

# **SUSTAINABLE WATER RESOURCES MANAGEMENT: USERS' PARTICIPATION**

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## **Abstract:**

Experience has shown that, regarding water management, involving the "civil society" inside mechanisms of decentralized water resources management was needed, as this civil society is at the cross-roads of institutional steps and support for development. This requires raising awareness and educating all the stakeholders on the principle of sustainable water resources management.

Thus, necessary means are to be mobilized to constitute water-related information systems, to develop the capacity of decision-making, to promote the establishment of representative organizations, in providing the possibility for them to benefit from the know-how and the means which are necessary for participating to public water management policies and for creating the appropriate legal structures, etc.

As information is essential, to be useful, it must not remain in the form of raw data, but be retrieved in the form of easy-to-understand data which can be handled by all the different categories of users. In addition, if the data are to be utilized, they must be made available in the most appropriate forms. Common standards must also be defined to gather the comparable information produced by the different parties.

**Keywords:** Participation of the civil society, water information systems, water resources management

## **Text:**

### **1. Involvement of the civil society: a requirement for better water management**

The experience that has been acquired for several decades, regarding water management, emphasized the need for an institutional association of the "civil society" inside mechanisms of decentralized water resources management, in order to allow an optimum and adapted meeting of growing and diversified needs.

Indeed:

- administrations and public bodies in charge of water management must decentralize their actions, while relying on partnerships that enable a real participation of Local Authorities and users' representatives (households, irrigation users, industrialists, fishermen,...) in decision-making;
- improving public services, such as drinking water supply, sanitation or irrigation, will only be possible if mechanisms are set up for recovering costs from the users. This will only be accepted by the users if they are given the guarantee that water is of good quality, services are permanent, management methods are transparent and that they will participate more and more in management;

- decision-making will have to become progressively “democratic”, widely opening possibilities for expressing counter-opinions in order not to sink into theoretical and fruitless debates, and have an independent and sound expertise capacity and access to transparent and complete information;
- many needs will not be met by way of the traditional channel of Public Authorities but by individual or community field initiatives, which will not necessarily be spontaneous and will imply adequate skills and know-how.
- water saving, preventing wastage, protection of the aquatic ecosystems, pollution control, imply an initial awareness-raising of all the users and thus of the inhabitants, especially children and in many countries, the womenfolk;
- an important part of the installations and development is carried out by the riverside property owners or individual users whose combined initiatives do not necessarily correspond to the general interest, in the absence of a global policy to the elaboration of which they would have been associated.

## **2. The civil society: at the cross-roads of institutional steps and support for development**

• On the one hand, there is the impetus given by bi- and multi-lateral Cooperation Agencies and by Governments to set up some institutions and procedures to allow for global and integrated management of water resources, which are based on:

- a partnership with the local communities and the users, associated more and more with decision-making, particularly within new Basin organizations,
- some contradictory instruction procedures of the projects and the authorizations.

It is then absolutely essential for the Authorities to be surrounded by interlocutors who are sufficiently informed and competent, to be capable of assuming the role which is expected of them.

A widely spread movement towards the decentralization of the State’s role in the organization of water supply and sanitation services to municipalities and of the tasks of collective irrigation to irrigation users’ communities does exist: this will require that they become real managers of “industrial and commercial services” and thus acquire quickly a good knowledge of techniques and management to assume their responsibilities.

• On the other, there are the field efforts displayed by the Public Authorities and Non-Governmental Organizations, aimed at the most unprovided for people in remote rural areas or underprivileged urban areas, in order for them to have access -through education and the appropriate organizational methods- to health care, to a minimum of essential services, to the development of activities, in the sectors of agriculture and fishing, in particular.

There again, it is with the support of the Local Authorities, village communities and local associations that one can obtain positive results, some of which, are very spectacular.

Whatever the method of approach, it is clear that improvement of the quality of services related to water, the development of the principle of integrated management of the resources aiming at optimum satisfaction of the needs and simultaneously, preventing pollution and rehabilitating the environment and the aquatic ecosystems, will not be possible unless organizational systems are created in order to federate interests and initiatives which could, along with the Public Authorities, introduce and impose legitimate and representative interlocutors in order to:

- give a stimulus to the ideas and disseminate them,
- thwart bureaucracy,
- ensure also direct responsibilities, without expecting all the solutions to come from elsewhere.

That implies the existence of local people in charge, and the forming of teams of volunteers or professionals, which intervene in the procedures, organize and manage the new structures and the projects they generate, with all the required know-how.

### 3. Which means for this structuring?

Evolution of this kind should be axed on three priorities:

- **training and awareness-raising campaigns**, especially for those who will have to share or assume decision-making in the field,
- **access to information**, which implies both:
  - the possibility of access to the data and to the files, to understand and to analyze them,
  - the need for appropriate dissemination, through the media and the educational systems, of knowledge which is essential to understand, decide and act.
- **structuring of the initiatives**, within competent and representative organizations which can become capable of gathering the interested partners, of speaking on their behalf and of representing them in the procedures, of developing their own capacities of expertise and expression and themselves, be the supports for collective actions.

That implies fundamental, thorough work which entails considerable time and efforts and which must be canalized by modern vectors for support, coordination and intervening, requiring important means of organization, information, professionalization and action.

The established fact shows that even today, the means are still provided mainly through the aid to development channels organized by the NGOs which often, because there is no other alternative, are limited to "small" programmes which are isolated one from another.

The "important means" from Public Aid to Development and the Authorities are concentrated primarily on the investments, leaving only a minor place -even if recent evolution can be observed- for specialized education, institutional organization, means for a real user partnership-association and the appearance of Local Authorities.

However, rapid progress could be made if the awareness of the "facilitating" role of the "Civil Society" improved, if the necessary means were assigned to really enable its involvement.

Thus, the necessary means must be mobilized:

- **to constitute integrated information systems related to water,**
- **to develop the capacity of decision-making in this sector:**
  - elected officials of the local communities,
  - people in charge of the village communities and cooperatives of irrigation users, of fishermen, ...
    - *representatives of the industrial branches and economic activities linked to water (tourism, fishing ...),*
    - *executives of non-governmental associations/organizations (expertise training ...).*
- **to encourage the creation of representative organizations**, in providing the possibility for them to benefit from the know-how and the means which are necessary for participating to public water management policies and for creating the appropriate legal structures, search for financing, manage the budgets, lead the projects, have access to information, communicate, etc.

- **to raise awareness and educate all the stakeholders on the principle of sustainable water resources management.**

All these actions can be classified under the term of "social engineering"

#### **4. Institutional organization for users' participation**

All direct or indirect users should be involved, in one way or another, in the decision-making process, so far as they are concerned.

- **Who is a "User"?**

A "user" utilizes water (industrialists, electricity producers, farmers, population).

The users may be participants in organizations which represent their interests.

This notion can be extended to people using water for recreational purposes (fishermen, leisure, etc...) and to associations for the protection of nature.

- **Why involve the users?**

Acceptation and thus the feasibility of a long-term project and its successful completion require the following steps:

- approval of project objectives,
- sharing of the long-term vision,
- definition of priorities,
- getting the human, technical and financial means necessary to achieve the objectives.

An active participation of the users is the best means to solve possible conflicts on water use: "Dialogue is the beginning of wisdom".

- **Which official framework for dialogue?**

A framework for dialogue should take into account the impact of the decisions to be made. The more ambitious the project, or far reaching, the more widespread dialogue should be. On the contrary, a project of local interest will need a more reduced and precise dimension.

Dialogue must be organized in the most decentralized way possible while taking local constraints and specificities into account.

In a general manner:

- The extent of public participation in all decision-making processes must be unanimously approved.
- Representatives of local elected officials, communities and of all users concerned must participate in the works regarding the formulation of master plans for water development and management, priority action plans, projects..., with the help of specialists from the Administration and specialized consulting firms.
- Information must be clearly distinguished from dialogue. In the first case, the administration shares information with the public, it is a one-way process. Dialogue implies a two-way process: the administration listens and takes the formulated comments into account.
- The public participation process must be accessible to a wide range of people concerned: it is an open process that takes the diversity of the interested parties into account (representativeness),
- NGOs, when they are well established in the field, can become efficient partners in programmes involving an active participation of the population.
- The comparison of different points of view amongst reflection groups is the fount of progress towards an integrated vision of water resources,

Of course, at the conclusion of this information and association process, the final decision is left, at adequate level, to the competent Public Authorities, subject to the eventuality of recourse before the jurisdictions.

**The organization of such procedures is relatively expensive for preliminary studies, dissemination of documents, meetings, travelling, exhibitions, for experts and facilitators: it is essential that the corresponding budgets be planned for.**

The approach to integrated management of water resources through river basins offers a favourable context for this participation within the Basin Committees for the important rivers, and the Local Water Commissions, for their tributaries

## **5. Information is essential**

In order to attain an overall management of water resources, at river basin level in particular, it is to be emphasized the prime importance for decision-makers (Directors of River Basin Organizations and Administrations, Basin Committee members, representatives of the Local Authorities and associations of users), and usually for all the users and the population, to have easy access to complete, representative and reliable information on the following:

- the state of surface and groundwater resources, from both a quantitative and a qualitative viewpoint, also the seasonal and yearly variations,
- land uses and the development of activities,
- the situation concerning biotopes and the aquatic ecosystems and their degrees of sensitivity,
- water uses (withdrawals), in particular drinking water supply for the population or irrigation for the farmers,
- pollution sources (discharges) whether point or non-point,
- the risks of recurring extreme phenomena such as floods or drought and accidental pollution,
- investment programmes and costs for water harnessing.

...and, in a general manner, to have access to studies, documentation, information on experiments and the availability of services and equipment, etc...

But this information is often dispersed, heterogeneous and incomplete ... and is not always comparable and adapted to the prerequisites for objective decision-making and awareness raising. Moreover, it is a fact that public, para-public and even private organizations can have access to this information but lack of sufficient means for exchanging, gathering, standardizing, summarizing and for capitalizing it amongst them or for its dissemination to other people interested...

In each situation and considering all the national and local characteristics, special attention should be paid to the organization of documentation centres, of monitoring networks and data banks, to their financing and operation, as well as to a suitable role for specific basin organizations as compared to other possible stakeholders.

It is absolutely necessary to examine:

- the nature of useful information,
- the means used for collecting, monitoring and analyzing, as well as for controlling the quality of data produced, of their transmission (in real-time, when necessary, for major risks forecasting) and for their storage,
- forms in which information should be made accessible to decision-makers (data banks, reports, maps, diagrams, ...) or to technicians and scientists,
- broadcasting and dissemination means (remote processing, publications, dissemination to the general public, ...),

- ❖ **Real and complete “systems” must be designed, used and organized to constitute “global observatories”.**

The exact definition of each participant’s role as well as of the issue of financing and its sustainability is of prime importance.

Gathering this information, requires a complex and consistent organization of monitoring networks, analyses laboratories, data transmission and their checking and monitoring, management of data banks, their accessibility and their “products” and a documentation management, etc. For this, permanent means must be made available and their optimizing ensured, in order to obtain at minimum public cost, all the relevant information, limiting this however, to the strict necessary.

It should be pointed out that investment costs for obtaining appropriate information (monitoring stations, laboratories, teletransmission, automatization, studies and research ...) are high.

Moreover, the qualification of intervening experts (training) and operating costs are, by far, the most important and recurring items of expenditure in the medium and long-term.

Thus, it appears unreasonable to invest without ensuring positive means for the optimum and continuous operation of the systems over a long period of time which, of course, requires substantial, appropriate and sustainable financial resources.

It is important to avoid using excessive sophistication relying on advanced technologies instead of reflecting on a sound organization and straightforward solutions that usually are the most efficient.

Information systems only operate when skilled operators are in charge.

- ❖ **Moreover, if the information is to be useful, it must not remain in the form of raw data, but be retrieved in the form of easy-to-understand data which can be handled by all the different categories of users.**

Information should be organized according to requirements, whether it be for the study of a “white book”, master plans for water management and development, for action programmes, budgetary simulations or the basis for water charges, for delivering administrative authorizations or studying projects, for regulation of public works, warning systems or even for evaluating the results of applied policies and monitoring the environment, finally for informing the general public...

If it is generally considered that Public Authorities must be the contracting authorities for documentation centres, monitoring networks and associated information systems and that from then on, access to them must be open and free for the various users. However, due to additional costs for processing and circulating the information, it would appear quite normal that the processed data be paid for when the people making the request can afford it.

- ❖ **In addition, if the data are to be utilized, they must be made available in the most appropriate forms.**

It is clear that the information is not meant to remain confidential.

On the other hand, it does not always arrive at its destination.

- Most of the water studies throughout the world are to be found in the "corporate literature" format, available as unique reports which are more often than not non-referenced and never published.
- Many data bases can only be consulted on-site, on the premises of the organization which manages them.

It is necessary to facilitate the access to information and to organize its dissemination according to the most appropriate techniques in order to reach the various "targeted-publics".

It is interesting to have recourse to professionals of media and to use the information relays such as the elected officials, civil servants, professional or associative leaders, journalists, teachers, facilitators, etc ...

The broadcasting and dissemination means must be budgeted because they are often as expensive as those for the production of information (printing, mailing, multimedia broadcasting, exhibitions, events, etc ...).

Some mass communication systems can be very efficient.

- ❖ **Common standards must also be defined to gather the comparable information produced by different parties** in order to organize real observation systems at the level of national or transboundary river basins and to centralize the summarized information necessary for formulating governmental policies and for informing the public.

Information systems for shared rivers and aquifers would be improved by being designed in a global and consistent way on the watershed scale, within the framework of agreements between riparian countries.

It is then necessary to:

- consider that setting up complete information systems, corresponding to the above-mentioned specifications, is a prerequisite,
- clearly define which institutional bodies are responsible for the permanent organization and operation of such systems,
- guarantee not only sufficient means for corresponding investments, but also the compulsory financial techniques which will secure their long-term operation,
- encourage the development of means and specific engineering proficiency in this field,
- support the works that aim at defining common standards and nomenclatures for data or documentation management in order to exchange, compare and summarize the information between partners at all relevant observation levels,
- promote the setting-up of observation systems for water resources and their use, at the river basin level in particular, and the organization of national and coherent information systems that can:
  - become resource centres for the various users of data and documents,
  - integrate the national, regional and international Networks permitting useful exchanges, comparisons and syntheses, as for example "Aquadoc-Inter" or in the Mediterranean region, "EMWIS".

## **6. Awareness raising and training of decision-makers and information relays**

More and more actors are thus involved in water management:

- to participate in dialogue bodies or in the procedures organized by the Public Authorities,
- to realize investments either individually or collectively and to ensure their management,
- to make better use of water, thus combatting and preventing wastage and pollution, and better maintain the aquatic media and the bed of the basin,
- to organize risk prevention and warning systems ...,

Thus, new parties are coming into the scene to mingle with the water professionals (engineers, technicians, civil servants ...). Their direct or indirect role will become more and more important :

❖ **The decision-makers** :

- individuals: heads of industrial enterprises, farmers, fishermen, waterways representatives ...,
- collective: local elected officials, heads of village communities, heads of trade unions or co-operatives, associations' representatives.

❖ **Information relays**, they are mainly journalists, teachers, facilitators of associations, popularizing bodies, health care staff ... and whom play an “interactifve” role in broadcasting both information and knowledge, but also in carrying the problems and the opinions of the users and of the population.

It is extremely important to implement specific means to raise their awareness, and provide them with the information they require, in and with the appropriate forms and supports.

They all have in common, on one hand, that water is not their profession and that they have not been prepared to play a role and on the other, they are often geographically dispersed, even isolated sometimes, especially in rural areas.

In France for example, the International Office for Water has developed some awareness-raising programmes with the support of the Ministries, the Water Agencies and Associations of elected officials or professionals. These programmes are particularly intended for the mayors of rural communities (more than 10,000 participants in the “Water information days for local elected officials”) or the people in charge of professional agricultural organizations (European LIFE - RIVER - Water sharing programme). The Water Agencies also produce teaching materials for teachers organizing “Water classes”.

In Poland, the Gdansk Water Foundation (GFW) has organized with the RZGWs, the seminars of the people in charge of all “Voïvodships”.

In Hungary, the awareness-raising days for elected officials have also been organized with Hungarian facilitators who were specially trained in France.

With the fulgurating development of Internet, new “intelligent” on-line services are developing and allow responding in real-time to the most frequently asked questions of the various categories of managers.

Services of this kind are being experimented within the framework of European programmes intended for managers of Small Industries or for mayors of rural communities.

Of course, projects like in the Mediterranean region, “EMWIS”, or AWIS in Africa will provide, direct access to international data banks, open to all potential users.

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