

PUBLIC POLICY AND ROLE OF LAW

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Summary

Public participation is essential for the further development of water policy and environmental protection. Water management has been oriented toward commercial water resources consumption and optimal economic development. The main tasks of the policy were:

- development of a multi-user integrated policy of water;
- selection of the best solutions of cost-benefit analysis.

Public policy and public interest were related to the water supply and recreation on public trust territories that were incorporated in the process of optimization as the production of collective goods in the second class of external effects. In the nineties, the sustainable development of water management changed orientation toward the protection of natural resources, and that also changed relationships.

Natural protection has become everybody's business, and the public, as a whole, should be involved in the decision-making process. Public policy and public rights, including subsidiaries, have been part of the legal system from ancient times until today. The main task is how to protect and restore nature.

How much are we willing to pay ? How do we allocate resources for the protection of nature? The solution involves the public in the decision-making process through an institutional framework established by the law. An overview through time is presented, including up to date development with some comments on further developments and problems.

1. Introduction

“Making water everybody’s business” is the title of the report prepared for the World Water Council held in The Hague in 2000. There is a water crisis today and it is a crisis of water management, which is the main subject of the report. The world population has tripled in the past 100 years, but water use has multiplied six times. We consume water only for drinking, a small percentage of the domestic water use which includes bathing, cleaning and waste disposal. The personal consumption of water has not changed from the time when humans appeared as a species, but water use has changed tremendously. Water use for domestic purposes is not crucial for our survival as a species. It is an ethical question, and part of our culture, commodity or custom, which should be changed by public information and public education.

The industrial use of water is associated with technology and economy. Water use is the main source of water pollution. Polluted water is not useful; it spreads pollution all around and causes disasters in nature. The pollution from used water should be eliminated with better technology in industry and the implementation of existing technology for water purification and recycling. The best available technology and the most environmentally friendly technology seem costly. The most efficient solution in the policy is the public control of polluters.

The greatest consumption of water is for crop irrigation. Consumed water is not available for any other purpose because it is lost from water balance inside the river basin. We could produce more crops per drop, but water consumption for irrigation will stay at the same level or increase in the future. Agriculture as a whole has been identified as the single biggest cause of problems in Europe. Consumed water is lost to nature and other users. Solutions could be increasing water rationing and the production of fresh water from seawater by desalinization.

Leisure and recreation are becoming more and more important activities on inland river corridors. Sightseeing trips, rafting, yachting, boating, water rafting, fishing, swimming, cycling, picnicking, hiking, jogging, bird watching, nature observation and photography are increasing from year to year in connection with the improvement of the river water quality. These are activities with the highest rise in income of all other water users. On the other hand, more and more people involved in such activities are raising public awareness against pollution. They activate public interest for natural protection and development.

The most important question of water management today is institutional development. National institutions for water are managed sector by sector without proper integrity or with misallocated administration under the supervision of the historically most important sector. The problem is in water policy and integrated decision making. The managers should be responsive to users and take responsibility for the environment. The law is very important for a better overview of the decision- making processes in water management.

Water consumption and water pollution have an impact on international water basins. There are international agreements and conventions for international river basins, such

as the Rhine River Basin Convention, the Danube River Basin Convention, the Indus Water Treaty, the Nile Water Agreement, and the Mexican Water Treaty. The institutions for international water management should increase their co-operation on water policy with common resources.

2. Development from Ancient Time to Today

The history of early ancient civilizations tells us that they were developed in close connection with the regional water regimes. The Egyptian civilization was connected to the water regime of the Nile River; the Mesopotamian civilization with the water regime of the Euphrat and Tigris Rivers, and the Chinese civilization with the water regime of the Huang-Ho River. The water regime of those large rivers with yearly floods on downstream lowland parts is hard and unpleasant for small local communities. Only very well organized societies that could manage the water regime with structural and non-structural measures were strong enough. The question is what happened first: a specific water regime that pushed ancient society ahead in the development of strong social structures in ancient times (3000-5000 BC); or an already developed society that was strong enough to manage the water regime?

Water regimes had a part in the development, not only of well-known ancient civilizations, which experienced flooded areas of large rivers, but also of the others. There is much information about the relationships between society and water in the oldest manuscripts related to religion and customs. In the oldest Indian – and indeed the oldest human religious documentation, -- the Veda, a part of the Code of Manu prescribed fundamental regulations about water, including being excluded from society as punishment, and the obligation on rich men to construct structures for the water supply. In the Talmud, the fundamental Jewish religious text, water has its origin from God, and it is more important for the survival of society than the land. Islamic religions treat water as a holy substance that should be protected. The ancient historian Herodotus wrote in 450 BC about an ancient Persian custom. “They never defile the river with the secretions of their bodies, nor even wash their hands in one; nor will they allow others to do so, as they have a great reverence for rivers”. In almost all ancient religious texts we could find the tradition that water has been a common good from the time when civilization was born. It belongs to the community and it is under the special care of the sovereign. Everybody in the community has a right to use it, and everybody has a duty to protect it.

The great numbers of articles of the Hammurabi Code from 2200 BC, the oldest known ancient water law, are related to the water policy and facilitating water structures. The best well-formed ancient law system was developed in the Roman Empire. The law system was established, not only on empirical and religious fundamental statements, but also on rational explanations of the hydrological cycle and basic hydraulics made by the ancient Greek natural philosophers. Thales of Milet, Diogenes of Apolonia, Arhimed, and Plato are only a few of the best known. The Roman system of law is the origin of today's law system in Europe and other parts of the world. The Roman Empire was large, and incorporated countries with different climates. The Roman administration facilitated well-developed structures for the water supply and sewage systems in large municipalities. The Roman law system recognized some private ownership on water and

water use, but the fundamental statement was that flowing water is public. Water management, along with public works, was in the hands of a strong and well-organized central administration. During the time and development of the Empire, concepts of public property changed only slightly in regard to the public right to use it.

In the period from the fall of the Western Roman Empire to modern codification in the beginning of the nineteenth century by the Napoleon Code, promulgated in 1804, water legislation and administration passed into the development of feudalism, in which the legal distinction between public and private water became obsolete. Water usage was part of the feudal rights distributed by an Emperor for different purposes and different feudal users. The western country law system founded on the ancient Roman law subdivided waters into three categories: water common to everybody (without any ownership status), public waters (under ownership of public institutions) and private waters (privately owned waters).

There are some differences between the countries implementing the Napoleon Code and the USA water law doctrines. Historically, in the USA, the established system of water rights is based on different doctrines related to hydrological conditions in different regions and development. The Tennessee Valley Authority that manages The Tennessee Valley Project constructed during the New Deal is an example of how to manage water use and water consumption for the welfare of an industrial society. Economic considerations managed water development. The main challenge of water management today is the changes in water allocation objectives. Environmental protection and population growth in the arid region of the USA produce tension managed mainly by the economic tools useful in a very well developed market economy. Collaborative decision making with public participation is an idealistic approach, because, realistically, law and regulations provide the major functions for co-ordination in water management in the USA.

Correia (1998) compiled an excellent overview of water management in some countries of the European Union. The research includes water management practices in England and Wales, The Netherlands, Germany, France, and Portugal. The fundamental principles are the same based on the ancient Roman law and the Napoleon Code, but there are also significant differences, which originated from different climatic conditions, and cultural and historical backgrounds. Public participation and decision making are issues for today. The River Basin Committees or Advisory Committees are established as embryos of "water parliament". The subsidiary principle also has a very long tradition in Europe, sometimes with roots in mediaeval times. The process of common European water policy is going on, governed by directives which should be implemented by the member countries and allied countries. The most important act for water policy is the "Directive of the European Parliament and of the council 2000/60/EC establishing a framework for Community action in the field of water policy." The purpose of the Directive is to establish a framework for the protection of waters, but it is only mentioned in Article 14 that "Member States shall encourage the active involvement of all parts in the implementation of the Directive, in particular in the production, review and updating of the River basin Management Plans." Also in the first paragraph of the introduction it is recognized, "Water is not a commercial product

like any other, but, rather, a heritage which must be protected, defended and treated as such” (EU WFD, 2000).

The socialist system accepts the water as a common good under state competence. There are no systems of water rights or evaluation of the water resources. Water management is part of the national economy and the value of water resources are relative to the national income of the water industry. The results are quite well developed institutions for the monitoring of water resources as part of the national welfare, and a poor interest in the protection of improperly evaluated natural water resources. The Former Yugoslavia developed an original socialist self-managed system with self-managing communities’ interest in water management. Decision-making was processed through the water parliament, consisting of an assembly of users and an assembly of employees in water companies. The system provided more than enough financial resources for the investment in water constructions, but the administrative staff controlled the decisions, which were under the strong control of the assembly of employees. Nevertheless, the assembly of users, with the stakeholders and the representatives of the local communities, pushed water policy in the right direction toward a sustainable development. The deficiency of the system was the low efficiency of the investments. Some institutional developments for public participation in the decision making process are very close the Aarhus convention.

The water law in Islamic countries, as with all of that society, is under the religious rules of the Moslem faith and carries religious obligation. There are some differences related to different schools within Islam, local customs, ancient traditions and influences of the Roman system imported from other countries. The fundamental principle is that water resources are considered as God’s gift to mankind, and granted access to water remains free to all in the Muslim community. The management and development of water resources for public purposes is under the responsibility of the government according to the Muslim social principles. The Fatwa issued by The Council of Muslim Leading Scholars regulates the challenges of development and changes in water management. The origin of the Hindu culture water law system is still used in life on the Island of Bali in Indonesia. Water is sacred and there is absolute prohibition against using water bodies for waste disposal. Water is declared in the Hindu as indivisible and cannot ever become an object of appropriation. Water management is in the hands of local organizations that include all users who decide at common meetings about the allocation of available water, financial and other material operations for the irrigation system. There are no registered water rights and generally public interest prevails over that of the individual.

The countries in Africa, Asia and Latin America import their water laws and institutions from foreign powers or have developed systems closely connected to them. There are some differences related to climatic conditions, ancient religions and ethics. In the Islamic countries, Muslim principles have a strong impact on modern law. The water management in countries on those continents is mostly centralized, with the proclamation that water is in the public domain and under governmental responsibilities. Generally, drinking and domestic needs have priority, and in some countries there exists the concept of private ownership of water.

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Biographical Sketch

Prof. Dr. **Mitja Brilly**, Professor of hydrology and water management and head of Chair for Hydrology and Hydraulic engineering, was born in 1946 in Ljubljana, Slovenia. He obtained his BSc. and MSc. in civil engineering at the University of Belgrade, and PhD. at University of Ljubljana. From 1970 to 1977 he was junior researcher in the Institute for water management "Jaroslav Cerni" in Belgrade. In 1977 he started his academic career at the University of Ljubljana in the Faculty for Civil and Geodetic Engineering, teaching hydrology, hydraulic engineering and water resources management. His research is devoted mainly to numerical modelling and field measurement of processes in groundwater pollution, surface water flow modelling and water information management. He is co-ordinator of postgraduate environmental studies at the University of Ljubljana, head of water and communal sciences graduate study at the Faculty for Civil and Geodetic Engineering, chairman of the Slovenian Committee for IHP UNESCO and president of the Slovenian National Committee for IUGG. He is a member of many professional organizations: IAHR, AGU, IAHS, NAAW, EH, EWPCA, IWRA and IEEE. From 1992 to 1995 he was Slovenian co-ordinator for EC-EPDRB "Environmental Program for the Danube River Basin". Since 1970 he has participated in more than 70 investigations in hydrology, hydraulic engineering and the environment and published more than 40 publications. He participates in the EU projects "Floods, storms and radar hydrology", "Hydromet" and "Floodaware".