

## Costa Rica: Environmentally Adjusted Levies for Water Use (#378)

### Summary

Water resources are the public domain property in Costa Rica. The State agency responsible for the protection and administration of water resources is the Ministry of Environment, Energy and Telecommunications (MINAET). As the supervisory agency in charge of managing the country's water resources, it is responsible for regulating and resolving matters regarding its exploitation, utilization, governance and surveillance.

The country's existing Water Law<sup>1</sup> establishes the obligation that all water use concessions granted must commit to paying a levy as compensation for using a public domain commodity, in this case, water.

This levy has been collected since the 1940s in accordance with the existing regulations. However, the rate established was disproportionately low, the institutional management of collection was inefficient and, therefore, the payment to the State by those using this public good was insignificant and insufficient to cover the cost of public agencies to carry functions related to protection, control, administration and research.

The State can seek to control the efficient use of natural resources through the implementation of different environmental policy instruments, such as direct regulation, legal and economic tools and public investment. The economic measures promote behavioral changes by means of incentives or disincentives that directly affect the private costs and benefits, and in its production decisions.

In that way, economic instruments, specifically the levy for water utilization are complementary to other mechanisms aimed at better management of natural resources.

MINAET<sup>2</sup>, with the support of several governmental, non-governmental and cooperation agencies, made a decision to increase the water levy for all the user sectors. Also, it was agreed to distribute the resources generated by this increase to administration, control and investigation. It also agreed to allocate 50% of the resources generated for the Payment of Environmental Services (PES) to forestry management. The rationale behind this innovative approach is that a Costa Rica Government did recognize the importance of its forests in providing environmental services, including water catchment protection and recovery of the water resources.

In Costa Rica, the PES has been an effective tool for obtaining funds and supporting initiatives of the forestry sector, contributing to slow deforestation, impeding the degradation of watersheds, protecting hydrological resources and combating poverty, either as a source of financial resources or as a source to generate employment in areas where there are low rates of development.

The water use levy evolved into an economic instrument that not only endeavors to apply the principle of the economic value of water, but to ensure sustainability in protection of forests in the aquifer recharge areas or in hydrological fragile areas.

---

<sup>1</sup> Water Law No. 276 (adopted in 1946) as amended by Laws No. 2332 (1959), No. 5046 (1972) and No. 5516 (1974).

<sup>2</sup> At that time it was the Ministry of the Environment and Energy (MINAE), the functions of telecommunications were not assigned until 2008.

The levy (in Spanish “canon”) has been defined as: *“An economic instrument for the regulation and administration of water use that permits sufficient water availability for the reliable provision for human consumption and the sociology-economic development of the country and, in addition, to generate economic resources for the long-term funding of sustainable water resources management in Costa Rica.”*<sup>3</sup>

Economic and political sensitivity regarding the application of this instrument were fully recognized by the MINAET: an opposition was expected from both productive use sectors (accustomed to paying an insignificant amount for water use) and the public and municipal institutions (did not pay a water levy). Both groups of stakeholders were faced to an increased internal operation costs. The main public entities include the Costa Rican Institute of Electricity (ICE), the National Power and Light Company (CNFL), the Costa Rica Institute of Aqueducts and Sewers (A&A), the National Irrigation and Drainage System (SENARA). Municipal businesses are represented by the Public Service Company of Heredia (ESPH) and the Administrative Board of the Electric Service of Cartago (JASEC).

The Executive Decree No.32868 was adopted on January 31, 2006. After a nearly four-year process of intense negotiation to craft the reform, MINAE achieved its approval; this is a part of the actions carried out by the country as it moves forward toward Integrated Water Resources Management (IWRM).

## 1. Problem Description

The Water Law No. 276 (1946 as amended later), establishes that it is obligatory for all water use concessions granted to agree to pay a levy (canon). A canon is understood to be a payment made by an individual or legal entity for the use of a good belonging to the public domain. According to Costa Rica legislation, such payment is different from taxes, standard charges or contributions.

This canon was charged for nearly 70 years, when the current Water Department of MINAET belonged to the National Electricity Service (SNE), an institution that no longer exists. The amount of the water levy was approved by the General Accountability Office of the Republic (CGR). During the 1990s, when the institutional water framework in the country was reformed, the amount collected was ridiculously low.<sup>4</sup>

In 1995, Law No. 7593 was enacted to create the Public Services Regulatory Authority (ARESEP). The powers that the Water Law assigned to the SNE were transferred to the Ministry of the Environment and Energy (subsequently MINAE) and became effective in October 1997<sup>5</sup> In this way, MINAE assumed the supervisory responsibilities for hydrological matters, among these is the collection of the levy for water use.

Here arises the first stumbling block for applying the water levy, which is to define who is responsible for setting the rate (tariff) of the levy. The CGR does not have the authority to approve the tariffs of central government institutions, and ARESEP has the

---

<sup>3</sup> Executive Decree No. 32368 of the Ministry of the Environment and Energy

<sup>4</sup> The Water Law as defined in article 169 reads: “The concessions for water utilization will pay the following rights: 1. A one-time fixed quota of 1 colon/10 liters/second granted; 3. A biannual quota of 1 colon/10 liters/second granted if this deals with irrigation water. If it is for other uses, the quota will be double.” In January 2010, a colon was equivalent to 0.0017 of a U.S. dollar.

<sup>5</sup> The Water Department of the SNE, including its personnel, assets and functions, was transferred to the Ministry of the Environment and Energy.

power to establish rates for providing a public service but not for the use of a commodity belonging to the public domain. Therefore, both agencies refused to recognize the approval of a new economic instrument for MINAE.

Given the situation, Executive Decree No. 26635-MINAE was published in February 1998 which, among other things defined the levy for water use and stated that its collection would be administered by MINAE as the new responsible agency. However, in essence the dispositions previously used by SNE continued, which hindered this from being an instrument to promote adequate resource management.

The following are the main problems presented by the structure of the previous levy:

- The rate of the levy was low (see table 1), providing meager resources for water administration by the State and making it impossible to adequately carry out the functions it was assigned for. Although there are no records on actual consumption of water in individual water users sectors, the records show a revenue of 240,000 USD per year (in average).

**Table 1: Amount of the Tariff for Water Use valid until January 2006 (in colons per m3)**

Sector	Surface water Col/m3	Ground water Col/m3
Domestic	0.5177	0.7187
Population <sup>6</sup>	0.0088	0.0109
Hydroelectric	0.0001	
Industrial	0.0252	0.1928
Irrigation	0.0169	0.1304
Other uses	0.0075	0.3224

\*At January 2006, 1 colon was equivalent to 0,002 USD

Source: Water Department, MINAE.

- It promoted "monopolization" and "under-utilization" of this resource, because the amount charged was based on the volume allocated in the concession (a fixed number of liters per second) and the higher this volume the lower the price paid for water regardless of whether it was used or not.
- In addition, this structure contemplated only administrative costs and did not include other important components for optimal water management, such as the costs incurred to carry out water control, monitoring, research and protection, among others.
- Large institutional users, such as the A & A and ICE, did not pay for the water they used for providing water services and generating electricity.

<sup>6</sup> According to the Water Law (1942) a "population" was referring to the water supplied to population. Another category "domestic use" was defined as the water supplied to households that might include irrigation of ½ hectare of land.

In conclusion, the very low value of the previous levy made it impossible to be an instrument for efficient water management, and rather it became an incentive to hold in reserve the water flow without utilizing it in production.

The construction of the levy was obsolete, did not involve inflation indexation and was not properly enforced. In addition, the State was deprived of needed financial resources to improve integrated water management.

On the other hand, two decades ago, Costa Rica decided to promote laws, policies and actions that would stop deforestation and recuperate the forest cover. Today, more than 50% of the national territory is covered by forests, which represents at least one-million hectares more of forest than twenty years ago. This was achieved by investing in both public and privately owned protected areas, and in a system of paying the owners of farms to become involved in processes to restore the forest, in reforestation or forestry management, since they are providing environmental services by capturing carbon, protecting water and the beautiful scenery, or protecting the biodiversity.

However, this plan for Payment of Environmental Services (PES) had been created and largely functioned with resources from international donors, credits from multilateral financial institutions, and partially with resources from the national budget, which threatened its sustainability eventually.

This motivated and justified the decision to revise this model and assign water use levy to integrate environmental and water resources management.

## **2. Decisions and Actions Taken**

To reverse the problem described above, the leadership exercised by the Minister of MINAE during the four-year period 2002-2006 was of vital importance. In his role as water supervisor in Costa Rica, he took on the challenge of pushing forward the process that led to revising the levy into an instrument for improving water management in the country. He called for a cooperation of different institutions and organizations, such as the Inter-American Development Bank (IDB), the National Fund for Forestry Financing (FONAFIFO) and Global Water Partnership Central America (GWP-CAM).

From the beginning of his period in the MINAET office in May 2002, he gave precise instructions to the Water Department personnel to prioritize their work in order to secure more financial resources, which would allow them to improve their management. New tasks included an improvement of technical expertise, decentralization of their management, introduction of new monitoring and control systems. He also encouraged new areas of intervention, such as a research and community education.

Parallel to this, in late 2002, using funds from the Costa Rican component of the PROSIGA Project<sup>7</sup>, the MINAE launched a study, called “Development of a Methodological Base for calculating the environmentally adjusted levy for water use in the Rio Grande de Tárcoles Basin”. The objective was to carry out a pilot study that will test a conditions for implementation of updating the tariff as established by Decree No.

---

<sup>7</sup> Modernization Program of Environmental Management Systems in Central America (**PROSIGA**). Funds from the government of The Netherland, executed by the Central American Commission of Environment and Development in the seven Central American countries.

26635-MINAE of 1998. This study made a proposal regarding the economic value of water and established a new structure for the water use levy.

The levy consisted of two components: the “**Water Use Rights**” and the “**Environmental Water Service**”. The first was to finance the management of hydro-meteorological monitoring, research and development, as well as operational management of control and surveillance of resources in the water basin; the second was to guarantee the protection and conservation of recharge and fragile water areas.

This study was presented to various institutions, non-governmental organizations, academic institutions and economic sectors involved in water management. A national discussion was promoted about the need to make an adequate assessment of water resources, the search for efficiency in its use and sustainability over time.

Parallel to these processes, the Minister of MINAE formed a commission to analyze the public policies needed to strengthen the protected areas, and in particular, to look for a way to assure the financial sustainability of those areas. As a part of this analysis, the Commission began to consider the idea that the water use levy could be converted into one solution. This is due to the fact that the source of many of the rivers that recharge the numerous aquifers are located in the protected areas (public or private) which carry out the functions of stabilizing and improving the quality of water resources.

In June 2003 the Water Department of MINAE prepared the first draft of a decree that proposed the Environmentally Adjusted Levy for Water Use, with variations linked to the value of water capture (hydrological productivity of the forest) and the costs for restoring the forest cover.

At a mean time, dialogues were initiated with some of the public institutions that would be affected by the adjustment, such as ICE, A & A, CNFL and SENARA. The discussions were held also with the municipal companies ESPH and JASEC, which do not pay a water use levy. Their position was absolutely opposed to a revision of the established payment. It should be pointed out that, to date, there are several Costa Rican public sector institutions that refuse to pay for the water they use. This problem is not yet fully solved.

In 2004 in the framework of developing the Strategy for Integrated Water Resource Management for Costa Rica (EGIRH)<sup>8</sup>, it was important to advocate that using IWRM principles (in terms of sound economic instruments) will not only elicit rational behavior, efficiency and environmental responsibility, but also considering that water resources can generate their own financial resources to provide sustainability for their management.

In early 2005, when the EGIRH was presented to the productive sectors - particularly to business chambers such as the Union of Private Sector Chambers and Associations (UCCAEP), an umbrella organization that includes 45 chambers and private associations, the Industry Chamber and a large part of the 27 organizations that form the National Agricultural and Agribusiness Chamber (CNAA), including the Sugar Cane Industry League (LAICA), the Chamber of Poultry, the Chamber of Pork Producers, Chamber of Milk Producers, the Livestock Chamber, and others - negotiations were resumed to establish a new water use levy. A process lasted more than six-months and included weekly meetings that made it possible to learn the positions of the different sectors participating in the negotiations as well as the technical and political criteria

---

<sup>8</sup> A project of IDB-MINAE ATN/WP-8467-CR



regarding this instrument. A progress was made in the negotiations and to agreement was reached.

It is important to point out that there was not just one single position held by the private sector during the negotiation process, but rather there were very diverse positions, which hindered the process. For example, the Chamber of Industries always appeared to be in favor of the new levy and argued for the importance of a gradual application of the tariff and of introducing a system of incentives.

For its part, the CNAA was, undoubtedly, the organization that resisted most strongly to recognizing the instrument. It based its arguments for not paying the levy mainly on the low profit margin of agricultural activities, the loss of competitiveness that Costa Rica would experience by paying it when other Central American countries do not pay for water consumption. A strong argument was also that a high level of water consumption is due to the low level of irrigation technology. Actually, it was necessary to negotiate with each one of the agricultural sub-sectors because they all argued for a levy rate based on their activity and profitability, which involved a classification of some of the more sensitive activities with a differentiated rate in order to avoid unexpected criticism or attack of the initial study.

The hydropower sector (public and private) was another sector that initially put up a lot of resistance to the methodology used to devise the value of surface water. On the one hand, this sector is the most significant user of water, but it is not consumptive use. This was a very important factor in negotiations because the resource can be utilized by other users in conditions of similar quantity and similar quality.

### 3. Results achieved

The following tables 2 and 3 show the tariff proposal as proposed in August 2004 and the results of the negotiation in 2005. Table 2 shows a proposal that a levy is composed of water use tariff and payment for hydrological environmental service.

Likewise, in the initial versions there were only four categories of use, but at the request of the users, these were divided into new categories in order to emphasize the differences among uses and to define a specific amount in relation to each of their characteristics. Also, there is a differentiation between agro-industrial (big scale irrigation) and agriculture sector (small scale agriculture).

**Table 2: Amount of the Environmentally Adjusted Tariff for Water Use (in colon per m<sup>3</sup>), version of August 2004**

Use	Value for the Right to Use Water		Hydrological Environmental Service	Environmentally Adjusted Tariff	
	Surface Water	Ground Water		Surface Water	Ground Water
Domestic and Population	0.46	0,63	2.00	2.46	2,63
Industrial	1.64	2,25	2.00	3.64	4,25
Agricultural	0.29	0,40	2.00	2.29	2,40
Hydroelectric	0.27	-	2.00	2.27	-

Source: MINAE, Water Department. 2004

**Table 3: Amount of the Environmentally Adjusted Tariff for Water Use (in colon per m<sup>3</sup>), the Existing Decree, 2005**

Use	Tariff (Colons / m <sup>3</sup> )	
	Surface Water	Ground Water
Domestic consumption	1.46	1,63
Industrial	2,64	3,25
Commercial	2,64	3,25
Tourism	2.64	3,25
Agro-industrial	1,90	2,47
Agriculture	1.29	1,40
Aquaculture	0,12	0,16
Hydropower	0,12	-

*Source: MINAE, Water Department. 2005*

As it can be observed, the amounts of the tariff varied considerably between what was proposed and what resulted from the negotiations; the amount was decreased in all of the usage categories. The decrease varied according to the activity, as in the case of industry where there was an adjustment of -27.5% and -23.5% respectively for surface and ground water. But the greatest decrease was in the use of hydroelectric power, which was adjusted by nearly 95%.

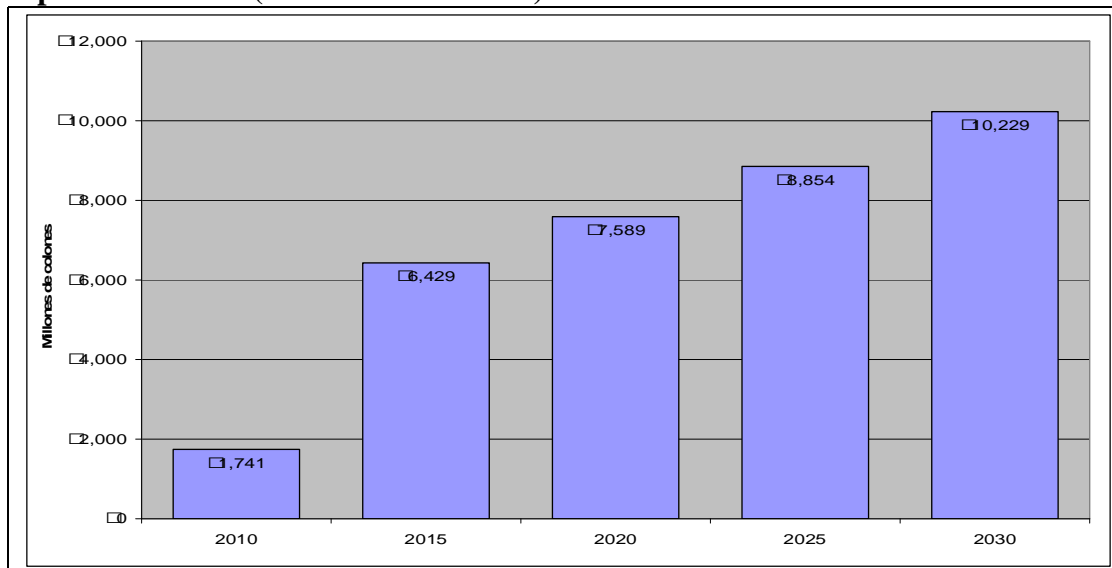
The relevance of this process is that the final amounts resulted from the negotiation process between MINAE and the productive sectors, which promised to respect the agreement and to not appeal to other means that would block the implementation of the levy, for example, such as the Constitutional Chamber of the Supreme Court.

The importance of this specific aspect was the ability to introduce the instrument, and not the amount of it, which, in any case, would be adjusted in the future based on the accumulated inflation during the previous year, consistent with Central Bank statistics.

MINAET is in charge of imposing the levy and collects the levy through the state treasury. The levy is calculated on an annual basis in accordance with the volume approved in the concession. The payment is made quarterly and there is an additional charge (fine) if the payment is not made on time. Its believed that the system works well since 85% of the registered concessions are paid.

The following Figure 1 shows the estimated income that will be collected from the levy, based on the estimated water demand. As can be observed, the estimated income is incremental, going from \$3 million in 2010, to \$18 million in 2030.

**Figure 1: Projection of the income potential from the Water Use Tariff based on expected demand (in millions of colons)**



Source: MINAET, *National Plan for Integrated Water Resources Management*. 2009.

The actions previously referred did not only intend to update the value of the levy and, consequently, increase the revenue for water management. It intended to promote an efficient water use. More importantly, it focused to bring about a structural change, in such a way that the environmental cost for water utilization and the investment made by the State will assure hydrological sustainability.

IWRM recognizes the importance of management of forest cover because of its functions in evapotranspiration, control of runoff, infiltration and percolation of subsoil water. This management implies thinking about the sustainability of the State's forests existing in protected wilderness areas (ASP) and those existing on private property, as well as in innovative systems that promote forest cover.

The PES in force in Costa Rica has been recognized as a pioneer in this field and as one of the most successful systems in the world. The PES program became a mechanism for preventing and even reversing the environmental degradation resulting from inadequate land management practices and deforestation of tropical forests for expansion of agricultural land. The implementation of the PES has been very successful in Costa Rica which has become a national fame besides boosting tourism activity in the country.

The combination of applying the PES program and the previous reforestation programs allowed the country to go from a deforestation rate of 60,000 hectares per year in the 1970-80s, to having a net increase in the forest cover. To date, the PES program has incorporated nearly 700,000 hectares, of which 86.4% are forests for protection, 5.8% are commercial plantation forests, and 7.4% are under controlled forestry management (managed forest however not for commercial purposes).

When the system was originally created, a large percentage of the financing came from non-reimbursable funds provided by financial cooperation institutions. Additional



funding was in the form of loans from multilateral financial agencies and from the sale of carbon credits generated by the forestry activities of reforestation and conservation.<sup>9</sup>

The financial sustainability of the PES program depends on the country being able to recuperate the program costs from those who benefit from the environmental services. It is clear that the environmental service of mitigating greenhouse gas emissions, and of protecting the biodiversity, are services that benefit the global community. In one phase of major evolution, it was believed that the PES program should focus on internalizing the costs of conserving the water basins and water resources in the tariffs for water consumption and use.

That is why it is important to emphasize another aspect in this process of the levy - the search for balance in the administration of the income that would be generated. The positions began by granting 100% of the resources to the Water Department, which would be in charge of investing them in the needed strengthening for administration, monitoring, research and protection of basins and recharge areas. Later, the hierarchy of MINAE considered that the protection and, therefore, the sustainability of water resources should take place by assigning resources that would endeavor to increase the forest cover and conservation in the public and private ASP or in private land with a system of environmental service payments. In this way, it was decided that part of the resources generated by the water use levy should be given directly to FONAFIFO and another part to the National System of Conservation Areas (SINAC) of MINAE.

It was determined that the total amount collected annually would be distributed in the following manner: 50% to the Water Department, 25% to be invested in the ASP of SINAC, and 25% for use by FONAFIFO. The latter would use the PES payment in private lands within the basin where the environmental service for water protection was generated and located in areas of importance for the proven sustainability of the hydrological regime, in accordance with the criteria defined in the relevant National Plans and programs.

Subsequently, another important phase of this process occurred, which was the negotiation within the government, so that other ministries, particularly those with economic character (Finance, Agriculture, Tourism and Economy) as well as the President of the Republic, would approve the levy and not veto it. To accomplish this, an explanation of the successful negotiation that had been carried out with the national productive sector was fundamental.

The water use levy proposal was reviewed by the Department for the Simplification of Procedures of the Ministry of Economy, Industry and Commerce for three months. It was assessed by using a predesigned cost/benefit methodology and a detailed assessment of the impact the application of this decree on the national economy. During this review, the decree was returned to MINAE on four occasions for corrections (more of form than of content). In December 2005, it was approved for the President's signature, which took place on January 16, 2006. It was published in the official daily record, *The Gaceta*, on January 30, 2006, whereupon it entered into operation; and the payment became effective on August 1, 2006.

---

<sup>9</sup> National Fund for Forestry Financing (FONAFIFO), 2004

#### 4. Legal Nature of the levy

The Political Constitution of Costa Rica<sup>10</sup> in Article 21, Clause 13 grants the Legislative Assembly the exclusive attribution of “Setting taxes and national contributions, and to authorize municipal taxes and contributions.”

For its part, the Code of Tax Standards and Procedures establishes, in Article 3, what the taxes are. In Costa Rica, there is a unique classification: “Tributes are the monies paid (taxes, levies and special contributions) that the State, in the exercise of its federal power, demands in order to obtain resources to carry out its objectives”.

From this first paragraph we conclude that the only tributes are in form of taxes, levies, and special contributions; therefore, the figure of a water use levy is not a tax and, therefore, is exempt from the prevision and guarantee that is traditionally granted in relation to those, which the Legislative Assembly, as the representative of the people’s sovereignty, has the exclusive authority to impose.

The levy, as a compensation that is the responsibility of a private party for the use or development of a public domain commodity, certainly escapes the concept of a tribute which is imposed by the State, without a promise or guarantee that the individual will receive in a clear and direct way a benefit for it.

In this sense, the jurisprudence of the Constitutional Chamber has declared, in Resolution 6869-96, the following:

*The water use levy, as the compensation that is the responsibility of a private party for the use or development of a public domain commodity, certainly escapes the concept of tax revenue... The rigid prevision that only the Legislative Assembly can establish taxes circumvents the situation of a canon (levy), which rather has to do with a legal relation that is created between a private party and the administration....*

From Vote 2777 of April 24, 1998, cited by the General Accountability Office (CGR) of the Republic in its report DFOE-AM-41/2002 of December 19, 2002, we extract:

*...a tax is the tribute which has the obligation to raise revenue, independent of all state activity relative to the contributor. A levy is the economic obligation to generate effective or potential payment of a public service individualized in contributors and whose product should not have a destination inconsistent to the service that constitutes the purpose of the obligation. The compensation received from the user in payment of services not inherent to the State is not a levy. Lastly, a special contribution is the tribute that has the obligation to generate benefits to carry out public works or for state activities whether exercised in a decentralized manner or not, and whose product should not have a destination inconsistent with the funding of the works or of the activities that constitute the reason for the existence of the obligation.*

To quote the CGR: “Relating to the previous definition of concepts, payment for water use concessions could not be considered to be a tribute (neither tax, nor levy, nor special contribution), but rather it is the price that is paid for a consideration outside of the basic services that the State should provide”.

The CGR continues, in report DFOE-AM-41/2002: “In other words, **the levy (canon) in question should be understood as a payment expressly authorized by legislative**

---

<sup>10</sup> Political Constitution of the Republic of Costa Rica, November 7, 1949; updated, July 17, 2001.

**regulations**, as a product of a service provided by the Administration, in this case by the Ministry of the Environment and Energy, to the concessionary, in relation to the use or development of a public domain commodity, such as water would be” (bold type not in the original).

Legal Regulations have established the public domain character of water (Article 4, Mining Code of 1982 and Article 50, Organic Environmental Law of 1985), and therefore, it is outside of commercial activities and definitely cannot cease being under the State’s domain, an affectation that calls for other characteristics of all public domain goods to be inherent in water resources.

For all these reasons, the water tariff is not established by the Legislative Assembly but by the Executive Branch, in the person of the President, and by the ministry responsible for water, in other words, MINAET, through an Executive Decree signed by both parties.

## 5. Analysis of the Results

The crafting and implementation of the water use levy in Costa Rica can be considered extremely successful in terms of having achieved the implementation of an instrument for managing water demand, of improving efficiency, of the financial contribution to forest areas as a mechanism for hydrologic sustainability, and of having the participation of different sectors. However, this last aspect was responsible for causing the process to take nearly four years.

We can summarize the achievements obtained in at least four areas:

- Increased the amount of the levy charged to water users of all sectors, moving toward the recognition of the economic value of water, is a fundamental principle of IWRM.  
One result of the increase of the levy and the valuation of the resource was the return of nearly 150 million cubic meters of water a year to the national hydrological system, because concessionaries, particularly the tourism and agricultural sectors, have canceled or adjusted their concessions. They did this because they had been assigned volumes they were not using or because they improved water efficiency in as much as the amount of the water payment is now significant in their cost structures.
- The diverse sectors understood the idea that the value of water also includes the activities for protection, conservation and recuperation of forest areas (where a large number of recharge areas are located), which are fundamental for helping to maintain the quality and quantity of water resources. This is a pioneering instrument that will make it possible to guarantee financial sources for the Environmental Service Payment fund in the region; to recognize the priority or protecting water regime areas in the basins where they are generated; to permit the sustainable management of the environmental hydrological service.
- It is expected that, beginning in the seventh year, an estimated \$5 million will be collected. From the total amount of levy collected, 50% is allocated to the payment of environmental services and to the protection of the forests in State and private ASP, thereby assuring the sustainability of water resources. Likewise, the fund has allowed the Costa Rican government to make alliances with international organizations such as the Global Environmental Fund (GEF) in order

to contribute money to the PES in water regime areas, taking into account the compensation that the environmentally adjusted canon will generate.

- The process was realized through broad consultation; the initial proposal and the agreements were placed into discussion via the Internet and at different events where dozens of actors were involved, such as specialists from different disciplines, representatives of national and international non-governmental organizations, municipalities, international organizations, public and private institutions. But, the open and permanent negotiation that was carried out with the private sector, with commitments made by all parties, in order to determine the structure, the amount, the incremental nature, and the incentive systems, must be emphasized. This was done so that the economic instrument would be implemented in the best way possible and not in prejudice of any economic activity. It is, perhaps, one of the few times in the country that, in matters of natural resources, this sector was so actively involved, which, without a doubt, means that the instrument will be considered a shared production.

Following are some of the problems encountered when the water use levy was implemented:

- There are collection management difficulties with some of the public water user institutions, like SENARA, and the irrigation sector institution, which resists payment and cites legal criterion. In addition, A & A, the institution representing the sector responsible for water and sanitation, and ICE, institution representing the electricity sector, still do not recognize the payment, with the justification that this should be included in the tariff charged for the service, a procedure that is in process in ARESEP.
- The Department of Water Resources does not yet have sufficient personnel, material resources, or a technological platform to effectively collect the levy, adequately monitor the volumes used as compared to the amount given in concession, and to apply the sanctions or the incentives proposed in the Decree.
- There is also a levy to discharge waste water, such a reform is taking place and gradually the funds are being transferred to the PES system.

## **6. Lessons Learned**

- The experience of the process, which lasted nearly four years, allows us to see that the economic assessment for using water resources can create any value, depending on numerous variables, or by using different methodologies. However, one thing is certain, in addition to the technical and legal viability for its effective implementation, there must be political will. Hence, a vital component for the success of the water use levy was the political leadership of the Minister of the Environment and Energy, who played a key role in perfecting the levy structure, as well as during the negotiation process, both with the private productive sector and with the public sector.
- The implementation of properly concerted economic instruments is an important tool for efficient water use.
- Although the methodology for assessing water should be as technical as possible, in the final analysis, the scientific results will be only the foundation for motivating the discussion of the norm or policy, and for initiating the negotiation between

different sectors. It is ultimately necessary to take into consideration the socio-economic context and the political viability for implementing the instrument, which makes it necessary to reach a political and negotiated consensus between the sectors to establish the value for water use.

- The goal should be to establish the instrument and not necessarily to propose the amounts of payment. These can be adjusted after educating the users about the payment.
- A process like this must be participative and it should be clearly understood that it will not be concluded in just a few months.

José Miguel Zeledón Calderón, Engineer  
Water Director, Ministry of the Environment and Energy, Costa Rica  
P. O. Box 1690-2100 Goicoechea, Costa Rica  
Tel: (506) 2282-2020 or (506) 8829-4254  
Fax: (506) 2283-7140  
E-mail: [mzeledon@imn.ac.cr](mailto:mzeledon@imn.ac.cr) Internet: [www.drh.go.cr](http://www.drh.go.cr)

#### References:

- B. Field. *Economía Ambiental, Una Introducción* (Environmental Economy, an Introduction). 2001.
- R. López and H. Méndez. *Un canon por vertidos para el control de la contaminación hídrica* (A Tariff for Waste Disposal in order to Control Water Pollution). 2004.
- Ministry of the Environment, Energy and Telecommunications. *National Plan for Integrated Water Resources Management* (CR-T1010) (ATN/WP 9338-CR).
- Executive Branch, Decree 32868-MINAE, *Proposal for Water Usage Tariff*.

#### Tools used

B2.3 Regulatory capacity, C7.2 Pollution and environmental charges, C6.1, Regulations for water quantity, C3. Demand management.

#### Key Words:

Value of water, water use levy, economic instruments, demand management, resource protection.