

# **EAP Task Force**

**CONSUMER PROTECTION AND PUBLIC PARTICIPATION  
IN THE REFORMS OF THE URBAN WATER SUPPLY AND SANITATION IN THE NIS**

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**SOCIAL PROTECTION IN URBAN WATER SECTOR  
IN OECD COUNTRIES**

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# 1. Introduction

## 1.1 General considerations

As water is essential for life, it should be available to all. Historically this was the case when people were getting their water from public fountains or wells built by local authorities. To day, the price paid for water is increasing and is not insignificant any more in many OECD countries.

The old policy of providing cheap drinking water through generous public subsidies of investment in water supply and sanitation is being replaced progressively by a new policy of full cost pricing which is more efficient from economic and resource perspective and helps to reduce public deficits. However this charge implies that poor users will have to spend a greater part of their income for acquiring water. **This paper reviews various methods used in OECD countries to enable poor users to pay for water supply and sanitation. It deals only with regions, which are already equipped with water supply networks<sup>1</sup>.**

Water pricing is a very emotional issue although water expenditure is generally a small part of total household expenditure. In France, a water allocation of 40 l per person per day which is needed for basic uses would cost as much as one cigarette per day. This is quite small for most but there are still people in French streets, which collect cigarette butts. Thus special measures are needed to facilitate water supply of a very small part of the population and new legislative measures are envisaged to guarantee access to water for all.

By and large, OECD countries have not adopted any quantified minimum allocation of water, which every person would be entitled to. There are however exceptions with Flanders which has set a quota of 40 l per day of free water for the poor and many countries which have set an upper limit for a lifeline tariff at 5 m<sup>3</sup> par month. In Ireland, the right to free water for domestic use is unlimited.

## 1.2. Pricing of drinking water

### OECD

At the last Ministerial meeting, OECD Environment Ministers adopted an *Environmental Strategy for the First Decade of the 21st Century*, which included the goal:

“to ensure access **for all** to safe drinking water and adequate sanitation”.

This “national action” should be implemented before 2010. In addition, OECD countries were asked to “assess and address the social implications of environmental policies, in particular the removal of environmentally harmful subsidies”.

Concerning water pricing, the basic principle adopted by the OECD in a 1989 Council Recommendation is the so-called “user-pays principle”, according to which the user of

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<sup>1</sup> OECD countries with limited access to water supply include Korea (92%), Mexico (86%) and Turkey (83%).

drinking water should pay the full cost of water supply and sanitation, which implies as a minimum that there should be no subsidy for drinking water.<sup>2</sup>

When this principle was adopted, exceptions were foreseen in favour of certain groups of consumers. However it took a number of years for the OECD to take up a clear position on social exceptions to the user-pays principle in the field of water supply.

When reviewing environmental performances of Member and non-member countries OECD has examined the issue of water pricing and has recommended greater implementation of the user-pays principle.

Concerning the Russian Federation, the OECD has recommended in 1998:

- to gradually increase water pricing to cover real cost, taking account of **affordability constraints**, and
- to expand the use of metering

In 2000, the Almaty ministerial consultation adopted the conclusion<sup>3</sup> that a reform of the existing water system in the NIS would imply the implementation of the following principles:

- Establishing the water sector on a financially sustainable basis, while addressing the needs of **poor and vulnerable households**
- Increases in user charges must take full account of what people can **afford**
- Existing subsidy schemes should be replaced by targeted support for **poor and vulnerable** groups

After reviewing the environmental performance of the Czech Republic (1999), OECD recommended “to continue measures to establish a water pricing structure which encourages water conservation and takes account of **social factors**”. Concerning Hungary (2000), OECD recommended “to review and increase water prices, with due regard to cost-effectiveness, financing and **social** objectives”. In the cases of Mexico (1998) and Turkey (1999), the OECD recommended “ensuring that prices fully reflect environmental costs (e.g. for water and energy), while giving attention to the **special needs of the poor**”.

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<sup>2</sup> Council Recommendation on water resource management policies: integration, demand management, and ground water protection, 31 March 1989 [C(89)12/FINAL]. The user-pays principle is used in OECD work since 1985 (see “Pricing of water services, OECD, 1987, report of Prof. Paul Herrington). The full text of the Recommendation is given in the book : “Water Resource Management“, OECD, Paris, 1989. See also F. Juhacz: “Guiding principles for sustainable development in the developing countries” in E. Domment ed., *Fair Principles for Sustainable Development*, E. Elgar, 1994 ; Henri Smets: “Le principe utilisateur-payeur pour la gestion durable des ressources naturelles”, *Anuario de direito do ambiente*, Lisboa, 1998; Compte-rendu des Thémiales de Riom, sept. 2000; *Lusiada*, 2001 (pp.465-502) ; *Revue Juridique d’Auvergne*, 2002 and *Outil économique dans le droit international de l’environnement*, La documentation française, Paris, 2002.

<sup>3</sup> *Water Management and Investment in the New Independent States*, Proceedings of a Consultation between Economic/Finance and Environment Ministers, Almaty, Oct.2000, OECD, 2001.

At the end of the first cycle of environmental performance reviews, the OECD has concluded that a major policy challenge was to:

“ensuring access to water services by the **poor**”.

## **European Union**

Within the EU, the user-pays principle was introduced under the name “full cost recovery principle” in the Water Framework Directive (2000) and exceptions were foreseen for a number of reasons including social ones. At the same time, the EU has adopted a derogation, which allows Ireland not to charge drinking water supplied to households. This derogation could also apply to other EU States, many of which are far from charging the full cost of drinking water.

## **United Nations**

According to the Dublin Statement and Report of the Conference on Water and the Environment (1992):

*“It is vital to recognise first the basic principle of **all** human beings to have access to clean water and sanitation at an affordable price”.*

Similar views are expressed in Agenda 21 adopted in 1992.

Subsequently there was a strong effort at the UN level and especially at the World Bank level to promote implementation of the user-pays principle in the drinking water field and to remove related subsidies.

In 1998, the U.N. Commission for Sustainable Development discussed the user-pays principle and adopted a decision according to which:

*“cost recovery should be gradually phased in by water utilities or the public authorities, taking into account the specific conditions of each country. Transparent subsidies for specific groups, particularly people living in poverty, are required in some countries”*

This carefully phrased decision was justified by the observation that: *“A move towards full cost recovery by guaranteeing the commercial and managerial autonomy of water services is one essential element of financial sustainability”*. But at the same time many countries were concerned with the social consequences of applying the user-pays principle.

## **Other fora**

At the Second World Water Forum (The Hague, March 2000), the Ministerial Conference agreed “to move towards pricing water services to reflect the cost of their provision”. They also agreed that:

*“This approach should take account of the need for equity and the basic needs of the poor and the vulnerable”.*

In this case again, the message is “to move towards”, not to apply the full cost pricing policy, and to take account of the affordability of water for the poor.

### 1. 3. Full cost recovery with a social exception

As the generally agreed pricing policy in the drinking water sector is now based on the user-pays principle, it will be necessary to remove remaining subsidies for operation and maintenance cost and subsequently subsidies for new investment (replacement of existing networks and setting up of new networks or wastewater treatment plants). The resulting increase in water price will be compounded with a price increase caused by better wastewater treatment, and also possibly by higher water taxes to take into account resource depletion and environmental damage (full internalisation). Thus in a number of OECD countries, drinking water prices are bound to double and even to quadruple. Water, which used to be an insignificant part of household expenditure, could become “unaffordable” to poor people.

As stated by Ronnie Kasrils, Water and Forestry Minister of South Africa: “The problem is that when we try to implement cost recovery, many of the poor cannot pay. It is our moral duty to make a basic amount of safe water available to all South Africans or at least to those who cannot afford pay for it”. What is true in large sections of South Africa is also true in some areas of OECD and for a small part of its population.

In all OECD countries, people who are most concerned with water price increases are those for which water represents a high fraction of their income. For instance, in the UK, the poorer 5 % of the population have to spend more than 5.6% of their income for water and the poorer 1% more than 10.5 % of their income while an average person only spends 1.3% of its income for water. If there were a doubling of water price, it would mean that an average person would have to reduce its consumption by 1.3%, while a very poor person would have to reduce its consumption level by 10.5% because of water. Clearly the social consequences are very different.

The number of poor people in OECD countries, i.e. with income below 50% of the median income, varies between a few percent of the population to less than 20%.<sup>4</sup> Among these people the poorer group can be assumed to require some form of financial assistance to pay for their water if it was priced at its real cost. This group may amount to between one third to one sixth of the total number of poor people depending on the price of water and the level of real income. In Western Europe (Germany, Netherlands and Sweden), the number of continuously poor people is below 2% but in UK it is as high as 6%.

This paper examines **how to alleviate the effect of water price increases on population groups, which cannot afford to pay for the water they consume**. This approach is justified by the fact that water is an essential good and that most governments

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<sup>4</sup> Turkey 16%; United States 17% (of which 4.6% of continuously poor people). The exception is Mexico with 22% of people with low income. Turkey has 2.4% of its population with income below 1 \$ per day (PPA) and Mexico 12.4% (UNDP, *Human Development Report*, 2001).

seek to ensure that water is available to all, either as a policy or because they consider that there exist a right to water for all.<sup>5</sup>

After an overview of national experiences, the paper examines measures applicable to all people and measures targeted to poor people aimed to make water more affordable.

## **2. National experiences on social protection of water consumers in OECD countries**

### **2.1. Overview of national experiences**

In OECD countries, public authorities are required by law to ensure the provision of water and sanitation, either alone or in partnership with the private sector. Accordingly they have set up public or semi-public utilities to perform this function as a natural monopoly extending over the territory assigned to them by public authorities (one or more municipalities). In most OECD countries, water infrastructure is still owned by public authorities and the private sector only intervenes as a manager of a public service (utility). In all OECD countries, water companies have to report to public authorities and are held accountable for the proper functioning of the water services. Being a natural monopoly, they are not allowed to fix the price without consulting higher authorities in line with laws, regulations and contracts.

Water quality standards set by national law, EU law, or WHO are to be met and obligations of universal service are to be carried out (continuity of service, universality, equality, adaptability and social cohesion). Because drinking water services are “services of general economic interest” under EU law, they do not fall under usual trade laws and they may be subsidised <sup>6</sup>.

Because water prices are generally low, people are induced to put a high pressure on water resources. However losses in economic efficiency and resource efficiency from low pricing are quite small in the area of drinking water because the price elasticity and the relative size of proportional costs in water supply and sanitation are small. In most countries in transition, water use has not diminished drastically during the 90’s in spite of drastic price

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<sup>5</sup> More details on the question covered can be found in the following papers by the author:

- a) “Implementing the right to drinking water in OECD countries”, paper presented at the OECD Seminar on the Social and Environmental Interface, Proceedings published by the OECD, ENV/EPOC/GEP(99)13, OECD, 1999. Available at [http://www.oilis.oecd.org/oilis/1999doc.nsf/LinkTo/env-epoc-gep\(99\)13](http://www.oilis.oecd.org/oilis/1999doc.nsf/LinkTo/env-epoc-gep(99)13) (also available in Russian)
- b) “Mise en oeuvre du droit à l’eau potable dans les pays de l’OCDE”, rapport présenté au Séminaire de l’OCDE sur l’interface social / environnement, OCDE, Paris, 1999 (disponible sur le site [www.cartel.oieau.fr/a\\_propos/fpropos0201.htm](http://www.cartel.oieau.fr/a_propos/fpropos0201.htm) )
- c) “Le droit à l’eau potable”, *L’eau au XXIe siècle*, Futuribles, Paris (2000).
- d) “L’eau et les pauvres”, *Environmental Policy and Law*, Vol.30, p.125 (June 2000) (also available in Russian).
- e) “Observations on the right to water as a human right”, available on site [www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/cc44adbac8d8c3c2c125694c00520ba6?Opendocument](http://www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/cc44adbac8d8c3c2c125694c00520ba6?Opendocument)
- f) “The right to water as a human right”, *Environmental Policy and Law*, Vol.30, N°5, pp.248-250 (2000).
- g) “Le droit à l’eau”, AESN, Paris, 2002 (to be published).

<sup>6</sup> However this issue may have evolved because of the recent Doha agreement.

increases. For instance in Czech Republic, household water use decreased from 137 l per person per day to 109 l between 1993 and 1999 but, at the same time, food consumption, in particular beef, animal fats and dairy products, also decreased. Similar patterns were observed in East Berlin where the decrease in water consumption could be related to the rising cost of metered water as well as the decline in the local economy.

Water service is paid by the taxpayers through direct subsidies to public utilities or unpaid public services (e.g. public wastewater treatment) and by the users through water charges. The water service, which collects subsidies and water charges, aims to equilibrate its income and expenditure. When financing of the water service is problematic, water networks are poorly maintained, water leaks increase, water quality is low and water supply is not guaranteed. This has taken place in a number of less developed Member countries where water leaks have exceeded 30%. But the situation is improving. Remaining problems are mostly related to pollution.

In many OECD countries, water is metered for the purpose of billing and this has also a positive effect on limiting water consumption (e.g. a reduction of 10%) even if people generally have no idea of the price of the water they use or of the level of their consumption. However there are a number of countries or cities without meters or with few meters (e.g. United Kingdom, Canada, New Zealand, Denmark, Iceland, Ireland, Norway) or where there are few or no individual meters in most apartment buildings (e.g. France). In such cases, there is little direct incentive to reduce water consumption. Such lack of metering may however be justified on economic ground, at least for existing housing, because the decrease in water cost induced by meters does not always pay for the cost of metering. Thus Ireland does not install meters in new buildings and meters are introduced very slowly in England. On the opposite, individual meters are now mandatory in new French buildings.

In general water bills are made of two elements: a fixed fee plus a volumetric fee which increases with water consumption or with some proxies such as house size, house value or number of persons in the household. The fixed fee which usually varies with piping or meter size (i.e. potential demand) may constitute a financial obstacle for poor users. The unit price of water may be constant, decreasing or increasing with consumption (progressive pricing). It may take into account socio-economic characteristics of the users (so-called social tariff).

All OECD countries seek to ensure that every person has access to water, i.e. does not spent too much of its income for domestic water (affordability). As water price varies very much within countries (from one to seven in France) and between countries (from one to ten), the issue of affordability has very different impacts in OECD countries. Similarly the rate of poverty varies very much within countries (e.g. from one to seven within France). Some groups of poor people are very much affected such as gypsies in Central Europe or non-European immigrant workers in Western Europe.

The following methods are used to provide water at an affordable price:

1. ensuring that water prices are kept "low", i.e. below the full price;
2. providing general income support to poor people ;
3. providing a discount to reduce the price paid for water by some categories of users;
4. providing special assistance to people who cannot pay their water bill;
5. providing a certain quantity of water at no cost.

The first measure is very costly because it may affect a large part of the total water expenditure of the country. The second one is also very costly because it seeks to alleviate poverty in general and not simply water poverty. In comparison the other three measures are very inexpensive.

These measures are financed by the taxpayer (general income support, housing allowance, subsidies to the water sector) or by the other users (cross subsidies). They contribute to ensuring that water does not become a significant part of household expenditure. Some of these measures require individual metering.

These measures may entail significant administrative costs if it is necessary to identify beneficiaries (poor or vulnerable people) for the purpose of providing them with some sort of water assistance. The identification mechanism needs to be simple because otherwise more money would be spent identifying poor people than paying their water bills. Fortunately social services in many countries maintain lists of people receiving social benefits because of their income or family status. Use of such lists should enable one to avoid “leakage”, i.e. to provide help to people whom are able to pay their water bills.

## **2.2. General measures**

In order to improve access to drinking water for all domestic users, governments of OECD countries have implemented a number of general measures, which are outlined below. Some of these measures can be very costly and most of the cost is in favour of people who could easily pay their water. Implementation of the user-pays principle is progressing. Some Governments who were in favour of a no-subsidy approach are likely to provide subsidies when they will decide to improve wastewater treatment because they want to avoid large changes in water prices. This has taken place recently in Scotland.

### **Good water governance**

The first method to reduce price is to ensure good management of water services, avoiding illegal payments, reducing leakages, removing illegal water connections and undue privileges, ensuring efficient collection of water bills, avoiding unwarranted side payments or undue profits, etc. This is helped by transparent operation, public participation and independent control of utilities.

### **General taxes on water**

The easiest method to reduce water price for the user consists in reducing various taxes such as sales tax applied to water, added value tax, waste water tax, water extraction tax, tax for the use of public domain (for the water network) and taxes unrelated to water supply (to finance garbage collection, dam construction, canals, and other public expenditures). The justification for this action is that water is an essential good for which the lowest level of VAT should apply. This method is used in most OECD countries.

### **Subsidies for water services**

The most common method used to-day to reduce water price consists for governments to fund investment in the domestic water sector without asking municipalities or water

utilities to reimburse this expenditure or to provide municipalities or utilities with grants to finance water supply and sanitation investment. Similar results can be obtained through low interest credits.

In most OECD countries, there are still significant subsidies for waste water treatment but much less for investment in water supply. For instance in Canada, there is C\$1.2 billion subsidy for a total cost of C\$4.5 billion for water supply and sanitation. In Italy, over 70% of investment are paid by public budget and in Spain over 50%.

Operation and maintenance cost can also be subsidised by governments or local municipalities. Such subsidies are slowly disappearing in OECD countries that have adopted laws to prohibit municipalities to provide subsidies to the water sector (example: in France, water accounts are separate from other public accounts and in UK, water is entirely privatised). Hence users in France finance 90% of the drinking water costs which are currently incurred (i.e. ignoring the fact that past investment were very much subsidised). In contrast, in Mexico City, local governments subsidise over 88% of the current cost of water.<sup>7</sup>

Reducing the price of water for all means that the more affluent households will receive a higher benefit without having any social or economic need. Such disadvantage is less severe when most beneficiaries are poor (backward communities).

Removal of all subsidies would lead to large price increases (see Table 1 which provides price increases as if full cost pricing was always used). Those most affected will be the poor people (in relative terms) but those who would lose more in absolute terms are the rich people. This can induce politicians to maintain large subsidies for water (a small item of consumption with a high political profile).

### **Cross subsidy between user groups (households, industry and agriculture)**

In many countries, small users pay a lower price for water than large users (progressive tariff, see below) and households pay a lower price than many commercial or industrial users. This can be done either explicitly or even implicitly through charging a higher unit price for large users. For instance, industrial users in Czech Republic, Korea, Mexico pay a higher price for water. If prices are too high, industrialists will seek to pump their own water and avoid financing household water. Cross subsidisation often works in favour of agriculture which does not pay its fair share of pollution control cost or of flow control cost and causes an increase in the cost of treatment of water for human consumption (removal of pesticides or nitrates).

Cross subsidies are used in nearly all OECD countries and are avoided in a few countries (e.g. Australia). They are not favoured by the OECD and other international bodies because they provide wrong economic signals (industry spends too much to reduce its use of water and agriculture consumes too much water because it is very cheap). However this criticism is only valid if the initial level of price is optimal. As this is rarely the case, increasing water prices for industry may bring water prices closer to the optimal level and

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<sup>7</sup> “Despite increases in water prices, few OECD countries have achieved full cost recovery of the operating and maintenance costs of water services provision, not to mention any additional environmental or social externalities”, see OECD: Household Water Consumption, ENV/EPOC/WPNEP(2001)15

thus be economically efficient. On the reverse, low water pricing for irrigation leads to distortion in water use and should be avoided because it is an environmentally damaging subsidy. According to the EU Water Framework Directive, cross subsidies should be progressively removed but many exceptions are foreseen.

### **Cross subsidy between rural areas and urban area; geographic solidarity**

People living in areas, which require expensive investment for water supply, are often aided by other users. In France, geographic solidarity with rural areas is organised through a fund (150 MFF per year) financed by a tax on horse gambling and a tax on water consumption. In Hungary, the national budget helps communities in which water is particularly costly to reduce geographic differences in price.

In a few French departments and in privatised water companies in UK, water is sold at a uniform price. Similar measures are foreseen in Wallonia, and have already been applied when enlarging water networks in poor suburbs (new entrants pay the same price as old time users).

The European Union Water Framework Directive foresees an exception to full cost recovery in favour of less favoured areas.

### **Lifeline tariff for all**

Very small users (i.e. connected through a small diameter pipe) may be charged a very low price for the first block of consumption. Thus these users enjoy water at a price subsidised by those who consume more water than the first block. This method usually requires a meter to measure the consumption above the first block. An alternative when there is no metering consists in charging a small flat fee for those who have few tabs or a small connecting pipe and a much higher fee for those who presumably have a higher water consumption.

Observations on water use in households have shown that water consumption is roughly proportional to the number of people in the household (no economy of scale), to the area of apartment (income effect) and to the level of sanitary equipment (income effect). Thus water consumption in Hungary varies only by a factor of 2.2 between the first decile of income and the last decile (ratio of income: 5.4).

Lifeline tariffs usually apply to a small fraction of the average household consumption; they often imply a price reduction of 50% from the average price of water. For instance, they apply to a first block of 15 m<sup>3</sup> per person per year when the average consumption is 45 m<sup>3</sup>, or to 30 m<sup>3</sup> per household when the average household consumption is 120 m<sup>3</sup> par year.

Lifeline tariffs may cause an increase in pricing of the remaining water as large as 33% depending on the amount of assistance provided. It may induce large users to reduce their consumption or to seek water from other sources. Water companies do not like this approach because users believe that the water company has increased water prices when in fact it has spread the same cost over a smaller water consumption.

## **Progressive pricing; increasing block tariff for all**

If water is metered and if the unit price of water increases with consumption (different blocks of consumption pay different unit prices), small users pay much less per m<sup>3</sup> than large users. This is equivalent to a cross subsidy between small and large users. It can have very strong incentive effects on large users who reduce their consumption in view of the high marginal price paid for water. For instance, they will recover rain water and pump water from their wells in order to water their garden.

Progressive pricing is used in Brussels, Wallonia, countries in South Europe, Japan, Korea, Mexico, etc. It provides cheap water to small users and discourages large uses. The ratio of large and small unit water prices may be as high as a factor 10. However the highest unit price should remain below long-term marginal cost including resource and environmental damage cost in order for the tariff to be close to optimal. As water is often subsidised, this condition can be met.

## **Reduced or no fixed fee for all**

Large fixed fees is an obstacle for the poor to access water. Annual fixed fees and access charges (connection fees, advance payments, etc) can be reduced or even abolished and replaced by an increase in volumetric charges. This method reduces the price paid by small users. Hungary, Czech Republic, Berlin and Marseilles have no fixed fee. In France, the new water bill aims to reduce fixed fees to the minimum.

## **Free water for all**

In Ireland water is delivered freely to households. Surprisingly water consumption is quite reasonable. In a number of OECD countries, water is not metered and as a result its marginal price is nil.

In a few regions such as Flanders, a first block of water may be free in so far as supply is concerned but there is a separate wastewater tax. A limited free water supply has the effect of increasing the volumetric charge thus reducing water consumption.

Free water is traditionally available at public fountains. When water is not available because of disruption in supply, public authorities generally provide free water on a temporary basis (trucks, bottles, etc).

## **2.3. Specific measures**

The measures described below are targeted to poor people in general (income support) or to people for whom water is not considered to be affordable. They come in addition to the measures outlined above and, except for income support, which covers many items of expenditure, they are quite small from a financial standpoint. Targeted measures for water apply to few people and in few instances and for small quantities. They could become more frequent if water prices increase, especially in countries, which would implement the user-pays principle.

The identification of beneficiaries of income support or of targeted measures is not an easy task and raises a number of political and equity issues. It is usually done by public

authorities, which seek equal treatment across the country. Water services are rarely facing the issue of determining whether a person is poor enough to get a form of support.

### **Identification of beneficiaries**

Identification of beneficiaries of specific social measures is difficult and costly unless it was done previously as part of the operation of other systems of social assistance. When there is no consensus on identification of beneficiaries, serious difficulties can be encountered because those excluded may also have significant needs (i.e. similar to those of beneficiaries). This is particularly true when there is a very large proportion of poor people.

Governments of OECD countries have identified certain groups of people who should benefit of specific social measures in general<sup>8</sup> or to enable them to have access to water or to pay their water more easily.

The broad classes of potential beneficiaries of targeted water measures are:

1. people with low income (France ); people identified by the local social service as needing social assistance (Belgium); jobless people; indigent, etc
2. handicapped people (France, Flanders)
3. pensioners (Australia, Barcelona, Flanders, UK)
4. large families (Luxembourg, Barcelona, UK)
5. people requiring much water for their medical treatment (UK)
6. indigenous people (Mexico)
7. charitable institutions (Portugal)

The level at which water is not affordable is not yet defined. As will be described elsewhere, identified beneficiaries of water aid are usually people who have to pay more than 3 - 5% of their income for their water consumption. In general, water benefits are limited by an income test. Potential beneficiaries have to apply to water companies to obtain a water benefit but they must produce evidence from public authorities to prove that they are eligible. Water companies prefer leaving selection of beneficiaries to public authorities. In some countries such as Spain (Barcelona), identified beneficiaries loose their benefits if they have a large water consumption (in terms of cubic meters per person).

As the number of potential beneficiaries rarely exceeds 21% of the population in OECD countries and the amount of support provided to poor people rarely exceeds the third of the value of the average water consumption. The total cost of targeted support is always smaller than 7% of the price of water. Such limited financial support should have no significant effect on pricing, water efficiency or resource efficiency.

Poor people may have access to general income support or a special tariff, they can be eligible to non-tariff measures or to technical, social or legal measures described below.

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<sup>8</sup> For example, people with less than 425 € of net income per month (the minimum salary is 1080 € per month and the average water expenditure is 14 € per person per month).

### **2.3.1. General income support**

#### **General income support**

In all OECD countries, social services provide income support to the poor either as a right (e.g. France) or as discretionary assistance. There are many forms of income support such as living allowance, guaranteed minimum income, supplementary pension benefits, housing allowance, etc. This direct cash support can be quite significant in the net revenue of the poor (up to 100%) and should enable the beneficiaries to pay their water bills provided that they have not spend it all on other goods. Countries with a significant programme of income support and social assistance may not need targeted support specifically for water because social assistance would step in if there were a risk of disconnection of water supply.

As water expenditure is a relatively small fraction (generally less than 5%) of total housing expenditure which also include heating, electricity and gas, income support measures are not adjusted with the price of water. There are however a few exceptions: in Finland, the calculation of the housing allowance takes into account the actual price of providing a certain amount of water.

In France, housing support is high enough to pay most of the rent but may be earmarked for this purpose. Hence separate water, electricity and telephone bills may remain unpaid. Each supplying company will seek reimbursement separately and is now subject to various constraints for social reasons. Reduced price is already available for the telephone of the poor. Electricity may not be cut off and delays are available for the payment of telephone and water bills. Special social tariffs for electricity will soon be available and a special social tariff for water is under discussion in the Parliament. The total number of beneficiaries of these measures is at most 4% of the population and the actual cost implication is likely to be less than 1% of turn over.

In countries such as Hungary, the housing allowance is calculated on the basis of the difference between actual expenditure for housing, heating, energy and water and a fraction of income (e.g. 35%). In this case, an increase in water price will not affect the poor because it will be covered by a larger allowance. A similar system is used implicitly in other countries where the social services assess individual needs and provide appropriate benefits on the basis of actual bills rather than on assumed needs.

#### **Water support as an identified part of general income support**

In principle, social services could be asked to set aside part of income support money for paying water bills and transfer it directly to the water service (this is done in France for the housing allowance which may be transferred directly to the owner as part of the lease). This approach was examined during the discussion of the French water bill but was not adopted. It is not used in any OECD country except as water voucher (see below).

The difficulty with this approach is that it requires the social services to make a number of bills to different providers (lessor, housing manager, water company, electrical company, telephone company, local authorities, etc) and that some bills could be quite small. The merit would be that the money set aside for water and other services would not be used for other purposes and that water, electricity and telephone supply would thus be guaranteed.

Another possibility would be a water allowance similar and additional to the housing allowance, which would be paid to the owner or the water company if there is a contract between the user and the supplier. This allowance would help poor people to pay their water and could be financed by a levy on water supply on the model of the electricity solidarity fund financed by electricity companies (to finance geographic solidarity and social cohesion).

### **2.3.2. Tariff based measures**

#### **Social tariff**

A social tariff is a reduced tariff for water available to well-defined categories of beneficiaries, which are usually identified for other social purpose (housing allowance, minimum income, medical cover, etc). It is often equivalent to a lifeline tariff or a reduced fixed fee only available to the poor. Identification of beneficiaries is usually done by social services and financing is provided by water companies (except in Australia). It may amount to a decrease in the access or connection charge, annual fee or unit volumetric fee. It may consist in providing a certain quantity of water at reduced price either as a lump sum or as a lifeline tariff. When there is no meter, the aid may consist in providing a fixed rebate on the water bill.

The cost of a social tariff for water is very small. According to M. J. Dausset, a Nobel Prize Winner and Chairman of the French Academy of Water, it would amount to ask each family “to give a pail of water per day” in favour of poor families. Such a programme would provide 120 l of water to 7.7% of users, i.e. 40 l per day per person in a 3 persons’ household. Social tariffs cost relatively little to the water companies and influence little water prices. For instance, if there are 3% of beneficiaries who are unable to pay the price of water, if the allocation is 15 m<sup>3</sup> of free water and if the average consumption is 45 m<sup>3</sup> per year, the average price of water should be increased by one percent because of the social tariff. Other calculations are given in Table 2.

Social tariffs are used in Australia, Belgium, Luxembourg, Mexico, Portugal, Spain, etc. In Flanders the poor receive 15 m<sup>3</sup> of free water because they do not pay the wastewater treatment tax. In Mexico, indigenous people receive free water as a means of social support.

According to OECD<sup>9</sup>, pricing systems can be structured to achieve the two objectives of resource and cost efficiency as well as of providing every person with access to clean water. To make this possible, it is necessary for the beneficiaries of special programmes to pay the same unit price as the other people for their marginal consumption. Thus they should receive aid as a lump sum, for instance as a low connecting fee or annual fee, as a sum representing a fixed water quantity below the actual quantity used. This approach can be applied even if there are no meters by reducing the flat fee for the poor.

Social tariffs are a “right” open to a class of users. As such, they can reach a large number of beneficiaries who would otherwise object making complex and humiliating submissions to public authorities. Rights to water, electricity, gas and telephone are included as such in the French law to combat poverty. The right to electricity is currently being

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<sup>9</sup> *Water Management. Performance and Challenges in OECD Countries*, OECD, 1998 (p.32)

discussed within EU as part of the general obligation of universal service for privatised national electricity companies. Targeting and administrative simplicity are important considerations in designing social tariffs.

### **Social considerations in progressive pricing**

When there is progressive pricing, the size of the blocks of water consumption can be increased in line with the number of people in the household in order to avoid too large a financial burden on large families (minority of the beneficiaries). This is done in Luxembourg, Barcelona and in Flanders (15 m<sup>3</sup> per person per year) but requires that the user applies to the water company to have a special tariff. Alternatively large families may receive a water voucher (see below).

### **Targeted reduction of water taxes**

In order to reduce the price of water for poor people, certain state or local taxes paid by the user such as the wastewater tax or the property tax can be waived or reduced if the user has a low income (Flanders, Wallonia).

### **Reduced tariff for standpipes and fountains**

When access to standpipes or fountains is not free, poor families could be allowed to buy coins at reduced price to operate standpipes. Such subsidies have little effect on water use because carrying water is a burdensome task.

## **2.3.3. Non-tariff based financial measures**

### **Water vouchers/water allocation**

Water vouchers are provided by social services to enable poor users to obtain a rebate on their water bills. The voucher can be provided to the user and used by him when he pays his water bill either to the municipality or to the water company. It can be financed by the municipality (water allocation) or by the utility (water voucher). It may be tradable or not. Water vouchers can be managed entirely by the municipality. Use of vouchers can be restricted to people who pay their part of their water bills (conditional aid).

Vouchers are used in a number of OECD countries to provide at a lower price such goods as coal (Ireland), energy (US, Belgium, France), meals, food, milk (Hungary), etc. They aim to satisfy a basic need for which there is a collective responsibility (aid in kind). They have not been used so far for water in OECD countries but experience exists in Chile. Water vouchers are similar to social tariffs except that they are lump sums not connected to the level of consumption.

### **Arrears forgiveness; solidarity funds**

In a number of countries (Belgium, France, UK), poor people have the opportunity to ask social service or solidarity funds created by water companies to pay part or all of their water bills in case of need and also to obtain easy terms for payment of arrears. These mechanisms are able to fund all valid requests because there are relatively few requests (less than 1% of users). In Belgium they cost 0.6 BF per water user per year and in France even

less. The financing generally comes from water companies but there can be exceptions in countries, which do not agree with cross-subsidies. The disadvantage with this type of system is that in general, it provides support to a very small number of persons among the poor population.

The administrative cost per beneficiary of this system may be high if the social services have to open a new file for each request and to assess the relative merits of all files. Lack of administrative personnel is such that the system often acts as a break in the disbursement of aid.

Many such systems are ineffective in the sense that the number of people who apply to the fund is well below those who would be entitled to apply (i.e. many poor people refuse to go through humiliating and cumbersome procedures). The experience with these systems is generally that they provide aid to between one tenth and one quarter of eligible beneficiaries. The merit is that they cost little, give the assurance that money is well spent (i.e. help is provided only to those who are in deep trouble rather than to those who could possibly pay if they did not buy unnecessary goods).

Another form of solidarity is organised de facto between users sharing a collective meter in a condominium. When water expenditure is part of overall housing expenses, all tenants have to pay collectively their water. If a tenant does not pay its share of housing expenses, other tenants will have to pay for him and are not allowed to disconnect him from water or electricity.

#### **2.3.4. Technical, social and legal measures mostly aimed at the poor**

Issues arising in connection with water poverty are not only a matter of receiving allowances and paying bills. The human dimension may not be neglected because water is a crucial element for living in harmony with society.

##### **Repair of water leaks**

As owners of low cost housing are often reluctant to repair water leaks occurring in the sanitary equipment they provide with the apartment, tenants are led to pay higher water bills. In France a new law was adopted which requires the owner to repair water leaks before renting and during the rental period if there is a faulty equipment (this does not apply to usual maintenance) and which also prohibits renting of apartments without adequate sanitary installations (sinks, toilet, shower, etc).

##### **Frequent billing**

Frequent billing with payment in the neighbourhood makes it easier for poor people to pay their water bills, especially if they do not have a bank account nor savings. Many difficulties of non-payment can be avoided when poor people are not asked to provide large sums of money at once. Thus water companies should spread the payment of large sums and increase billing frequency when asked to do so. Because of transaction costs, the frequency of billing cannot be too high (once every month may be justified in large families but not for a single person).

## **Direct contacts with users having financial difficulties**

Much improved collection of water bills is obtained when water companies assist users to solve their problems of delayed payment or of large water consumption. In many cases, such users do not even understand the mail they receive or do not understand what they should do when they cannot pay. Water companies can often persuade users to pay part of their bills, to request public assistance and thus avoid disconnection.

## **Minimum flow**

When water supply may not be disconnected, the alternative for the water company is to provide only a minimum flow of water to satisfy basic needs. This method is enforced in Sweden and Switzerland by throttling the flow or providing flow for restricted periods of time.

## **Emergency standpipes**

When users are left without water because of a disconnection, municipal authorities often ask water companies to install a water standpipe so as to allow limited access to water. Standpipes are also installed near “camping” grounds or parking areas for nomads, gypsies, etc. in order to provide them with minimal services (including shower and toilets).

## **Meters with prepayment**

Water meters with prepayment provide water only after it has been paid. These devices avoid overuse of water and legal proceedings. They have been banned in the UK because it is equivalent to automatic disconnection, an approach, which is not in line with British law and is likely to be banned under the new French bill.

## **No disconnection policy**

Policies concerning disconnection of users who have not paid their water bills varies very much from one country to the other. In principle, water bills will eventually be paid except if the user has a property, salary or pension. However the procedure can be costly, lengthy and not always successful. In some countries water can be disconnected one month after issuing a proper warning if the water has remained unpaid in the meantime.

In other countries, disconnection is illegal, never done or not enforced (Austria, Denmark, Flanders, Luxembourg, Ireland, Norway, Northern Ireland, Scotland, many Mexican States). In a number of countries water disconnection is not permitted unless the water company can prove that it has no other means to obtain payment of its bill (Spain, Germany). In England and Wales, water disconnection was prohibited by law in 1999 after wide use in the early 90's. In France, the new water bill would prohibit disconnections in line with a number of court decisions

In some cases, disconnection can only be done after social services have been informed by water companies and have had time to react (UK) or is not allowed without a court order (Brussels). In the meantime, the judge makes sure that local social services intervene to avoid or delay a disconnection. Disconnection is rarely granted if the user is poor (social necessity, dignity).

Statistically there are very few disconnections in OECD countries. The rate of disconnection of poor people in countries where it is difficult to enforce disconnection is very small (less than one per thousand of the turn over). Thus enforcing disconnection or not has little economic effect on water companies in most OECD countries.

Lack of disconnection does not mean forgiveness of arrears. Water users who fail to pay on time will often bear high costs because of procedural expenses associated with late payment of water bills. Only very poor people are likely to escape such penalties and they shall be taken care of by social services.

### **3. Evaluation**

Although water is a relatively small item of private consumption, its price has traditionally been set below full cost. This was achieved by general measures, which are available to all and by specific measures, which are targeted to the poor or other vulnerable groups.

General measures consist mostly of subsidies provided by public authorities to finance investment of water utilities and of various tax reductions. These measures are expensive for the budget and are capable to encourage water wastage. Water use may decrease by 35% when water is priced at its true cost but the corresponding financial savings are much smaller because fixed costs are large and remain nearly the same.

Most OECD countries are still subsidising water utilities; only a minority of them has already achieved full cost recovery of the operation and maintenance cost alone. The general trend is to reduce subsidies and accordingly to increase water prices. The heavy dependence of utilities on subsidies, which arises when water is not fully paid by users, may be a source of concern for utilities, which have autonomous budgets. Privatisation is sometimes seen as a mechanism to raise capital outside the rules of public finance, especially when local communities are not able to borrow on the market.

Progressive tariffs for water are used in a large number of OECD countries mainly to protect the water resource. These tariffs require metering but no information on the user. They also help to provide water at a low price to small users. As water use increases with income level, progressive tariffs are particularly favourable to low income households. A particular case of progressive tariff is the lifeline tariff designed to provide a small amount of very cheap water.

In most OECD countries, higher water prices are likely to cause problems to the poor. However this has not yet emerged as a very significant issue because social policies carried by most OECD countries provide income support to the poor and water is only a small part of household expenditure and of income support. Cash support received in most OECD countries should enable most of the poor to pay their water. Alternatively social assistance may be given as part of housing allowances and can be directly transferred to the water utility.

In addition, specific measures are used in most OECD countries to help the poor to pay their water. The cost of these measures is considerably smaller than the cost of income

support and housing allowances. Table 3 gives a comparison of main targeted measures. Providing water at no cost is an option, which was used for a long time but raises difficult problems because many people cannot accept that such a valuable good could be handled as a free good. Thus water is generally paid for, but not always on the basis of metered consumption.

Social tariffs, i.e. a lower price for water distributed to identified poor households, have little effect on income of utilities because they affect only a small percentage of water consumption. They can be implemented easily when the beneficiaries are identified by public authorities. Social tariffs can apply to fixed charge and/or to volumetric consumption. A reduction in fixed charge is a very simple measure to implement and removes a financial obstacle, which is significant for the poor. This reduction can also take the form of a water voucher paid by public authorities or a water allowance paid by utilities. When information to define categories of potential beneficiaries on the basis of income is not available, the type of housing and appliances used can be used to identify beneficiaries.

Progressive tariffs, which are favourable to small users can be adapted to take account of family size and even income level but these refinements are rarely used. A typical example is Flanders where 15 cubic meters of water is now given free to every poor person. Cross subsidies between domestic users and industrial users are not significant in most OECD countries and are considered negatively.

When users do not pay their water bills because they are poor, they can usually obtain financial assistance from social services, which will help them to pay their arrears. In a few countries, a solidarity fund has been set up for this purpose and is funded by a charge on all users or by the budget. These mechanisms help to avoid disconnection of those who fail to pay their water. Consequently disconnections of poor users are becoming less frequent.

Installing flow limiters, meters with prepayment and other devices can also help to promote the idea that water is a common good that needs to be saved and paid. However there are more appropriate ways to pass on this message such as awareness raising, education, TV campaigns, frequent billings, direct contacts with users. This would require improving human relations with users rather than relying on automatic billing followed, as need be, by disconnection.

The analysis of recent OECD practice shows that Member countries are attempting to ensure that water be available to all, seek to reduce the number of disconnections and enforce simple tariffs to make water affordable to the poor. Most of them have recognised that there is a fundamental right to water.

#### **4. Conclusion**

OECD countries have provided for a long time water at a price below cost and many of them continue to do so. There is nevertheless a trend towards greater implementation of the user-pays principle in order to reduce the burden on public finance and to eliminate subsidies for a basic good, which most people can easily pay.

Because water prices are increasing, OECD countries have taken measures to reduce the social effects of such increases and to make drinking water more affordable to poor people. Measures adopted are applicable to all people or only to a category of beneficiaries.

OECD countries prefer by and large general measures applicable to all, if possible financed by the budget. These measures are relatively costly because they provide benefits to people who have no problem with water prices. Progressive tariff is often used to reduce wastage and to provide a partial solution to water affordability issues but it normally requires metering of water consumption.

Special measures have been developed to take care of poverty issues related to water. Targeted water tariff for the poor have no significant economic impacts. However measures which open a right to poor people are more expensive than those which allow poor people to benefit of assistance because many poor people hesitate before asking support to pay their water. A targeted lifeline tariff is probably the easiest measure to implement when potential beneficiaries are well known and can even be used when there is no metering.

Helping people to pay their bills by reducing selectively the water price before billing will reduce the number of people who are likely to have arrears for water. Taking care of arrears of the poor and limiting the water supply of those who do not pay may be preferable than to induce them to campaign against public authorities or water utilities and provide excuses for not raising water tariffs.

In general, countries implement a mix of general and special measures because no measure provides a perfect response to the issue of affordability. The choice of the appropriate mix of measures depends on a large number of factors and no measure except general support can be said to be applicable to every OECD country. Recent history, legal tradition, law enforceability and equity considerations play a large role, which often goes beyond mere economic considerations.

In order to finance water services and ensure sustainability of supply, it is essential to establish and maintain good working relations and confidence between utilities and water users. Water pricing is just one aspect of the whole approach and cannot be separated from other social issues which are much broader and probably more significant. When water prices need to be increased, it is preferable to solve first the side issue of providing water to the poor, to introduce full transparency and to engage in adequate consultation with the users as well as with the municipalities. Experience has shown that the big stick of disconnecting people and ignoring their fundamental rights to water is less applicable than before.

Solving the water poverty issue by a proper mix of measures will help to concentrate on the central issue:

*Who should pay for water: the users or the local taxpayers?*

bearing in mind that financial support for water from central government is likely to decrease or to disappear altogether. OECD countries are advocating full cost recovery but most of them have not yet succeeded in implementing it, in part because of the social issues.

## Annex 1. Tables

**Table 1. RATIO BETWEEN PRICE ACTUALLY PAID FOR DRINKING WATER AND PRICE THAT WOULD HAVE TO BE PAID WITH FULL COST RECOVERY AND A NEW WATER NETWORK**

Portugal	18%
Greece	19%
Spain	25%
Korea	67%
France	73%
Germany	83%
Denmark	89%
United Kingdom	92%

Source: OECD: *The Price of Water*, Table 22 (1999).

**Table 2. EFFECT OF A LIFELINE TARIFF FOR POOR HOUSEHOLDS IN SELECTED OECD COUNTRIES**

Country	Consumption l/person/day	% poor in pop. *	Income share of lower 10%*	Water price increase %
Canada	326	5.7	2.8	0.2
Germany	116	5.2	3.3	0.5
Greece	200	8.1	3.0	0.4
Italy	213	8.5	3.5	0.4
Mexico	135	14.8	1.6	1.2
Turkey	195	9.6	2.3	0.5
United States	305	11.1	1.8	0.4

**Notes:**

- Countries selected among those with a high proportion of poor households (at least 5%).

- Calculations of water price increases based on the assumption that half of those having an income below 40% of the median income would receive the equivalent of 40 l per person per day of water at half price and that the corresponding cost would be spread among the other users.

\* Percentage of population with an income below 40% of the median income.

\*\*Share of total income received by the lower 10% of the distribution of the population by income. Example: the poorer 10% of the Mexican population receive 1.6% of total revenue. In Finland, the corresponding figure is 4.2% of revenue.

Sources: OECD: *The Price of Water*, 1999. OECD Social Statistics, 2001. UNDP: Human Development Report, 2001.

Table 3. **RELATIVE MERITS OF SELECTED TARGETED MEASURES**

Measures	Coverage	Targeting	Effectiveness	Simplicity	Side effects
<b>General income support</b>	Large	Most	unknown	Y/N	No**
<b>Tariff measures:</b>					
Social tariff	Large	Most	25 to 75%	Y/N	Small*
Vouchers	Large	Most	25 to 75%	Y/N	Small*
Water allowance	Large	Most	25 to 75%	Y/N	Small**
Solidarity funds	Small	Most	25% to 50%	No	No*
Progressive tariff with family considerations	Total	Weak	50%	Yes+	Large*
<b>Non tariff measures</b>					
Minimum flow	Few	Most	25%.	Yes+	No*
Emergency supply	Few	Most	30%	Yes	No*
Repair of leaks	Large	n.a.	> 10%	n.a.	No***
No disconnection	Few	n.a.	100%	Yes	No*
Meters with prepayment	Few	Most	variable	Yes+	No*

**Criteria:**

- Coverage - as a share of poor who receive the benefits
- Targeting - as a share of expenditures that is received by the poor
- Effectiveness - as a share of the benefit relative to average household expenditure for water
- Administrative simplicity (Y/N: yes if beneficiaries are identified for another purpose, no otherwise)
- Side-effects - extent of pricing distortion

- \* financial burden generally for the utility
- \*\* financial burden generally for public budget
- \*\*\* financial burden for the owner
- + meters required
- n.a. not applicable