

Public Policies of Development, Collection of Water Fees and Water Sources Degradation in Mexico

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Abstract: The intention of development public policy of privileging economic development and the protection of the access water human right, downplay the tax context of water in Mexico. It generates perverse incentives that impact as to damage to water sources and show the incongruence with the tax system.

Key words: water fees, water public policy, Mexican tax principles, water fiscal context

1. Introduction

This essay examines the natural resource water given to the population based on a contribution called rate or fee that becomes a fiscal context. However, exist some inconsistencies with the rates principles that frame the functions of government contributions. Also, the relationship of water as a resource of the economy and their relationship of dependence as an element of capital, is reviewed to describe the alternatives of water supply for areas with scarcity based on large infrastructure hydraulic projects. Another element of this document contains the description of the figure of payment for water environmental services, compensation and public spending policy element concept to strengthen environmental. Subsequently, the effects of pernicious incentives of public policies of development and its contribution to the degradation of water sources by motivating the passivity of the authorities to the collection of water-related contributions are integrated. Finally, it is concluded in the effects of these decisions of public policy which

privilege the economic and social development of the country and minimize the fiscal context of the water.

This essay is based on public spending and transfers in regards to water matter in Mexico, also focuses on the tariffs charged by the authorities for the provision of water services. This essay seeks to know, how many the public policies of development, water rates, territorial and industrial, have an impact on the degradation of Mexican water sources?, this question comes from literature revision in which is identified the economy relationships with the environment. As well, is identified the negative effects of the exploitation of environmental resources and functions of the Treasury by the adverse effects of public policies of development.

2. Fiscal Context of Water

The rate or fee contribution over the water is that is charged for the provision of water services and this becomes from the tax legislation, which should be consistent with the expenditure necessary to perform such services. Similarly, it should attend the constitutional principles on tax matters for the collection of contributions, however, exist inconsistencies between the fulfilment of powers of the

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Government and this principles [1]. This partly derives from the multiplicity of authorities that impact on the administration of water, while in substance they have activities with objectives that seem distant from water.

The water fee or rate, based on the cost of water services, cost that should be enough to pay for it, as established by the fiscal theory, would be the erosion of fundamental rights that support the tax principles. So, that by omitting the rule of the principle of proportionality would too rigorously affect users of water with greater financial strength or properties of high added value, while it would be a limit for the poor people for to keep this existential minimum exempt, that les allow the development of their human dignity.

In contrast, a rate imposition consistent with the costs involved in the provision of water services, must also attend the tax principle of contributory capacity. In addition, the principle of not confiscation provides that contributions must be used efficiently and to contribute to public expenditure, in such a way that otherwise the contribution will be confiscatory [1]. Then, the tax revenue for the provision of water services is at odds, because it exists as an inconsistent administrative structure for such services.

In Mexico the opportunity to have water, drainage and sanitation services has become a human right protected by the Constitution, a situation that contrasts the tax system of the water and the granting of such human right. Then, while commodity tax compliance and tax principles are applicable to water fees, human dignity should prevail and therefore the granting of the human right to water should be paramount, even if the principles that legally part of the State against the fundraising exercise could be violated. If this is the logic that prevails, then the use of total revenue with money contributions from governed compliments and tax capacity, is used to subsidize the provision of water services, then this tax structure of the water, violates the prohibition of confiscatory to allocate fiscal resources to inefficient management of water resources.

In accordance with information described the fundraising done for the provision of water services, drainage and sanitation is made within the framework of the tax law, this because it is a contribution called fee or rate but that exempts it from the compliance with the tax principles, fact that further violates the principle of generality, it because application of such contribution is attempting on equity, capacity, proportionality, and the tax justice in all sense. Therefore, this contribution seems overcome by far regulations framing the contributions due to lack of congruence. To establish a privilege with regards to fees or rates below its potential is generated a permissible risk, in such a way that ratepayers perceive as a possibility make bad use of the good, by the fact of making a payment, as if the authority agree to the realization of a negative act by the mere act of pay, while that amount is less, by far than the authority budgeted for its realization [2].

Some authors consider effective for the natural environment a change in tax matters that motivates the water user to modify his behavior. It must be done by the imposition of a strengthened and well-regulated contribution [3].

3. Interdependence of the Environment and the Economic System

As they claim Common & Stagl [4], there is the interdependence of the environment with the economic system, that happens because the environment is a supplier of inputs that the economy requires for its operation and the returns on those inputs from the economic system to the environment occur also, but with different characteristics of as extracted.

In this interdependence of systems natural phenomena necessarily affect the economy, as well as the programming budget of both revenue and expenditure, public finances if we review the effects of a hurricane or an earthquake affecting the welfare of the cities, the Governments concerned will have to make modifications to their budgets to deal with

adversity, even reconsider the obtaining of income needed for such eventualities, either through increasing taxes or debt [4].¹

Also the interdependence in opposite direction happens in processes of production and consumption, in such a way that resources obtained from the ecological system return waste to the environment that can merge once again in the short, medium, long or very long term, in such a way to become an input again to the economic system. Then, it is necessary to classify these natural resources on the environment as stock and flow, the first held in quantities over periods of time, while those of flow will change according to the withdrawals and income have in their natural environment. The above example is the solar radiation that will be the same amount that receives the Earth and that the economic system returns to use this energy through solar panels [5]. On the other hand, flow resources are those which have a stock and are affected by withdrawals greater than revenues from the same resource, example of this is a source of underground water which receives the liquid by the permeability of the land, to have extractions caused by economic activity, the extraction faced to the recovery is unfortunately higher [6].

So then, water turns out to be an input into the economy for production and consumption, which is a flow that, in many cases, with refills of water by way of earning less than extractions by way of expenses. Clear example of that interdependence between ecology and economy is the water system in California where great works for the transfers result in higher cost to the costs charged to the users [7]. However, the control that authorities have and the care of water sources remain acceptable levels, as well as an acceptable balance of

availability of water between different districts. The problem arises when districts with sufficient water sources are affected by having to share that sufficiency with districts with less sustainable practices [8].

4. Compensatory Efforts

When the balance of the environment is affected by human intervention the right thing to do is the human been reverts such imbalance and restore the environmental wellbeing. Payments for environmental services aim to participate in such regulatory work of balance. It to maintain environmental conditions and continue using the services that nature provide us. Research on environmental services, in the framework of environmental economics, described them as expenditures that are made on behalf of owners of properties to keep them in storage conditions and thus to obtain the environmental benefits, then the owner chooses to the receipt this payment instead of other gainful activities that damage the environment. Payments for ecosystem services are an evolution of this concept and it is used from the Rio Declaration in 1992 of the United Nations, where relevant efforts regarding respect for nature are glimpsed [9].

These concepts of payment for environmental services have an impact on areas that naturally are generator of benefits for humanity: natural water recharge areas, as well as spaces for water runoff which contribute to the growth of rivers, streams and reservoirs. These environmental services go beyond the theme water and have an impact on the pure air, landscapes and socio-cultural spaces in good conditions for the development of the fundamental rights of persons. However, given the subject of this essay information focuses on regards to payments for hydrological environmental services [9].

Payments for hydrological environmental services (PHES) are government funds granted for land owners and commoners with territorial spaces under their property. Payments are delivered to maintain in good condition these spaces. The PHES are based on public

¹ Example of this interdependence of the economy in terms of natural phenomena and the economic changes that are required in every sense is Puerto Rico, given that by the eventuality Hurricane Maria, were the need to slow down its economy and focus its financial resources to the rehabilitation of their overall infrastructure. However, to be a territory of the United States of North America financial support limited was its policy of spending but without considering this rehabilitation of Puerto Rico as a national priority.

resources, which places this project in Fiscal matters, these resources come from revenues collection which were obtained by contributions or debt. PHES are used to compensate the anthropogenic effect that results as ecological antagonism² or to safeguard the well-being of the areas. The Government to deal with these functions in the tax field and water uses contributions collected in the field of water, through taxes and fees, however, it is a poor financial background, the Government has to use the tributes collected as general budget, also incomes generated by debt.

5. Ecological Antagonism

Peniche Camps and Mireles Prado [10] have examined the effects of the economy on the environment and describes four elements of great importance: economic activities; natural resources; subjects that degrade natural resources and the subjects who used the goods for everyday life. The friction generated between subjects who use natural inputs such as capital goods and those who use them as subsistence goods, generate what the authors call: ecological antagonism. Based on this anthropic phenomenon in specific to the matter of water, the Government are positioned as the subject who degraded water sources to the naming himself as the owner of waters, at the same time the private sector users as granted for exploitation, also become subjects that degrade, while society is generally placed in the counterpart as affected by the degradation of water sources, reflected in shortage for available quantity and quality [10].

Ecological antagonism occurs in transfers of water from distant places to provide areas with shortage of water sources. This brings with it the investment of public resources in large hydraulic infrastructure projects as dams, aqueducts, water treatment plants, desalination plants and other, this raises costs for carrying out such works and arises ecological

antagonism between the Government and the citizens of the towns where are located the sources of water extraction, as well as those who are affected by the other infrastructure. However, authors such as San Martín González [11] concluded in his research that the problem of the shortage can have different solutions and that the exercise of public power in terms of water management, could well exist in organisms more efficient as they are of a private nature.

Other authors consider the large hydraulic infrastructure works as an inefficient expense because the benefits are for a specific region, while in the area where water is removed, the population is affected by different effects, this is observed in the works to carry out transfers of water from different aquifers. Example of this are the works of Spain for the Tajo-Segura transfer, same that in his analysis were as an inefficient expense and negative environmental effects, in addition to hindering the recreational benefit for the people who live near to the River, which is in low levels and contaminated [11].

Mexico also is example of hydraulic infrastructure projects focused on the development and economic growth and without considerations of environmental equilibrium. Research on projects of transfers of the basin of the Pánuco to Monterrey [12] or El Zapotillo dam [13] is questioned why focus production or industrial development in areas where the input water is scarce, so it will be necessary to bring water from other regions with the prejudice and the large costs that this entails. These examples of works are presented as part of the exercise of faculties of Governments to do public expenditure, which is one of the triggers of national economies, same which are considered as instruments of policy for the purpose of distribution of income, but that at critical moments can be captives of corruption [14].

6. Public Policy Development Pernicious Incentives

The water crisis in Mexico by the shortage that exists

² These are the friction generated between users of the resources of the environment taking them as capital assets and those who use them as subsistence goods.

in some cities because of the development and continuity of human and economic activities is clear. So, the literature of the feasibility of large hydraulic works were analyzed, such is the case of transfers as a solution to this problematic crisis and identified that some authors have demonstrated the disadvantages of these projects³.

In the works for water transfers it is identified an inefficiency, it is based on the assertion that the change in the behaviour of consumers has been minimal, whereupon the devastation of water sources continues. People continue consuming the same levels of water without significantly reducing its use and waste. Such damage to the environment are reflected in imbalances of water flow that affect local people where is the source of water which gives rise to the transfer. The effects occur in economic impact and social and even cultural matters [11].

In this way the users of water, of any kind, receive the service despite the sacrifice made in other regions due to the transfer, however, attitudes against the use of water are shown without substantial change, even the authorities continue setting lower rates than cost for service received. So, in accordance with this section, the water policy which puts emphasis on the economy, brings with it the pernicious incentive for to keep the user in a comfort situation and payment of contributions by the water below the actual cost of the service [11].

Authors as Carrera Hernández [15], Unda Gutierrez and Moreno Jaimes [16], Burgess & Stern [17], in their research, they conclude that obtaining alternative financial resources for the subsistence of sub-national and local governments, motivates them to remain in that comfort situation and their efforts are less with respect to obtaining incomes, i.e., to perform one of the

primary activities of Governments at every level: the collection of contributions.

If it is identified that in turn public policies affect the rates, tariffs or water price, in the collection of taxes or the levels of the stock and flow of water in its natural sources, in the same way, if it is identified that in addition the effects of economic development affect those same concepts, then there is the impact of the instruments of public policy and of the pressure, pernicious way, on the collection and on water levels [6]. So, authors as Burgess & Stern [17] who study the topic of alternate resources and such influence on the collection of tax; also, Carrera Hernandez [15] with her immersion in the research on the fiscal laziness in sub-national Governments driven transfers and subsidies from the federal Government.

In congruence with the problems of the water these investigations relate to water decentralized agencies in Mexico, as they just collect the fees of those who pay spontaneously, without exercising the administrative procedure of execution for the collection. This reflects the fiscal laziness and thesis of alternate resources, where the water authorities receive funding for operation of alternate resources stay into a passive revenue situation that keeps their income at lower levels to their potential. In Mexico there are water agencies that effectively raise much of the water fees, but they are located in cities with technical, administrative and collection development.

Is important to mention the fundraising on municipal public finances in Mexico is below its potential, this in part by the low levels of training of their officials to operate efficiently the treasuries and ratepayers register, situation relevant given that for the rates contribution collection on water register is one of the basement to identify who should be paying for water. In the same way the tax bases and the legal framework of the contributions, are outdated, so that if this is strengthened, also own revenue collection is improved. [18].

³ The inefficiency in the collection of water rates of the federal authorities in the municipalities, is based on an enforceable policy that gives municipalities facilities for the signing of agreements for remission of tax debts or empowers local governments for the payment of tax debts with federal funding.

The inefficiency in collecting water fees is attributed to the perverse incentives of public development policies, while there is a federal incentive for fiscal coordination, it does not raise an impact in collection contributions in the municipality⁴. This results in the lack of recovery of the federal fees, a situation that impacts beyond the sector, given that finance establishes a sense of comfort about the public good, gives a disproportionate use that alters the natural availability of water and is more expensive the service year after year [19]. However, the allocation of financial resources for the water sector is given without a structure that encourages the improvement of the management of fiscal resources, both at the federal level and in the city.

Social researchers on the advisability of focus policies towards large cities believe that there are better ways to generate the development and growth of the country [20, 21].

7. Conclusion

According to information, prevails the sense of protection of the right to access to the water of the citizens, while it is minimized or despises the fiscal context of water, in such a way that more than an instrument of control becomes one of distribution. Then, congruence is lost between constitutional principles and contributions to protect the fundamental right of access to water.

It is important to reconsider the Mexican authorities if the fiscal context of water keeps it in optimum conditions to provide the service to the governed of today and the future with a resource of quality and sufficient quantity or is time to rethink the fiscal and administrative water context in Mexico.

⁴ The fiscal coordination Mexican law, establishes as one of the components of the equation for the distribution of transfers the municipal collection fee on water, in such a way that the greater the transfer if that revenue is greater. However, this local contribution has maintained their levels of fundraising without significant change in the municipalities.

On the other hand, the privilege granted in favour of economic and social development of Mexico has contributed to the detriment of the water rate context, to maintain it at levels below the optimal needs for the maintenance of the water balance in its natural environment. This focus on the economy has brought with it a poor structure of the fiscal context of the water in regards to the establishment of fees or rates and at the same time in a poor collection of contributions on water, which creates an incentive to waste water and to neglect about its correct administration.

The literature reviewed identifies the relationships that exist among the instruments of public policy, as a cause, decreasing rates or fares below its potential, as an effect, and the damage of both groundwater and surface water sources as an effect, caused by negative incentives arising from public development policies related to water in Mexico, that first order impact on the rates collection and then in the environment.

The Government on its way to achieving goals of economic and social development, they have given greater importance to the growth of cities and the urbanization, and as a result additional or as externalities, has resulted in decreases of flows of renewable water. Thus governments meet their criteria of water coverage, however, the negative impact on water sources is neglected because investment for water extraction is greater than the inverted to retrieve the sources of water.

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