

HOW TO FUND BASIN MANAGEMENT PLANS?

“Invest in IWRM - it pays back!”

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Abstract:

Water and energy shortages, pollution, waste, ecosystem destruction: the situation in many countries is serious and is likely to get worse with climate change. Immediate action is urgent and requires the introduction of Integrated Water Resources Management (IWRM), organized at basin level with application of its six fundamental principles.

The question of its financing is essential and additional specific means of leverage must be envisaged to create incentives for limiting wastage and for cleaning up pollution: modern financing systems must be tailored to the specific situation of each country.

But in general everyone must contribute: the tax-payers, the offenders and the users

Keywords: Integrated Water Resources Management (IWRM), investments, financing, "user - polluter - pays" taxes, river basin organizations

Text:

1. Introduction

Water and energy shortages, pollution, waste, ecosystem destruction: the situation in many countries is serious and is likely to get worse with climate change. Immediate action is urgent and a global, integrated and coherent water resources policy must be implemented, taking account the legitimate needs of the populations, while protecting aquatic and land ecosystems, to preserve the future and the heritage of mankind.

The Millennium Development Goals for drinking water and sanitation cannot be achieved without significant progress being made towards simultaneous introduction of Integrated Water Resources Management (IWRM), organized at the relevant river basin, lake and aquifer levels, whether local, national or transboundary.

Around the world, there are 263 large rivers and lakes, including 69 in Europe and 63 in Africa, plus several hundred aquifers (for example 69 on the American continent), which share their basins between at least two and sometimes many more neighbouring countries (up to 18 in the case of the Danube).

Basin-level management has developed rapidly in many countries, which have used it as the basis for their national water legislation, or are experimenting with the system on national or transboundary pilot basins. The International Network of Basin Organizations for example has 185 members or observers in 68 countries.

The experience acquired in this way means that it is now clear that integrated water resource management at basin level offers a very real advantage for governance, that is necessary for providing concrete solutions to the population's demand for various uses of water: agriculture, drinking water, energy, tourism, aquaculture, navigation, and so on.

If it is to be efficient and benefit all users, IWRM must be built around 6 main principles:

1. Water resource management must be organized and discussed at the geographical level at which the problems occur, in other words at local, national or transboundary river basin, river, lake or aquifer level;
2. It must be based on integrated information systems identifying the resources and their uses, pressure from pollutants, ecosystems and how they work, risk identification and monitoring of trends. These information systems must constitute an objective basis for discussion, negotiation, decision-making and assessment of the action taken, as well as for coordinating the financing from the various funding sources;
3. It must be built around management plans, or master plans, setting the medium and long term objectives and giving a **common vision of the future**,
4. It must involve the implementation of successive, multi-year, priority action and investment programmes, according to the financial resources available,
5. It must mobilize specific financing, in particular based on application of the "polluter-pays" principle and "user-pays" systems,
6. It should allow participation in the decision-making process by the local authorities concerned, representatives of the various user categories and environmental protection associations or those working in the general interest, alongside the competent Government departments. Through a process of discussion and consensus, it is this participation that will guarantee the social and economic acceptability of the decisions reached, taking account of the real needs, the level of acceptance and the ability to contribute by the social and economic stakeholders. Decentralization is the key to water policy effectiveness.

2. A legal and institutional frameworks must enable these six principles to be applied.

A clear legal framework must in each country specify the rights and duties, the possible levels of decentralization, the institutional competence of the various parties, and the procedures and means essential for good water governance.

Special account must also be taken of the particular situation worldwide of transboundary rivers, lakes and aquifers.

3. The question of IWRM financing is essential:

In nearly all countries, water – as natural resources – is considered to be a "common heritage", which cannot be appropriated. Even if nearly everywhere, the water resource, which is considered to be a "natural raw material", is free, its governance, mobilization, transport, storage and treatment, and the protection of aquatic ecosystems do however have a management, investment and operating cost, and this cost has to be paid.

Meeting the diversity of demands and organizing global and integrated management of resources and environments implies that a whole series of functions must be carried out in a complementary and coherent manner across all territories in the river basins.

All of these functions are generally not performed by a single organization and the most frequent situation is one in which numerous bodies and initiatives, both individual and collective, both public and private, exist alongside each other in the same territory.

All of these functions must be organized in a lasting way and their management, investment and operational financing must be mobilized and guaranteed for the long term, whatever methods are used.

4. Mobilization of funds

Needs twice as great as the available funding for water

The essential investment needed to overturn current trends and meet the numerous water requirements (drinking water and sanitation, navigation, hydro-power, irrigation, leisure and tourism, environmental management, etc.) in the emerging and developing countries, is estimated at about \$180 billion per year for at least 25 years. At present, water funding stands at \$80 billion per year, so another \$100 billion per year must be found over the next 25 years at least.

In most cases, these investments and the collective service management and equipment, operating and maintenance costs cannot be covered, or at least not completely, by the traditional national and local public budgets alone.

Even if public development aid were to double, it would at best represent 10 to 15% of investments.

How to mobilize the additional funding necessary to enable needs to be met?

With about 1% of global GDP, or nearly US\$ 300 billion per year, the amounts paid every year by the various users of water for consumption and treatment, are already significant.

Although they only represent about 10% to 15% of the volumes consumed, as opposed to about 70% for agricultural users, urban consumers provide most of this financing. The consumers in rural and underprivileged areas, industries and irrigated agriculture, usually only pay low prices or fees which to date only represent a very small part of the real cost of the water services.

In many countries, **revenues from users of the services are not therefore sufficient to meet all the costs**, in particular those linked to paying off investments and, even if the operating costs are covered at least in part, this is still rarely the case with the financial depreciation and provisions for equipment renewal, which raise enormous problems in terms of the durability of the investments made.

This then leads to the **application of the "user-polluter-pays" principles**, with costs being recovered by making the contribution of each party proportional to its uses or to the damage it causes. This is a credible approach towards mobilizing the enormous financial resources necessary, while creating economic incentives among the users to reduce wastage and pollution.

Whatever the situation, Governments cannot bear all the costs and conventional public financing has now reached its limits.

A balance needs to be found between the ability to contribute by each category of consumer, the economic cost of water and the public participation options, which are up to each State, according to how it defines its scope of action.

Investments in the water sector are particularly capital-intensive:

The creation of large infrastructures on the scale of a river basin, or for inter-basin transfers, large water mains, treatment and sewerage plants, as well as the distribution, drainage and wastewater collection networks, represent major initial unit costs which need to be staggered over time, and which can realistically only be paid off over a very long period of several decades.

This policy indeed needs to be scheduled for the medium and long term, taking account of the time needed to mobilize the partners and design and build the projects, not forgetting the general straitjacketing of available funding, which means that it is impossible to do everything, everywhere, immediately.

The objectives to be reached and the necessary means of all types must be specified in **water planning and management master plans**, covering a time frame of 15 to 20 years. The drafting of successive **Priority Intervention Programmes, for which a realistic duration can be four, five, or six years**, is the instrument for implementing these master plans.

Additional specific means of leverage must be envisaged to create incentives for limiting wastage and for cleaning up pollution: Modern financing systems must be tailored to the specific situation of each country, but can in general be built around the following three notions:

1. Administrative taxes:

There are at present two main categories:

1.a – General administrative taxes for issue of the necessary licenses (registration and other fees) or for use of the public domain (granulate quarrying taxes, hydroelectric concession, land used for infrastructures or reservoirs, river transport, etc.) as well as **finances** for non-compliance with regulations and standards or for intentional or accidental violations leading to damage.

1.b – A new form of "ecological taxation" A number of industrialized nations, particularly in Europe, are examining or experimenting with systems of **"general taxation on polluting activities"** aimed at guiding polluters of all types towards more appropriate practices, by means of "internalization of external costs". The polluting products are then taxed directly on production at the company manufacturing them, with the effect of increasing the cost to the end-customer, who will therefore reduce the quantities purchased or will use alternative products that are cheaper and less environmentally harmful. The European Water Framework Directive proposes that the member States set up systems to remunerate "environmental services" in the river basins, asking for an estimate of the cost of damage to the environment caused by a given activity, along with the cost of alternative uses of the resource....

There is also the case of CICOS, in which the countries concerned levy a duty of 1% on imports from third party countries and allocate it to the working of the Commission.

2. Pre-allocated fees and taxes:

2.a – Pre-allocated parafiscal taxes, based on the principle that "water must pay for water" allowing financing actions or equipment of common interest, which cannot be directly covered by the individual users or collective services. **The pre-allocated fees are collected specifically from water uses** (intake of raw water for hydroelectric production, thermal power station or industrial cooling, irrigation or supply of drinking water) and/or from discharge of waste water. **The income passes through specific, individualized financial circuits** (which are not therefore included in the centralized general public budgets) and is totally or partially devoted to improving the water sector.

2.b -National systems, passing through **"Special Appropriation Accounts"** with the credits being reallocated either directly to major projects or programmes decided on at a central level or, more generally, distributed in the form of regional or decentralized budgets made available to regional administrations, local authorities and local public development agencies.

2.c -Territorial systems, in particular organized at the **level of the river basin communities**; in this case, all the funds collected from water uses or pollution in the basin are reallocated to projects to improve the resource or uses in the basin itself. They pass through the budget of a specialized river basin organization.

These are economic incentive and solidarity instruments.

3. Industrial and commercial pricing of collective services linked to water uses:

This consists in having the consumers and users of collective services pay all the direct and, if possible, all the indirect investment and operating costs of the services they receive, through various types of **pricing**

(flat rate, proportional, quantitative, geographical or social equalization, etc.), with or without external **compensation mechanisms** (subsidies, direct coverage by the public authority of structural works, of administrative costs, and so on).

These services, whether organized by public or private organizations, must then offset their expenditure with revenue from the prices charged to the users, calculated pro-rata to the services received or to consumption (drinking water, waste water, industrial raw water, irrigation, etc.), which implies the development of metering and measurement systems.

The implementation of subsidy systems to limit exceptionally high costs and/or equalization systems between user categories can, if transparent, constitute a means of adapting to the diversity of situations encountered.

Hydroelectric power frequently finances not only the investment in and operation of the hydraulic works directly or indirectly linked to electricity production, but also the general costs related to improving the water resources.

An industrial and commercial approach to water services is compatible with equalization systems allowing the financial effort required of the various user categories to be balanced and equalized whenever necessary, provided that it is done ensuring full transparency of costs and pricing. There are a variety of possible systems:

- a) **"Territorial" equalization** between the services of an individual administrative area in order to balance between the users the cost of access to resources or of pollution control and clean-up.
- b) **Equalization between sectors**, for example between the water and electricity sectors,
- c) **Equalization between users**, to encourage access to water by the most underprivileged.
- d) **Equalization between functions**, to ensure upstream-downstream solidarity and to finance general administration and data acquisition functions, or the building of infrastructure, or performance of planning and development work in the general interest.

In many developing countries, the poorest are often those who pay the most for water (albeit in small quantities) owing to the speculation surrounding the shortage of this essential asset. These population categories either already resort to individual or semi-collective alternatives which have a significant cost to them, or buy water, sometimes at a proportionally very high price, from distributors/transporters who deliver directly to the districts, in conditions of hygiene that often leave much to be desired...

5. The creation of a basin organization could be a "profitable" project!

The creation of new basin organizations is a major project which, depending on the institutional system of the country concerned, will take somewhere between 5 and 10 years or more and will represent a significant initial investment. The local situation and the size of the river basin naturally vary widely, but it can be roughly estimated that the unit costs for a new river basin organization are several million US dollars over a 5-year period .

Even if detailed and extensive economic studies are required in each case, it is generally shown that with a small annual participation on the part of the users, based on taxes levied on water intake and pollutant discharges, a basin financial mechanism can mobilize considerable overall sums, although this is a gradual process, which would allow significant funding of structural and priority investments and the correct working of the equipment, as well of course as paying off the initial unit costs.

6. Conclusion: everyone must contribute

In any case, if there is insufficient financing, plans will never get off the drawing board and somewhere, in one form or another, someone will have to pay:

- **The tax-payers**, who pay their taxes into the central or local general budget,
- **The offender**, who is required to pay a fine in the event of negligence or a breach of laws, standards and regulations,
- **The user**, who pays for the services received either *directly* (supply of drinking water to the tap, of raw water to the factory or irrigated plot of land, connection to the collective sanitation network, and so on), or *indirectly* (reforestation of upper catchment basins, flood protection, restoration of ecosystems, combating upstream pollution, or creation of a dam-reservoir, but also data systems, research and training).

If things are to improve significantly, what is important is to ensure that **payment is levied at the "right place"**: in other words, on the one hand all those who by their actions have a negative impact on the water cycle must be given incentives to reduce this negative impact so that they pay less and contribute to sustainable development and, on the other, all users of the resource must pay a price for the services they receive.

The organization of IWRM at basin level with application of the six fundamental principles recalled in the introduction offers a pertinent framework for planning and for coherent mobilization of funding, whatever the country's level of development. It provides an overview of the problems to be resolved and mobilizes all stakeholders at the most appropriate scale to find the best solutions, define priorities and time-frames, achieve economies of scale and more profitable investments, ensure solidarity and an upstream/downstream balance that encourages all parties to contribute to reaching commonly defined objectives.