

## Institutional Evolution in Water Management in the Czech Republic and Poland

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Concept of Integrated Water Resources Management (IWRM) constitutes internationally recognized framework for water management. Its implementation faces difficulties though, and introduction of IWRM is country specific. In the paper the shifts in water resources governance in Czech Republic and Poland after 1989 are analyzed. It is investigated, taking the new institutional economics framework, which factors were responsible for water policy changes, with IWRM as the reference framework of the institutional reform, after 1989.

For both countries there were two major, water resources management shifts, one connected with the collapse of communism (1989/1990), the second – the EU accession (2002). In both countries the general direction of water policy changes tend towards reduction of the direct state control. Similarities between the countries dominate, and the EU accession reinforced them. One similarity of the two countries is the reluctance of the water engineers towards the substance of the WFD. “Hydraulic mission”, aiming at harnessing the power of water dominates in both countries. Enforcement for IWRM comes mainly from outside the water sector. The Czech and Polish cases suggest that public participation is not the panacea for improving water management. The further development of IWRM in the Czech Republic and Poland is uncertain.

**Keywords:** Integrated Water Resources Management, water management, Czech Republic, Poland, institutional change.

### 1. Introduction

Concept of Integrated Water Resources Management (IWRM) existed in the USA and in Europe before Water Framework Directive (WFD) brought it into the EU legal context (Bouleau, 2008). The concept could be considered as application of the idea of sustainable development to water management. It got vast popularity since 1990s and

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constitutes internationally recognized framework for water management (Biswas, 2004). However, it is criticized for its ambiguities practical difficulties in implementation. Hering and Ingold (2012) suggest pragmatic approach and modest ambitions in implementing IWRM principles. In this paper the shifts in water resources governance in Czech Republic and Poland after 1989 is analyzed and the progress towards IWRM in the two countries is discussed.

The major challenge of IWRM, as pointed out by Moss (2003), is related to the fact that reaching the goal of better spatial fit in water management may worsen the interplay with existing institutional structures. Institutions, understood as formal (especially legal) and informal (social or cultural) rules that organize human behaviour (see e.g. North, 1990) regulate water management. Authorities must in practice interact with other management regimes which are mostly organised according to administrative units (such as land-use regulation, biodiversity protection, etc.). It is particularly visible in case of European WFD, which is a legal framework of IWRM implementation within supra-governmental legal framework. Its introduction involves changing model of governance. The former administratively defined, hierarchical structures have to transform to a complex network system with various actors and power dispersion of across multiple levels. Authors often stress difficulties related to the recommended institutional reforms (Moss, 2003, 2004) and emphasize that hierarchical management based on techno-scientific knowledge in water management pose a challenge to IWRM implementation (Engle et al., 2011). It is not only related to the shape of administration but also to cognitive factors. A shared vision based on IWRM principles is considered a precondition to IWRM implementation (Mitchell, 2006). According to Van der Brugge & Rotmans (2007), institutional reforms may lead to either reaching a new balance (leading to more sustainable management) or the breakdown of the system. The authors stress that the WFD does not sufficiently address the transition process itself and that the time frame allocated for the implementation (with the end of the first planning period in 2015) is too short to undertake necessary (formal and informal) institutional reforms. They emphasise that the implementation of the WFD must primarily be understood as an ongoing learning process, within which ambitious environmental goals might not be fully met. Moreover, implementation of IWRM is considered as context specific process (Mostert, 2006; Hering & Ingold, 2012). Legal tradition of a particular country, a specific set of stakeholder engaged in a water management system and other factors result in a interpretation of IWRM principles a local embedded implementation.

Institutional reform in water management imposed by WFD implementation is a part of a wider shift in water management. Huitema and Meijerink (2011) stress the shift from government to governance with weaker role of the nation state. This change encompasses four main dimensions. Firstly, the growing role of civil society represents important role of social welfare and social aims based on values (like fairness, justice, equity etc.) within water management. Public participation is considered as an important feature of the new institutional structure in this respect. However, opinions of its usefulness differs – most scholars are convinced that participation leads to acceptance of better (i.e., more

sustainable) environmental solutions (Koontz and Johnson, 2004; Kastens and Newig, 2008). Others argue that due to large complexity of the process the participation would not meet the goals (for instance – according to WFD legal requirements). According to Woods (2008) both long term engagement and intensive stakeholders cooperation at the local level is necessary to make the participation useful. Kaika and Page (2003) stress the active role of environmental NGOs in the negotiation process surrounding the WFD development, which in their opinion influenced the final ambitious environmental objectives pursued by the directive (but this view is opposed by Bouleau, 2008).

The second shift, mentioned by Huitema and Meijerink, is related to the growing role of the market and it represents the economic approach to water management, treating water as a scarce resource. It includes privatization, pricing the resources and to growing role of private sector (Calvo-Mendieta et al., 2011; Brooks & Harris, 2008). There are critics of this approach, but since 1980s it is widely accepted and implemented.

The third shift in water governance is related to the influence of lower and higher jurisdictional levels. Water governance administration has been decentralized and/or devolved in many countries (Jaspers, 2003). While lower administrative levels play more important role, supranational influence is growing too. In case of Europe it is mainly the EU legislation, with WFD and Floods Directive as the key examples.

The fourth shift is the rising power of the independent bodies, instead of the centralized top-down approach. It is connected with protection of water resources which is not done by the market, but at the same time, it is not sufficiently done by the state administration. It includes establishment of the specialized administrative bodies, e.g. agencies, and growing role of the courts as arbiters in the conflicts connected with the decision making.

All these four shifts are represented in the idea of IWRM. The scale of the dissolution of the direct state management varies, but the very processes can be observed as a general phenomenon (Jaspers, 2003).

Along with the global water resources management shifts (Gupta, 2009), water resources management has profoundly changed in Central Europe, too. Since 1980s the role of centralized nation state has been changing. The fall the communist system in 1989 brought radical change the whole economic, social and political systems. The changes generally went within the general trend of shrinking role of the nation state. The context and development were specific though. Markandya and Chou (2010) argue that public participation, introduction of market mechanisms and international cooperation were the striking features of the environmental policies that appeared in the post-communist countries after 1989. This also applies to water resources management. These were basically new elements of the policies. After the communism collapse in 1990, Central European countries joined the discussions and practical attempts of reshaping and modernizing water management. In these discussions the underlying concept on the changes in water management was IWRM. However, it was treated however mostly implicit, as the openly declared principle was the management according to hydrological borders.

Post-communist countries represent a specific case, since before 1989 the centralization level was very high and the role of the state was dominant. As a part of a wider

socio-economic transition, after 1989, sharing the tasks and responsibilities with local governments, and supranational bodies (the EU), as well as growing influence of civil organizations, business and other actors appeared. These processes were valid in the water management sector as well. It can be considered the major policy change (Huitema & Meijerink, 2009).

In the paper it is investigated, which factors were responsible for water policy changes, taking into account IWRM as the reference framework of the institutional reform, after 1989. Specifically, as both Czech Republic and Poland had similar, communist heritage, but different geographic conditions. We analysed and compared how IWRM was implemented in these two countries. Did the centralization heritage pose similar obstacles for both countries? It is also analysed in comparison, how successful was the implementation of IWRM principles?

For the analysis the new institutional economics framework is applied. The analysis takes into consideration persistence of institutions understood as constraints of behaviour, and it acknowledges the importance of various institutions, vested at different levels, and influencing actual behaviour of actors. In accordance with the new institutional economics framework, the rules present at different institutional level may be in conflicts, leading to perverse operations of actors.

For the purpose of this study, in-depth desk study of the national legislation, strategic documents, and the grey literature review over past 20 years was conducted for Czech Republic and Poland. Complementary, in both countries experts, key stakeholders at ministries and river basin administrations were interviewed.

## **2. Basic characteristics of water resources management systems**

### *2.1. Water resources in the Czech Republic and Poland*

The Czech Republic and Poland are neighbouring countries with climatic similarities but with some geographic differences. Territory of the Czech Republic is situated on the main European watershed of the Danube, Oder and Elbe river basins. There is only a minimal inflow of the surface water into the Czech Republic and the abundance of water is strongly dependent on rainfalls and runoff conditions. The annual precipitation reached 867 mm in 2010 (which is 30% above the normal situation) (MoA, 2011). Czech Republic has lowlands in the middle of the country which are surrounded with mountains at borders. Characteristics of principal river basins are: Danube river basin (area in the Czech Republic: 21.656 km<sup>2</sup>), Elbe river basin (area in the Czech Republic: 49.965 km<sup>2</sup>), Odra river basin (area in the Czech Republic: 7.246 km<sup>2</sup>). Average yearly outflow from the territory of the Czech Republic is 16 km<sup>3</sup> (after subtracting evaporated water), it varies between 12 and 19 km<sup>3</sup>. The indicator of water availability, measured as quotient of average yearly outflow per number of inhabitants equals 1.530 m<sup>3</sup>/inhabitant. Principal surface water uses in the Czech Republic are: energy sector (more than 50%), drinking water sector (24%), other industry (22%). Minor user is agriculture (1%). Principal groundwater user is drinking water sector, because enlargement

of other uses is blocked by the legislation (MZP, 2007). Floods are the most serious natural risks in the Czech Republic – it experiences three significant flood events over past 20 years – floods in 1997, 2002 and 2006. In Poland water is a scarce resource. The average yearly precipitation in Poland is 600 mm and varies from 500–550 mm in the lowlands to approximately 1100 mm in the mountains. Major part of Poland are the lowlands, with mountains at the Southern border. The principal river basins are: the Vistula river basin (area in Poland: 168,700 km<sup>2</sup>); the Odra river Basin (area in Poland: 106,056 km<sup>2</sup>). Average yearly outflow from the territory of Poland is 62 km<sup>3</sup> (after subtracting evaporated water and water used by the economy). However, it varies between 37.5 and 90 km<sup>3</sup>. The indicator of water availability, measured as quotient of average yearly outflow per number of inhabitants equals 1700 m<sup>3</sup>/inhabitant which is much lower than the European average – which is 4500 m<sup>3</sup>/inhabitant. Limited water availability in Poland is characteristic, but the deficit is the result of local lack of water of proper quality and quantity. The principal water uses in Poland are: industry, municipal sector and agriculture. Drought is a serious problem (Kowalczak et al., 1998; Łabędzki, 2007). In the agriculture sector, in accordance with growing water demand watering has been increasing. Flood is the most serious natural risk in Poland. The catastrophic Odra flood in 1997, caused losses estimated at more than 3 billion euro. Other major floods in Poland occurred in 2001, 2009, and in 2010.

## *2.2. Centralization and introduction of the river basin water management in the Czech Republic and Poland*

The water management has a long tradition in both countries. The evolution of the Czech and Polish water management systems last decades shares common transformation points. In both countries the largest changes occurred in 1989/90 during the collapse of the communist regime and in 2004, which was the year of the EU accession.

Since the independence in 1918, water management in the Czech Republic (former Czechoslovakia) was governed at the national (central) level. It was connected with the intensification of the water use (e.g. building of large water reservoirs, increasing water pollution) and agricultural land use (and subsequent regulation of river channels and the drainage of wetlands). This approach came from the general idea of the centralised management of natural resources during the communist period as well as from the prevailing belief that water is a strategic commodity and as such it must be managed according to government priorities (Král & Matula, 1999). Water related issues were supervised by the agricultural ministry. In 1970's, five state water companies were established to manage water according to hydrological borders based on 10-year management plans. This step might be considered as an early adoption of one of the IWRM principle. However, it must be emphasized that the water management focused particularly on the network of river channels, not on the river basin territory as a whole.

Even after the fall of communism in 1989, water management remained centralised at the national level. The system of state river basin administrators has been retained. During 1990s, the national government continued to finance most investments according to

the river basin administrators' priorities. Other funding (regional, municipal and private) played a negligible role. The water ownership and the funding allocation, together with the strong historical top-down management structures, created very limited space for the involvement of local governments and the public (Čamrová and Jílková, 2006).

In Poland, similarly to the Czech Republic, water management belonged under the state responsibility. After 1918, when Poland regained the independence, water managers played prominent roles in the administration and water management was seen as a vehicle of civilization progress (Iwanicki, 2007).<sup>1</sup> It gave the water managers a high profile within the country administration. During the communist period (1944–89), water was treated a resource for economic progress, with the state responsible for it. After 1956 several complex programs containing elements of a strategy were prepared by various governmental bodies, based on these principles. Environmental protection was introduced in the legislation in 1970s (the minimum acceptable flow for aquatic flora and fauna was developed and introduced into the water law). In practice, however, the water management disregarded environmental principles and concerns as the economic development was of the highest priority. As the result the water administration structure was dependant on the general administration. It changed after the communism collapsed. Seven Regional Water Management Boards were established in 1991, following the natural river basin borders. It was promoted by the academic circles and practitioners, with countrywide renowned professor Henryk Słota playing main role, as he was engaged in organizing new system, trainings etc. He derived main ideas from the French water management system. However, water resources plans prepared during the communist era were river basin oriented. In 1999–2002 water management structure was clarified, by several laws, in accordance to river basins.

### 2.3. *The EU accession and WFD implementation*

For both the Czech Republic and Poland, the official accession to the European Union in May 1<sup>st</sup> 2004, was a milestone in terms of water management, as the European legislation had to be implemented accordingly.

In both countries after the EU accession, the implementation schedule of the Water Framework Directive was implemented. At the institutional area, the WFD required reorganisation of water management responsibilities in favour of self-governed hydrological units and stressed the principle of public participation as an important part of the new European water policy. Three main requirements factually introduced IWRM principles into the Czech and Polish systems:

- a) The importance of the river basin as the territory (not just the network of river channels) was clearly made.
- b) The environmental objectives (including morphology) get the strong priority apart from water exploitation and water body regulation.

<sup>1</sup> It was not specific to Poland only. In Hungary the nineteenth century Vasarhelyi Plan in the Tisza River Basin, was started as the major development effort (Werners et al., 2009).

The integration of all activities and across different sectors was required through spatial planning and the involvement of the public and all relevant stakeholders. Both in Czech Republic and Poland first two principles slowly evolved even within the transformed post-socialist system of water management. State water managers sought for stronger competencies over the river basin as a whole (i.e. they required easier expropriation of private land for the purpose of different public interests, such as dam constructions or flood protection measures). For both countries, the river basin structure as the basis for water management was easily accepted. Concerning the second principle, the ecological issues got the higher priority due to novel legislation focused specifically on the nature protection (including water ecosystems – e.g. Law No. 114/1992 Coll. in Czech Republic, water law of 18.07.2001 in Poland). Following this, in both countries significant water quality improvement occurred in the 1990s, and significant development occurred, especially in terms of significant investments into hundreds of public sewage treatment plants. Under the EU pressure strict requirements for nutrient and phosphorus concentrations became the main challenge.

Although Czech Republic shares similarities concerning the first two principles, there are differences in respect to the third one. It was by large extent innovative – not the spatial planning as such, but the process of making decentralized river basin plans, with stakeholders and public involvement. In the Czech Republic, the first management plans were developed and approved in 2009. It was evaluated that Czech water bodies were mostly heavily modified regarding their morphology and pollution (Povodí Moravy, 2006). A large number of re-naturalisations of small streams and other environmentally oriented measures were included in the water management plans.

In both countries, as they accessed the European Union and were obliged to comply with the EU legislation the three IWRM principles were introduced into the national legislation. However, implementation of these rules faces difficulties. It is presented in the following sections.

### **3. Institutional adjustment of water management systems in the Czech Republic and Poland**

The changes of water management systems in 1990s, in the Czech Republic and in Poland, were imposed by two pressures: the internal need to re-structure the obviously inefficient, centralised system and the import of solutions from the West. Water management was re-organized within the general institutional structure change after 1990. In 1990s the perspective of future accession the European Union started to be a real driving force in further reform. The need to comply with vast and sophisticated legislation in the EU enforced not only to legislative effort but also the adjustment the administration structures to be able to implement and to control new laws and regulations. One of the most difficult tasks was the limited understanding of the importance of the environmental issues. Although the role of ecosystems and biodiversity sustaining is gaining attention, still overcoming the conventional, technical approach is slow.

In the Czech Republic, last decade of the 20th century brought important and previously neglected environmental issues into water management by setting, in the national legislation, emission limits and requirements for the best industrial technologies. Also, the Ministry of the Environment (MoE) was set up as a completely new organization. Through entire 1990s, there were dynamic discussions going on regarding the distribution of the jurisdiction/competency over water at the national level. Firstly, the central authority was shifted to new MoE, but in 1999 Ministry of Agriculture (MoA) took the central position back and the halfway situation occurred – MoE became responsible only for the water quality, whereas MoA would have dealt with water supply. The sharing of jurisdictions over one resource by two often opposing ministries had resulted in communication problems, subsidizing of conflicting measures, etc. Strong rivalry prevailed for more than a decade.

Also the legislative support of the water management was rather weak during 1990s with respect to on-going transformation processes. Until 2000, laws adopted during the era of the communism had been in force and they had been amended. The effort to combine old legislation with new institutional settings (especially new ownership structures in the sector of public water supply and sewerages) caused the confusing situation for all stakeholders. Finally in 2001, two key laws came into force – the Water Law (254/2001 Coll.) and the Law on Public Water Supply and Sewerages (274/2001 Coll.). Both clarified the institutional setting regarding the ownership and management obligations. Water was declared as public property and water bodies have been assigned to state water managers. They serve as expert organization but do not have decision making power regarding water distribution. The permits for withdrawal of surface and groundwater or water discharges are given by water offices. The central water office is in MoA together with MoE.<sup>2</sup> Apart from these there are regional and municipal Water Management Offices/directorates. They are organized according to administrative not hydrological boundaries.

In Poland, as the accession to the EU was anticipated, the new water law (passed in 2001) and the environment protection law (2002) established legal transposition of WFD requirements into the Polish legal system. The existing Regional Water Management Boards were given the tasks of implementing WFD. The delimitation of river basin districts was completed in 2006. The only new body established is the National Water Management Authority. It plays coordinating role in implementation of WFD.

In Poland, the Ministry of Environment is responsible for water management in the country. Water management is organized according to river basins. Further decentralization of water management is not discussed yet. Within the administration structure the coordination of water management is realized by the President of National Water Management Authority (Water Law of July 18th, 2001). The National Water Management Authority operates within the framework of the Ministry of Environment and its President

<sup>2</sup> But also Ministry of Health is the central water office for bathing waters and drinking water. Ministry of Infrastructure is the central water office for the water transport etc.



reports to the Minister of Environment. However, many water related issues are outside the responsibility of the president. Ministry of Infrastructure is responsible for inland water transportation; Ministry of Agriculture and Rural Development and the regional governments are responsible for dikes and for melioration infrastructure; the National Water Management Authority shares the responsibility for water permits with county governments and regional representatives of the central government. Water management infrastructure of cultural and historic value is under the responsibility of the Ministry of Culture. Moreover, outside the realm of the National Water Management Authority is the crisis management including floods and droughts, which are under the ministry of Internal Affairs and Administration. Lack of integration is especially visible in case of extreme events. Despite substantial investments, losses in infrastructure caused by the two great floods, of 1997 and 2001 were not completely repaired. The main reason is the lack of financial resources but also diffusion of responsibility between central and local and regional governments. Increase of flood losses is connected with poor spatial planning, and poor spatial planning implementation. As the result, floodplain areas are not properly used for special development.

There are other areas, where lack of coordination causes problems. One example is the non-point source pollution in agriculture. Two ministries, MoE and MoA, need to be engaged in order to strengthen proper practices of farmers. They need to be supported by legal and financial incentives. In this case, the nitrogen directive of the EU plays a prominent role. Progress in agro-technology and introduction of good agricultural practices are slow. The next case that requires coordination is achieving a good state of groundwater quality, especially in these areas where it is polluted by agriculture related substances, last decades. In urban areas, the quality of groundwater is worsening, especially in the industrial areas, close to waste dumping places and transportation lines. These problems are also related to improper waste management and incompliance with the law.

In several sectors of public administration water management and water infrastructure maintenance constitute separate systems, for instance: drinking water supply; sewage systems; water and sewage systems in industry; melioration in forest management. The National Water Management Authority has little influence for these sectoral parts of water management.

Despite diffusion of responsibility, there are attempts to establish inter-sectoral cooperation. Councils of River Basin Water Management established at the beginning of 1990s played a role of inter-sectoral platform. Particularly, contacts with environmental policies were relatively strong. However, mismatches of tasks and responsibilities among sectors provoked rather inter-sectoral distrust than coordination. It was strengthened by the acute resources shortage. Despite appreciation the environmental issues, inter-sectoral cooperation appeared difficult as including care of nature increased costs of project, while resources were very limited. Then taking care of the narrow, sectoral interests prevailed.

Horizontal integration occurs at the level of particular investment. In such occasions cooperation between several sectors appears. There are other examples of joint activities

undertaken by public administration, research institutions, NGOs, private sector. For instance, such cooperation happened within preparation of the national sewage treatment program. The rationale is the developmental aspect of an investment and it helps to integrate interests.

Institutional adjustment faces difficulties because it also requires a significant shift in the style of the water policy (from a rather technocratic to an ecosystem approach). In the Czech Republic it has caused nation-wide controversies and disagreements due to a strong technocratic lobby. The authorities (regional authorities supported by former state river basin administrators) have had problems with understanding the purpose of public participation in water management and the organisation of the process itself fulfils only the minimum legal requirements set out in the WFD (Slavíková, 2010).

Poland is a similar case. The Association of Water and Melioration Engineers and Technicians and Polish Federation of Engineering Associations are very influential professional organizations, with strong accreditation and certification powers. They present rather technocratic approach. It can be attributed to the conventional and professional routines (Otto-Banaszak et al., 2011). There is an evidence that natural water bodies have been significantly physically modified under the name of achieving WFD goals. The additional element of this – partially generational – issue, is the other difficulty – there is growing shortage of professional water managers.

Public sector has a prominent role in the water management both in the Czech Republic and Poland. During the communist era private sector was virtually non-existent. Later attempts of privatisation have not change too much the situation. For instance, in Poland there are few sewage systems and drinking water delivery systems operated by private companies. In most cities local governments are the owners. The situation in the water sector is similar to the forestry where most forests are state owned, but different to waste management sector where privatization after 1990 evolved into the dominance of the private sector.

To summarize, institutional adjustment in term of functional responsibilities assigned to different ministries, centralized versus decentralized authority for water management, and existence of integrative governance it can be argued that there are some differences between the Czech Republic and Poland, despite general similarity (Table 1).

Table 1  
Centralisation and integration of water management in the Czech Republic and Poland

	Czech Republic	Poland
Functional responsibilities assigned to different ministries	“Duopoly” situation with competition between two ministries	High level of fragmentation of responsibilities among several ministries
Centralized versus decentralized authority for water management	Centralisation with minor duties shifted to local governments	Centralisation with aspirations of local governments to get more responsibility
Integrative governance	Diffusion of responsibilities among several administrations levels	Diffusion of responsibilities among several administrative levels

#### 4. Water management and environment

The emphasis on the environment in the WFD is still not fully understood in the water sector in Poland and vice versa – the proponents of environmental protection do not understand fully the objectives of contemporary water resources management. Integration of water management and environment protection is used as building a stronger position by the Ministry of Environment. Environmental legislation is perceived as a burden in flood protection. Particular critics are addresses towards NATURA 2000 (European network of nature protection areas) implementation in Poland. Designing the Natura 2000 borders has shown that there are collisions with water management infrastructure (Kowalczak et al., 2009). Such areas need particular attention and harmonization is required. If environmental protection prevails, conflicts appear especially in the river valleys. Difficulties are related with removing the vegetation from the river flood plains, maintenance of water regulation infrastructure and building new hydro-technical objects. Also there are collisions with the terms of water infrastructure maintenance. In order to resolve these problems cooperation between nature conservation specialists and water managers is necessary. Without such cooperation sustainable development is difficult to achieve.

While environmental NGOs, with some water managers (Wawręty & Żelaziński, 2007), promote the green concern, environmental legislation is criticized. For instance, obligatory environmental inventories are perceived as unclear, enforced task (Kubiakowski, 2011). Moreover, public participation procedures, granting environmental NGOs rights to be a party in the decision making procedures, are also criticized as increasing an average investment period.

Conflicts are rather sectoral than related to scale. Administrations responsible for nature protection, agriculture, forestry, transportation have different interests and points of view. The public participation related to WFD revealed some of these differences but not in a critical form. The public participation process was too abstract to provoke a serious clash. Interestingly, within the public consultation too much focus of WFD on Natura 2000 was criticized by stakeholders (with the exception of environmental NGOs).

##### 4.1. *Public participation in water management*

The WFD includes public participation mechanism to be used in water management. They can be a platform for reconciliation of various conflicts regarding water management, especially related to environment. For both the Czech Republic and Poland, public participation was a new phenomenon, that appeared after 1990, but getting real importance after 2004 as driven by the WFD.

In the Czech Republic the public participation principle was implemented by the Water Act (254/2001 Coll.) and the subsequent Decree on Water Planning (142/2005). In accordance with Article 14 of the WFD, it states which documents have to be commented on by the general public. In the Czech legislation, the difference between the roles of the general public and key stakeholders is not emphasised. Therefore, the formalised public participation only contains the provision of information to the public and receiving

consultations which must be dealt with officially. Higher levels of participation (such as involvement or co-operation) are recommended in the guidelines issued by Czech ministries, but they are not obligatory to the competent authorities. It follows the WFD text, where the so-called active involvement is recommended, but not legally binding.

In Poland very little involvement of non-state actors in water management was observed before the beginning of WFD implementation. Civil participation started at the beginning of 1990s, when Councils of Water Management were created. Their activities were mainly outreach and educational ones. Basically it was a platform of information exchange between various administrations (central government, local governments), and water users. As local governments were new stakeholders (local governments were re-established in 1990, after the communist period), their role was significant, their representatives were the most active. Water users were represented by lobby-like organizations, far from usual comprehension of a NGO.

Besides, there were some pilot water management projects where public participation procedures were applied. These were project on reduction of nitrogen load from agricultural sources; water management programs for some small river basins; flood prevention programs; water management in the relation to waste management programs etc. The pilot programs were mostly small-scale and in terms of public participation relied on establishing the councils and organizing meetings. In some cases public participation component was apparently driven by the grant requirements. It could be argued that without explicit demand, participation would not be included to the projects. These projects were marginal but included active involvement.

In 2005 the public participation program of WFD implementation was prepared. It includes methodology, definitions, divisions of responsibility. It was followed by the timetable of the public consultations. Consultations started in 2006 and the process was finished in 2009. Basic responsibility was given to the seven boards. They organized the public consultations process. The process can be regarded as quite an exceptional effort – for the Polish circumstances. Several methods and techniques were planned, target groups were defined, costs were estimated. Basic responsibility for implementation was passed on the Regional Boards (seven – in Poland). They secured information outreach: databases of stakeholders were established, containing virtually all parties that could be defined as stakeholders in terms of water management issues. There were several waves of information delivery (via post, emails, media relations). Several types of printed materials were published and disseminated (leaflets, more solid brochures, reports). They were prepared for different targets: some for general public, some for more specialized audience). Some of the materials were disseminated with the help of the third parties: through local governments, NGOs, at the conferences etc. There were information meetings organized with stakeholders. Also several drafts were sent to stakeholders and the comments were received (hundreds of them). The comments were collected and documented.

Internet was intensively used, all the documents, reports, drafts were published there. The main role was played by the Councils which were ordered by the directors of boards. These bodies met regularly, and consisted of representatives of: general administration

(e.g. nature protection inspection); local governments; stakeholders (e.g. fishing industry; water transportation); environmental NGOs.

It was the first time when environmental NGOs were included in water policy making. Previously the only water sector stakeholders were involved. Inclusion of environmental NGOs was a new situation for all the parties.

Both consultation (where the top down information prevail) and active involvement (where the participants can propose solutions and can influence the process) were applied. The public consultation process was implemented smoothly, without delays. The program got serious profile and was administrated firmly. The variety of communication techniques were used. The process was implemented thoroughly and it was well documented. Despite fulfilment of the plan, the occasional evidence suggests that the process was focused on form rather than on substance. Most participants represented well established sector groups (water transport etc.), while lack of experience and skills, and diversity of interest and knowledge among other participants led to superficial discussions at the meetings, according to the environmental NGOs participating in the consultations. They were rather disappointed with their role in the process. However, the consultation process was the first platforms where opinion of various parties interested in water management could be exchanged and it was seen as the advantage.

The main rationale for public participation program was the legal obligation. There was little debate, with conventional rationale and focus on legal technicalities. NGOs emphasize the civic values behind the process and a chance for representation of salient interest, while water managers see public participation as conflict prevention and resolution measure.

#### *4.2. The potential role of the public participation in water management in the Czech Republic and Poland*

Public participation in river basin planning is a novel issue. The future development is uncertain. Perhaps, the administration-driven public participation would be observed, with limited, "safe" role of non-governmental bodies. It does not exclude positive role of public participation, but the dialogue seem to be difficult to achieve.

There seems to be space for public involvement in river basin management. However, the challenge to meet the WFD requirements and deadlines would rather force "not to lose time for public participation" than "use public participation as a efficient tool to implement efficiently WFD". Considering relative weakness of the public, not organized and not active, finding the proper use of public participation is a challenge indeed.

In Poland public participation activities got much higher importance for water management compared with the Czech Republic. It is difficult to provide the explanation for it, however.

Finally, It must be mentioned, that except emergency situations such as floods and droughts, water management is not a highest priority for the public in both Czech Republic and Poland. Other issues, unemployment, inefficient health and social security systems, public security, aging population are getting more attention (as it is in many other countries).

## 5. Conclusions

For both the Czech Republic and Poland there were two major water resources management shifts, in 1989/1990 and in 2004. The former was connected with the collapse of communism and general systemic change, while the latter – with the EU accession as the main driver of the change toward IWRM. Characteristically, the forces external of water management sector played the fundamental role. In both countries the general direction of modifications of water policies was basically the same, and the main feature has been the reduction of the direct state control.

However, some differences can be noticed. In the Czech Republic the water management administration based on river basins borders was introduced earlier than in Poland. In Poland public participation in the implementation of the WFD was more significant than in the Czech Republic. Nevertheless, similarities dominate, and the EU accession set up standards to be followed by both countries.

Apart from the EU pressure, there are also changes stemming from the local water management tradition. One important issue is the reluctance of the water engineers towards the substance of the WFD. In Poland the idea re-naturalisation of rivers was opposed. It could be argued that inertia prevails. “Hydraulic mission”, aiming at harnessing the power of water (Gupta, 2009) dominates in the Czech Republic and Poland.

The implementation of the WFD seems to be superficial and distorted, not leading to IWRM, which is based on fundamentally different assumption than the water management under the communist system. Knowledge and mental models of water managers and engineers are important factors. Knowledge, habits and routines of engineers educated within the hydraulic mission are incompatible with the IWRM principles.

The Czech and Polish cases suggest that public participation is not the panacea for improving water management. Rather, it can be argued that time (and the number of iterations) matters, and success requires long-term engagement and intensive cooperation of stakeholders at the local level to make the participation effective. One could hypothesize also, that public participation is path dependent and if appears not synchronized with other processes within the water management system it may not work. The public participation process in Poland, implemented wider than in the Czech Republic, brought seemingly a moderate disappointment of all engaged parties. While in the United States, the US Army Corps of Engineers was one of the advocates of public participation, the presented case is different. It was the external legal enforcement that was crucial for public participation.

Integrated approach to water management involves growing scope of and complexity of administration tasks. Coordination is required with other sectors: energy, transportation, inland water transportation, agriculture, forestry, fishing, nature protection, land use planning, regional development planning. Specialists from these sectors have to take part in integrated water management planning. The EU accession enforced coordination and acceleration of works on the IMWR implementation. However, competition among ministries and institutional instability pose a serious problem. Still sectoral approach in water

management can be observed in Poland: water quality, water supply, flood protection are tackled separately (Nachlik, 2010). Similar situation is in the Czech Republic.

The further development of IWRM in the Czech Republic and Poland is uncertain. One could even observe signs of backward moves. Polish Ministry of Internal Affairs and Administration proposed in 2011 to liquidate National Water Management Authority and incorporate the water management into the ministry. At the same time it proposed to liquidate 7 regional (drainage basin related) boards of water management and establishment of 16 regional boards of water management (according to current administration structure). The argument was better coordination in emergency situations, i.e. floods. However, this is a move back to the situation before 1990.

The shared vision of the water resources management sector is lacking in both the Czech Republic and Poland. The legacy of hierarchical management based on techno-scientific knowledge with its hydraulic mission is strong, while enforcement for IWRM comes mainly from outside the water sector. As the result, interpretation of IWRM presumes sustaining interests of existing administrative structures and engineers lobbies.

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