limits for the water consumers. Modernisation of the legislation and a prohibition of trading would be needed, and even then it would be difficult to assign the water use and to reduce the consumption.

Two interesting points had been mentioned in relation to inefficient land-use practices. Due to deep changes in economic systems a great deal of rural lands had been abandoned. Companies who owned agricultural land got bankrupt and left behind the deserted areas. One reason for this may be serious structural problems in the agricultural sector. Incentives for local agricultural population are essential, along with rehabilitation of housing-infrastructure and introduction of economic opportunities to stop migration into cities.

4. Quantity of water –water management

The last problem discussed at EG3 session has been the excess, or lack of water in parts of the Volga Basin during certain periods. It causes flooding of lowlands in the river basin, it affects agricultural sector and river transportation. Spring floods occur annually. A better forecasting and warning system would make it easier to deal with them. The interests of different stakeholders should be coordinated and integrated into a common strategy and approaches. Reservoirs could help to control the floods but not everybody is interested to raise the water level and use them as retention basins.

Possible strategies and measures towards improvement of water quantity management suggested by the experts were the following:

- A better acquisition of data and information including monitoring and communication. The development and maintenance of warning and action plans could be a regular practice for flood risk reduction.

- Improving the predictions through hydrologic models could help to have a better forecast. Experts mentioned as an example, the wrong forecast concerning the water level of the Caspian Sea. Before 1970 scientists had made predictions that the water level would go down, but instead the water level increased by two meters.

- Incorporation of interests of various stakeholder groups into decision-making process. One of the suggestions has been to set up a body, responsible for integrated water management in the whole Volga Basin.

- Linking all measures and programs with education of the public. This includes ecological education and knowledge exchange of behaviour during floods.

Lessons learned from expert discussion

A clear overview of the major problems deserving attention and improvements in the Volga Basin is one of the objectives of the meetings in Nizhny Novgorod and in Kazan. To identify challenges, opportunities and constraints and to develop measures and scenarios the problems need to be defined very exactly with a special focus of the Volga Basin.
To investigate possible measures, scenarios and future trends of the problems the experts concluded that evaluation of demographic factors is needed. Investigations on population in Russia showed population would decline by about 15% in the next 25 years. Immigration could smooth this problem, but there will be no growth. Other important factors will be the social and economic development.

Some other important issues were discussed under several topics. The improvement of communication, cooperation and data exchange between different stakeholders and agencies was named very often. A measure which was mentioned a couple of times was to set up of a single body responsible for the whole Volga Basin.

The experts remarked that the Volga Vision of the UNESCO implemented a number of programs. CABRI should build more close links with them.

Expert Group 4

"Connecting Goods and People"

Introduction

The Second CABRI-Volga Expert Group Meeting in Kazan fell into the project's phase during which major problems, opportunities and constraints for coordination and cooperation in integrated management in large river basins were analysed. During the meeting experts explored the dynamics in priority problems and variations in the set of factors over time, and identified possible strategies and scenarios of actions focusing both on the regional and the European contexts. The general focus of Expert Group 4 (EG4) was on the four main types of interrelations between large river basins and the transport of goods and people, i.e. depending on the actual role of the river as an infrastructure for water-borne traffic and transport, as a separating barrier between transport origins and destinations, as an origin and destination of trips in itself, and as an ecological system affected by transport emissions and infrastructures.

Foci of discussion

Following the Expert Group Meeting in Nizhny Novgorod, it was decided to focus discussions in EG4 in Kazan specifically on *inland navigation* and *intermodal freight transport*:

Aiming at sustainable transport development, water-borne transport represents an important alternative mode promoted by the EU and some of the member States itself. On the Volga and in Russia in general, the importance of water-based transport (expressed in transport volume) has declined since the end of the Soviet Union. The goods transported today are mainly building materials and other bulky goods.

The Second Expert Group Meeting in Kazan offered an opportunity to discuss strategies to revive water-based transport, also considering the strategic dimension of long-distance transport for a growing economy like Russia as well as the competitiveness of its regions.

The competitiveness of water-borne transport depends to a large extent on the availability of appropriate interchange facilities at strategic locations. Under the keyword "intermodality", the planning, financing and operating of such facilities and the corresponding transport services were discussed in light of (inter)regional and local logistic patterns, including connecting transport (ferries substituting bridges).

Policies to promote water-borne transport could be complemented by actions and interactions of local governments, businesses, freight operators, environmental groups, the local community and other interested parties.

Methodology

Discussions among experts from Russia and the EU were lively and in part controversial. Ultimately, discussions resulted in the formulation of main transport

related problems, the identification of priority areas of investment, the determination of transport-related trends for the Volga basin as well as, finally, "A Volga Basin Transport Scenario for the Year 2020".

Problems identified

The main problems transport-related problems in the Volga Basin were identified by the experts as follows:

- Lack of integrative transport strategy
- Transport modes are not linked and competition between the different transport modes is perceived as unfair
- Waterway & infrastructure conditions are poor
- There is no service guarantee (continuity, water levels)
- Potential for recreational activities is not used (but would fulfil a social need)
- Transport at low cost is no more available
- Efficient cross-river/ regional public transport is missing
- Policies are not coordinated between federal, regional, international levels

Priority areas of investment

Based on the identification of the main transport-.related problems in the Volga Basin, experts were asked to set priorities by allocating an imaginary and fixed budget to tackle these problems. The exercise resulted in the identification of the following three priority areas of investment:

- (1) Build an integrative transport strategy
  - Build private-public partnerships
  - Ensure that the major rivers are fully navigable (uniform, "constant" water system which is well connected within basin and to outside)
  - Set-up a regional information database
  - Basin-wide consultation platform
  - Harmonisation of regional/ sectoral strategies
  - Redistribute power plant income to waterway maintenance by unifying ownership
  - Analyses (cost-benefit, SWOT[3], good practices)
  - Balance: transport - economy – ecology - society

[3] SWOT = Strengths, Weaknesses, Opportunities and Threats

- (2) Link transport modes
  - Create intermodal (freight) ports strategically positioned at key trade nodes and coordinated by the federal government. All major actors as well as all transport modes would need to participate and private-public partnerships set up. It was suggested to build such intermodal (freight) ports on emerging logistics centres in the Volga Basin.
- (3) Gradually improve infrastructure
  - Customise existing ports for goods exchange
  - Stimulate private companies (tax breaks, subsidies)
  - Increase deep water (or guarantee water level)
  - Renew locks & gateways

Trends

All experts were asked for their perception about how the eight identified problems would develop in the near future (until the year 2020) with three options for each problem: worsening, remaining unchanged, getting better.

The average (and by no means representative) trends are as follows:

Getting worse by 2020 (compared to 2006):
⇗ **Transport at low cost is no more available**
⇗ **Policies are not coordinated between levels**
Remaining unchanged by 2020 (compared to 2006)
⇔ **Lack of integrative transport strategy**
⇔ **Transport modes are not linked**
⇔ **Waterway & infrastructure conditions are poor**
Getting better by 2020 (compared to 2006)
⇘ **There is no service guarantee**
⇘ **Potential for recreational activities is not used**
⇘ **Lack of efficient cross-river/ regional public transport**

"A Volga Basin Transport Scenario for the Year 2020"

The expert group discussion finally concluded in the formulation of a possible transport scenario for the Volga Basin for the Year 2020. Apparently, it is only one of many possible scenarios and perhaps even a very pessimistic one as the comments of several other experts (outside of expert group 4) in the final plenary session in Kazan indicated. However, it is a first attempt from a transport perspective for the Volga Basin which can be built upon:

"A Scenario"

- **Population & society**
  - Natural population decrease (~10%):
    - Outmigration, partly compensated by new immigration
    - Modified ethnic composition
  - More complex mobility patterns
  - Higher attention of society on Volga
- **Natural resources & energy**
  - Increased natural exploitation of resources & their transport
  - Decrease in biodiversity (e.g. sturgeon!)
- **Economics & business development**
  - Central Asian economies booming (but no Volga impact)
  - New building construction demands goods transport
  - Significant salary rises & general turnover increase
  - RF has joined World Trade Organisation
  - Open international waters
  - Strengthened ports
  - Regionalisation of economies
  - Growth of service industries (less goods transport)
  - Increased international links of the key regions at the cost of internal links
  - Importance of East-West over North-South axis
- **Knowledge & technoloy**
  - Growth of know-how
  - Extended use of information technology

Expert Group 5

"Institutional Cooperation and Coordination"

Introduction

The Second CABRI-Volga Expert Group Meeting in Kazan fell into the project's phase during which major problems, opportunities and constraints for coordination and cooperation in environmental risk management in large river basins were analysed. During the meeting experts explored the dynamics in major problems and possible variations in the set of underlying factors over time, and identified possible strategies and scenarios of actions focusing both on the regional and the European contexts. The general focus of Expert Group 5 (EG5) is on how to enhance institutional coordination, including design and performance of institutions, and how to strengthen cooperation and partnerships of multiple stakeholders in environmental risk management in large river basins. EG5 also provides aggregation and cross-cutting comparisons of insights and lessons learned on coordination/cooperation issues from thematic areas covered by the other four expert groups.

Foci of discussion

During the Second Expert Group Meeting, EG2 concentrated on refining the priority policy goals for sustainable development in the Volga Basin and sets of underlying factors, on inquiry about application of coordination and cooperation as important tools in good water governance, on inventory of major stakeholder groups and their interests, on exploring potential for building partnerships between stakeholders. The major foci of EG5 interactive expert discussion has been the following:

- Identify priority strategies and policies in coordination and stakeholders cooperation in environmental risk management in large river basins
- Define driving forces, opportunities and constrains for problem-solving
- Identify major stakeholder groups in the Volga Basin, their interests, approaches and possible influence on problem-solving
- Assess potential for building partnerships between various stakeholders
- Analyse possible future scenarios of the Volga Basin sustainable development[4] along with identification of major possibilities and constraints for their realisation

Methodology

The EG5 methodology envisaged the structured work-plan for the interactive expert brainstorming exercise during the session. All experts had to meet the following tasks:

[4] The analysis of scenarios is made within the context of trends in evolution of existing problems within four basic scenarios

- Define priority policy goals for the Volga Basin environmental risk management and coordination[5] and underlying factors
- Identify the list of major stakeholders in the Volga Basin;
- Assess stakeholders' approaches and potential for meeting policy priority goals.

During the EG5 session all tasks posed before the experts were fulfilled. The interactive discussion has been quite intensive. The EU expert assessments and comments were successfully combined with the insights of the Russian experts. This methodology appeared to be quite effective in practice and allowed to get interesting results. The outcome of its application has been that during a short period of time (about 5-6 hours) it provided formulation of expert opinions and summary of expert assessments relating to the key issues. Experts positively evaluated the results and mentioned that they were going to apply this methodology while coming back home.

Major findings and results

I. Priority problems, their dynamics and underlying factors

Experts underline that selection of policy goals and identification of major priorities for such vast territory as the Volga Basin is a complex endeavour which builds links and foresees the transfer from the present to the future. The decision-making process is defined by a variety of internal and external factors. It aims at selection of priorities in order to concentrate efforts and resources available on meeting the most important targets.

From the list of 9 major problems formulated as a result of CABRI-Volga previous phase and expert assessments during the First EGM in N.Novgorod, experts had selected the priority problems. They have refined 4 respective policy goals, as well as opportunities and constraints for meeting them. The list of priority goals is presented below:

- Building and consolidating partnerships between stakeholders, involvement of local public;
- Enhancing institutional frameworks and solving institutional gaps;
- Coordination between economic, social and environmental priorities*;*
- Integrated prevention and control of environmental pollution as a result of anthropogenic and natural factors.

These priority policy goals are refined and selected from the 'full list' of problems compiled during the previous CABRI-Volga phase which including such issues as: 1) integrated water use management; 2) integration of economic and environmental priorities; 3) strengthening partnerships between stakeholders, including the local public involvement; 4) reduction of polluted waste water discharges; 5) enhancing ecological monitoring and data sharing; 6) institutional problems solving; 7) floods

[5] The priority policy goals had been defined and refined on the basis of on the basis of the list of major policy goals compiled from CABRI-Volga previous phase, the expert assessments during the First EGM in N.Novgorod, and partners input through the web-site.

risk reduction: technical and socio-economic planning; 8) development of unified Volga general action plan "Mobility 2010"; 9) coordination mechanism for passenger and freight transport.

II. Main stakeholder groups

In a course of preparation for the EG5 session the list of major stakeholders in the Volga Basin has been compiled and suggested for the expert assessments. In a course of expert discussion the following list of stakeholders has been made.

Table 1. **The list of major stakeholders in the Volga Basin**

Заинтересованные стороны		Stakeholders
Федеральные органы законодательной власти	LFA	Legislative federal authorities
Федеральные органы исполнительной власти и их территориальные подразделения	FEA & TB	Federal executive authorities and their territorial bodies
Региональные органы законодательной власти	LRA	Legislative regional authorities
Региональные органы исполнительной власти	REA	Regional executive authorities
Местное самоуправление	LSG	Local Self-governance (municipalities)
НПО	NGO	NGO
Научные организации	SO	Scientific organizations
Малый и средний бизнес	*SME*	Small and Medium Size Enterprises
Крупный бизнес	BB	Big business
Домохозяйства	HH	Households
Межрегиональные ассоциации	IRA	Inter-regional associations
Группы населения, требующие протекции	MG	Major groups of population requiring support and protection (women, indigenous groups)

In a course of discussion the original list of stakeholders for the Volga Basin has been modified. For example, experts decided to include 'interregional associations and public basin councils' as a separate stakeholder group. This decision was accompanied by a vivid discussion about the extent of 'independency' of such bodies and their ability to support meeting the priority policy goals. One of the opinions has been that they cannot be presented as a distinct and powerful group as they follow and express the opinion of the regional organs and the heads of administration. It was also stressed that potentially important role of the basin councils had been diminished after establishing in a course of the administrative reform of the federal districts; the scope of basin councils' authority sealed by the new RF Water Code, 2006 turned to be very vague and uncertain.

The initially suggested group tagged as 'population' has been modified for 'households'', i.e. the distinct group of actors with distinct interests and resources. Additional group which included women and indigenous people was incorporated into the list as requiring special support, protection and public representation. The initially suggested group 'mass media' has been removed from the list, because despite the influence it possesses, it does not have it's own well defined interest, but usually reflects other actors interests and approaches.

III. Assessment of stakeholder approaches to priority policies and measures

Experts noted that all stakeholders representing various interest groups are structured; their societal functions and roles are institutionalised. Each stakeholder group usually has its own interests, and stakeholders are interacting with each other according to certain rules and informal arrangements. Behaviour of each stakeholder group is defined by institutional settings, while stakeholder actions significantly influence the societal dynamics and policy outcomes. Thus, reaching particular policy goals and undertaking certain measures depends to a high extent on interests, positions and approaches, and particularly, on potential for concrete actions of each stakeholder group.

During the EG5 session experts were asked to assess positions of each stakeholder group towards meeting each priority policy goal identified earlier. Two components of such assessment were suggested: (1) *influence* on reaching the policy goals, (2) *interest* in reaching the policy goal. Such approach allows to compare 'interest-influence' in problem-solving of each particular stakeholder in the Volga Basin. It means that in cases when 'interest-influence' correlate significant drivers for problem solving can be tracked. On the contrary, in case of significant deviations, meeting particular policy goal is problematic.

These evaluations were undertaken with the help of a 'sticker exercise'. Positions of each stakeholder group to priority policy goals were disaggregated according to four major policy goals identified earlier (Annex 1).

- **Building and consolidating partnerships between stakeholders, involvement of local public**

A number of interesting expert observations had been discussed. For example, the influence potential of the government authorities for meeting this priority policy goal is declining, while their interest is increasing in a course of vertical top-down scaling from federal to local level within the Volga Basin. According to expert assessments, the level of interest of federal legislative authorities in meeting this goal is almost twice as lower than their influence potential, while on the contrary, the local authorities are lacking the influence. It is peculiar that two completely different assessments had been made by the experts about the role of regional authorities. According to one opinion the characteristic of regional authorities is a very low interest in environmental problem-solving, while another expert considers that despite a number of conflicting interests in realisation of particular programmes the regional authorities are highly interested in the issue.

The households in the Volga Basin have extremely low influence potential, while their interest is assessed comparatively as a bit higher. Usually, households in Russia do not have either a well defined position, or desire to be a part of a partnership, as they

are significantly disengaged and public awareness is low. Thus, undertaking urgent measures for enhancing public involvement is essential. On the contrary, in the Netherlands, for example, almost each family takes part in water resources management, and also clearly follows the 'polluter pay principle'.

It was noted that large businesses had a considerable influence potential, especially in terms of financial resources available, while its interest in problem-solving is quite low. In contrast, small enterprises, usually, have neither interest, not influence in the field as they are preoccupied with the issues of 'survival'; combination of measures for SMEs support with measures for increase of their awareness are required. Since recently, there are indications at development of private-state partnerships, and it is extremely important to mobilise their potential and use it as a tool for good water governance, especially for water protection and integrated water-use.

- **Enhancing institutional frameworks and solving institutional gaps**

Experts indicated that in the Volga Basin variation in approaches of stakeholders to this issue is high. Significant influence potential is registered for the legislative and executive federal and regional authorities, while their interest in general is lacking behind this potential.

There is a correlation between interest and influence of municipalities. It is extremely important as according to expert opinions this is the exact level where decisions are undertaken weather a particular ecological programme would be executed (or not). There was also an opinion that in those municipalities where the environment was under siege, the municipalities would act more actively under the public pressures.

Interregional associations are interested in this problem-solving, although they are lacking the influence potential. Experts noted that if the influence of this group is supported and enhanced, it is possible to achieve significant results in attaining this policy goal. The EU experts mentioned that it is extremely important to mobilise regional and local resources within the river basin, and to encourage initiative of such associations. Basin organisations have to put their effort in mobilisation of resources, because, for example, in the Netherlands the government finances only innovation technologies, while other stakeholder groups concentrate on securing resources.

Low levels of interest and influence are characteristic for the households, SMEs, scientific organisations and indigenous people. Experts believe that local public has a desire to be involved, for example, in implementation of the programmes for environmental rehabilitation, but it is not 'invited'. It is evaluated that, the public is not ready to deal with general problems, but prefers to focus instead on discussion of local problems of their households. Measures are to be undertaken to mobilise local activity and initiative, to involve local population in decision-making. Interesting examples from the Mersey river basin campaign in the UK had been discussed and they could be used for learning how to involve local public and businesses in environmental rehabilitation activities (the MB organisation itself is playing the role of a broker and coordinator).

- **Coordination between economic, social and environmental priorities**

Currently, in Russia, in general, and in the Volga Basin, in particular, government authorities have a priority interest in economic development in comparison to ecological concerns.

Since recently, large enterprises have an interest in establishing the ecologically friendly image. The larger is the company, the higher is its interest; particularly, this relates to export oriented businesses. Installation of environmental friendly technologies, ecologically benign production is regarded as a part of competitive economic advantages.

Households and SMEs have low indicators of interest and influence. Currently, significant part of population is much more preoccupied with social security issues, economic survival, crime, corruption in comparison with ecological problems.

Comparatively high interest is characteristic for interregional associations, but similarly to the above cases of other policy goals their influence is quite modest. In contrast, the scientific organisations and NGOs have medium influence potential, while their interest in meeting these policy goals is quite low. The EU experts indicated that, for example in UK, many stakeholders have an interest to build partnerships with environmental NGOs in order to have a positive green image.

- **Integrated prevention and control of environmental pollution as a result of anthropogenic and natural factors**

Interest and influence in meeting this policy goal is comparatively high among all stakeholder groups in the Volga Basin. The scientific organisations, large business, households and interregional associations are among the most concerned and interested in the problem-solving. However, their influence potential, unfortunately, is not sufficient for them to be real drivers in problem-solving.

Influence potential is high only among government stakeholder groups, but their interest declines along top-down scaling (Annex 1). In contrast to the above mentioned groups, they have the potential for problem-solving, but have other priority concerns instead. According to expert assessments, within government stakeholders only municipalities can be regarded as important actors in realisation of policy goals in practice, and this fact is to be seriously taken into account in developing recommendations for future action.

Among conclusions from expert assessments within this policy goal is that none of stakeholder groups have positive correlation when the level of interest fits with the level of its influence potential. It explains, to a certain extent, the scope of the existing problems and difficulties in achieving pollution reduction in the Volga Basin

Summary of expert assessments

The summary of major conclusions from expert assessments generated in a course of interactive discussion in EG5 session is presented in this section of the report. The core findings of experts can be summarised as follows.

1. Priority policy goals in environmental risk management and coordination in the Volga Basin include four basic targets:

- Building and consolidating partnerships between stakeholders, involvement of local public *("partnerships")*;

- Enhancing institutional frameworks and solving institutional gaps *("institutions")*;

- Coordination between economic, social and environmental priorities *("socio-economic-environmental");*

- Integrated prevention and control of environmental pollution as a result of anthropogenic and natural factors ("pollution control").

2. To achieve these goals the interdisciplinary coordination between main stakeholders that have a real influence potential and an interest to meet them is essential

3. Refined list of main stakeholder groups in the Volga Basin, according to expert assessments includes the following groups:

- Federal legislative authorities
- Federal executive authorities and their territorial bodies
- Regional legislative authorities
- Regional executive authorities
- Municipalities
- Non-governmental organisations
- Large business
- Small and medium size enterprises
- Households
- Interregional associations
- Groups of local population in need of special support and protection

4. Assessment of approaches and positions ("interest" and "influence") of the main stakeholders in the Volga Basin can be summarised as:

1. Almost all stakeholders have relatively high *interest* and *influence potential* in achieving the priority policy goals. Many groups are characterised by the influence potential at the level which is higher or similar to the level of their interest. Particularly, it relates to a maximum extent to various government authorities, and to a less extent to municipalities. The opposite situation, when interest is higher than impact potential, is typical for the households and interregional associations.

2. Most stakeholder groups have a unanimous and prior interest in attaining such goals as "Partnerships" and "Pollution control", while deviation in their approaches to "Institutions" and "Socio-economic-environmental" goals is larger.

3. There is a number of variations across stakeholder groups in correlation between their interest and influence potential. The major features are the following (see also, Fig.1):

a) High influence potential is characteristic for all levels of government authorities; however it declines along top-down scaling from the federal, to regional and to local administrations. In its turn, the curve of their interest is augmenting.

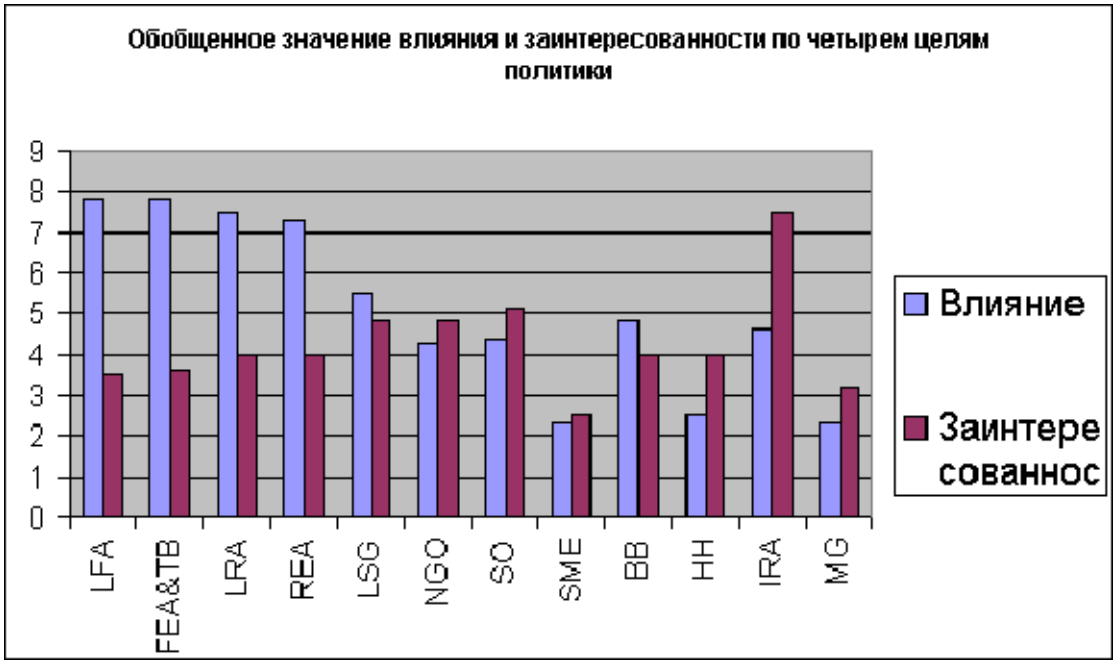
b) Interest and influence of NGOs and scientific organisations is almost at the same level, and is ranked at the mid-level.

c) Correlation of these two indicators for large and small businesses is almost the same; however, big enterprises have higher interest and influence.

d) Interregional associations are highly interested in achieving the priority policy goals. In case their influence increases positive results in meeting policy goals might be more rapid and effective.

e) Such groups as federal and regional authorities and large and small businesses are not very much interested in partnerships and local public participation.

Fig. 1: Expert aggregated assessment of 'interest' and 'influence' potential among major stakeholders in the Volga Basin in attaining priority policy goals



Lessons learned from practice

During the EG5 session experts from the EU and Russia discussed and exchanged some lessons learned from their practices in coordination and stakeholder cooperation in the river basins. Particularly, the results of actions in building partnerships at various levels within the following programmes were assessed:

- Coordination of actions within international initiative "Great Volga Route" - the *large river basin* level (Farida Zabirova, Tatarstan Republic)
- Coordination of actions in rivers rehabilitation – the *municipal* level (Mark Turner, Great Britain)
- Water-use coordination and management – the *national* level (Van der Arie, the Netherlands)

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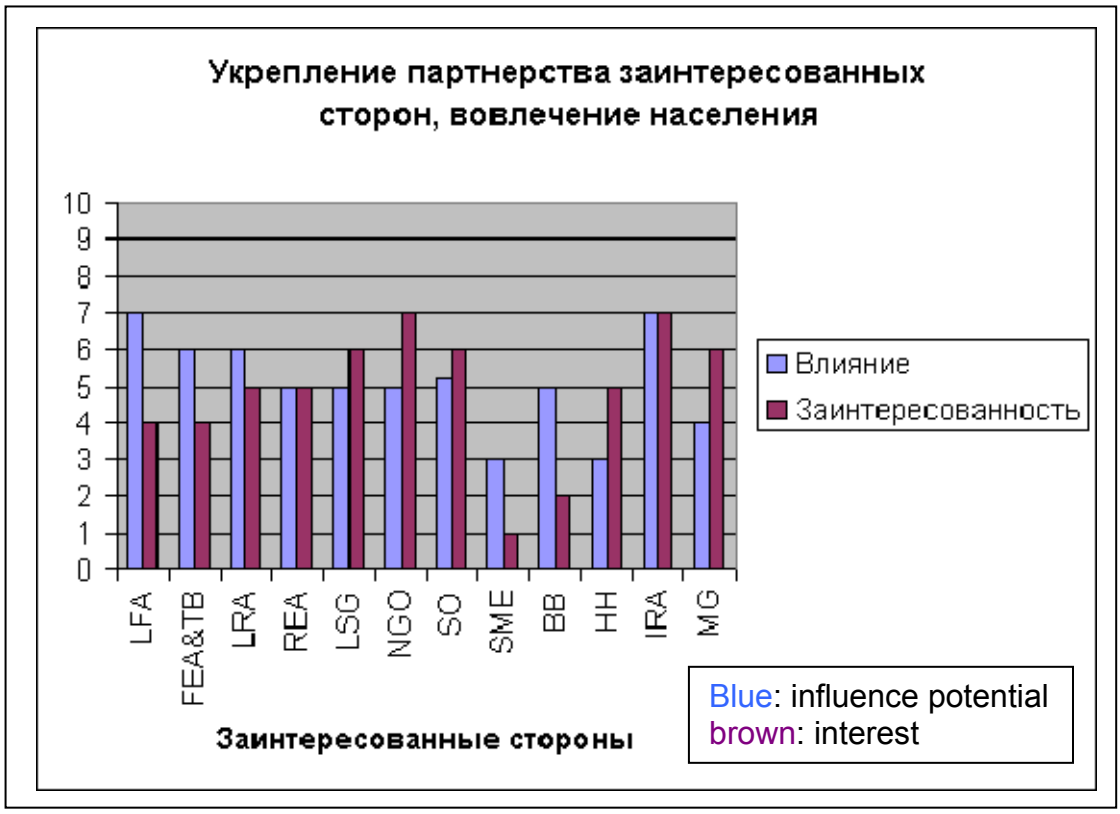
ANNEX 1. Expert assessment: stakeholder interest and influence on meeting priority policy goals in environmental risk management in the Volga Basin

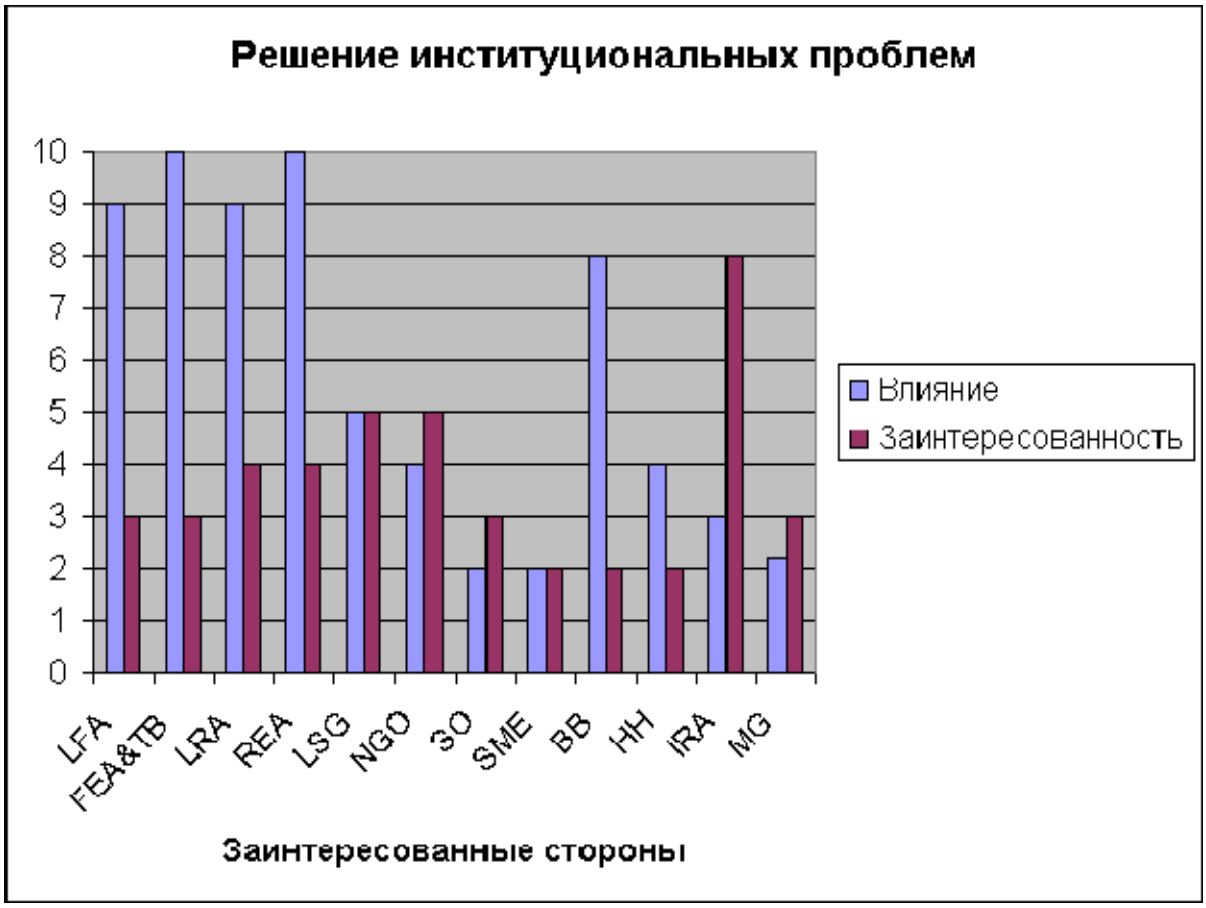
Policy Goal 1: Building and consolidating partnerships between stakeholders, involvement of local public



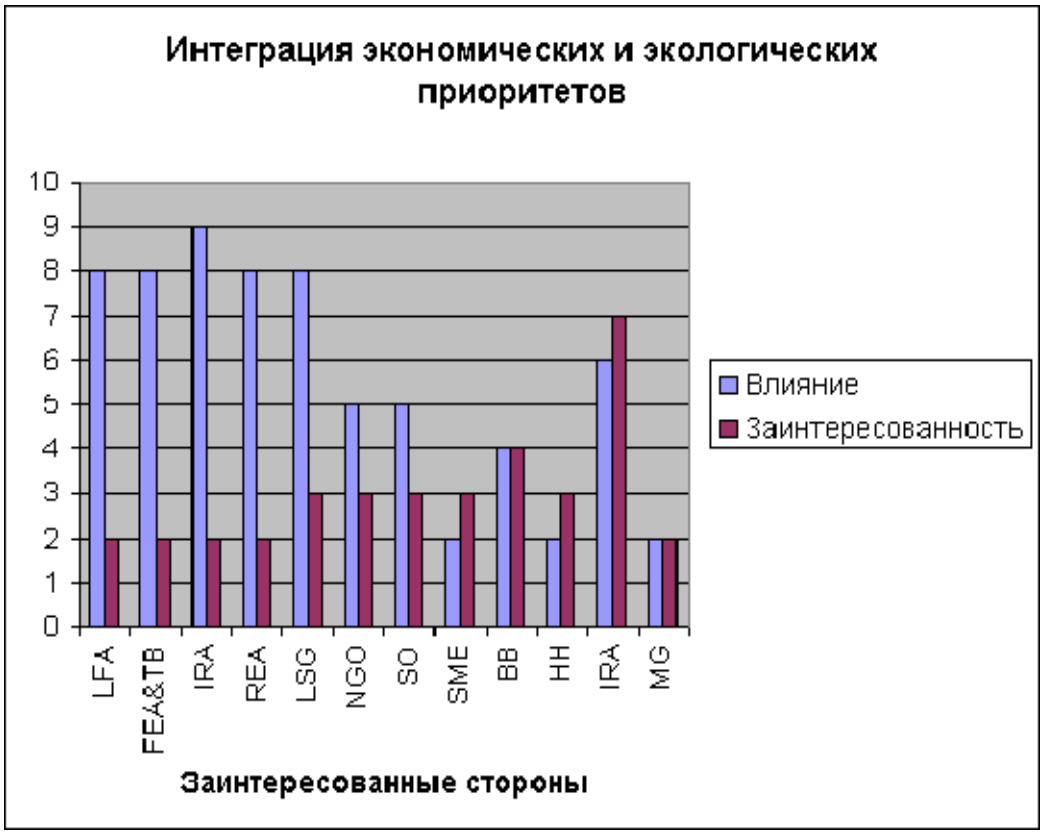
The list of major stakeholders in the Volga Basin

Заинтересованные стороны		Stakeholders
Федеральные органы законодательной власти	LFA	Legislative federal authorities
Федеральные органы исполнительной власти и их территориальные подразделения	FEA & TB	Federal executive authorities and their territorial bodies
Региональные органы законодательной власти	LRA	Legislative regional authorities
Региональные органы исполнительной власти	REA	Regional executive authorities
Местное самоуправление	LSG	Local Self-governance (municipalities)
НПО	NGO	NGO
Научные организации	SO	Scientific organizations
Малый и средний бизнес	*SME*	Small and Medium Size Enterprises
Крупный бизнес	BB	Big business
Домохозяйства	HH	Households
Межрегиональные ассоциации	IRA	Inter-regional associations
Группы населения, требующие протекции	MG	Major groups of population requiring support and protection (women, indigenous groups)

Policy Goal 2: **Enhancing institutional frameworks and solving institutional gaps**



Policy Goal 3: **Coordination between economic, social and environmental priorities**



Policy Goal 4: Integrated prevention and control of environmental pollution as a result of anthropogenic and natural factors