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SECOND ISSUE

The content of the second issue of the Journal of Public Governance and Policy starts with two relevant articles, the first one offering a panoramic view on a century of social reforms in Mexico and the second one assessing the impact of Supreme Audit entities on corruption in several countries. It is followed by two Case Studies that address urban mobility and water management, which are critical problems in metropolitan areas. The authors analyze these two problems and outline answers studying the Guadalajara (Mexico) conurbation. A third Case Study focuses on local public policy E-Government, describing processes and results in Sinaloa State (Mexico). This issue also includes an essay on the 2014 political-electoral reforms in Mexico, and a book on urban governance in Latin American cities, edited by Rodrigo Carmona, is reviewed.

The Journal is growing and becoming known in the public policy and governance academic community, evidenced by the several research texts sent and welcomed. The reception of articles, essays, case studies and book reviews for the next Journal issue is open.

Cordially

**LUIS F. AGUILAR / DIRECTOR
UNIVERSIDAD DE GUADALAJARA**

A CENTURY OF SOCIAL REFORMS IN MEXICO: HISTORICAL BALANCE AND PENDING CHALLENGES

Gerardo Ordóñez Barba*

ABSTRACT

This work offers an analysis of the formation of the Mexican social state taking as starting point the original text of the 1917 Constitution. For this objective, we present a review of the main reforms implemented over a century by the federal government, giving emphasis on social policies and programs that have marked the development of four major periods of history. Starting with the first Constitutionalist government and culminating with the last two administrations that emerges from political alternation; the conclusions ponder about the scope of the current social protection system, accentuating the conditions of exclusion and poverty prevailing in Mexico, as well as the proposals of the government in progress and the challenges to be faced to move towards an inclusive and solidary social policy.

KEYWORDS: Social State, Social Policies, Social Backwardness, Poverty, Mexico.

INTRODUCTION

Almost a century ago the Mexican government was formally established as one of the first in the world to adopt the basic principles that defined the social state of law. It was precisely on February 5, 1917, with the enactment of the Constitution of the United Mexican States, when a model of nation was institutionalized, opposing to the fundamentals of *laissez faire*, *laissez passer* dominant at the time, which gave the public authorities the power to intervene in virtually all aspects of economic and social life of the country, with the central aim of reducing inequalities and promote social justice. Taking as a starting

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point this founding event, in this work we propose a trip through history, accentuated on the reforms that have marked the development of social policy as well as the major challenges, that still remains, to reach the construction of a welfare state that guaranteed the full exercise of social rights to almost all Mexican society that are still outside of the development's benefit.

To accomplish this task, we look at the greatest amount of available documentary sources (legal, academic and statistics) in order to incorporate into the analysis the most important factors that explains the logic of public intervention, particularly in the construction welfare policies. Policies that were included, allude to all areas of social intervention considered as a state responsibility in nations with advanced welfare systems; that is to say, basic social services (education, health and houses), social security (pensions and work is related insurance) and assistance to marginalized groups.

To address the objectives outlined, the work was divided into three main sections: the first explain the constitutional basis that origin social law state in 1917 by establishing the foundations and the reach of state intervention considered in the original text, both in the regulation of economic activities and the promotion and provision of welfare services; in the second section are shown, in a first part, the arguments that support our own periodization of the history of social development in Mexico, and then an account of the implementation by the federation of main social reforms in four major periods. The first was Carranza's first constitutional government, and culminate with the last two administrations arising from political alternation. Finally, in the conclusions a general thought of the current social protection system, emphasizing the conditions of exclusion and poverty prevailing in our country, as well as the proposals of the new government and the challenges to be faced to move towards an inclusive and supportive social policy.

1. THE ORIGIN OF THE MEXICAN SOCIAL STATE: THE 1917 CONSTITUTION

The Mexican Revolution and its subsequent constitutional formalization established the fundamentals for the formation of a qualitatively different normative order that prevailed until the beginning of the conflict in 1910. The 1917 Constitution, without denying the liberal principles promoted during the Reform in 1857, introduced new elements to promote a more socially fair economic system. At the same time the respect for individual rights were guaranteed, there was a wide range of State intervention that opened the dynamics of economic and social

processes (Ruiz y Valadés, 1983; Sayegh, 1991; González, 1983: 112-122). The intervention was considered as a State instrument to promote the defense of “public interest”, “equitable distribution of wealth” or to prevent “the offense of the society’s rights”. With these principles no one question, the existence and development of capitalist forms of production; however, contrary to the ideology of laissez-faire, it was attributed to the regulatory function of the State to reduce the social inequalities inherent to market relations.

The main ways of economic intervention considered in the original text of the Constitution provided to the authorities the ability to:

- Implement policies related to the management of the economy (arts. 4, 28, 73 and 131). *In addition to the traditional powers related to tax and national security, it was attributed to the State the power to limit the freedom of enterprise (art. 4), administer public monopolies, prevent the existence of private and punish speculative practices (art. 28), impose tariffs to foreign trade and verify the free circulation within the internal market (art. 131); legislate on mining, trade and credit institutions; and control monetary policy through the creation of a central bank (art. 73).*

- Decide on the social distribution of land and natural resources, expropriate and define the modalities of private property (art. 27). *From these capabilities, the State, as depositary of the rights of the nation would be empowered to regulate the land market, protect communal property, conduct restitution and distribution of land and water in rural areas, develop settlement policies and its management in the territory, and expropriations of companies exploiting natural resources (especially oil, mining and electricity).*

- Regulate markets (art. 123). *In terms of work, the purpose of the intervention was to establish the minimum conditions (in terms of rights and obligations) that should be governed by employment contracts of the “workers, laborers, employees, domestic and artisans”. This feature gave the State a major role in mediating labor disputes and protecting workers’ rights.*

This set of constitutional attributes allowed to edify public authorities as guiding principles of the national economy. On this basis the successive federal governments did legislative adjustments in order to educate

the norms to fulfill their strategies. The formation of a mixed economic system regulated by political and public companies, was a major result of the economic intervention of the State (Ayala, 1988; Carrillo and García, 1983; Villarreal, 1988).

Commitments to society extended in the Constitution to promote a series of welfare services. In the original design of the text, the provision of each of these services (at the time: education, health, housing and social security) referred to a mixture of shared responsibilities among the principal agents of social change; that is to say, government institutions, employers and the working classes. Thus the implementation of welfare policies became dependent on instrumented mixed structures with different social coverage possibilities.

In relation to education and health services the entrepreneurs were mainly responsible of the social offer (art. 123). In the case of education, the State only guaranteed the free basic education in official establishments and the regulation of private schools (art. 3). With respect to health, it was provided to the responsible authorities (Council of General Health and Department of Health) only the faculty to establish preventive measures in cases of epidemics, invasion of exotic diseases, alcoholism and drug addiction (art. 73, Fracc. XVI). Considering its social outreach, constitutional commitments on health and education had serious initial limitations; strictly the principle of universality was not established in the coverage, so it cannot be considered at this time as social rights. As the social guaranteed to receive free basic education was subject to the ability of public schools, access to health, was limited to preventive actions that the government was able to develop and the offers of health assistance that employers could provide for the benefit of their communities.

The progress in labor extended the state participation into to two other important areas of public welfare: it was considered of *social utility* the creation of an incipient social security system and the encouragement of cooperatives for the construction of low-income housing (art. 123). For these services, the public sector only agreed to promote the creation of *community savings and credit and housing cooperatives*, while the working class should absorb the costs of its implementation and operation. Entrepreneurs, meanwhile, would support subsidizing rental housing for their workers and only had the obligation to pay compensation in cases of work accidents or work related diseases (art. 123). Nor in these two cases the workers had the right to access to protection risks systems (illness, disability, death or unemployment) and to a decent house.

As might be understood, unlikely the broad authorities that were given to the State in economic intervention, social policy commitments

occupied a secondary place in the constitutional text. With the exception of preventive health functions, which result in the unique faculty of welfare solely for the federation, the chances of the overall impact of other policies were conditioned to the growth of the public system (basic education), the contributions of the working class (social security and housing) and the responsibility assigned to the employers of providing their workers and communities of influence, with education, personal health services and housing for rent. Most of the benefits of these policies, including those resulting from the labor reforms, would be directed to emerging social sectors in the processes of industrialization and urbanization. For rural areas, the most solid and real alternatives with possibilities of application tended to solve problems resulting from land tenure, land spoliation and land distribution, as well as some working conditions that mediate under contract. In this last case, the declaration of unconstitutionality of the payment or of wages through the employer stores helped solve one of the main problems of agricultural workers (art. 123, Fracc. X). Nonetheless, these initial limitations, the model that originates with the 1917 Constitution led to the construction of a committed State structure that protects society's welfare.

2. THE PERIODS OF SOCIAL DEVELOPMENT

As mentioned, social rights did not have a place in the original text of the Constitution. State commitments resulting from the articles were subject to coverage limitations (in basic education), to basic goals (preventive health), the contributions of workers (insurance and housing) and confidence in the role of entrepreneurs as providers of some of these services.

These characteristics of the constitutional model provides a glimpse of, in one hand, the financial and administrative weakness that the government was having at the beginning. Furthermore, considering the most significant advances, it can be concluded that greater weigh issues of demands and social problems were in other areas of public action: regulation of labor markets, the formalization of labor rights and national wealth distribution. In addition, the perceptions at that time of welfare policies were just beginning to occupy an important place on the agendas of Western governments (Rubio, 1991: 90). Among other things, these items reduced the potential of this legislative reformist event in social development.

In the subsequent years constitutional amendments were introduced with the purpose of expanding public responsibilities to the welfare until the definitive incorporation of social rights: elementary education in

1934, social security in 1974, work in 1978, health and decent housing in 1983, High school education in 1993 and finally bachelor education in 2012. These legislative achievements allow us to establish that the integration of mostly all universal rights accepted in developed societies, is a recent development in our country.

Over the course of history, the absence of contractual commitments forced the state to deploy *national welfare policies* which gave governments the possibility of grading the extent of its intervention, define new priorities or even cancel previous progress. With this maneuver that started in 1917 institutionalizing a model State whose core mandate was, at least formally, to protect the *public interest*.

To analyze the process of setting up the social state in our country we have to look to a periodization that, with some nuances, reflects the proposals that have been developed by various authors in economic development topics. We have also tried to subdue our own periodization discussion with some others that have been published in the specific field of social development (see Table 1).

To ease the exposition, we divided the nearly one hundred years of history included in this study in only four major periods that, to our knowledge, correspond to major shifts in emphasis or orientation in the management of social policy. The first, which runs from 1917 to 1940, begins with the first constitutional government, from Carranza, and concludes with one of the most iconic in the modern history of the country, from Lázaro Cárdenas. These 23 years as we shall see, there were some major social reforms presented (most notably the creation of the ministries of education and assistance, as well as the formal right to basic education.

Its importance lies in actions and agreements that made possible the gradual economic and political stabilization of the country after the conclusion of the revolutionary movement that began in 1910. A fact that reveals the priorities of the time is that it was until 1938 when, for the first time since 1917, social spending exceeded the military, standing as the second category, just below the economic expenses:

TABLE 1. REAL ANNUAL GROWTH AVERAGE OF THE MAIN ECONOMIC INDICATORS BY PERIODS AND SUB PERIODS OF ECONOMIC AND SOCIAL DEVELOPMENT OF MEXICO (1921-2012)

Periods of Economical Development	Years	GDP	GDP Per capita	IPI GDP /1	Social Development Periods	Years
Institutional Formation	1921-1934	0.68	0.95	2.23	Reconstruction	1921-1934
Cardenas Six Years	1935-1940	4.52	2.74	7.54	Cardenismo	1935-1940
Import Substitution Industrialization	1941-1977	6.38	3.18	9.35	Social Politics of Industrialization	1941-1972
- Easy Substitution	1941-1955	6.02 6.63 7.00	3.07 3.25 3.65	11.03 8.20 3.82	- Industrialization - Urbanization	1941-1952 1953-1972
- Difficult Substitution	1956-1977					
-Stabilizing Development	1958-1970					
- Share Development	1971-1977	5.78	2.30	16.72	Social Politics of Rural Development	1973-1982
Oil Boom	1978-1981	9.17	5.83	22.98		
Opening and Economic Liberalization	1982-2014	2.29	0.61	27.46	Social Politics of Economic Liberalization	1983-2014
- Recession	1982-1986	0.47	2.87	69.52 44.10 21.49 5.81	- The Adjust - Social Liberalism - Consolidation - Continuity on Alternation	1983-1988 1989-1994 1995-2000 2001-2012
-Moderate Growing	1987-1994	3.32	1.06			
- 95 Crisis and Recovery	1995-2000	3.52	2.14			
- Stagnation	2001-2012	2.19	0.93			

1/ Implied Price index in GDP. Sources: Own Elaboration based in: Solís, 1990; Ayala, 1988; Wilkie, 1978; Tello, 2007; INEGI, 1994; Salinas, 1994; Calderón, 2009; Peña, 2013; SHCP, 2012, 2013, 2014; Centro de Estudios de las Finanzas Públicas, 2003; Banco de México, 2014.

It was in the second period, ranging from 1941 to 1972, when the traits and the central institutions of our current welfare system were defined. It is precisely in the early years of the Forties when a reorientation of policies and resources begun, driven by the requirements of industrial growth, which would remain until the beginning of the seventies.

From the point of view of social policy, the adoption of bias in favor of industrialization is mainly materialized through the creation of the IMSS

(for its acronym Spanish) in 1943, which had among its initial beneficiaries only workers from private or parastatals who worked under contract. This first step was followed, in subsequent years, with the establishment of ISSSTE to protect federal employees and the expansion of IMSS coverage to other categories of workers in the urban area, especially banking and insurance institutions.

While it is seemingly arbitrary to conclude and start a period almost at the half of an administration, considering the characteristics of Mexican presidentialism, in this case it is justified to the extent that it is in 1972 when it ends with the creation of housing funds linked to social security (INFONAVIT and FOVISSSTE, for its acronym Spanish), the design of the institutional framework linked to industrialization that initiate in 1973 an attempt to expand the coverage of social policy in the Mexican countryside. As part of this orientation, reforms were promoted in the social security area three programs were initiated to combat rural poverty (PIDER, COPLAMAR and SAM, for its acronym Spanish).

This third period ends tragically in 1982 with an economic crisis that lasted for several years, and with it also concluded a long construction phase of the Mexican welfare regime. Even though the social policy that was imposed in the forties had been conditioned to the industrialization policy, both the postulates and constitutional amendments as well in the political discourses and in the evolution of social policy itself could be foreseen some kind of universalistic aspiration (Duhau, 1995; Gordon, 1999; Ordóñez, 2002). In the underlying logic, it was assumed that the generalization of social protection would be through the fulfillment of intermediate goals for inclusion, in the manner of a locomotive to which you were adding wagons or institutional compartments: the first would accommodate workers' formal industry, banking and services, in the second public employees and finally the self-employed and farmers.

Following the 1982 crisis and its immediate budgetary impact (with a fall in real terms of 30% of social spending in 1983),¹ the logic of gradualism breaks and initiates a change in the route of the social

1. From this moment all allusions to the growth of federal expenses and GDP, must be considered in real terms.

policy design that, in principle, meant dismantling or liquidation of most of rural programs and the gradual elimination of subsidies to agricultural production and food. In this last period, which extends to our days and includes two governments emerged from political alternation, it can be said in a very synthetic form that the welfare regime went from being an unfinished universalist project to another in which social policy assumes a deliberately limited, residual and compensatory position (Barba, 2004).

3. SINCE THE 1917 CONSTITUTION TO CARDENISMO

The few social policy measures adopted during this period were instrumented to gradually expand as the economy recovered from the ravages of war and international depression, the political system stabilized and the organization of the federal government was reconstituted. In addition to the financial weakness of the state (with a budget of 4.6% in relation to GDP in 1921) and the inability of the economy to grow (on average 0.7% annually between 1921 and 1934) and provide new resources, the federation faced two major problems: public debt and political and military instability.

The recognition of debts incurred during the revolutionary fight (between 1910 and 1919) and the need of the victorious forces to maintain a relatively high military expenditure to meet the constant armed insurgencies (7 in total, the last one in 1938), hindered the introduction of new functions in the public area. In terms of employment the military represented 84% of federal workers in 1920 (White 1995: 115). Still in 1925 the cost of both components (debt and military spending) in the budget was higher than 57% of the total.

Under these conditions the first post-revolutionary governments granted little importance to social policy, adjusting their actions to the responsibilities imposed by the Constitution. Between 1917 and 1933 they created only central units that was responsible for applying the preventive health measures (the

General Health Council -CSG- and the Department of Public Health -DSP-, both in 1917) and provided free basic education throughout the national territory (the Secretariat of Public Education -SEP- in 1921). An important fact of this period, which approximates the environment of international concern, was the beginning of discussions about social security that led to the amendment of the Article 123 of the Constitution in 1929, which was decreed as "public utility expedition of the Social Security Act" (LSS). However, the issuance of that law, which would be the prelude to the creation of a public institution, was postponed fourteen years (Until 1943) due to the lack of agreement between workers, employers and government in the distribution of costs referred to diverse projects (Brachet, 1996: 98-102). The only achievement in these years was the civil and military pension systems in 1925.

By the early thirties, although all indicators of social policy had already grown in importance, its dimensions remained limited. Its objectives were reduced to the extension of basic education; promote the creation of nonspecialized medical units and implementation of preventive measures; and guarantee a pension to civil and military federal employees. In its quantitative aspects, the expansion of these services required a steady growth of social spending, which remained (except in 1932 and 1934) even during the most difficult years of the international depression of 1929. Despite these advances, the budget dedicated to welfare never exceeded 1% of GDP and the military personnel in 1934 still accounted for nearly half (48.9%) of federal employees (White, 1995: 115).

In 1934 Lázaro Cárdenas assumed the power and during his tenure, he promoted, with a relatively stable economic and political situation, two important changes in social policy: first he formalized in the Article 3 of the Constitution the social right to elementary education, adding to the principle of gratuity the enforceability; in second place he founded the Secretariat of Public Assistance (SAP, 1937) in order to seek medical care and food to children and marginalized sectors of society (González, 1985: 281). According to various studies, it was a fact that in this government the Social Security Law LSS could not be approved due to the economic problems that came with the nationalization of the oil industry in 1938 (COPLAMAR, 1983: 118; Brachet, 1996: 108). The only segments of the population that were eligible for social security protection in this administration were the railroad, oil and electricians, i.e., Workers who had been incorporated into the parastatal sector through policies of *nationalization* or *mexicanization* of their companies.

Overall, the social policy of the *cardenismo* exhibits a rising trend in all its variables. His most important advances lie in the recognition of basic education as a social right and the acceptance of public assistance as a commitment of the government. Both purposes were translated

into very specific policy measures that are expressed in the creation of institutions and agencies, in public works and the increase of budgets and workers. In 1938 for the first time social expenditure exceeded the military, locating as the second priority in the budgets, just below the economic expenses. Nevertheless, analyzing broader indicators and social problems solved by social politics during this government, it is observed that there was still a limited capacity for intervention.

Although social expenditures were nearly 95% higher in 1940 compared to those exercised in 1934, its volume still represented a low percentage (1.4%) as a proportion of GDP. On the other hand, however, there were welfare achievements attributable to the activities of the State, such as increased life expectancy of women and men, decline of mortality and reduction of illiteracy, for the values that these indicators continued to have at the end of the presidential term it can be established that the dimensions of national problems far outweighed the offer of public services. In basic education, the only social right that was recognized, enrollment was barely sufficient to cover 45% of the population between 6 and 14 years old and only 11% of people over 15 had completed this level in 1940 (COPLAMAR, 1985: 24 and 50).

4. THE SOCIAL POLICY OF INDUSTRIALIZATION: 1940-1972

From many points of view, as from the decade of the forties, it began a strong reorientation of policies and resources towards the requirements of industrial growth, which would remain until the beginning of the seventies. This bias, in addition to defining the social policy model adopted, contributed to accentuate the inequalities generated by the economic project. Over six federal administrations (Luis Echeverría, 1970-1976 included) measures were developed to promote industrial growth and investment of national, private and state origin, amid a mixed economy with an increased protection (Garza 1985; Cordera, 1981; Perzabal, 1988; Los Angeles, 1978; Martínez del Campo, 1985; Villarreal, 1988).

To boost the industry, the governments invested heavily in oil, electricity and communications (telegraphs, telephones, railways and highways) and used tariffs and exchange rate in order to discourage competition from foreign products; additionally developed a complex network of parastatals, which helped industrial growth with new funding, with the granting of public subsidies to energy consumption, services (including welfare) and inputs or, as later happened with the rescue of some private break downs. Finally, investments in public works and infrastructure (roads and communications, river basins, urban services),

the federation helped to improve the flow of goods, information and labor and expand the equipment of large industrial centers, at that time in Mexico City, Guadalajara, Monterrey and Puebla.

From the perspective of social policy, the adoption of bias in favor of industrialization took shape in 1943 through the adoption of the Social Security Act (LSS), meaning, the founding statute of the Mexican Social Security Institute (IMSS), whose purpose was to offer contract-contributory insurance against the life risks and old age which represents a broad sector of the population, particularly the workers of the fledgling national manufacturing. In parallel, in the same year the agencies that were responsible for preventive health (DSP) and social assistance (SAP) merged into a single ministry, under the name of the Secretariat of Health and Assistance (SSA), from that moment these institutions would play a complementary role in providing services to two distinct populations: the SSA dedicated to health care for the indigent and needy, and the IMSS obliged to protect workers who had any formal work relationship in the aspects of health and social welfare.

At least formally, with these two systems the Mexican government approached social reforms in advanced countries during the interwar period. However, unlike what happened in Europe once the war ended, social policy was stranded for more than a decade

on the frontiers that were imposed in its origin. The biggest limitations laid in the restrictions that the social security legislation contained.

Given its strictness contractual-contributive, compulsory insurance to IMSS decreased to the subset of workers who worked under contract in parastatals, private or social management companies; for the rest of society, who were the majority, only had the possibility of voluntary insurance.

Is remarkable that within those excluded from the compulsory were public employees of the federation, whom barely had any benefits that were given them by the General Management of Civil Pensions (DGPC) established in 1925. In sum, at this early stage the IMSS were conceived, following in the steps of the economic policy, to protect industry workers. As a result, increased state contributions to the IMSS, which came from general taxation, became a subsidy to industrialization.

This orientation was partially modified during the fifties with the adoption of new policies and creation of institutions that increase the responsibilities of the state into a more inclusive process: urbanization.

This change in the emphasis, which was already dominant in the education and welfare areas, extended to social security and other welfare dimensions of welfare, like housing and food remained within very small institutional spaces. IMSS opened in 1955 the compulsory insurance of employees "of all credit institutions and auxiliary

insurance organizations, and surety companies in the Mexican Republic" (Carrillo, 1991: 1623). In 1959 the old DGPC finally becomes the Institute of Security and Social Services Service Workers (ISSSTE). Public assistance, meanwhile, recovered some lag and greater participation in the budget that made possible to increase hospital capacity in several parts of the country and created two new specialized agencies for infant care: The National Institute for the Protection of children (INPI in 1961) and the Mexican Institute of child Care (IMAN, in 1968), which would be replaced in 1977 by the National System for Integral Family Development (DIF, for its acronym Spanish).

In 1959 the launch of the National Plan for Expansion and Improvement of Basic education (better known as Eleven Year Plan) was outstanding for education, the main purpose of it was to "ensure that all children in Mexico got free and mandatory basic education" (Latapí, 1975: 1325).

In consonance with this purpose, in the same year the National Commission of Free Textbooks for elementary was founded and in 1970 distributed 53 million of books and workbooks (Zorrilla, 1988:180).

In 1961 the National Company of Popular Subsistence (CONASUPO, for its acronym Spanish) was founded with the capacity to regulate the production and distribution of basic food throughout the country.

In real estate three programs were instituted: The Popular Housing

Fund in 1954 with the purpose of offering low-cost housing in major cities; the National Housing Institute, also in 1954, in order to meet the demand in rural and urban areas of disadvantaged groups; and the Financial Housing Program in 1963, with the mission to provide mortgage loans to middle-income social sectors.

These advances were expanded in 1972 with the establishment of the association of housing agencies with social security institutes: The National Housing Fund for Workers (INFONAVIT, belonging to the IMSS) and the Housing Fund for Workers in the State Service (FOVISSSTE).

By the early seventies social policy already had a complex organization acting in virtually all recognized addresses in the developed world. At the end of this period, social spending came to settle at about 34% of the programmable budget of the federation and 6.2% in terms of GDP. However, given its particular way of integrating economic policy and also because of his own disabilities, large sections of the population were outside of any possibility to access most of the services.

The main losers were those communities linked to traditional activities in rural areas; at the other end, the central beneficiaries were located in the strata of population residing in cities and that they had financing capacity and higher levels of organization and political representation (Reyna, 1977; Mesa Lago, 1978).

Some data reveal the degree of vulnerability and inequality that prevailed. If we analyze two of the most developed policies we found that the beneficiaries of social security in 1972 they represent only quarter of the national population, of which only 12.5% came from the countryside; in 1970 25.8% of the population over 15 were illiterate, but in rural areas this proportion increased to 40%; of literates only 29.5% had completed elementary, the states of greater rural and indigenous proportion (Oaxaca, Chiapas and Guerrero) had the highest values of its population without this minimum (COPLAMAR, 1985: 54).

5. THE SOCIAL POLICY OF RURAL DEVELOPMENT: 1973-1982

Considering the context of inequality and using an increased budgetary deficit, the federal government began in the early seventies a leading strategy to correct the course and broaden the channels of social policy, in part to serve disadvantaged populations, that mainly lived in the countryside.

With this objective in 1973 the introduction of specific actions in favor of the poorest in the country was done, being one of the main actions the Social Solidarity Program IMSS to provide health care services to the general population; Integral Program for Rural Development (PIDER) with productive and social projects; and, after 1976, the General Coordination of the National Plan for Depressed and Marginalized Groups (COPLAMAR) with community development initiatives. Additionally, in 1980 the Mexican Food System (SAM) was created, with influence on the production and distribution of food. All without detriment of progress, substantial in most cases, which continued to register the existing policies and institutions.

This reorientation was extended to all social intervention areas, but were particularly important the reconsiderations of the legal status of the IMSS, besides allowing access to the countryside marginalized people to medical services, they led to the recognition of the universal right to protection. In 1973 a comprehensive reform of the LSS proposed to extend "the benefits of the statutory scheme, of the 1943 law that basically included the formal employees, to other groups not protected [...] With the purpose to gradually incorporate all Mexicans that were *economically active*" (Carrillo, 1991: 1621).

This new law included as insurable population in the mandatory model: "people who are linked to one another by a working relationship, whatever is the origin act and whatever the legal status or the economic nature of employer; members of a cooperative production societies

and workers administrations or mixed; ejido members, co-proprietors, settlers and smallholders organized in solidarity group, local society or credit union, including the Farm Credit Act; workers in cottage industries and independent, as professionals, small traders, craftsmen and other self-employed and independent employers with insured individuals at their service" (Carrillo, 1991: 1622-1623).

In accordance with these changes, the following year an amendment of the Article 123 of the Constitution was approved to specify: XXIX. The Social Security law is of public interest, including disability insurance, life, involuntary cessation work, illnesses and accidents, childcare and any other benefit for the protection and welfare of workers, peasants, unsalaried and other social sectors and their families. "With all this, finally Mexican legislation tacitly accepts the right of everyone to receive the benefits of public provision, regardless of their economic status or employment status. And four years later, in the same article it is stated that "everyone has the right to a decent and socially useful work". Both amendments can be understood as a new formal approach to advanced welfare systems, assuming universal access to social security and full employment as state policies.

Notwithstanding the foregoing, in practice these objectives were fulfilled in a limited way for two reasons: first, the tax-contractual principle remained intact as a discriminatory criterion of social security and, secondly, scarce public employment programs did not prevent a significant part of the population remained outside the formal labor market or kept unemployed. In addition to this, most of the actions were and have been insufficient to implement the compulsory insurance for many categories of workers, including those who had already been identified as potentially insurable, the case of domestic. These difficulties have become impassable barriers for rural people, who despite of being privileged subjects of reforms had suffered a gradual decline as IMSS right holders, to the extent that currently only 3.4% of its insured are working in agricultural activities. Even with these restrictions, the seventies represented the most important expansion period in its history, which went from close to a quarter of the national population covered in 1970 to almost a half (46.5%) in 1982.

In general, these were years of accelerated growth in the federal public sector as a whole, which led to have an unprecedented position in the social and economic environment. Particularly institutions and social programs were able to double and in some cases, even triple coverage for services. However, for a large part of Mexicans in poverty the access to the redistributive state channels remained as an unfulfilled promise. Moreover, even in these years due to the inability of the state to control the economic deterioration that led to the crisis of

1976, the business groups' positions in favor of liberalization and restrictive measures of public intervention started to gain strength (Cordera and Tello, 1997: 64-68).

The oil boom illusion that was announced in 1978 came to an end in 1982 with a new crisis which, together with the bank nationalization decreed that year, intensified the conflict with entrepreneurs, and provided justification for international intervention and opened the doors to reversion.

6. THE SOCIAL POLICY OF ECONOMIC LIBERALIZATION: 1983-PRESENT

Due to upsurge in economic problems (drop in production, hyperinflation, flight of capital, cancellation of international credits, among others), the Mexican government was forced in 1982 to negotiate with the IMF a stabilization program that, among other things, included a commitment to reduce the fiscal deficit (in 1982 hovered around 14% of GDP).

Complying with this objective in 1983 a severe adjustment to public finances, which affected, especially social expenditure, fell 14% above the general decline of programmable spending, that is to say 30% was applied. In general, none of the social policies were saved from the cuts, but the programs to combat rural poverty were who suffered the worst consequences almost to the point extinction. Of these programs only the health care program IMSS and CONASUPO for food distribution survived. Paradoxically, with all this loss of resources two reforms to Article 4 of the Constitution were approved in 1983: "everyone has the right to health protection" and "every family has the right to enjoy decent and decorous housing".

With these latest amendments, the State formally assumed the set of social rights that are recognized in most advanced welfare systems advanced, but because of the economic downturn of those years it can be assumed that living conditions worsened in widely. In the perspective of the observed changes in the countries that took action to dismantle its welfare states in this same decade, Mexico's experience was much more devastating with an unfinished social policy. There are not few reasons to suppose this question: the drop in social spending was spectacular, the programs that were oriented for the poorest population were particularly attacked and the adoption of measures to liberalize (elimination of subsidies, privatization) many of the public goods and services of general consumption (telephones, roads, food, etc.).

Between 1981 and 1988 social expenditure dropped from 9 to 5.7% relative to GDP, this drop was surprising in a context of industrialized nations. The damage caused during these years led to demonstrations of popular discontent converged into the 1988 presidential election by a vote of nearly 50% against the ruling party, the PRI (for its acronym Spanish).

Under these conditions it was no coincidence that the Chief Executive emerged from these elections has proposed a national agreement to expand democracy, stability and recover growth and improving the level of popular welfare (Salinas, 1988). These commitments were based on a basic principle that, at least formally, modified one of the criteria of the economic policy of the previous government. Against the premise that it was necessary to grow first and then distribute, the idea of growing and distributing as parallel options were put in front. The promise to expand the spaces of democracy completed the offer of a weak government that pretended, on one hand deepen economic agenda and, and in the other, to recover legitimacy.

During these six years the economy recorded a moderate, but sustained growth and social policies actually received substantial funding that allowed them to achieve a historical high in 1994 (9.2% of GDP), occupying a little more than half of the projected expenditure. In addition to the expansion of traditional policies, an ambitious program to combat rural and urban poverty, the National Solidarity Program (PRONASOL, for its acronym Spanish) were introduced. Another constitutional amendment took place in 1993 which extended the social right to secondary education. Undoubtedly, during this government the situation improved in many ways over the previous six years; however, the improvement was insufficient to restore life conditions prior to the 1982 crisis. It is remarkable that even with the reported flow of resources, social services did not achieve, with some exceptions (mainly basic education and vaccination), substantial expansion in its coverage, especially among low - income populations. A new crisis in 1995 started again a period of contraction whose first victim was PRONASOL.

The adjustment to public finances that took place during the first year of the government of Ernesto Zedillo (1995) resulted in a decrease in social spending about 15%. While there was a recovery of funding for social development in the following years, to the extent that in 2000 exceeded by almost 25% than in 1994, most of that growth was directed to repay funds that IMSS lost with the implementation of the liberal reforms to the pension system in 1997, which forced the state, to increase its share of about 5% in 1995 to more than 42% of the revenue

that was expected that the IMSS would capture directly in 1998, with the total the expectation was to cover the total amount of the current pensions and part of the sickness and maternity, disability and life insurances, child care, among other social benefits (SHCP, 1998: 3-6). At the end of the presidential term federal contributions to social security, increased by almost 130% over allocated in 1994. Derived from this, the rest of social expenditures recorded a moderate annual average growth (between 2 and 2.3%) or even negative (-2.9% in the case of assistance programs).

Initiatives of this government to the other welfare areas were limited to consolidate processes that had begun during the previous two administrations, such as decentralization of basic education and healthcare, elimination of food subsidies and the acquisition of popular housing and the implementation of targeted compensatory programs. In this last aspect, it highlighted the late intervention in the implementation of two programs, published in the mid-administration, partially covering the gap left by the PRONASOL. Thus, in addition to present a limited offer, established extremely restrictive eligibility: Program to Overcome Poverty, were rescued some productive actions and infrastructure; and the Education, Health and Nutrition (Progresa), designed to assist rural population living in indigence.

In this context, the first government from opposition emerged after more than 70 years with a dominant party and generated great expectations to the obvious social dissatisfaction with a situation of deteriorating prevailing. However, the amendments made by this government in the management of social policy were marginal: the launch of a popular insurance as a way to access health care services, the extension of the coverage of Progresa (now Oportunidades) in urban areas and the implementation of a series of highly targeted programs (Habitat Microrregiones, Development of Indigenous Communities, among others).

In contrast, during this six-year period there were major changes promoted in national legislation relating to social development, highlighting the constitutional reform of 2001 by which all forms of discrimination are prohibited (Art. 1) and the enactment in 2003 of the Federal Law to Prevent and eliminate discrimination, which also regulate the right to non-discrimination introduced the obligation of the State to establish compensatory measures for the care of vulnerable groups in order to promote equal opportunities (Ordóñez, 2012: 18-21). In this line also excels the publication in 2004 of the General Law of Social Development, one of its main aims to "guarantee the full exercise of the social rights consecrated in the Constitution..., Ensuring access of all the population to social development"; Article 6 of this law reaffirmed social rights as education, health, food, housing, work, social security

and those concerning non-discrimination. Both laws gave origin to the creation of two public entities, CONAPRED and CONEVAL, that undoubtedly made significant efforts to guide social policy towards greater inclusion, but as we shall see in the next section backlogs still remain considerable magnitudes.

The second alternation government chose to keep the program structure of its predecessor, but also launched several programs to overcome poverty which also proved to be highly vocalized and in some cases even discriminatory. The main changes introduced by this government to the inherited social policies were: increasing *Oportunidades* program coverage (from 5 to about 6 million households); the implementation of the program "70+" which included a monthly cash transfer for those over 70 years from towns with less than 30,000 inhabitants; the increase of the health coverage through Seguro Popular, which in 2012 reached 47.8 million members (Coneval, 2014: 5) and the implementation of new schemes such as Healthy Pregnancy and Medical Insurance for a New Generation, whose aim was to only assist babies born as of 1 December 2006. In addition, related to housing, a number of initiatives seeking to change the construction conditions of households in poverty or to improve the urban environment were implemented. Finally, through a constitutional reform, in 2012 the right to high school level education was added.

Regarding economic performance, it should be said that the last two governments were immersed in an unfavorable international environment that prevented an economic growth at the required rate. Between 2001 and 2012 GDP barely grew in real terms at an average annual rate of 2.2%. In addition to the mortgage crisis and the slowdown in the US economy that began in 2007, in 2008 adverse conditions appeared (high oil prices and food shortages), which negatively affected growth projections to the extent of causing the outbreak of an international crisis in 2009 whose effects have not yet been overcome. In these years, combined with unemployment, there were an increase of commodity prices that hit the economy of families, mostly lower income, forcing the federation to implement support for food production, alleviate the effects of the food inflation among the poorest and stimulate employment.

TO CONCLUDE: REFLECTIONS ON THE CURRENT SOCIAL PROTECTION SYSTEM

The social protection system formed in the last hundred years in Mexico is at a crossroad. From a formal point of view, the Constitution recognizes social rights which are commonly accepted in advanced societies

as components of the minimum necessary to have a decent life and opportunities for integration and social advancement.

In deeds, except for basic education and preventive health, access to welfare services is not guaranteed to several social sectors that remain absolutely or partially marginalized, of the redistributive state circuits. This has been, mainly, because of the particular integration model of social policy to the needs of economic growth, specifically those activities were and continue to be a priority in the national development project. This particularity was instrumental in the evolution of social security, but has influenced the becoming of the entire welfare system.

If we consider the set of benefits that the state can provide, according to estimates CONEVAL found that in 2014 only about 27% of the population was able to enjoy formally universal goods and services: education, social security, health, housing and food; in other words, nearly three-quarters of the population has at least a deficiency associated with those rights; in descending order, the largest backlog is the access to social security, to which 58.5% of the population is excluded; though in smaller proportion, there is still almost a quarter without access to adequate food, about one-fifth is in a situation of educational backwardness, without access to health services and water, drainage and electricity, and more than 12%

living in poor quality housing. In addition to these shortcomings, income indicators show that 20.6% of the population does not have enough resources to purchase the indispensable for adequate nutrition (line of minimum welfare) and more than half neither can satisfy their non-food needs (welfare line) (CONEVAL, 2015).

In other things, the income poverty historical measurements indicates that this is a long standing condition that even today affects more than half of Mexicans (52%), representing a similar proportion that prevailed 30 years ago (53 percent in 1984, see table 2). In addition to showing the persistence of poverty in our country, the historical series also reveals the vulnerability of low-income population to deal with the negative effects of economic instability and expose the ineffectiveness of public policies and programs to create conditions that allow people to permanently leave poverty condition. As a result of the two crisis in the period of 1992-2012 there was a high peak in the amount of poor people: between 1994 and 1996 the number rose by nearly 17 million, and between 2006 and 2012 just over 14.8 million, which reached a figure of over 61.3 million people in 2012:

TABLE 2. PERCENTAGES AND VOLUMES OF THE NATIONAL POPULATION IN INCOME POVERTY, 1950-2012

Year	Percentages	Number of People
1950	88.4	23,902,145
1956	83.5	26,840,834
1958	81.3	27,873,633
1963	75.2	30,449,341
1968	69.4	33,095,980
1977	63.8	39,962,886
1984	53.0	39,755,673
1989	53.5	44,765,279
1992	53.1	46,138,837
1994	52.4	47,018,805
1996	69.0	63,967,416
1998	63.7	60,671,333
2000	53.6	52,700,549
2002	50.0	50,406,024
2004	47.2	48,625,044
2005	47.0	48,895,535
2006	42.7	46,549,346
2008	47.7	53,381,457
2010	51.3	58,519,936
2012	52.3	61,350,435

Sources: de 1950 to 1989: Székely, 2005; and from 1992 to 2012: CONEVAL, 2013.

From different angles, social and territorial distribution of poverty shows a pattern that tends to reinforce the conditions, prevailing inequality between regions and social groups. At a territorial level they are still deep gaps between the most urbanized and industrialized states in the country and those with a predominantly rural population and dedicated to primary activities. In this last subset the states of Oaxaca, Guerrero and Chiapas highlighted to be the poorest and with the highest proportion of rural and indigenous inhabitants. In the case of indigenous poverty is not limited to these places, the phenomenon afflicts all communities spread across the country and in this case poverty reach a proportion close to 80% (Coneval, 2012: 45).

As it is shown, the welfare system that developed in over nearly a century has generated a divided society in terms of meeting their basic needs.

By its structural nexuses with priority productive activities, this system has helped to accentuate inequalities generated in the economic sphere, making it a clearly regressive redistribution regarding the standard that is supposed to drive their function.

This has set up a social policy that favors individuals better located in the economic structure, with higher income and organizational capacity and influence in government decisions.

In this scenario, the current government since the start of its period in December 2012, proposed a series of structural reforms that were supposed to generate a new stage in the development of the country. In this context, it was achieved in December 2013 the approval of a package of reforms in fiscal and social policy, according to its promoters, must "create a more prosperous and equitable Mexico". Regarding income, the tax reform, which came into force in January 2014 proposed to extend the tax revenue, mainly through increases in income tax, both individuals and corporations, and the approval of IVA on the northern border, which increased from 11 to 16%. In respect of social reforms, there are two main proposals: universal pension: for adults over 65 years in the amount of 1,092.00 pesos per month and unemployment insurance to workers who have contributed at least 24 months, which should

cover a maximum of six months after the last day of employment.

According to the General Criteria for Economic Policy 2014 (SHCP, 2013), is expected that with the maturity of the tax reform and other already approved (energy and telecommunications, mainly), there will be an upturn in the economy and strengthening public finances.

In this document we expect that by 2017 the economy will reach high growth rates and return to a balanced budget. If these scenarios materialize it might be that possible, major changes allow access to greater resources to finance economic and social development of the country. It is still early to evaluate if the prediction will be achieved, but the negative global economic environment and the fall in international oil prices observed in 2015 suggest that the recovery of the national economy will be even slower and with it the tax reform proposal won't be enough to achieve the strengthening of public finances.

There is no doubt that the future of the nation depends on the ability of the economy to overcome its structural weaknesses and grow at high rates over long periods; however, even in the best economic scenario, there is still a little opportunity of giving viability of social inclusive development project if within the process the inequalities in the distribution are not corrected, and the growth becomes in more decent better paid jobs.

If the economic policy is kept detached from these basic objectives, any other government initiative that attempts to influence the causes of marginalization and poverty will be inadequate and will eventually have disappointing results. In addition, without a proper guard of the basis of economic security (employment and income) the State will face serious difficulties in deploying a fiscal policy that will strengthen its intervention in development, especially to finance the provision of the required levels of the welfare services.

Furthermore, it is required to ensure the protection of the welfare and it is required to impose several transformations, adapted to the particularities being experienced by each component of social policy, but with the common purpose of adjusting, as proposed by (CEPAL, 2000: 32-33), the design, financing, provision and regulation policies to the principles of universality, solidarity (progressive distribution of costs and access to services regardless of the tax possibilities) and efficiency (ability to maximize social goals with limited resources. As affirmed by this organization, a reform of this nature does not contradict the application of selectivity criteria in the distribution of public resources among the poor, but they must be understood not as a social policy itself, but as "a condition for most effective universal" (ECLAC, 2000: 33); it does not preclude the participation of private agents or

the introduction of competition and market mechanisms, but in any case they must be subject to regulation to ensure efficiency and promotes equity (ECLAC, 2000: 89). As affirmed by this organization, a reform of this nature does not contradict the application of selectivity criteria in the distribution of public resources among the poor, but they must be understood not as a social policy itself, but as "a condition for effective universalization" (CEPAL, 2000: 33); neither exclude the participation of private agents or the introduction of the market and competition mechanisms, but in any case they must be subject to a regulation that ensures efficiency and promotes equity (CEPAL, 2000: 89).

If we take into consideration the limitations of our current social protection system, obviously the universalization of the minimum level of welfare recognized by the constitution, that because of its matter and complexity requires to be considered in a long-term horizon and in accordance with the progress in employment and fiscal policy.

In our opinion, the greatest challenge of social policy resides in the formulation of a strategy that is able to push institutional changes established on a sustainable and equitable financial base, and in perspective to offer inclusion opportunities to reduce regional inequality, economic, ethnic, intergenerational and gender prevalent in Mexican society, and

assist the most vulnerable groups (women, children, disabled, indigenous and elderly, among others). Given the dimensions of this project, we expect that the transformation of institutions and the ownership society in the transition to a state of advanced welfare will be gradual and in accordance with a proper selection of priorities. However, gradualism as an unavoidable feature of the process should not result in the loss of orientation around the ultimate goal (universality) and doesn't exempt the responsibility for implementing measures that drive to change and improve profitability, efficiency, productivity and distribution of investment, organizations and public programs.

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IMPACT OF SUPREME AUDIT INSTITUTIONS ON THE PHENOMENON OF CORRUPTION: AN INTERNATIONAL EMPIRICAL ANALYSIS

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ABSTRACT

This paper identifies the type of incidence of the Supreme Audit Institutions on the phenomenon of corruption, through statistical analysis for a sample of 78 countries. Statistical methodology for panel data is used. The results demonstrate that is statistical evidence of positive effects. Fixed effects across countries are different, which demonstrate that there are, for each unit of study differential effects of control on corruption. It cannot be interpreted the degree of impact, nonetheless the results are robust and significant.

KEYWORDS: Supreme Audit, Strength of Audit, Corruption, Panel Data.

INTRODUCTION

This paper is concerned with the incidence that Supreme Audit Institutions has in the corruption phenomenon. Consequently an empiric analysis that covers 78 countries will be performed, based in statistic methodology for panel data. Variables of the International Budget Partnership (IBP), Transparency International (TI), World Bank (WB) and World Economic Forum (WEF) are used.

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We argue that the strength of the Supreme Audit Institutions has a positive impact in reducing corruption however; it is likely that the degree of impact differ among countries. The Open Budget Index Sub-score for the SAI Strength (SAIs index) is used to measure the level of strength of the Supreme Audit Institutions (SAI); we used other sources (TI, WB, WEF) to gather information that measure the perception of corruption in different countries.

The first section of the paper briefly reviews the purposes the Supreme Audit Institutions, as well as the characteristic elements of strength of the SAI that are considered to measure this aspect in the SAIs index. The second section offers some conceptual and theoretical elements of the corruption phenomenon; these elements are linked to the group of variables that are the independent variables in the statistic model.

Subsequently the statistical elements of the methodology for data panel are observed briefly. The last section describes the models applied, and reports the statistic results that prove the degree of incidence that Supreme Audit Institutions have in the corruption phenomenon for the 78 countries; as well, conclusions are presented.

1. SUPREME AUDIT INSTITUTIONS

Most countries, no matter the level of development, have external control structures and systems that monitor government action. The Supreme Audit Institutions (SAIs) constitute the main accountability instrument. Furthermore, the SAIs in many cases are used to prevent corruption.

The literature on SAIs has traditionally categorize the basic models in three types: a. - Westminster, b. - Judicial or Napoleonic, and c. - committee or council.¹ The Supreme Audit Institution is a control element that legislatures or parliaments exert on the so-called government action that is exercised within the executive branch. Gutiérrez and Puente (2015, p.393) indicates that the "legislators then have the discretion as regards parliamentary control over the federal civil service".

In order to supervise the executive, legislatures have to their disposal many different tools and the most common are the hearing committees, hearings in plenary sessions, investigation committees, questions, interpellations, ombudsman, the government auditing of public accounts, committees (in general) and public accounts committees (Pelizzo and Stapenhurst, 2004, p.4). The audit tools mentioned are set in two different dimensions: opportunity of audit activity (ex ante or ex post) and if the activity is internal or external to the legislature. However, within academia it has noted that the presence of audit

1. See OECD Good Practices for Support Audit Institutions (SAI), 2012, pp. 15-21.

tools is a necessary condition but not sufficient for effective control (Pelizzo, 2009, p.27).

Sartori (1992) mentioned, “an effective auditing depends on the parliament capacity or potential to regulate government activities”. According to, INTOSAI,² it has considered that auditing must have a positive effect on society’s confidence in public institutions, position in which guarantors of public funds might act differently if they knew they could be inspected. This would take to adopt values of accountability and a better performance within government. Supreme Audit Institutions supports the parliamentary function of auditing public expenses of government; this action is overseeing what is commonly called Supreme Audit and may have different purposes and be used for:

- a) *Accountability;*
- b) *A type of external control of the auditees;*
- c) *Improving governance considering the administrative aspects;*
- d) *Evaluate the use of public resources;*
- e) *Verify the efficiency of governance action, through policies and public programs implementation;*
- f) *Verify compliance with law;*
- g) *Prevent corruption.*

1.1. ELEMENTS OF STRENGTH OF SUPREME AUDIT

In this study, we identify the Supreme Audit Institutions strength based in three characteristic elements:

². International Organization of Supreme Audit Institutions.

1. *Supreme Audit Institutions Independence,*
2. *Institutional Capacity, and*
3. *Usefulness of Information.*

The SAI independence allows supervision without political pressures and contains conflicts of interest. Therefore, this value gives a greater dose of efficiency and effectiveness of the control action.³ Institutional capacities refers to legal and technical characteristic that SIAs must have and adopt for the proper exercise of the audit function, ie, the sum of legal capacities by mandate and technical capacities for good implementation of the supervisory action. The third element corresponds to the usefulness of information, analyzes the timing of audit reports, reviewing reports by the legislature, and reports of the recommendations adopted.

The characteristic strength elements of the Supreme Audit Institutions are measured in the SIAs index built by the International Budget Partnership (IBP), and it is the explanatory variable to our empirical analysis.

2. CONCEPTUAL REVIEW AND THEORY OF CORRUPTION

In the last decades, the concept of corruption is often associated to Public Administration. The accounts have their foundation in the government system, it can be related with the holder of these procedures as the "public official", as the key figure. Nevertheless, corrupt behavior also invade private sphere, introduces among private organizations, seeking mutual agreements to influence markets and business decisions, and interacts with public organizations.

In an act of corruption (whose concept for Rose-Ackerman approaches to the concept of "putrefaction"), involves two actors who are in charge of the operation, the corruptor and the corrupted. As it is mentioned by Sánchez González (2012, p.53): "one performs the task and the other requests the

3. This is provided within the framework of Professional Standards INTOSAI Lima Declaration particularly marked in 1977 and the Mexico Declaration on SAI Independence 2006.

service, which is equivalent to a remuneration between them".

Corruption has its legal implication, when public officials abuse their power, and it is reflected in several instances, those generated within the bureaucratic structures of a low profile and on the other hand, the one associated to systematic corruption in which bureaucratic hierarchy is involved (Rose-Ackerman 2011, pp.21-23). The literature highlight that corruption is a generalized, cross-border and own evil of the contemporary world, that combines global, national and local, a pandemic inside government areas, where resources are illegally transformed into private profits.⁴

The above is confirmed in several studies and analysis about corruption. Some of them with an economic perspective, both theoretical and applied, that it is regularly focus on the operation of Public Administrations, where characteristic acts of corruption are made. These studies focus their attention on estimating the expenses generated by acts of corruption in economic activity and identify the loss of efficiency and effectiveness inside the economic system as a whole. In addition, several recent studies have been presented, about the corruption phenomena in the private sector, like public corruption incurs high costs for economic activity and increasingly permeating most in the markets (Alonso y Garcimartín, 2011).

Further empiric studies, have revealed that presidential systems are generally more corrupt than parliamentary democracies; and proportional representation systems are more corrupt than relative majority systems. The more vulnerable systems are those who combine strong presidencies with proportional representation, where a powerful executive negotiates with a group of powerful party leaders to share power privileges. Likewise, is has been evidence that federal system countries tend to be more corrupt than those with a centralist system (Rose-Ackerman, 2011, pp.25-33).

Furthermore, studies find a strong positive correlation between federalism and corruption, other find

4. Among those who find Diego Bautista (2006), Pozas Horcasitas (2009), Alonso and Garcimartín (2011) and Sánchez González (2013).

a strong negative correlation between fiscal decentralization spending and corruption, even this result is conditioned with the decentralization of tax collection.⁵

Del Castillo and recently Sánchez González (2012, pp.70-74), identify three types of corruption:

1. *Political corruption*
2. *Administrative corruption*
3. *Judicial corruption*

5. Within these types of studies that try to explain the causal relationship federalism - corruption, we can mention Treisma, D. (2000), *The causes of corruption: a cross national study*, *Journal of Public Economics*, vol. 76, pp 399-457 and Fisman R., and R. Gatti (1999), *Decentralization and corruption: cross-country and cross-state evidence*, World Bank.

6. A proper review of the phenomenon of judicial corruption see: Malem Seña, J.F., corruption in the judiciary, in: M. Carbonell and R. Vázquez (coordinators), *Power, law and corruption*, p. 174.

7. See in Cardenas, J., and M. Mijangos, about the theoretical framework of corruption, legal studies in honor of Martha Morineau. *Contemporary legal systems. Comparative law. Various topics*, Mexico, Legal Research Institute-UNAM p. 176, 2006.

Political corruption occurs when politicians divert public funds, extort individuals and companies to obtain incomes, take bribes and buy votes in elections. Political corruption undermines the core of democracy by buying public decisions. This type of corruption it is also called "governmental crime".

According to Transparency International (2000, p.6), we can find two distinct categories of administrative corruption. The first occurs when services or contracts "in accordance with the rules" are awarded, and the second when transactions are "against the rules"; in the first case, the public official receives an illegal private benefit for doing what corresponds according to their functions and in the second circumstances, the public official extorts and gets a bribe to grant improper service.

The third type of corruption takes place in a judicial branch. Judicial corruption refers to buy and sell justice to the highest bidder; this act generates effects and negative impacts to the Rule of Law. It is considered that judges hold unlawfully near-monopoly of judicial power, but also have great discretion of their functions,⁶ strong incentives that are related even with the practice of influence peddling.

Heidenhammer (p.176) references that corruption can refer to three principal domains:⁷

1. *a legal domain (as a crime or offence by a public official),*

2. a market domain (corruption as an economic decision taken by a public official) and;
3. a political domain (corruption and subversion of public interest by personal interests).

Schacter and Shah (2004) enumerate three types of corruption:

a) *bureaucratic or minor corruption, where a wide number of public officials abuse of their public office to frequently ask for small favors or bribes.*

b) *larger corruption, that implies a robbery or abuse of a larger amount of public funds to a relatively small officials number.*

c) *state or regulatory capture, which occurs when there is collusion between public and private agents in order to increase the private benefits, through manipulation of creation processes and law implementations, regulations and public policies to be unfairly favored, normally, excluding competitors.*

The concept of “State capture” is linked to the characterization of what some authors called economic corruption, where the State is used to benefit some business sectors through the process of elaboration of political and economic reforms, and the regulating creation of specific markets.⁸

A control analysis of corruption has been developed in economic theory, through the “model of principal-agent” (also called agency theory), here includes the Robert Klitgaard (1998, pp.3-5) contribution, that analyze the conditions that generate incentives for individual's corrupt behavior (agent-principal), considers a system by the following equation:

$$C = M + D - A$$

Corruption equals monopoly power (M), plus discretion (D), minus accountability (A). The fight

8. Oscar Ugarteche (2011) illustrates some cases of state capture in countries like Perú, where he describes the privatization of the airline AeroPerú area and its assault mechanism on the institutions to benefit a specific private group.

against corruption, therefore, starts with better systems. In this way, the smaller the group of actors who take decisions on the matter in question (monopoly), the greater the margin of discretion of such actors to make decisions and, finally, the fewer controls on agents who take decisions are, there will always be greater possibilities for corruption to arise.

According to the agency theory, the problems of the relationship between “agent and principal”⁹ are concentrated in two areas. On the one hand, it is rare that “principal-agent” share exactly the same interests. Normally their interests are divergent, which becomes an incentive for the “agent” to act in defense of their interests before doing so in defense of the “principal”. On the other hand, the “principal” rarely has a perfect and full information of the “agent” performance. That is often an asymmetry of information between “principal-agent” occurs. These situations provide opportunities for the “agent” decided to act against the demands and interests of the “principal”.

For Martínez-Cousinou and Andersson (2009, pp.1-2), the problem of information asymmetry is an obstacle to the effective control of the “agent” by the “main” emerging problem of monitoring, which in turn creates incentives for political corruption outbreak.

Furthermore, the “structural corruption approach” proposed by Sandoval-Ballesteros (2013, pp.9-23), describes the specific form of social dominance characterized by abuse of power, simulation and misappropriation of resources, as a result of a sharp difference in the structural power. Structural equation where corruption is equal to the abuse of power (AP), plus impunity (I), minus citizen participation (CP):

$$C = AP + I - CP.$$

Emphasizes three elements are important: a) the abuse of public power by creating a situation of domination, b) the lack of punishment and impunity for private and public actors who perform acts of corruption, and c) the loss of power citizen who reflects a rift with the political class. These elements

9. In the “agency theory” we would have to place citizens as the Principal, who delegate the implementation of its interests in an Agent, the president, who acts on behalf of the Principal. Both actors are self- interested and act rationally according to their preferences, which are different and sometimes opposite.

lead to the conclusion that a double structural fraud appears in society in electoral-political and financial aspects" (Sandoval-Ballesteros, 2013).

Therefore, in a situation of structural corruption, the State is required to take special measures to disrupt the operation of the power groups underlying structural corruption. The consequences are intertwined between impunity and lack of fair trial.

Generally are closely linked to discrimination and constitute an obstacle to human rights of individuals, either because it diverts public resources that could be devoted to the recognition and guarantee of rights, or because it imposes additional requirements such as bribery or extortion.

Furthermore, transparency and access to public information, is an element that aids prevent corruption, to reduce the problems of asymmetric information and, therefore, allows better monitoring politicians and public officials. Concealment of public information in order to favor private interests over the public interests is a form to corrupt what is called the "public space".¹⁰ The importance of access to public information, conceives the United Nations Convention against Corruption, as a transversal tool to combat the phenomenon of corruption.¹¹

3. IMPACT OF STRENGTH OF SUPREME AUDIT INSTITUTIONS IN CORRUPTION

This section presents a statistical model that provides information about the degree of impact that the strength of the Supreme Audit Institutions has on the perception of corruption. Our hypothesis is that the strength of the Supreme Audit Institutions has a positive impact in reducing the perception of corruption, same to be explained by statistical analysis method for data panel.

10. The concept of "recognition of public space" is raised by Mauricio Merino, as an ethical value that should be considered in public policies of transparency, among which are the "principle of kantonian advertising, the principle of greater social efficiency and the value refers to the ethic of responsibility of public officials" see Merino, M., transparency and public Policy at: Ackerman, JM (Coord.) Beyond access to information: Transparency, accountability and rule of law, pp. 240-262.

11. Art.10. United Nations Convention Against Corruption, ONU 2013.

A. STATISTIC ANALYSIS METHOD

The statistical analysis is formalized by applying the method for data panel models. The specifications and the general framework of these models are presented and the assumptions required for validation and allow us to identify the statistical weight of the respective explanatory variable on the dependent variable are set.¹²

A regression model with data panel includes a data sample of agents of interest (individuals, companies, organizations and countries) along the time; there is no limit to the heterogeneity of these social agents, by allowing the existence of individual specific variables and temporary effects. It combines data types with temporal and structural dimension.

The classic regression model, considers the example in which it is a linear function of K are explicative variables where $k = 1, 2, 3, \dots, K$:

$$(1) \quad y_{it} = \alpha_{it} + \beta_1 x_{1it} + \beta_2 x_{2it} + \dots + \beta_k x_{kit} + u_{it}$$

In this analysis, $i = 1, \dots, N$ social units (78 countries) and $t = 1, \dots, T$ observations in time (4 years accounted biannually, 2006, 2008, 2010 and 2012).

β is a vector of parameters K

X is the i -th observation at time t for the explanatory K

The total sample observation models is given to specify the set of $N \times T$ (312) observations. Besides the u_{it} is the error term that represents the effects of all other variables omitted from the model, ie it is the variation observed in the k independent variables.

There are assumptions that allow us to estimate the panel by ordinary least squares (OLS) as the classic regression model-standard. These assumptions are based on the premise that the term of error follows a normal distribution with zero mean and constant variance, the hypothesis says that the variable in the

12. A must for mathematics and statistics specifications can be found at: Greene, W.H. (2006) Chapter 14, D. N. Gujarati (2004) Chapter 16 and Wooldridge (2010).

variance of the error term is the same for each of the observations (homoscedasticity assumption).¹³

Besides in these error terms are not related for different time lapses, neither are they correlated for different studies units. In order to fulfill these conditions, we can assure that the resulting stimulators by the stimulation method are reliable and consistent to carry out indifference statistics.

It is common to interpret data models panel through its error components. The term u_{it} error listed in the equation (1) can be decomposed as follows:

$$(2) \quad u_{it} = \alpha_i + \gamma_t + w_{it}$$

In which:

α_i represents unobservable effects differ among units of study, but not in time. Identifies γ_t unquantifiable effects that vary over time, but not between the study units.

w_{it} refers only to a random error term.

The joint analysis of $N \times T$ observations can present correlation in the error terms in different ways so they must comply with the assumptions of homoscedasticity and no serial correlation.

From the general model (1), and according to Johnston and DiNardo (1997) we can order various types of specifications in a taxonomy on panel data models, however, three of them are the most traditionally used.

1. - Panel models with constant coefficients

$$(3) \quad y_{it} = \beta_0 + \sum_{k=1}^K \beta_k x_{kit} + u_{it}$$

It is assumed that the coefficients of K parameters are the same for each of the study units in the sample, and also that are constant over time.

2. - Models fixed effects panels

$$(4) \quad y_{it} = \beta_0 + \sum_{i=1}^{N-1} \alpha_i d_i + \sum_{t=1}^{T-1} \phi_t t_t + \sum_{k=1}^K \beta_k x_{kit} + u_{it} + \varepsilon_{it}$$

Captures the variation in the sample due to the presence of different units of study with the inclusion of a set of dichotomous variables d_i . It is assumed that the coefficients (constant or

13. It is used to make the necessary estimates statistical software E-Views 9 which automatically incorporates several methods of estimation and for better specification of the models used.

independent term model) vary depending on the unit of study or moment in time.

3. - Model random effect panels

$$(5) y_{it} = \beta_0 + \sum_{k=1}^K \beta_k x_{kit} + u_{it}$$

Where u_{it} mistake has the structure of equation (2).¹⁴

Individual coefficients α_i and / or temporary α_t coefficients are no longer fixed effects regression constant term but are allowed to vary randomly over time and through study units. It is assumed that the variation across the study units (and / or over time) is random and therefore is captured and explicitly specified in the error term.

B. ANALYSIS VARIABLE DESCRIPTION

The explanatory variable that represents the strength of the supreme audit institutions, is the one built by the International Budget Partnership (IBP)¹⁵ through Methodology of the Open Budget Survey, which measures the budget transparency, participation and surveillance in countries around the world. In order to allow comparisons between different countries and at different times, through the results of the survey based on a questionnaire of 125 questions.

The International Budget Partnership (2012, pp.2-6) through the survey, has estimated the Open Budget Index (OBI) based on a simple average of the responses to 95 survey questions related to budget transparency. This index assigns a score ranging from 0 to 100. The Open Budget Survey also includes a section that assesses the opportunities for public participation in the budget process, the monitoring capacity of legislatures and the strength of Supreme Audit Institutions (SAI);¹⁶ in relation to this last section of the survey, we focus on the results of SAIs index.

The IBP builds the SAI_OBI index by applying surveys through a collaborative process in which the IBP

14. OLS method is not applicable because the assumptions that allow consistent estimator are not met. So it is preferable in this case use the method of generalized least squares (GLS) whose estimates are higher than the OLS, if not met the traditional assumptions.

15. International Budget Partnership.- www.internationalbudget.org.

16. The element of "assessment of public participation in the budget process" is new from the survey for 2012, which measures the presence of citizens throughout the budgeting process.

works with civil society partners in 100 countries,¹⁷ so as to be representative in different regions and for different income levels.¹⁸ The survey is made in a biannual base, and has included the 2006, 2008, 2010 and 2012 cycles. By 2012 the IBP to measure the SAls index made some adjustments for the methodology, however, in our investigation process, the homologation was conducted to integrate the index based in previous years. The information for the construction of SIAs, contemplates the three main elements of strength of the Supreme Audit Institutions mentioned above.

The SAls index reveal that for 2012 an average score of 69 to 100, ie, most of the countries surveyed was working relatively well in terms of strength on their SAls. The IBP demonstrate a classification that includes three categories to identify the degree of SIAs among the countries, weak, moderate and strong. In Table 1, we can identify those who got values according to our selected sample of 78 countries.

The report of the IBP of the Open Budget Survey for 2012 exhibits the results on the strength of SAls and reveals that audit entities are strong in countries that belong to each of the different categories on different legal systems (British, French, German, Scandinavian and Socialist). There are no evidence (based on the mix of countries with high scores), that the constitutional system of a country determines the strength of Supreme Audit Institutions:

17. According to IBP, the results of the survey for the 2012 edition are based on the questionnaire of 125 questions a complete group of researchers within an organization in the country. Most researchers responsible for completing the questionnaire belong to academic institutions or civil society organizations.

18. It is important to state that, according to information from the IBP for the process in 2012, 95 governments contacted, only 41 agreed to send comments on the results of the Survey on his country, despite efforts to encourage governments to provide comments, it was not possible to obtain greater participation; this prove an indifference in most countries in participating in these exercises transparency, considering it a value yet unadopted. Information concerning the methodology and guidelines for answering questions can be found at: <http://international-budget.org/what-we-do/open-budget-survey/research-resources/guides-questionnaires/> and to consult the relevant comments of governments: <http://international-budget.org/what-we-do/open-budget-survey/country-info/>.

TABLE 1. STRENGTH OF SUPREME AUDIT INSTITUTIONS (2012)

Strenght	Number of Countries	Countries
Strong (Index value 67-100)	25	Albania, Bosnia and Herzegovina, Bostwana, Brazil, Colombia, Czech Republic, France, Georgia, Germany, India, Indonesia, Malaysia, Mexico, New Zeland, Worway, Poland, Slovakia, Slovenia, South Korea, Sweden, United King-dom, United States, Vietnam.
Moderate (Index value 34-66)	36	Argentina, Bangladesh, Bolivia, Bulgaria, China, Costa Rica, Croatia, Dominican Republic, El Salvador, Guatemal, Honduras, Italy, Kazakhstan, Kenya, Kyrgyz Republic, Macedonia, Mall, Mongolia, Namibia, Nepal, Pakistan, Peru, Philippines, Portugal, Romania, Rwanda, Serbia, South Africa, Spain, Sri Lanka, Tanzania, Thailand, Trinidad and Tobago, Uganda, Ukraine, Venezuela.
Weak (Index value 0-33)	17	Algeria, Azerbaijan, Burkina Faso, Cambodia, Cameroon, Chad, Ecuador, Egypt, Jordan, Malawi, Morocco, Mozambique, Nicaragua, Nigeria, Senegal, Turkey, Zambia.

Source: International Budget Partnership

The SAls index is used as an independent variable to explain the degree and type impact that it has on *reducing the perception of corruption*, therefore is required the use of independent variables in the respective analysis. Same that has been selected, given the statistical robustness in their integration and progressing.

In Table 2, the variables to be explained based on the SAls index are detailed, as the type of expected impact accordingly to our hypothesis. They are grouped by measuring type that is attended to be addressed. The table describe the six variables that measure the corruption perception level; these are variables from the WEF, TI and WB. The relevant variable is the Corruption Perceptions Index (CIP) of Transparency International:

TABLE 2. INDEPENDENT VARIABLES (CORRUPTION PERCEPTION)

No.	Variable	Description	Measuring	Expected Impact	Source
1	D of Pfounds	Diversion of Public Funds	Corruption Perception	Positive	WEF
2	Pt in P	Public Trust in Politicians	Corruption Perception	Positive	WEF
3	F in DGO	Favoritism in Decisions of Government Officials	Corruption Perception	Positive	WEF
4	T of GP	Transparency of Government Policymaking	Corruption Perception	Positive	WEF
5	CPI	Corruption Perceptions Index	Corruption Perception	Positive	IBP - Transparency International (TI)
6	WBGL CORR	Control for Corruption	Corruption Perception	Positive	WB

Source: WEF.- <http://www.weforum.org/reports/global-competitiveness-report-2014-2015>; IBP-WB.- <http://survey.internationalbudget.org/#download>

C. CORRUPTION PERCEPTION (CIP)

The relevant variable analysis is given by the Corruption Perceptions Index (CIP) Transparency International (TI). The index is presented in a scale of 0 (highly corrupt) to 10 (very transparent). The CIP classifies countries according to the level of corruption perceived in public sector. It is a composite index, a combination of surveys. The data about corruption is obtained from various surveys applies to experts and companies conducted by several independent prestigious companies. The index reflects opinions around the world, including those experts who live and work in the evaluated countries.

The CIP focuses in public sector corruption, ie, the one that involves public officials, public employees and politicians. The surveys used to elaborate index include questions about abuse of public power and specifically related to public officials bribery, bribes in public procure-

19. For further reference on the methodology of integration Perceptions Index by Transparency International, we recommend visiting the following website:
http://www.transparency.org/cpi2014/in_detail#top.

ment, misappropriation of public funds and other questions that probe the strength and effectiveness of anti-corruption initiatives in the public sector. Thus, it addresses the administrative and political aspects of corruption.¹⁹

Therefore, we take the CIP as an index that evaluates the perception of political and administrative corruption for the sample of countries used corresponding to 78, of which in 2012 only 14 countries have achieved a rating greater than 5, the rest can be considered that perception is still negative (see Table 3):

TABLE 3. CORRUPTION PERCEPTION FROM 78 COUNTRIES (2012)

Kind of Perception of Corruption	Countries
Positive (CPI between 5 to 10)	Botswana, France, Germany, New Zealand, Norway, Poland, Rwanda, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States of America
Positive (CPI between 0-4.9)	Albania, Algeria, Argentina, Azerbaijan, Bangladesh, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Cambodia, Cameroon, Chad, China, Colombia, Costa Rica, Croatia, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Georgia, Ghana, Guatemala, Honduras, India, Indonesia, Italy, Jordan, Kazakhstan, Kenya, Kyrgyz Republic, Macedonia, Malawi, Malaysia, Mali, Mexico, Mongolia, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Senegal, Serbia, Slovakia, South Africa, Sri Lanka, Tanzania, Thailand, Trinidad and Tobago, Turkey, Uganda, Ukraine, Venezuela, Vietnam, Zambia

Source: Based on data of Transparency International.

Other variables that approximate measure the level of perceived corruption, are also used in this work. Sources of information and methodology for integrating indexes are desegregated into specific topics, for those with sources WEF have indexes that measure the diversion of public resources, public trust in politicians, favoritism in government officials decisions, and transparency in government policies²⁰ and for variable information originates with WB measures the control of corruption.

4. RESULTS OF DEGREE STATISTICAL ANALYSIS AND INCIDENCE OF SAIS

In this section statistics specifications are presented based on the methodology for data panel models, those derived the strengths of SAIs audit impact positively on the reducing corruption. It is noteworthy that the sample selected countries, is based on those who could be identified with information on each variable to explain and explanatory. The tests required for panel data models to find the best fit specification and can explain the relationship between the variables in analysis will be conducted.

Some tests were made to see if equality are presented in mean and variance in each of the variables for the countries studied, and the transformations that some variables are logarithmic type (see Annex 3) were performed; the different test results showed that the equal status in mean and variance are rejected in all cases, this allows us to explain in the first instance, the dependent variables respond to different effects in each of the countries. This statistic condition allows us to propose specifications based on the method of data panel models.

The set of estimated models vary in their specification in original level, semi- logarithmic and logarithmic. In annexes 2, the descriptive statistics of the variables used in the empirical analysis are presented.

20. For indexes with information provided by the WEF, it is the answer to a question where opinions of business leaders worldwide on different themes, among which, level of corruption, degree of competitiveness, being collected other economic aspects.

4.1. SAIS IMPACT-CORRUPTION PERCEPTION

In Table 4, the results of the estimates for variables that measure and represent the level of perceived corruption for countries of the sample analysis can be observed.

The results prove that in general, the SAIs index impact positively in a group of variables that are close to measure the level of perceived corruption. Particularly, the relevant variable in this group is defined by Transparency International; this index is represented by a scale of 0 (highly corrupt) to 10 (very transparent), which allow us to accept in a statistical and theoretical way the approach through the strengths of the SAIs impacts in a positive in reducing perception of corruption. In which, by giving greater power to the Supreme Audit Institutions, that reflects capacity and autonomy to impose and enforce sanctions, reduce the perception of corruption in public sector:

TABLE 4. DATA PANEL MODELS (CORRUPTION PERCEPTION)

No	Variable	Model	Constant	Coefficient SAI	R ²	DW	Cross-section
1	CPI	Fixed Effects Methods	1.1492 (0.0000)	0.0262 (0.0000)	0.9561	1.99	78
2	T of GP	Fixed Effects Methods	1.1127 (0.0000)	0.0716 (0.0108)	0.7629	2.03	78
3	Pt in P	Fixed Effects Methods	1.5641 (0.0000)	0.0886 (0.0116)	0.8557	2.05	78
4	WBGI_CORR	Fixed Effects Methods	1.2304 (0.0000)	0.0011 (0.2615)	0.9853	1.95	78
5	D of Pfound	Fixed Effects Methods	1.2401 (0.0000)	-0.0223 (0.4398)	0.9021	2.19	78
6	F in DGO	Fixed Effects Methods	1.8579 (0.0000)	0.00237 (0.5059)	0.7594	1.97	78

Source: own estimates with data from WEF, IBP, WB –TI

Note: the estimation method for robust to heteroskedasticity and autocorrelation panel was used.

As can be seen in Table 4, the first line refers to the CIP demonstrate appropriate statistical specification, where the coefficient for the SAs is positive and significant to level trust of at least 99%,²¹ even though coefficient value is small and hard to interpret, we can find a positive and direct relation between both variables. This means, to a greater strength in the supreme audit, the corruption inside the public sector tends to be reduced.

The fixed effects model meets the statistical assumptions for validity, therefore, the explanatory variable (SAs) is a good approximation to explain the variability of CIP. Appropriate given the result of the statistical R2 fit is obtained.

In the data panel models, we observed if regression coefficients are different to each study unit, (in this case we are talking about the 78 countries analyzed) or vary in time, it is assumed that the coefficients (constant model) vary depending in study units or moment in time.

The "constant" variables that Table 4 collects represent the average of the coefficients of the dichotomous variables (d_i) in each country, which in the model represents fixed effects; therefore, the independent parameter is modeled, reflects heterogeneity among them and non-specific observable factors for each country, which make their behavior to be different from other countries.²² Estimation of fixed or individual effects (country effects), explain us that are different for each country, ie, the explanatory variable rate determined by SAs index impacts in different ways for each country.²³

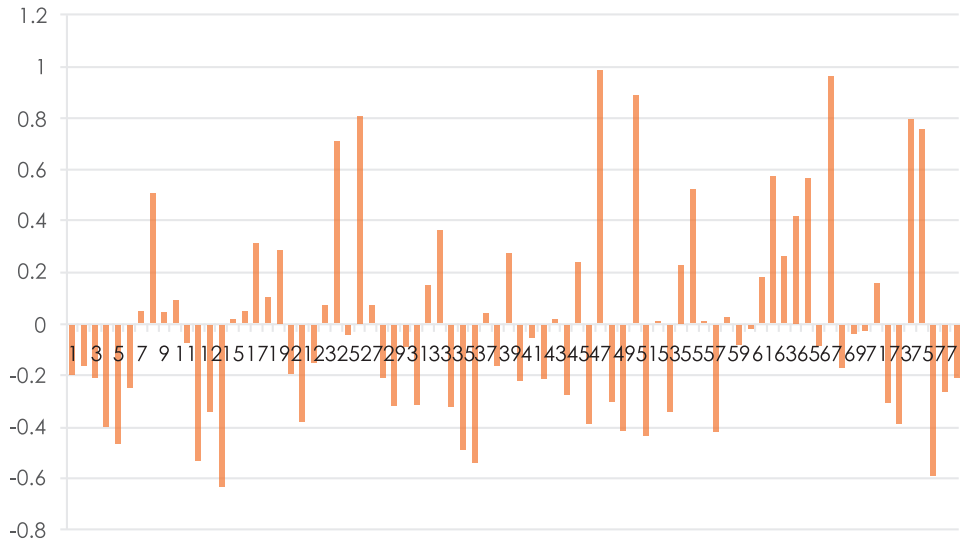
As can be observed in figure 1, reveal that the explanatory variable impacts more in countries like New Zealand, Norway, Sweden, Germany, United Kingdom and United States. Countries with less impact in the SIAs corruption index variable is Chad, Venezuela, Kyrgyz Republic, Kenya, Cambodia, Pakistan, Russia and Senegal; in a better situation based on the latter countries we find Mexico (41):

21. In this paper, we have considered that the coefficients resulting from the explanatory variable and constant of each of the proposed models are significant at a confidence level of 99, 95 and 90 percent following a statistical t-Student.

22. To find the fixed effects, the value of each coefficient of the dichotomous variables (d_i) by country the value of the constant term is subtracted. In this research, as mentioned the E-views software is used for this type of estimates.

23. To reach this conclusion, the statistical test was performed to test whether the fixed effects of each country may or may not be considered equal, for this we use the "maximum likelihood test for the redundancy of the fixed effects". Based on a probability of Chisquare (χ^2) less than p-value < 0.05. Therefore, we can say that the model of fixed effects panel provides consistent result (see Annex 3).

FIGURE 1. FIXED CROSSING EFFECTS (CIP - SAIS)



This result would lead us to make a thorough analysis of the legal and consensual requirements established in each country to know the different types of effects and impact of public programs intended at mitigating problems of corruption. Same that is outside the scope the study and that is proposed as one of the challenges to consider in future approaches.

In the second row of Table 4, the results for the variable T of GP, the coefficient of SIAs index demonstrate a direct positive relationship to levels of transparency and access to government information. The indicator represent the level of transparency in government policies. We can infer that the greater strength in the audit is a positive effect in the field of government transparency.

This is confirmed by the results of the statistical specification to determine the type of influence of SIAs on the variable Pt in P representing the level of ethics and public trust in politicians, the estimated positive coefficient and a level of statistical significance at 95 percent. In these cases, grant greater autonomy and strength Supreme Audit Institutions, improving the perception of government transparency, ethics and trust in politicians.

The fixed effects determine the effects and impacts of SIAs index variables representing the level of transparency in government policies (T of GP) and, ethics and public trust in politicians (Pt in P) are differentiated analysis unit, according to the statistical evidence presented in Annex 3.

According to the results for the coefficient of SIAs index as an explanatory variable of the variable representing the level of Control of Corruption (WBGI_CORR) determined by the World Bank (WB) and the level of Favoritism in decisions of government officials (F in DGO) are positive. Nevertheless, does not meet the acceptable level of statistical significance; the signs of the coefficients of SIAs index are expected, however it is not possible inference about it, not having a consistent specification.

The incidence of SIAs index in the variable representing the diversion of public resources (D of P funds), does not show statistical significance and consistency, resulting coupled with the opposite sign than expected. Therefore, for purposes of this paper there is no possibility of making inferences about the type of incident that has the SIAs index in this line for 78 selected countries.

CONCLUSION

We can infer that the strength of the Supreme Audit Institutions impact in reducing corruption perception in public sector, in which can be inferred, the SIAs index improvement the corruption has lessened. This can be explained by having Supreme Audit Institutions with greater sanctioning powers and legal force to compel compliance with them, as well as, the implementation of legal imperatives as results and recommendations of the audit action.

However, it is not possible to determine the degree of impact, given the magnitude of the estimated statistical coefficients, although having the interpretation of the sign of the coefficients, demonstrate the type of incident that may represent jointly, for the sample of countries analyzed.

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ANNEX 1. COUNTRIES ID

ID	Countries	ID	Countries
1	Albania	40	Mali
2	Algeria	41	Mexico
3	Argentina	42	Mongolia
4	Azerbaijan	43	Moroco
5	Bangladesh	44	Mozambique
6	Bolivia	45	Namibia
7	Bosnia and Herzegovina	46	Nepal
8	Botswana	47	New Zealand
9	Brazil	48	Nicaragua
10	Bulgaria	49	Nigeria
11	Burkina Faso	50	Norway
12	Cambodia	51	Pakistan
13	Cameroon	52	Peru
14	Chad	53	Philippines
15	China	54	Poland
16	Colombia	55	Portugal
17	Costa Rica	56	Romania
18	Croatia	57	Russia
19	Czech Republic	58	Rwanda
20	Dominican Republic	59	Senegal
21	Ecuador	60	Serbia
22	Egypt	61	Slovakia
23	El Salvador	62	Slovenia
24	France	63	South Africa
25	Georgia	64	South Korea
26	Germany	65	Spain
27	Ghana	66	Sri Lanka
28	Guatemala	67	Sweden
29	Honduras	68	Tanzania
30	India	69	Thailand
31	Indonesia	70	Trinidad and Tobago
32	Italy	71	Turkey
33	Jordan	72	Uganda
34	Kazakhstan	73	Ukraine
35	Kenya	74	United Kingdom
36	Kyrgyz Republic	75	United States
37	Macedonia	76	Venezuela
38	Malawi	77	Vietnam
39	Malaysia	78	Zambia

ANNEX 2. DESCRIPTIVE STATISTICS INDEPENDENT VARIABLE (SUPREME AUDIT INSTITUTIONS STRENGTH)

	SAIS
Mean	51.49272
Median	53.30000
Maximum	100.0000
Minimun	0.000000
Std. Dev.	22.68234

DEPENDENT VARIABLES (CORRUPTION PERCEPTION)

	D_OF_PFO UNDS	PT_IN_P	F_IN_DGO	T_OF_GP	CPI	WBI_ CORR
Mean	3.287199	2.572537	2.978490	4.010793	3.789474	-0.173411
Median	3.075945	2.296709	2.832435	4.055529	3.300000	-0.386906
Maximum	6.596183	5.818509	5.967782	6.040287	9.600000	2.431642
Minimum	0.000000	0.000000	0.000000	0.000000	1.600000	-1.345829
Std Dev	1.100935	0.988513	0.833982	0.798057	1.792225	0.838057

Source: own estimates with data from WEF, IBP, WB-TI.

ANNEX 3. MAXIMUM LIKELIHOOD TEST FOR REDUNDANCY OF FIXED EFFECTS

Independent variable: index SAIs

Chi-square (χ^2) lower than the p-value < 0.05

No	Dependent variable	Model	Static	P-Value	Interpretation
1	CPI	Fixed Effects Methods	790.78	0.0000	It is observed p-values less than 0.05 which eads us to affirm that fixed / individual effects are different
2	T of GP	Fixed Effects Methods	384.63	0.000	
3	Pt in P	Fixed Effects Methods	524.14	0.000	

Source: own estimates with data from WEF, IBP, WB-TI.

MANAGEMENT OF URBAN MOBILITY AND TRANSPORT IN THE METROPOLITAN AREA OF GUADALAJARA

Mario Córdova España*

ABSTRACT

The management of the Metropolitan Area of Guadalajara, Jalisco, Mexico, during the last decades has had a negative impact on the territory, urban mobility, transport and the environment as a result of urban sprawl governed by speculation and high automobile dependency, and the lack of consistent and effective public policies with capacity to transform the metropolis to the quality of life. The paper exposes the general consequences of an unsustainable metropolitan and alternatives for change also are discussed.

KEYWORDS: Metropolitan Management, Metropolitan Sprawl, Urban Mobility, Transport, Environment, and Sustainability.

INTRODUCTION

The urban growth of Latin American cities based on a dispersed territorial expansion represents enormous challenges for the public and private urban mobility and the transportation of people, goods and services, in order to produce severe social, economic and environmental externalities in an urban management context ruled by real estate speculation and the high dependence of the automobile as a mean of transportation and energy space dominant.¹

* He is PhD in City, Territory and Sustainability at the Universidad de Guadalajara. He has extensive academic and professional experience in the areas of architecture, urban planning, mobility, metropolization and sustainability. He teaches at the Masters and Doctorate in Urban Mobility, Transport and Territory at the Universidad de Guadalajara and member of the Research Network Institute in Public Policy and Government (iiPPG, for its acronym in Spanish) of the same University. In the professional field he has had a history of more than 30 years and is now General Director of the Instituto para Movilidad y Transporte del Estado de Jalisco. Contact e-mail: mcordova920@me.com 1. This city model is typical of capitalist cities: "zoned by their functions such as office areas in downtown, shopping malls and entertainment in the suburbs connected by highways" (Rogers, 1997:33). The opposite model is the "dense cities" or "compact cities" which pretend that their communities connect with their neighborhood, using fewer resources and producing less pollution.

Most Latin-American metropolis grows under this model, away from any sustainable territorial consideration and the exponential increase of their car ownership rates. Paradoxically the cities that were created for the social, economic, cultural and environmental exchange (Engwicht, 1993), now a day suffer from remoteness, fragmentation and segregation, with major problems that nobody assumes and all suffer.

1. THE IMPERFECT TRINOMIAL

1.1. TERRITORY

The main metropolises in Mexico are growing scattered and disorderly manner with serious impacts on coexisting, prosperity and health on their habitants. The urban surface of the 59 metropolitan areas and cities in Mexico bigger than 50 thousand habitants occupy an area of 1.14 million hectares, up 600% than 30 years ago; most part of this territory is occupied by 11 metropolitan areas over a million habitants and an average population density of 62 habitants per hectare. Meanwhile the urban space grew 5 times; population grew only 1.8 times (ONU-HABITAT, 2015).

This way of growth, with long distances and serious accessibility limitations, has made from the private automobile the main actor of urban mobility. In accordance with *Reporte Nacional de Movilidad Urbana en Mexico 2014-2015* published by ONU-HABITAT said that the Metropolitan Area of Guadalajara (MAG, for its acronym in Spanish), the Metropolitan Area of Mexico's Valley, and the Metropolitan Area of Monterrey, concentrate the 40% of the private automobile of the country (ONU-HABITAT, 2015). The current car ownership of Mexico presents an annual growth of 6.32%, higher than the demographic rate which represents 2.41%. It is expected that, continuing with this trend, by the year 2030 the country has car ownership fleet of 70 million vehicles, mainly composed by private vehicles (ITDP, 2012).

The high rate of car ownership it is closely related to the scattered city model; shown in Table 1, the density of population in the MAG case is relatively low related to its urban area. The scattering process has been attributed largely to the irresponsibility of some public and private actors who have given the public good to the real estate speculation and massive housing construction of suspicious quality, with unsatisfactory public services, insufficient urban equipment, and a limited urban accessibility and public transportation range service:

TABLE 1. POPULATION DENSITY AND CAR OWNERSHIP²

	Population	Urban Surface (hectares)	Population Density (hab/ha)	Total Vehicle Fleet	Private Automobile	Motorization Rate cars/1000 hab
MAG	4,865,122	65,943	74	2,034,942	1,341,901	275.82
Mexican Republic	119,530,753	1,960,615	61	38,023,535	25,543,130	213.70

Source: own calculations based on INEGI, 2014 and 2015.

The MAG, second largest metropolis in Mexico by its role as regional node and articulator of economic relations with the center and north part of the country, has a population of 4,865,122 habitants and it is integrated by 9 municipalities³ in an urban extension of 65,943 hectares and a 74 density of habitants by hectares (INEGI, 2015).

In almost three decades the metropolis has grown more than its population with rates of car ownership that is found above national average and Latin America.⁴ The MAG it has already over two million vehicles registered, which half of those are private vehicles (see Table 1).

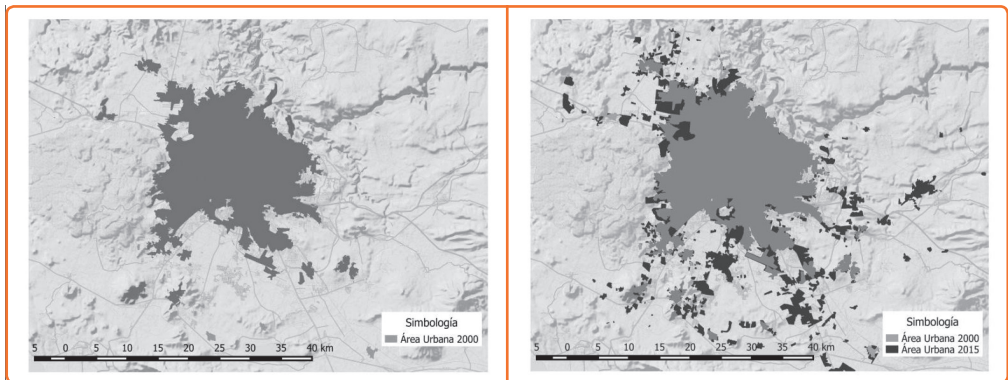
2. The population date correspond to the year 2015, in the case of the registration of vehicles of the last available update is from 2014.

3. Until the first half of year 2014, the 8 municipalities integrated in the metropolis were Guadalajara, Zapopan, Tonalá, Tlaquepaque, El Salto, Juanacatlán, Tlajomulco de Zúñiga and Ixtlahuacán de los Membrillos. On July 8, 2015, by decree 25400 the Congress of the State it was incorporated the ninth municipality called Zapotlanejo, an arguable decision because its incorporation to Metropolis Area level and Metropolitan region not conducive extensive urban growth.

4. In 15 Latin American comparisons, the MAG finds itself among the cities with major car ownership rates along Mexico City, Buenos Aires and Curitiba (CAF & Latin America Development Bank, 2011).

According to the report Metropolitan Area of Guadalajara. *Expansión urbana. Análisis y prospectiva: 1970-2045* published by the Metropolitan Planning Institute of Guadalajara Metropolitan Area (IMEPLAN, for its acronym in Spanish) the building surface of the city grew double its size in the past 25 years (1990-2015) and grew with a 2.9% annual average rate, meanwhile the population annual average rate was 1.9%. (IMEPLAN, 2015: 59).⁵ This way the city grew much faster than its population (see Figure 1).

FIGURE 1. URBAN AREA SPRAWL 2000 Y 2015.



Surface 2000: 47,603 ha

Surface 2015: 65,943 ha

Source: self-elaboration based on the Geostatic Municipality Frame INEGI, 2000 y 2015.

The municipalities of Guadalajara, Tlaquepaque and Tonalá register the most density population above average of the MAG which 74 habitants per hectare, however, except Guadalajara's municipality, differences are around 18% rate. The rest of the municipalities are below this rate, registering the least density the municipalities of Ixtlahuacán de los Membrillos and El Salto (see Table 2):

5. The analysis of IMEPLAN just includes the municipalities of Guadalajara, Zapopan, Tonalá, Tlaquepaque, Tlajomulco de Zúñiga, Ixtlahuacán de los Membrillos, El Salto y Junacatlán.

TABLE 2. POPULATION DENSITY AND URBAN AREA PERCENTAGE BY MUNICIPALITY

Municipality's Name	Population	Urban Surface	Population Density (hab/ha)	Urban Surface Percentage Occupied by Municipality
Guadalajara	1,460,148	14,277	102	21.7%
Ixtlahuacán de los Membrillos	53,045	1,270	42	1.9%
Juanacatlán	17,955	296	61	0.4%
El Salto	183,437	3,741	49	5.7%
Tlajomulco de Zúñiga	549,442	9,280	59	14.1%
Tlaquepaque	664,193	8,573	77	13.0%
Tonalá	536,111	6,534	82	9.9%
Zapopan	1,332,272	20,803	64	31.5%
Zapotlanejo	68,519	1,170	59	1.8%
MAG	4,865,122	65,943	74	100%

Source: self-elaboration based on INEGI, 2015.

While in peripheral municipalities continues promoting urban sprawl growth with a housing supply oriented mainly to poor population and large service problems, mobility, accessibility, and both internal and external connectivity, the central municipalities are oriented to vertical growth aimed to middle and high economic status population, with exclusivity and gentrification intentions, but at the same time without enough infrastructure and equipment, producing a high specific demand and shortages of basic services, obviously including concerning towards road infrastructure and public transportation.

The trend of urban growth is given predominantly to the south, north and northwest supporting irrationally by general and unsustainable urban planning that in practice keeps giving discretionary action to the authorities in turn.

One of the most relevant breakthroughs in planning and management in inter municipal level is the creation of the IMEPLAN. After a process of reforms and additions to the law in order of having a better metropolitan coordination, the IMEPLAN began its functions in 2014, among the first consultation documents published online by this agency *Plan de Ordenamiento Territorial Metropolitano (POTMet)* and the *Programa de Desarrollo Urbano (PDU)* are found. In these documents, the current conditions of the city are presented and proposed, in general, some conditions to consolidate a strategy of land management. Despite what

the POTMet in terms of metropolitan organization and within a historical legal framework to the MAG related to territorial planning this contains serious inconsistencies.

The plan considers excessive urban reserves. Such consideration, alone, promotes the spread and expansion of the city complicating the consolidation of the central core. Currently, urban surface is just over of 65 thousand hectares and the population density of 74 habitants per hectare, however, the document mentions that still exists 44,416 hectares as reserve, of which 23,870 argue that are feasible urbanization (in addition to the current urbanization); 17,377 are conditioned, meaning that they can be urbanized if the territorial and environmental suitability report is fulfilled; 3,170 are restricted, meaning that they have a very low territorial competence for urban development but can be developed whenever feasible and restricted reserves are exhausted develop (IMEPLAN, 2016).

The total urban area considered in 2015 by POTMet is 72,463 hectares, if these are added 44,416 hectares of urban reserves the total is 116,879 hectares. If the projection on the rise of the 2045 year of World Urban Prospects (WUP) of 6,621,876 habitants (quoted by the document itself) is used, and if the totals of urban reserves are used, the density will decrease to 57 habitants per hectare, a significant drop compare to the current density.

The excessive promotion of urban reserves would only exacerbate the dispersion problem. The city would become in an even less manageable and with greater space mobility problems. This is a severe contradiction towards compact city policies from public institutions begin to promote and would allow housing supply away from the city center continues to spread using urban reserves.

Is not a minor manner that, despite the problems mentioned above that has led dispersion, promotes contradictory policies. Keep thinking that metropolises endless extensions zoned abstractly and ambiguously, just contribute to a bigger disorder and to discretion, than to the order of a livable quality of our cities. Progress in legislation and policy matters begins to veer towards a sustainable city, so the space gained in the matter cannot and should miss. Land use planning is the first step to substantively improve urban mobility.

If the purpose of POTMet (2016) is to convert the metropolis of Guadalajara in a more cohesive and functionally polycentric city, but not noticed how it will happen this transformation without the conceptual and instrumental coherence to achieve, and especially without the provision of municipal presidents in turn to transfer part of the expected growth of the municipality in favor of balanced metropolitan development.

Clearly, institutional planning of the territory was abandoned

in the late eighties and the city was placed in the hands of property developers as well exposes Garcia (2004) in his book *La Ciudad Hojaldre*. In thirty years it has come to a true urban crisis where levels of state and local government seem to have given up their constitutional rights of the territory, losing the social and environmental sense of urban future, applying the same methods that produced the city divided and fragmented, as new initiatives coordination, governance and metropolitan governance should precepts and from different methodological instruments that have led to inequality and urban disorder. Keeping the same methods and precepts of the laws and regulations of the last century urban perpetuate the same practices and the negative consequences of the current crisis.

1.2. MOBILITY AND TRANSPORT

The daily urban stage expresses itself in a greater intensity on a daily commute and high motorization, with a transportation flow generator of large fragmentations and large road crashes, accidents and environmental pollution. Both the scope of the Metropolitan Region and the Metropolitan Area, getting in and out the city it is every time harder and harder, especially with the messy mixture

and very little unregulated of goods and services transportation; the articulation and external and internal flow are producing an incremental slowdown in which overcrowding is the main actor.

Even when the vehicular growth is multifactorial, the preeminence of private automobile is connected to the insufficient coverage and the offer of good quality public transportation, capable of attract the trips produced by private transportation.

In the case of MAG the public transportation has grown a little since 20 years ago by political controversies rather than serious technical debates. Beyond the political situations, a large section of the so-called political class does not yet comprehend the basics of Thomson's classic transportation economy from last century still in force: complementarity, transferability, competitiveness (Thompson, 1976). In other words, non-mean of transportation is capable by itself to meet of all the public transportation need, they all complementary, and their development depends on current economic and politics circumstances; what cannot be lost sight is that only this complementarity can be achieved in an integrated conception of the whole urban transport conception either public or private. This implies inter-modality and the physical, operational and competitiveness facilities to accomplish transferability and maintain good quality standard service.

Despite the significant growth that will be achieved in the massive transport network with the new line of the urban electric train, the 85% of the millions of daily trips will continue in collective public transport, that is to say, by busses, if things continue the same way the general perception of users will continue being negative.

The collective public transport system, as in many parts of the country and Latin America, will continue operating primarily under the *man-bus* model with a daily struggle among them for the passenger with no integration, so far from being in a real alternative has contributed to the modal shift from private car users.

Currently, it is estimated that in the MAG about 12.7 million person-trips are daily produced throughout many means of transportation (see Table 3). However, notwithstanding the total public transport trips are higher than private transport, if we do not consider the transshipment factor of 1.4, the origin-destination final travel between public and private transport approach, which means that the public transport travel have been declining and the already private transport travels have increased alarmingly:

TABLE 3. MODAL DISTRIBUTION OF TRIPS PERSON DAY

Mean of Transportation	Total Trips Per Day	%
Public Transport	4,114,042	32.4
Private Transport	2,760,227	21.7
Pedestrian	4,860,346	38.2
Cyclist	266,636	2.1
Others	695,729	5.6
Total	12,696,980	100

Source: IMTJ, 2015.⁶

6. Updated data from the IMTJ based on studies and Origin and Destination Demand Study Multi-modal Displacements of MAG survey elaborated in 2007 (Gobierno del Estado de Jalisco, 2007). The person day trips on public transport in year 2002 were approximately 20% higher.

The slow pace of the organizational model change and public transport operating in many cities of the country, including MAG, is due to both the carrier sector that persists in obsolete individual practices, as well as the progressive loss of the rectory and operational State control in the operation, coupled of the absence of public and private mechanisms to promote the transformation to a more efficient and effective business operating model. Changing a sector that has been operating in the same way for over 70 years is not an easy task, even less if a change of direction in public policies is not given, expecting to change by itself or simply by authority, is an illusion.

The carrier can only obtain resources by the incomes coming from the fare, and if it is contained by justified reasons or not, it only remains the application of public budgeted to encourage and promote the change until the conditions are given in order to obtain a quality service. When all of this happens, the State Government must stablish with clarity the technical rate (usually higher than the social rate), and clearly assume the subsidies that persecute the users —not carriers— who do not have the economic possibilities to cover the real cost of public transport, through green funds⁷ budgetary take at federal and state level to strengthen an environmental public policy and mobility capable to guide our cities to sustainability.⁸

The best examples of Integrated Public Transport Systems in the world are not those who are self-sufficient financially and managerial public and private vision would have us believe, as public transport as well as being constitutional right and obligation of the State, is a necessity essential for social welfare, economic prosperity and environmental improvement.

In the public transportation systems that dazzles for its efficiency and quality, but also for its cost, a significant budget of federal, state and municipal origin intended for mass and collective public movement with companies providing both public service and private, and a government fortress strong politically, technically and administratively, with laws, rules and clear rules of operation where the service center is the user.

7. The Green funds "[...] are resources destined to contribute to the conservation and sustainable management of natural resources and environment from justice and solidarity, anticipating in the execution and administration of strategic environmental development projects in the local, national and international scope". Obtained from <http://www.fondoverde.org>.

8. The government chief of Mexico City recently mentioned that he will look for finance scheme called "green funds" with the secretary of treasury to modernize public transport (El Financiero, Abril 05 de 2016).

In the best urban practices, mobility appears to be as the core of public publicity, which implies achieving a walkable, accessible, and safe city, which intensifies its social, economic, and environmental interactions throughout circulation and preferential accessibility of non-motorized media and public transport. This implies making a more livable city with all that this means: moving easily; using transport systems based on bicycle; having shared road space for transit of cyclist and public transport; developing an integrated public transport with physical, operational and integration tariff system; deter and reassure the motorized traffic on streets and high attraction areas and trips generation; and above all have roads and vital areas with smart urban actions of urban diversification to avoid specialization of uses, densification avoiding gentrification, design to improve the urban and architectural quality of the city, next to housing public spaces, the schools, universities, businesses and workplaces.

No single action mentioned above is effective by itself, and even less if an ambiguous posture towards motorized transport or the urban interventions oriented to private transport. The so-called Transit Oriented Development (TOD) can only be real and effective if it is congruent and consequent with all that implies.

Territorial intelligence related to sustainable transport lies in reconciling balanced between public and private interests, prevail the former over the later, mainly related with uses and ground destinations, otherwise it would be an alibi to keep on doing "good real estate business", to keep building apartment towers paradoxically based on individual motorization despite its closeness to massive transport.

All of this implies, without a question, to check and modify the policies and parking regulations for private transport, as parking lot for the automobile is like the station or terminal for public transport. And while we must promote intermodality, is under debate the concept of "park and ride", very arguable in massive transportation stations, which it would be better to promote spaces to build housings without parking

drawers in order to generate shorter trips in public transport linking distant car trips.⁹ The strategies *push and pull* to attract private users to public transport and non-motorized are necessary, restricting the preferences in circulation and motorized accessibility in central areas, but this makes no sense if at the same time the use of private transport keeps being pushed through more private parking spaces are however distant, because the bottom line is to offer integrated transportation alternatives for its comfort, safety, speed and cost are able to compete with the car.

The use of private capital gains should pay off the surplus in social and environmental with social interventions that reduce side-car use, as the great virtue of a line or mass transit line pretronal-as a metropolitan corridor transport- it is to develop what some have been called "urban footprint", which is nothing to consider more social and private surplus value of territory more in the sense of nodal network than zonal, developing a concentric environment uses and destinations around stations transport criteria of proximity, and a linear strategy between stations based on various gradients of densification and urban diversification. All this can only occur with the conjunction of political, social and business leadership, able to reconcile public interest with private because the invisible hand of the market is neither as invisible nor fair.

Although pedestrian travel and daily cyclists in the MAG represent almost 40% of the total metropolitan, they do not have the infrastructure and acceptable conditions of safety and design. Every action undertaken in non- motorized mobility faces great resistance, especially of those car users who do not respect the pedestrian or cyclist, arguing recklessness of passersby or the minority of cyclists, which they say do not justify the infrastructure construction, or the measures that have been taken partly pedestrian priority or tranquilization and moderation of motorized traffic. Even some businessmen come to mistakenly believe that the success of its shops, restaurants or recreation centers, depends on the priority and

9. In the triennial works of metropolitan bottom of MAG, they have just announced two Park & Ride linked to two stations on the new line 3 Urban Electric Train, which should be analyzed from this point of view (Gobierno del Estado de Jalisco, 2016).

accessibility of the car, when there is evidence to prove otherwise.¹⁰

40% of trips that people do not power driven, 37% occur walking despite the distances between housing and neighborhood facilities and public transport stops have increased, particularly in the peripheral municipalities and in the middle of the MAG.

According to the survey of the origin and destination of 2007 two quarters of the trips lasted between 10 and 20 minutes, a trend that certainly has been sustained, as the dosage of urban infrastructure has been inadequate and the location has been spatially unbalanced. Network sidewalks are impaired in the central metropolitan areas, and are very scarce and frequently interrupted in urban settlements scattered in the peripheral municipalities. Several municipalities in various government administrations have tried to lessen the problem or make superficial urban renewal with partial success, since the invasion of the car and irregularity in the use of curb persist.¹¹

At the end of 2014 were implemented in the MAG the first so-called 30 zones, which are areas of preference for non- motorized mobility (walking and cycling) and public transport. Currently they are operating in three centers of the metropolis: in the historic center of Guadalajara (an area of 9 planned), in the historic center of Zapopan, in the historic center of Tlaquepaque.

The cycling network is insufficient, barely 48.30 kilometers of segments disconnected to each other, with diverse typology and in some cases very bad designed; in a greater amount of segments to the northwest and south, and none to the southeast side of the metropolis. The Government of the State has a 200.8 kilometers cycling line program called "Provinci", however, up to today just the first 36 kilometers have been completed. There is a central topic in political terms that has not been at all clear and it is fundamental: it is proven to an international level that the amount of urban cyclists it is directly related to the existing kilometers cycling lines and their security level, this is why very little can be expected from a segmented and insecure cycling network of barely 48.30 kilometers across the city.

10. In 1993, the Chamber of Commerce of Metropolitan Center of Guadalajara in connection with the construction of line 2 completely underground by one of the main avenues of the city electric train, demanded that the Government paves the side rails on the pretext to reduce vehicle speed so they could see their dressers.

11. Recently the Municipal Government of Jalisco and Zapopan just implemented a program called "free sidewalk" with substantive fines to the car drivers who invade pedestrian space or park improperly (Notisistema, May 16, 2016).

A program that has substantially moved forward is the Public Bicycle System so-called “MiBici”, this system is aligned with international standards it currently offers 116 stations with 1,160 bicycles, and this year will grow up to 236 stations with 2,000 bicycles, with a territorial coverage of 2,300 hectares and an installed capacity of 30,000 daily trips. Although the use of the system is incipient, mostly the massive transport works affectations in process, the reestablishment of regular conditions, the expansion of the system this year and the final intermodality with the massive public and collective transport will make its use grow rapidly.

The territory, mobility and transport, in analogy, set an imperfect trinomial. Its results cannot be explained through the sum and interaction of its variables, even less, before the emergence of complex phenomena determined by the uncertain behavior and oscillatory social factors, educational political and environmental. Meanwhile comprehensive mobility policies are designed, the real state promoters abandon to make the city a vast and unwieldy space, carriers remain reluctant to the public transport transformation in an integrated and organized model, and ambiguously the different government levels keep betting to solve something that has no solution: an automobile city.

Disengagement between land management, urban mobility and transport generate trinomial imperfect ideal for uncertainty and expansion. Some of the most significant social, economic and environmental consequences of this imperfect trinomial in the case of MAG are outlined below.

2. SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSEQUENCES

Urban mobility based mainly on the car use generates social, economic and environmental negative externalities. Considering the analysis of Newman and Kenworthy (1999) about cities and sustainability, high automobile dependency cities establish their priorities on building infrastructure and promoting urban disperse and vertical growth,

leading to specialization, fragmentation and urban gentrification. The vehicle flow and its priority becomes on the public acting vectors, privatizing social gains and socializing losses.

Number studies have shown consequences of social dissociation, the loss of economic prosperity and environmental deterioration reflected public health and reduction of environmental benefits produced by a natural heritage and city interaction.¹²

2.1. SOCIAL CONSEQUENCES

Automobile dependent cities carry serious social issues, such as, isolation, fragmentation and lack of community life, conditioning commute of those who do not have a car; people because of their age, disability and economic status are unable to have it (Kenworthy & Lube, 1996).

Urban dispersion and not use of central spaces have brought with it the loss of closeness, because less income residents have to travel long distances or use emergent means of transportation to go on with their daily activities, which has affected social interaction and community life in a very sensitive way, constituting a new way of fragmentation and social exclusion.

Based on the Multimodal Demand Study Offsets Guadalajara Metropolitan Area data (SEDEUR, 2007) and recent monitoring for update the loss of social value hours and productive by the increased of commuting has been very significant. The distance between residential and working areas and education, and the loss of proximity to the neighborhood and district basic equipment increased commuting in a motorized and non-motorized way, especially in disperse growth areas. In just 10 years the average commerce speed of public transport decreased a 40% from 30 to 18 kilometers per hour, the same happened with private transport from 40 to kilometers per hour.¹³ Commuting variable became the trip's rector, given the conditions of high traffic

12. Kenworthy, J, Laube, F. (1996). *Automobile dependence in cities: an international comparison of urban transport and land use patterns with implications for sustainability*. Elsevier; and study Hooward Kunstler, J. (1993). *The Geography of Nowhere: the rise and decline of America's man-made landscape*. New York: Touchstone.

13. Data obtained from research conducted by IMTJ.

congestion, the superimposition of public transport services and the lack of regulation time transport of goods and services.

The combination of traffic and access problems generates risks for both motorized and non-motorized traffic becoming some corridor and node in high accidental rate places. In 2015 were registered 31,527 traffic accidents in the MAG, 93.4% of accidents throughout the state of Jalisco.¹⁴ In an annual comparative analysis 2012-2015, in 2015 there was a reduction of accidents in general with less injured and wounded than in 2012, particularity in alcohol deaths related; this can be attributed to the benefits of the state road safety program "Saving Lives" implemented by the Mobility Secretary of the state of Jalisco,¹⁵ however it is convenient to point out that people who have died in the accidents have increased, which means that road accidents are becoming more serious (see Table 4):

14. Source: Directorate of Traffic Research Directorate General of Traffic Safety, based on files Proceedings of accidents, General Parts of the cabin Communications and the Commissioner General of Roads of the MAG and Delegations Fairground, complaints administrative shock and accident reports public transport Legal Office.

15. The Mobility Secretary of the state of Jalisco received in 2014 the "Golden Belt" awarded by the International Automobile Federation for its policies on road safety, mainly because of the "Salvando vidas" program (Gobierno del Estado de Jalisco, 2014).

TABLE 4. ROAD ACCIDENTS REGISTERED IN GUADALAJARA, ZAPOPAN, TONALÁ, TLAQUEPAQUE, TLAJOMULCO DE ZÚÑIGA AND EL SALTO 2012-2015

Concept	2012	2013	2014	2015	Variation 2012-2015
Accidents in General	47,220	43,553	38,609	31,527	-33.23%
Accidents With Injured	3,695	3,166	3,224	2,778	-24.82%
Wounded	5,688	4,717	4,755	4,243	-25.40%
Killed in the Crash	228	224	223	243	6.58%
Dead	716	684	577	533	-25.56%
Alcohol Dead	175	130	109	163	-6.86%

Source: Directorate of Traffic Research Directorate General of Traffic Safety, based on files Proceedings of accidents, General Parts of the cabin Communications and the Commissioner General of Roads of the MAG and Delegations Fairground, Complaints administrative shock and accident reports public transport Legal Office.

2.2. ECONOMIC CONSEQUENCES

Energy use in highly automobile dependent cities represents also a serious economic problem. In Mexico substantial public resources are designated to subsidize was¹⁶ stimulating private car market, instead of subsidizing public transport in a different way.

According to the Organization for Economic Cooperation and Development (OCDE, for its acronym in Spanish) recommendations, Mexico should eliminate fuel subsidize in order to completely released the prices of fuel in 2018, this as a measure to drive economic development (OCDE, 2015) since in this area it is a potential source of public resources. This subsidized turns to be aggressive for population to favor middle and upper class despite being financed with all population taxes, including lower class (ITDP, 2012).

As in many different Mexican cities, in the case of MAG the public investment for infrastructure designated to automobile, such as streets and avenues extensions, construction or roads and overpasses nodes, it is predominant, with little investment and huge benefit for public transport or infrastructure for non-motorized mobility. This drift to what is known as induced traffic, defined as the traffic vehicles increasing due to the increasing of vial offer, generating a vicious circle of more infrastructure, more demand and more infrastructure.

In the Metropolitan fund the MAG¹⁷ recurred resource allocation for car road infrastructure. Until 2010 the Government of the State and Metropolitan Municipalities decided, by the first time, designate non-motorized mobility resource actions. That year economic resources coming from federal budget, they were distributed as follows: 547 million pesos for road infrastructure and 418 million for non-motorized and to improve public spaces such as parks and bicycle roads (Gobierno del Estado de Jalisco, 2014). In 2015 the designated investment amount for roadworks were 628 million, and for non-motorized mobility works, public transport and spaces was 424 million (Gobierno del Estado de Jalisco, 2015). It is an historical budget assignation for the Metropolitan Fund, last April it was approved that for 2016 over

16. According to the Competitive Mexican Institute (IMCO, for its acronym in Spanish) in 2012 subsidize for the gasoline represented 220 million of pesos (1.4% of PIB) and in 2013, 82 million pesos were designated. According to IMCO calculations the subsidize amount in 2012 it would have been enough to increase three time more the Opportunity program or the Social Security (IMCO, 2014). In 2014 the provided subsidize for gasoline ran out the first two-month period of that year ascending to over 7 thousand million pesos, despite that only 4 thousand million pesos were approved for the whole year (El Economista, March 30 2014).

17. The metropolitan fund is part of the federal assignations to Development of Metropolitan Areas and Border, it is objective is to promote the proper planning of regional, urban and regional planning to boost economic competitiveness development, sustainability and productive capacities of metropolitan areas (SHCP, 2012).

70% of resources were designated for non-motorized mobility works, urban landscape, and trunk public transport corridors and modules deterrent transfers.¹⁸

As it was mentioned above, the daily commutes in MAG are more extensive in spatial and temporarily, however giving the motorization rate, the travel time has been the determinant variable. The increasing commuting represents significant losses in economic and social terms. If one considers that in the metropolis 2 million 900 thousand trips daily source destination by public transport are made (excluding transshipments), and that in the last years this trips have extended at least fifteen minutes more, it is possible to estimate that everyday 5 million 271 thousand 300 pesos are lost in time paid job (considering current minimum wage)¹⁹ and 1,450 annual pesos. Losses are less alarming for private transport, because estimates amounts ascend to 3.5 rather than public transport.

Additionally, annual gasoline expenses in MAG, based in average kilometers traveled (KVR),²⁰ it is about 39 billion pesos for the private transport total fleet and approximately 2 billion²¹ for the total fleet of public transport.²²

The economic consequences to a family level are the most sensitive part of the prevailing transportation model; its income is substantially affected by the gradual increasing in transport costs, both public and private. According to the National Survey of Income and Expenditure Survey (ENIGH, for its acronym in Spanish).

2.3. ENVIRONMENTAL CONSEQUENCES

With regards to the effects to the environment, the high motorization level has directly impacted air quality. According to the National Institute of Ecology and Climate Change (INECC, for its acronym in Spanish), driving a car in perhaps the most polluting daily activity that the average citizen makes (INECC, 2009).

Carbon Footprint (CF) is the internationally recognized indicator to measure the impact of Climate Change²³ of a product, service or organization. There are different that regulate ISO. The CF points out both

18. Information from the live broadcast of the fourth ordinary session of the Council for the Metropolitan Development for approval of the works of Metropolitan Fund held on April 29, 2016.

19. Minimum salary wage established by the National Wage Commission by means of resolution published by resolution published in the Official Gazette of September 30, 2015 is 70.10 pesos.

20. KVR is an indicator that is defined as the number of kilometers traveled in a given period of time (eg , day, year, etc.) for a specific vehicle or fleet of vehicles or population (ITDP, 2012).

21. This is a general figure from a global calculation using the model of the International Energy Agency (2014).

22. A price per liter of petrol 13.97 pesos and 14.20 pesos per liter of diesel (current prices since February, 2015) was considered.

23. The climate change refers to the temperature increasing due to the presence of greenhouse effect such as CO₂ in the atmosphere. In the words of Ruiz Rivera (2007) "CO₂ action is similar to a woolen blanket, retains for a period of time the heat emitted by the Earth between surface and stratosphere". A variation in climate, however small, modifies ecosystem.

the Greenhouse Gas direct and indirect emissions expressed in tones of CO₂ equivalent, its calculation, on transport, is based on CO₂ and N₂O emissions (Greenhouse Gas) produced by combustion engines of vehicles in use, if mediate motor vehicles, and functionality of these vehicles using as an indicator the occupancy rate. Thus, by calculating the Carbon Footprint can be compared the effect on Climate Change of different means of transportation.

To perform the MAG calculation, it is taken into consideration the National Institute of Statistic and Geography (INEGI, for its acronym in Spanish), data related to cars of private use and public busses. The emissions from tucks and cargo vans were not taken into consideration due to, with the available data cannot be discriminated between commercial and private use. See Tables 5 and 6:

TABLE 5. VEHICULAR FLEET MAG²⁴

	Oficial	Public	Private	Total
Automobiles	5,127	12,765	1,311,118	1,329,010
Busses	77	5,530	1,930	7,537
Busses and Cargo Vans	7,641	622	489,986	498,249
Motorcycles	851		160,941	161,792
Source: INEGI, 2015			Total Vehicles	1,996,588

TABLE 6. CHARACTERISTICS OF PASSENGER TRANSPORT IN THE MAG TO CALCULATE THE CARBON FOOTPRINT

	N° of Vehicles	Total Annual Travel (million km/year)	Load Factor
Private Automobile	1,311,118	23,318	1.4
Public Use Busses	5,530	581	29.34

Source: self-elaboration based on INEGI, 2015; INE 2010, SEMARNAT, 2012 and CEJ 2012.

In MAG the carbon footprint that a person generates to move in a private vehicle a specific distance is 6.9 superior to the carbon footprint involved in carrying out the same displacement in public transport.²⁵ This is due to the low capacity and use of private cars in comparison to public busses whose emissions are divided among all users:

24. To calculate the carbon footprint of vehicles in the municipality of Zapotlanejo is not contemplated so that they can make comparable with the survey of origin and destination of 2007, since then this town was not part of MAG, so above these figures differ with the data Table 1.

25. Source: preliminary data from a study by IMTJ in the process.

TABLE 7. NUMBERS OF TRIPS BY MEAN OF TRANSPORTATION IN 2014

Mean of Transportation	N° of Trips	Total Annual Travel (million km/year)
Automobile and Motorcycle	2,698,904	23,318
Bus, Trolley Bus, Light Train, Com-muter Bus and Taxi Services	3,018,876	581

Source: self-evaluation based on SEDEUR, 2007 and projections to 2014.

In this way, although the total number of displacements in the MAG in both public and private are similar (Table 7), this difference in transport capacity make the annual total kilometers traveled by private transport be 40.3 time higher than the total kilometers traveled by public transport, which, in one service meets the displacements average of 29, 34 people, against 1.2 from private transport.

In this way, the total CF private transport is superior to public transport, although not as much as expected, because of the efficiency in fossil fuel use is significantly inferior to the private use transport. Even so, the CF total from private transport in the MAG is 11.3 times higher than the public transport network, which highlights the inequality contribution of both kinds of transport to Climate Change.²⁶

Air emissions from transport are not just responsible of Climate Change but the high level of motorization impact directly to air quality (see Table 8), therefore, in citizen's health.

Car engines emit several kinds of contaminants which have side effects for health, ranging from relatively simple conditions as crying eyes and sporadic cough, to more serious diseases like lung cancer:

²⁶. Preliminary results of a study in from IMTJ in process.

TABLE 8. AIR POLLUTION BY TRANSPORT TYPE IN THE MAG IN 2012

Means of Transportation	Atmospheric Pollution (tons/year)					
	CF	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Cars, Trucks and Motorcycles	17,017.30	296,439.90	33,933.70	159.1	140.8	80.5
Busses	5,052.00	24,412.70	25,657.20	6.9	166.9	152.5
TOTAL						
(Including Other Emissions From Mobile Sources)	26,589.50	348,752.80	82,765.00	172.9	521.5	423.5

Source: self-evaluation based on CEJ, 2012.

Except of asthma cases that has increased up to 60.6% in the municipality of Zapopan, in the MAG afflictions like lung cancer, ischemic heart disease and respiratory infections reduced, meanwhile mortality of these conditions has increased. So, if pollution does not provoke the disease, it does make it worse for those who have it (CEJ, 2010).

Whereas cars, trucks and motorcycles MAG vehicles fleet, their carbon monoxide emissions almost reach 297,000 tons a year, in comparison to almost 24,500 tons a year produced by public transport. However, despite the more intensive use of private vehicles in the MAG busses from public transport network emit more particles less than 10 microns (PM10) given the age of the vehicle fleet, this contaminant is one of the most dangerous to health.

In the 2009-2012 period has been a growing tendency to the emissions (see Table 9) due to the increasing of the city's vehicular fleet and age. Vehicles over 10 years old emit about 60% of generated contaminants by the whole vehicular fleet (CEJ, 2012):

TABLE 9. PERCEPTUAL INCREASED EMISSIONS FROM MOBILE SOURCES IN THE MAG, 2009 TO 2012

	Type of Air Pollutant					
	CF	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Increase in Emissions Between 2009 and 2012	20%	20%	15%	10%	20%	20%

Source: self-evaluation based on CEJ, 2012.

3. TOWARDS A MANAGEMENT MODEL ORIENTED QUALITY OF LIFE

Urban planning has left a lot to be desired as a tool for urban planning and its transformation, given the complexity of current and future urban problems afflicting the MAG and main metropolises in the country. The city's expansion is immersed in a vicious circle of increasing traffic and dispersion with social, economic and environmental negative consequences that cause an increasing deterioration in the quality of life.

If trends continue, the future is bleak scenario. The road infrastructure will become even more insufficient given the growing levels of individual motorization, affecting more impact mobility and metropolitan accessibility.

Restructuring and transformation processes must be consistent and gradual, with the support of public policies consistent with the paradigm of sustainability, and substantial reforms in process and management instruments.

In this way the government of the state and the municipality governments start to be conscious about the complexity of the problem, and the lack of formulas and traditional interventions.

Statewide they have started changes to the legal framework, normative and institutional, and government programs start to be more interested in the people rather than the objects of mobility.

In this circumstance, public investment starts to take another direction betting more on the public transport and non-motorized mobility. Some interventions on public transport are already in process in the expansion of massive transport network, and others are about to start with the change of organizational management and operational of collective public transport based on busses, through its reorganization and modernization, in the context of total implementation of an Integrated System of Public Transport. The order will be implemented with integration, feeding, substitution strategies and improvements in the current network, with actions aimed at physical integration, operational and progressive pricing, through the transformation of a *man-bus* traditional model to the business model high efficiency and quality service. The process has not turned out easy because the inertia and resistance to change from the sector, the process has not turned out easy given to the inertia and resistance to change in the sector, as well as the lack of institutional instruments that facilitate it.

In the case of non-motorized mobility, the strategy is organized based on three areas of intervention: public bike system (MiBici), 30 zones and bicycle lanes network (Provinci). This strategy is similar to those implemented in many cities in the world, yet they are still to be seen real

benefits due to distortions and alterations induced by massive transportation works in progress.

Let us not lose sight of the big opportunity to implement a major project of habitability, pedestrianization, calming traffic and management of public transport in the Historic Center of Guadalajara as a direct benefit of the commissioning of line 3 urban electric train, whose intervention in order to be really successful, must go beyond urban image to a project of full urban intervention that involves a new circulation plan and collective public transport set of laws based on busses and in coordination with massive transport, area in which has and will have the best coverage of it.

The challenges for public administration, state and municipal governments are not minor, and even so when problems and needs has transcended administrative legal limits, without a question inter metropolitan coordination is inescapable, more actions will be needed to move towards a sustainable urban mobility such as the conformation of an integrated public transport system that grows in a planned way and linked with the territory, under certain sustainability criteria its forms and with the highest quality standards.

Currently the Institute for Mobility and Transport of the State of Jalisco (IMTJ, for its acronym in Spanish) has just completed the General Standard technical Quality of Service of public transport in coordination with the Department of Mobility and Citizen Observatory for Mobility and Transport of the state of Jalisco²⁷ to set high quality standards of service to those who must abide providers of services are decentralized public agencies or private concessionaires of the service.

It is essential to the zonal and judicial conception of urban space overcome the municipal territorial barriers in order to be involved strategically as a territory- network, where the confluence of intermodal manner the public transport, private transport and non-motorized, under strategies that rationalize the use of private vehicle. In the same way it must be reconciled and logistically organized the transport of goods and services that now interrupt without temporal and spatial regulation of mobility and daily metropolitan accessibility.

27. "The Citizen Observatory of Mobility and Public Transportation of the state of Jalisco is an organization that was created by an agreement of the Governor of Jalisco published in the Official Gazette on April 8 this year. It is an independent mechanism that analyzes and evaluates the conditions of mobility and proposes policies to improve the quality of life of people. Its mission is to ensure that all people in Jalisco enjoy a public transport system worthy, approachable, humane, safe, efficient and sustainable mobility". Recovered from <http://observa-transporte.org>.

This requires comprehensive urban planning between territory, mobility and transport overcoming the traditional zonal and specialized urbanistic conception, as the territory network is more commensurate with the complexity of urban geography in its different dimensions reality, configurations, flows and capacities adaptive, and especially their different processes of social, economic and environmental interaction.

Oriented mobility to life quality prioritize the mobility and accessibility reversing the pyramid, where the pedestrian- especially the most vulnerable-, the cyclist and public transport users have the priority and govern the rights and obligations of ownership and share use of public space. In this way the cities placed in the center to people and not cars.

The territorial organization of cities should involve all stakeholders, to promote metropolitan governance and better governance. Rule under the model of citizen participation must recognize the complexity and multiplicity of interacting elements in urban regeneration processes and assembly that are the cities.

The participation of citizens and reconcile public and private interests allows a high degree of congestive efficiency because it incorporates elements of the complex and uncertain urban reality and nourishes the process of decision making (Grau- Solés, Íguez - Rueda, & Subirats, 2011).

The challenge is that the government at different levels able to establish the conditions for the different views converges in a territorial policy where the public interest prevails and sustainability.

In the MAG processes to include the vision of social actors are still emerging, but there is no denying that there is already a change brought about largely by the active participation of citizens through various civil organizations. A more open and receptive to social demands government is the first step.

After several decades of an urban paradox oriented towards individual motorization and use of non-renewal energy, there are emerging new territorial paradigms associated to integrated systems of urban transport that demands a more participative territorial and efficient planning, in which integrated and non-motorized public transport are the greatest lead actors of transformation. For that we have to change our old ways of thinking and intervene the city to progress from a disperse to a cohesive city, from the distant to the next city, from the city exclusive to inclusive city, from the city of concrete to the green city, from the city car to the city of the quality of life.

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CHALLENGES IN THE MANAGEMENT OF WATER IN THE CONURBATION OF GUADALAJARA

José Arturo Gleason Espíndola*

ABSTRACT

This article is aim to present the main challenges in the management of the water in the Conurbation of Guadalajara (COG) that may display a starting point for the design and implementation of public policies to solve them. This work builds the theoretical fundamentals of the sustainable management of water that provide a basis for resolving major issues related to the management of water such as: physical failures of the hydro-sanitary system, management flaws reflected on the poor planning and deficient administration of water resources. These challenging issues are compared with the theoretical contributions in order to recognize the degree of backwardness and to establish a platform for the approach to new and more sustainable public policies regarding water.

KEYWORDS: Management-Water-Challenges-Sustainability.

INTRODUCTION

As the time goes by, the problem of water on the planet tends to become increasingly complicated, especially in cities. This situation manifests mainly in the shortage of water and, paradoxically, in the presence of floods that affect the population plus the persistent pollution of riverbeds due to wastewater discharges. Today, in most of the cities, the quality of water for human consumption is deficient causing serious health problems in very poor areas.

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The foregoing, are indicators of the constant lacks in the governmental water management system, which has been overtaken by the complexity of these problems. Foremost, confronting urgent affairs has left aside the study of proposals that may empower them to face those critical issues.

The situation tends to get complicated, as the United Nations Report on Water Resources determines that availability of clean water on the planet will be scarce by the year 2030 (UN, 2015).

The CONURBATION OF GUADALAJARA (COG) is the second urban concentration in Mexico that presents the problems described above and needs to establish an outcome proposal.

The main purpose of this article is to present a proposal in the field of *water management* in the Conurbation of Guadalajara, starting from an analysis of the current situation of the water cycle, the physical infrastructure and the management of the administrative mechanism that sustains it.

This proposal begins with the approach of the theoretical concepts of sustainable development manifested through the *Integrated Water Resources Management* (IWMR) and the governance of water.

That being said, a theoretical framework will be presented that will provide the foundations for the understanding of the problem and its solution. Following takes place a diagnosis of the current situation of the water cycle, of

the state of the actual hydro-sanitary infrastructure and the management of the administrative structure that carries out its operation. Finally, conclusions are presented that will describe the challenges to resolve and its relationship with the theoretical referents stated at the beginning.

1. THEORY

The theoretical framework is established based on the concept of *sustainable development*, which arises in the *Rio de Janeiro Meeting* in 1992, and is defined in the Agenda XXI as follows: "*Sustainable development is a development that satisfies the needs of the present without compromising the ability of future generations to meet their own needs*" (Brundtland, 1987).

The concept is the result of a strategy agreed by nations to encourage a global economic development model compatible with the environment preservation and social equity. Nowadays, the concept of *sustainable development* becomes the obliged referent to define population's development.

Based on the previous notion, arises another concept called *Integrated Water Resources Management* (IWRM). The definition that provides the *Global Water Partnership* (GWP) is today the most widely accepted: "*The IWRM is a process that promotes a coordinated management*

and development of water, soil and other related resources in order to maximize the economic performance and social well-being in a rightful manner without compromising the sustainability of vital ecosystems" (United Nations, 2014).

In Mexico, the IWRM is a public policy approach, incremental and adaptive, which pursues the development and a coordinated management of water, land and related resources. It is oriented to encourage that the proper use of water resources, is directed towards the achievement of those economic and social development national objectives, under the criteria of equity and environmental sustainability (Valencia, w.d.).

Considering IWRM from a multidisciplinary perspective, includes as well the management of surface water and groundwater in a qualitative, quantitative and ecological sense, and links its availabilities with the needs and demands of society regarding water. In IWRM, the focus shifts from the exploitation or use to the conservation and rational use of the resource, as well as the management of supply to the management of demand (Pérez, 2016).

Components of IWRM are:

1. *Management of hydro-climatic information: measuring, storage, processing, analysis and disclosure of hydrological data.*

2. *Participative management: Decentralization and delegation of responsibilities to water users.*

3. *Water demand management.*

4. *Hydrological risk management: Dealing with extreme hydrological incidents.*

5. *Designation of volumes of water to different segments of final users and the accurate administration of water rights.*

6. *Planning over watersheds and with the formulation of projects for the convenient usage of water resources with multiple objectives.*

7. *Elaboration of policies and schemes to support the water resources management.*

8. *Preservation of watersheds.*

9. *Valuation of the water.*

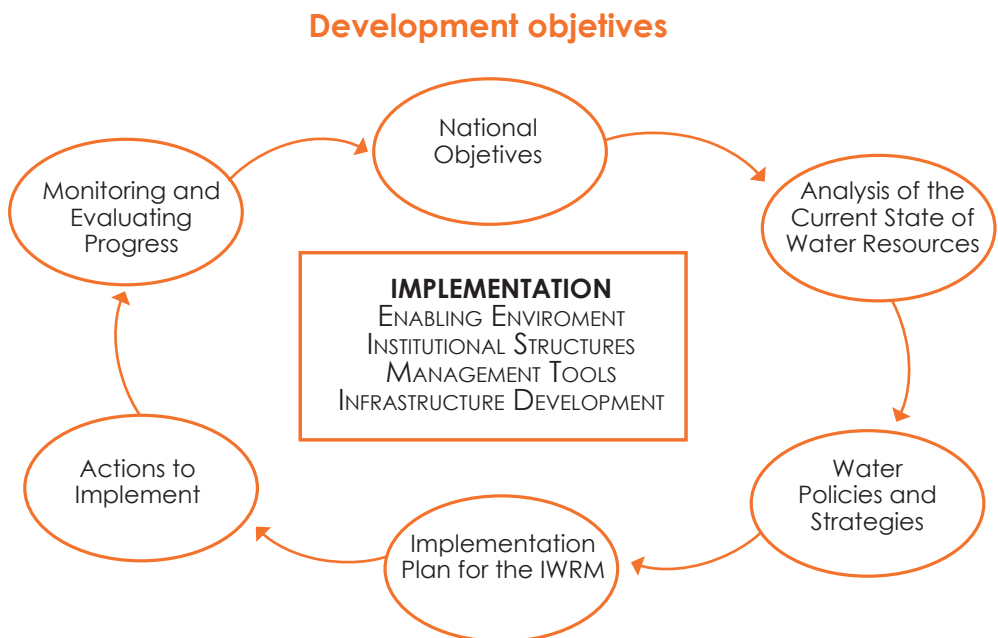
10. *Accounting for Water Resources: inventory and characterization of the behavior of surface and underground water resources.*

Concerning the formulation, planning and management of policies, it may be considered as a series of sequential steps regarding watersheds management.

The first step is to define general objectives to policies (*where we want to go*). Following steps are to specify problems related to water management in need of resolution (*identify problems*). Then, to make a list of potential strategies (*how to get to where we want*); evaluate each one of them, select a strategy or combination of strategies, implement the strategy, evaluate the results and finally, learn from these results and review our main plan to make it work better in the future.

The steps form a cycle. Of course, in a practical sense, this cycle can be interrupted by external forces, but the “cycle of management based on learning through practice” (see Figure 1) help to incorporate what we learn in the planning process and the actual water management and to take into account the new information as we have it. This means that we can adapt the way to manage water to changing circumstances, such as political changes, natural disasters and demographic changes (Global Water Partnership, 2009, p.19).

FIGURE 1. THE CYCLE OF PLANNING AND IMPLEMENTATION MANAGEMENT, BASED ON LEARNING THROUGH PRACTICE



Source: Global Water Parthership

The *governance of water* is another fundamental concept of the theoretical framework. Water management must respond to demands of the society and the environment through a specific system that involves all actors. The *Global Water Partnership* States:

Governance can be defined as the capacity of the government to provide services and to form, establish and enforce rules. The water governance refers to the range of political, social, administrative and economical systems established for the management of water and provision of services. Depending on the way in which countries manage their water resources, determine the health conditions of its inhabitants, the success of their economies, the sustainability of their natural resources and their relations with neighboring countries. A proper management of the water brings tangible benefits to a country. Therefore, good governance is the fundamental principle to develop and manage water resources and the provision of water services to different levels of society.

On the other hand, the *International Union for Conservation of Nature* (IUCN) asserts that “*the governance of the water is a political, legal and institutional-administrative system that directly or indirectly affects the use, development and management of the water and an adequate provision of the service to different levels of society*” (Global Water Partnership, 2012).

Another very important aspect to achieve a sustainable management of water is an expected close involvement between the systems: public institutions and society in general. The *Organization for Economic Cooperation and Development* (OECD, 2015) through the document “Principles of governance of water”, sustain that:

The governance of water can intensely contribute to the design and implementation of such policies through a shared responsibility between the various orders of government, civil society, businesses and a wide range of actors that play an important role. All, in close collaboration with policymakers to collect the economic, social and environmental benefits as an effect of the good governance of water (p. 3).

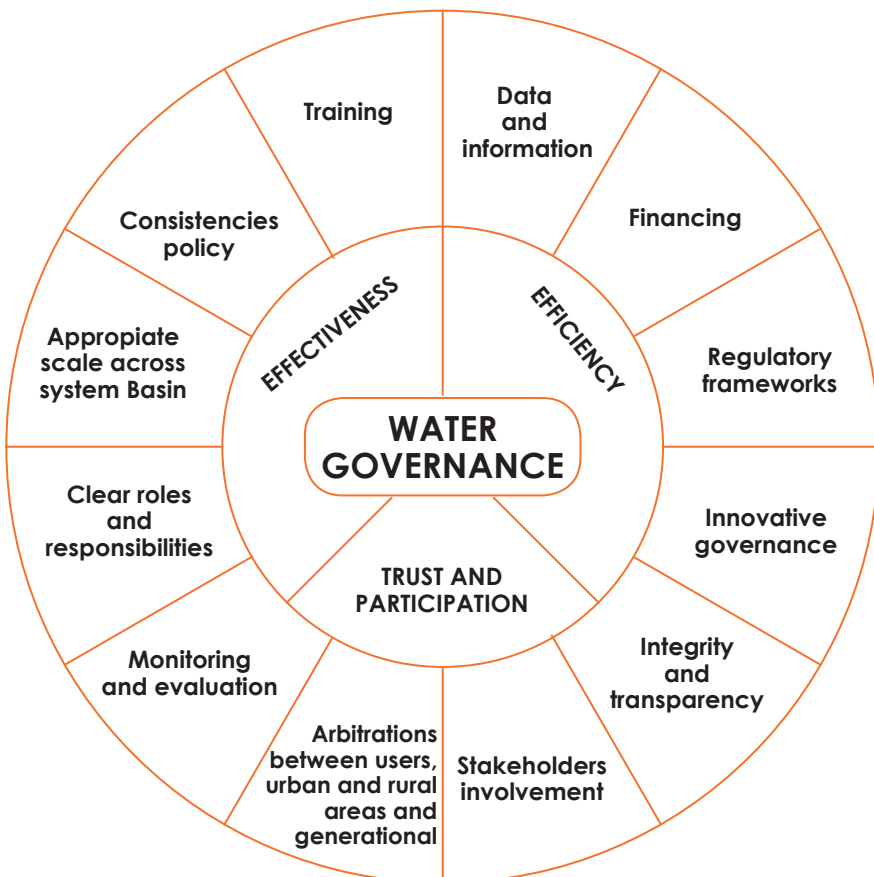
In this same document, OECD proposes “*The Principles of the Governance of Water*” which have the intention to contribute to the creation of tangible results-oriented public policies, based on three dimensions of the governance of water that mutually reinforce and complement each other (OECD, 2015, 3-4):

- *The effectiveness refers to the contribution of the governance in defining the goals and clear sustainable objectives for water*

policies in all government's levels, in the implementation of such policy objectives, and on reaching the expected goals.

- The efficiency relates to the governance's contribution in maximizing the benefits of the sustainable management of the water and the well-being at the lowest cost to society.
- Trust and participation are related to the governance's contribution towards building confidence between the people and to ensure the inclusion of the involved actors through democratic legitimacy and equity for the society in general.

In Figure 2 shows the principles of governance of water with its diverse elements that allow us to realize more accurately their implications concerning the water management:



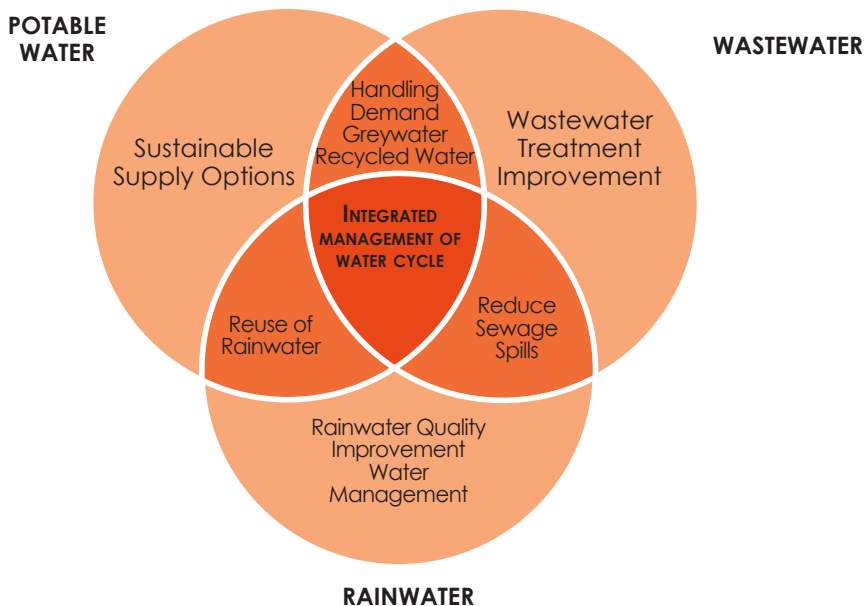
Source: OECD, 2015.

The *Integrated Urban Water Management (IUWM)* is another key concept for improving the way of handling the water in cities. The *SWITCH (Sustainable Water Management Improves Tomorrow's Cities' Health)* program, in its training kit, says, *IUWM recognizes that problems found in a certain area of the urban water cycle can be the result of a bad management in another area.*

When considering the water of a city as an integral system, its evaluation makes it possible to keep to a more efficient and sustainable resources use" (Van, 2011, p. 6). In this trend, *SWITCH* raises the following hypothesis: 'the design and management of the urban water system based on the analysis of the entire system will lead to more sustainable solutions that the design or the management separated themselves from the main elements of the system' (Van, 2011, p. 4).

A logical inference then would be to say that *IUWM* is an applied form of the *IWRM* to cities or, in other words, the integrated management of water or hydrological cycle in the cities. This last concept may be better understood in the Figure 3:

FIGURE 3. INTEGRAL WATER MANAGEMENT



Source: Hoban and Wong (2006).

As shown in Figure 3, this approach is far from being a *straight-lined* system where the water enters (*supply*) and then exits (*wastewater*), but it integrates them both as spheres that interact one with each other and, at the same time, the same effect with another sphere called *rainwater*.

The spheres in the Figure 3 are labelled as *drinking water*, *rainwater* and *wastewater*; all are integrated by links to accomplish a functioning interdependent water management.

For example, in the *drinking water* sphere, supply options are considered to be sustainable through the reduction of the water demand through the user's low consumption habits and the implementation of saving systems in households services. It is also noticeable when the *drinking water* sphere interacts with the *rainwater* one; there may be a true gain of rainwater by harvesting it in buildings and treated surface runoffs. This could increase the water supply and reduce the water demand.

On the other hand, when the sewage sphere interacts with the *drinking water* one, improved systems of treated reused *blackwater* and *graywater* increase the water supply for restricted uses and reduce demand for clean water. In addition, to implement systems for reuse, reduce the volume of treatable *wastewater* as well as the cost of operation of treatment plants.

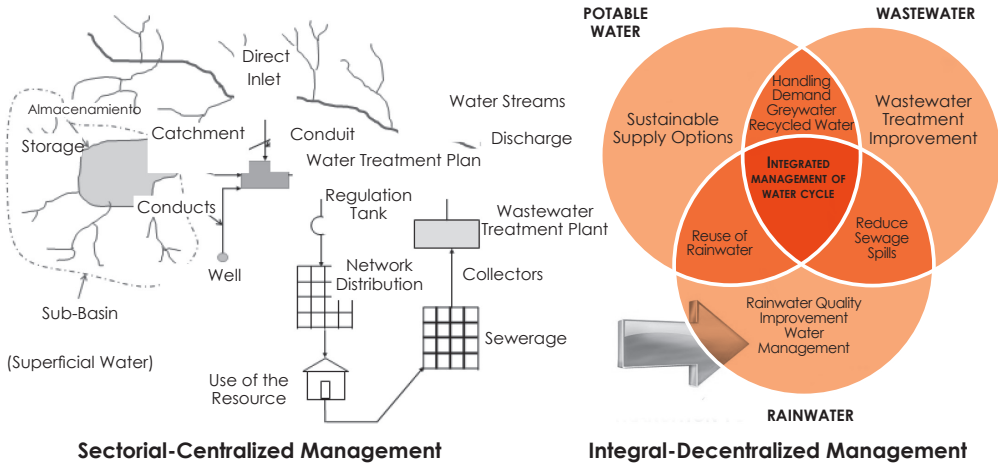
Finally, when *wastewater* interacts with *rainwater*, the volume of water from rain can infiltrate to the subsoil or be collected in buildings and public spaces, allowing the expected separation of waters and the decrease of *combined* water overflows (*wastewater* and *rainwater*) that overflow collectors and treatment plants. It is quite clear that the main purpose of the IUWM is to achieve a balance between the three spheres, which is known as the '*integrated management of the water cycle*'.

To attain such balance, it is necessary that governance is the vehicle to reach a shift of paradigm that consists in the transition from an 'extraction expulsion' type of model towards a 'low extraction-less expulsion' kind of model.

Therefore, it is firstly imperative to move from a sectorial and centralized management of water (*governmental participation only*) in the direction of an integrated and decentralized management (*with participation from all sectors of the population*).

Afterwards, leave for later the construction of new sources of supply that involve high economic costs, irreparable environmental damages and the opposition of those affected by the construction of the mentioned major projects. To understand graphically the prior explanation is Figure 4:

FIGURE 4. PARADIGM SHIFT IN THE MANAGEMENT OF THE WATER



Source: Prepared by the author (2010).

Up to here are introduced the main concepts underlying the approach to the management of water needed in the Conurbation of Guadalajara (COG). According to the 2015 United Nations World Water Report: 'Water for a Sustainable World', "water is the center of the sustainable development" (UNESCO, 2015). Therefore, it cannot be ignored in the development of cities.

The concept that arises from development and its application to water's identified as 'Integrated Water Resources Management' (IWRM). This concept has the purpose of a coordinated water management in order to maximize the economic performance and social well-being in a rightful manner without compromising the sustainability of vital ecosystems.

Another important concept presented was the *Governance of Water*, defined as the capacity of public institutions to carry out this management jointly with the citizens under the principles of effectiveness, efficiency and participation.

This 'governance of water' will allow the implementation of an *Integrated Urban Water Management (IUWM)*, which is reflected in an integrated control of the water cycle where the water supply, wastewater and rainwater are integrated to progress from a *straight-lined* model (water entrance and water exit) and transition to a *decentralized-integrated* model (recycling).

2. THE CHALLENGES OF WATER MANAGEMENT IN GUADALAJARA

In the last few years, it has been observed that conventional water management in urban areas has not had neither the capacity to confront the present challenges nor being able to anticipate the future ones. Some significant problems are the increasing scarce of water, severe pollution and over-exploitation of sources of supply, frequent floods, the harm to public health, the deterioration of ecosystems and, as collateral damage, the social conflicts by escalating competition for the vital fluid. The leading reason for these serious troubles is that the management of water supply, sanitation and rainwater has not been executed thoroughly; instead, each one of these elements has been operated, planned and carried out separately and consequently the interconnections between the problems and possible solutions are missing.

There is an imbalance in the management of the water cycle that does not allow the efficient operation of the infrastructure and its administrative mechanism. Therefore, it is necessary to approach to reality with an accurate diagnosis that allows having an overall view of the problem to establish public policies to solve them. The diagnosis of water management in Guadalajara covers three main axes: deterioration of the water cycle, physical malfunctions and faults on the management of the urban hydro-sanitary system.

The part of the water cycle identifies the effects of an inadequate intervention in the territory as changes in the land use are affecting the appropriate functioning of the water cycle variables: precipitation, infiltration, runoff and evapotranspiration. With regard to the physical damages of the urban hydro-sanitary system, describes their main lags in its technical operation. Finally, on the topic of management shortcomings, it is analyzed the planning aspects and the administration of the governmental structure that runs both the system as a whole and the water cycle process.

2.1. DETERIORATION OF THE WATER CYCLE IN GUADALAJARA

If the problem is not clearly defined, it will surely not be resolved altogether. It must be recognized that the main source of supply has been damaged: The water cycle. The imbalance of its own variables

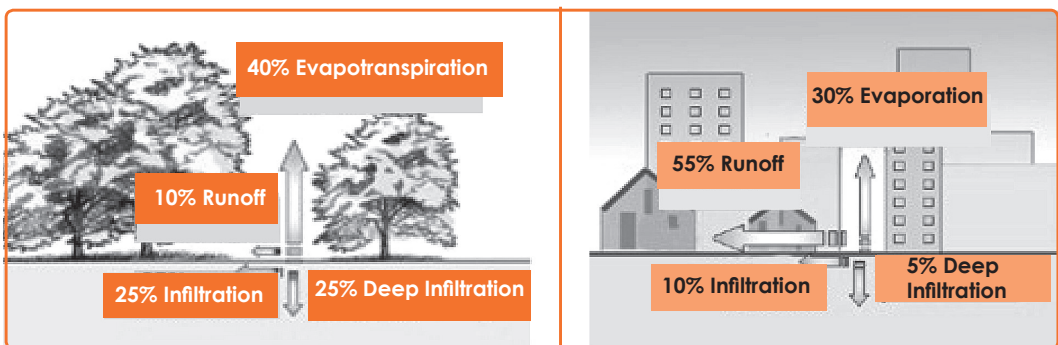
such as evapotranspiration, runoff, infiltration and precipitation, is the main cause of the present state of the water. A rampant disordered urbanization leads to the stain of concrete (buildings and avenues) to cover the infiltrative surface that prevents the water to recharge into aquifers also to the significant decline of the evapotranspiration that affects the behavior of the rain.

Once the surface has been 'waterproofed', recurrent floods are causing serious damages to people, their goods and to the natural environment. In consequence, the water that had to infiltrate to recharge aquifers is now conducted to the drains and mixed with *black-water*. This lack of infiltration is causing the aquifers to eventually dry if there is no recharge.

The withdrawal of forests directly affects the evapotranspiration that produces rainfall and local temperature changes, thus forests are turning into deserts of concrete. This reduction in evapotranspiration directly alters rain behavior. In the absence of forest mass, there is neither perspiration of the trees nor evaporation that when raised to the sky it condenses and become rain (Spracklen, D.V., 2012). In addition, the retreat of the trees decreases the water infiltration to the underground through their roots.

In Figure 5, it is observed a change on the conditions of the water cycle variables when they were functioning in natural conditions (Subsection A) and when an urbanization takes place and potentially can cover 70 to 100% of the surface of the ground (Subsection B):

FIGURE 5. BEHAVIOR OF THE WATER CYCLE BEFORE AND AFTER THE URBANIZATION



A) Water Cycle in Natural Conditions

B) Water Cycle in Urbanized Conditions

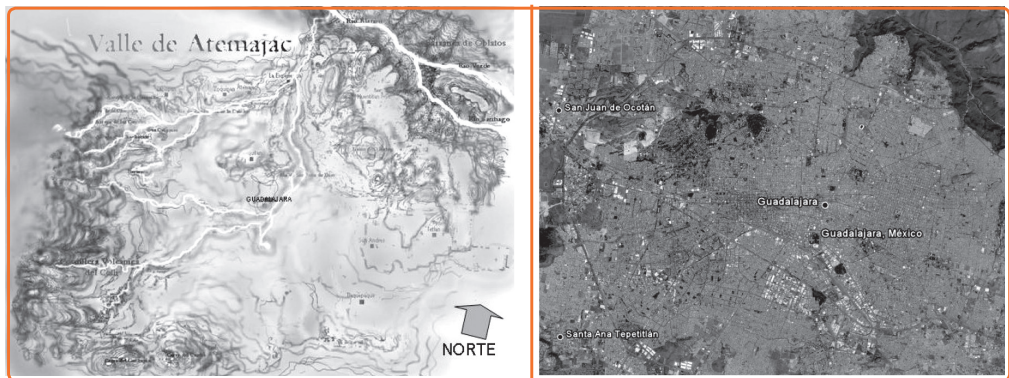
Source: EPA (2010).

As you can see in Figure 5, the major imbalance observed are the variables of runoff and infiltration. When a territory is covered between 70 to 100% of its surface, runoff increases five times. On the other hand, superficial infiltration is perceptibly diminished but profound infiltration is drastically reduced. Serious consequences of the above are floods and the dryness of the aquifer (Del Castillo, 2016).

As a result, the most serious consequences of the damage to the cycle are floods by the lack of infiltration, the overexploitation of aquifers due to a high demand of water and pollution of surface and groundwater by discharges of sewage. Others are the substantial temperature increase owing to the absence of trees and the modification of the rainfall patterns attributable to a decreasing evapotranspiration. All this leads us to the shortage of this vital liquid.

Trying to resolve this problem without reaching the bottom line of the case, will make things more complicated. Figure 6, displays a change of coloration of the surface of the territory of Guadalajara between the years 1542 (subsection a) and 2010 (subsection b). The first image illustrates a green colored area and the second one, a gray color area that shows the growth of the urban expansion that has almost completely covered the areas of infiltration:

FIGURE 6. MODIFICATIONS OF THE LAND SURFACE OF GUADALAJARA



A) Atemajac Valley Basin in 1542

B) Atemajac Valley Basin in 2010

Source: Alejandro Ulloa

Source: Google Earth

An up-to-date example, is the urbanization of the endorheic basin named 'El Bajío del Arenal', which is a territory considered to be as one of the major recharging areas of the aquifer of Atemajac. This space has been partially covered by the construction of the Pan American Villa, the *Omnilife Stadium*, residential developments and schools.

It has been demonstrated that the urbanization of this watershed will end up in a remarkable decrease of the infiltration rate and will emerge persistent floods, without putting aside that this type of constructions incite the urbanization of the wooded area identified as 'Bosque de La Primavera' (*La Primavera Forest*). In this logic, in the near future it will not sound strange that some developer, in a greed rush, promotes the construction of a so-called '*ecological residential development*' entitled "*La Primavera*".

On the other hand, there are cases such as the construction of the markets of *Mexicaltzingo* (2003) and *Corona* (2016). These constructions have blocked the path of the water flows under the surface because of their underground parking lots that are blocking the natural watercourse and its final destination such as springs or other body of water. In our time, water of the markets is misused, pumped out and straight down the drain. Another sad case is the urbanization of 'Cerro del Tesoro' where nearly all of its surface has been covered with concrete without considering any harm or impact made to the behavior of the water cycle variables (Carapia, 2016). This type of constructions will cause intensified bigger inundations and will reduce the rate of water infiltration to the subsoil.

The 2015 United Nations World Water Report: 'Water for a Sustainable World' (UNESCO, 2015) asserts that "*disturbed ecosystems, the relentless urbanization, the inappropriate practices in agriculture, deforestation and pollution are factors that are weakening the nature's capacity to provide environmental services such as clean water*" (p. 2).

Then, a reasonable deduction would be that water availability problem does not lie entirely in the lack of sources of supply, but in the serious worsening of the performance of the water cycle variables. This situation represents one of the greatest challenges for the society of Guadalajara, which first needs to know the situation and then decide to take immediate actions to stop the harm and compensate all the damage as soon as possible before it is too late.

2.2. PHYSICAL IN THE OPERATION OF THE HYDRO-SANITARY SYSTEM

This part will be brief to give more space to failures in management. In the first place, according to the *Inter-Municipal Potable Water and Sewerage System* (SIAPA, for its acronym in Spanish), the sources that supply water to Guadalajara are the *Chapala Lake* (60%), groundwater aquifers of *Toluquilla* and *Atemajac* (30%) and the *Calderon Dam* (10%) approximately (SIAPA, 2012). Depending on the case, these three sources of supply are polluted to a greater or lesser extent, which compromises the quality of water for the city.

Not only the pollution comes from the sources, but also the quality of the water is affected when it goes through the old pipelines, it is contaminated with particles of iron or asbestos that are detached from the pipes.

Considering the distribution network, the system operator has declared a 28.4% losses, in other words of each ten glasses of water produced, almost three do not reach the houses (Muñoz, 2016).

However, it is not clear how this information was obtained; therefore, this percentage can be raised by reason of the level of deterioration of the pipelines for its useful life.

This is why, among other things, the produced water is not suitable for human consumption. As of

households consumption, the majority of citizens consume water irrationally, which raises demand in an unreasonable way affecting the availability of water (Del Castillo, 2016). Citizens are not educated to carry out a rational management of water in its housing.

The unawareness of the value of the water among the population is widespread. It is oblivious of the importance of the water cycle, of its current status and how the urban hydro-sanitary system works.

This ignorance keeps the user in a *kind of bubble* situation where they think that everything is fine and the water used will be eternal.

Once a citizen uses the water, it is downloaded to the sewer pipes network where rainwater and sewage mix. During the raining season, sewerage network saturates causing floods in different points of the city. The economic losses amount to \$ 180 million pesos annually, without considering the deaths that have occurred by this problem (Pérez, 2015).

On the other hand, despite two treatment plants are operating, '*El Ahogado*' in *Tlajomulco* and '*Agua Prieta*' in *Zapopan*, their capacity is still insufficient since there are no collectors that will lead the total amount of wastewater flows toward the plants (NTX, 2016).

Subsequently, the pollution of watercourses persists to date, especially on the *Santiago River* that is severely contaminated (Tamayo, 2016).

Physical failures of the hydro-sanitary system are manifestations of a poor management that tends to complicate as time progresses and above all, to compromise the supply of water to the population and the environment.

Hence, it is necessary to establish a public policy that allows the hydro-sanitary system to recover gradually to take down the lags intelligently so an efficient infrastructure can be maintained for the current and future generations.

2.3. FAILURES IN THE MANAGEMENT OF WATER IN GUADALAJARA

The management, understood in contemporary terms, is the procedure of adequacy of resources of any kind to those purposes for which they were collected (Anonymous, 2016a). On the other hand, it is also understood by management as the completion of proceedings aimed at obtaining some benefit, taking the people who work at the institution as active resources for the achievement of the objectives (Anonymous, 2016b).

It will be carried out an analysis of water management in the aspects of planning and administration in order to understand the issue from an operational perspective and set actions in these areas that lead toward the achievement

of a sustainable management of water.

2.3.1. FAILURES IN PLANNING

One of the major challenges is to have a *measurement system* that lets to have full knowledge of the behavior of the water cycle through time. In real time, it is not known exactly the quantity and quality of water in the basins of the city.

There is no monitoring system that will facilitate a clear picture of the current status of groundwater, surface water and in the environment. Without this information, it will be almost impossible to establish realistic diagnoses and, at the same time, to formulate relevant proposals.

Unfortunately, nor has a procedure to monitor the urban hydro-sanitary system operation, so it is not known with accuracy the quality and quantity of water in the supply lines, the current state of the collectors, the degree of contamination of the wastewater, among other aspects.

As already has been said, the *lack of precise information*, is a major obstacle that does not allow to perform in-depth diagnostics on the real situation for both the water cycle and the urban hydro-sanitary system.

For example, when researching for this article, studies were requested to know the real state of the drinking water distribution

network of the conurbation of Guadalajara (COG) and were only presented one sheet as a response,¹ an executive summary of a study.²

In addition were delivered three pages that expose the objective, the main technical indicators and a plan of actions. However, the study where they show how they reduced the losses of 43% to 32% in 2007 were not delivered. Recently the SIAPA through its Director stated that the rate of losses is currently 28.4% (Muñoz, 2016), but did not mention the method that was used to reduce those losses.

On the other hand, it is unknown the physical conditions of the filtering tunnels that still supply certain areas of the city or how much water from the springs is channeled directly to the drains.

Without clarity on the global availability of the resource, a common error comes when presented expensive projects to provide water without correcting the wastes. Without information cannot be decision, without data cannot be evaluation and without evidence cannot be improvement. In this sense, the 2015 World Water Report 'Water for a sustainable world' (UNESCO 2015) says:

1. SIAPA, (2007). Directed to L.C.P Carolina Ochoa Camarena. Transparency and Public Information Office. Signed by Ing. Guillermo Camacho Leyva, Head of the Leakage Section. Part No. 097/07.

2. SIAPA, (2004, April). "Diagnostic study and integrated planning of the potable water and sewerage systems and sanitation of the inter-municipal system for the potable water and sewerage services in the municipalities of Guadalajara, Zapopan, Tlaquepaque and Tonalá". Guadalajara, Jalisco.

Monitoring the availability of water, its use and its interrelated impacts, unveil the highest and most persistent challenges of all. Reliable and factual information about the state of the water and its management is often poor, absent or otherwise, inaccessible (p. 15)"..." this lack of information and knowledge, creates barriers to the formulation of a cohesive public policy and a correct decision-making correct according to the objectives of development (p. 16).

Another challenge is the lack of completion of the governmental hydraulic plans. Analyzing the hydraulic plans of the three levels of government, and accordingly to the targets set at the beginning of the governmental periods, can be concluded that they had not been fully met. An example of the preceding statement is the project of *La Zurda-Calderon* built in 1991 meant to supply water to Guadalajara.

This project consisted in the construction of two dams: *Calderon* and *El Salto*, and would bring three cubic meters per second. Currently the second dam is not connected to the first one and therefore they do not provide the flow that was proposed in the first place.

Today, the Calderon Dam hardly brings a cubic meter per second. In addition, the underlined plans to clean up the Lerma-Chapala-Santiago Basin, designed in the eighties, are still drawing attention. Unfortunately, both *Lerma River* and the *Santiago River* are extremely contaminated.

Another example would be the programs launched to solve the problem of flooding in the COG, which have fallen short in the magnitude of the issue. Once the raining season is over, it is admitted that there are no resources and everything remains in verbal statements.³

Without a doubt, another example was the *Arcediano Dam*, a project proposed in 2001 and canceled in 2009 by the cost of the wall. After having invested more than 700 million pesos in studies, it was determined that the cost of a concrete wall was the more viable than a wall made out of graduated material without taking into account these expensive studies.

In recent times, water planning takes place in most of the proposed projects but is the result of a *planning* based on the response to a *political conjuncture* and not on a deep application of a methodology that acknowledges the reality to its core, for hence raise the relevant and appropriate solutions. It is evident that the planning of the hydraulic projects focus more on solving the problem making aside the opportunity to resolve it from its origins.

Plans lean more to *increasing the supply of service*, both in water supply, as in estrangement and sanitation. It is omitted alternatives to improve the service and to take advantage of the available water resources. This tendency prevails in political speeches and even serves as a political flag for campaigns. Another regrettable problem is the *sustainability as discourse and not as action*. The approach in the field of sustainable development on the hydraulic plans lacks scientific bases.

3. EL INFORMADOR. Editorial. 'For another year' (2008, May 23) Just a few months ago, the general director of the government office, Rodolfo Ocampo, announced that they would be able to build projects such as storm collectors that would act as regulators to avoid concentration of rainwater in points of the city. The amount of water accumulated in a storm often causes severe ponding, traffic jam, and pedestrians not being able to pass through those places. These works simply were not made and must wait for better times, perhaps the next year.

For instance, the authorities have proposed to urbanize in a "sustainable" way 'El Bajío' basin with the idea of installing environmentally friendly technologies, but without executing any geo-hydrological study of the area that would expose the present and future impacts of the constructions to the aquifer.

Hence, speech is more apparent than real, aspects such as the evaluation, monitoring, and protection of water resources before the beginning of the construction are not taken in consideration whatsoever. Themes as deterioration and restoration of the water cycle, programs for the urban hydro-sanitary system rehabilitation, educational programs or institutional administrative improvement are definitely out of the *planning* picture. The debate only centers itself on increasing the water supply to try to satisfy a thirsty, insatiable city. Another great challenge uncovered is that *population remains outside the planning process*, as there are no actions taken in this manner as informed in the SIAPA Report.⁴

It is true, though, that some sectors are invited to the planning, but to participate there are more privileged profiles than others, such as engineering. If you are not one of them, marginalization is guaranteed.

Until now, participation has become in a *system of validation* of the government proposals. Actually, there is no full recognition of the rights of the actors and even less, they have an opportunity to influence into the decision-making. This situation have risen disagreements, deepen the differences, quieted the dialogue and has led the government to become impositive.

Consequently, the absence of precise technical information required to generate a *system of measurement*, it is impossible to plan the necessary actions to solve the issue caused by inadequate management of the water. To carry out projects without the support of crucial technical information makes projects' objectives unreachable.

Instead of planning the solutions from the root of the problems, planners choose to promote projects based on particular interests that ignore the needs of the population.

4. SIAPA (2009)
Second activity
report 2008.
L.C.P. Rodolfo G.
Ocampo Velázquez.
General Director.
Guadalajara,
Jalisco.

Due to the lack of commitment of the authorities to solve the essence of the problem, they dismiss strong, founded, sustainable proposals, and at the same time, population is sidelined in the elaboration of those.

Experts are ignored, as many sectors involved as well if they disagree with the authorities. Irrefutably, it is necessary to be a planning based on reliable on-time information to take the best choices, a government that takes account of the society and precedes the common interest before the party interests or any other.

2.3.2. FAILURES IN THE ADMINISTRATION

This section is focused on the administrative aspects. A first lag is *the minimum coordination in the activities*. The institutional system that manages the water in Guadalajara integrates by the *National Water Commission (CONAGUA, for its acronym in Spanish)* the *Jalisco State Water Commission (CEA, for its acronym in Spanish)* the *Inter-municipal Potable Water and Sewerage System (SIAPA)* and the drinking water departments of the conurbation's municipalities.

Each institution generates its own agenda and they do not create an integrated one to resolve the immediate and long-term operational aspects. The institutions do most of the investment projects without adequate mechanisms of coordination.

Frequently, responsibilities are not clearly defined or properly assigned, and they face the problems without coordination, when the real situation of the problem requires a comprehensive and multidisciplinary approach.

This makes it difficult to have an integrated vision, which produces duplication of activities, overlapping of responsibilities and dispersion of resources.

A perfect example of the above is the case of the water collector in the tunnel of *Las Rosas Avenue* that collapsed by the excess of rainwater. The *Jalisco Urban Development Secretary (SEDEUR, for its acronym in Spanish)* did not listened the warnings of

SIAPA concerning the weakness in the design of the new collectors (Valdivia, 2008).

Another great challenge in terms of administration is the *financial aspect*. There is a low financial efficiency due to the lack of measurement of consumption, the shortcomings of the systems that register consumption and inefficient billing procedures.

This situation creates irregular charges in water bills, does not generate precise data needed for financial planning and accentuates the inability to recover the costs that would allow making investments for service improvement or reduction of the environmental and health impacts.

The efficiency of collection of charges is of 72%, which means that the rest -28%- are debts that will not be collected or long overdue. In spite of the fact that the cost of water is very low, those in debt maintain past due accounts for over 1,500 million pesos and are responsible for the financial struggles.

The SIAPA is hand-tied to make effective the debt collection because many of the defaulted consumers conform to the impossibility of a supply cut, which makes it hard to oblige them to pay. Back in 2007, there were 190 thousand in arrears (La Jornada, 2007).

There SIAPA has a total debt of 74'803,325.10 pesos. Currently, it settled that *Banorte* bank would refinance such debt to a payment period of 20 years (Chávez, 2016).

This debt limits the operation margin of the institution and it remains subject to limited state and federal resources. Another financial aspect, are the *rates* that do not reflect the true cost of water supply services and drainage. Nowadays pay \$4.70 per cubic meter, which represents a half a cent per liter, when a liter of bottled water costs between a \$1 and \$1.50.

The cost is very low and the final user waste the water without any consideration of its true value. In the same sense, the system operator has proposed to the State Congress a fare raise, but just because it is not a politically profitable measure, is not authorized in most of the cases.

Proposed increases are justified to improve and expand the infrastructure, but generally, there is a lack of diagnoses based on measurements and assessments to justify these increases.

Institutions do not *have the qualified staff* to carry out the functions of leadership in the management of water. This is demonstrated when the technical staff and administrative personnel is exceeded by the complexity of the problems that they cannot resolve, making water more of a political issue than a technical issue.

Attributable to that short capacity, they tend to propose superficial actions without a technical-scientific support. Currently the Governor of the state of Jalisco and the City Mayor, who aspires to be governor, entangled in a sterile

debate over the allocation of water without having the exact data on the availability of clean water in the basins.

In addition, on many occasions, the technical and administrative staff do not have the required training provide an adequate service as the decision-making profile does not match to the required to operate the system. This is due, in part; to the fact that currently in Jalisco there are just a few programs specialized in water management in an integrated way.

Recently, however, the *University of Guadalajara* offers a Masters in *Management of Water and Energy* at the *Tonala University Center*.

The shortage of specialized staff for the management of water is one of the flaws that promotes the shortcomings of the hydraulic system. The appointment of officials in the strategic positions of the system corresponds merely to a political interest instead of a professional interest.

A distinct case may be the designation of former congressional representative, Rodolfo Ocampo Velasco, as director of SIAPA by the elected governor Emilio González Márquez in 2007. The Council of Administration of the SIAPA ratified this appointment despite his absolute ignorance on the subject. Backed with his public accounting degree and after arguing to be a good administrator as required, Ocampo Velasco accepted to be part of the *governor-to-be* extended cabinet. The congressman said: "I have

administrative experience and whoever is in front of an organism of this kind must know well what it refers to the administration and leave the technical part in the hands of the technicians, as well as it did Toño Aldrete, who is a certified public accountant who knew how to delegate the technical responsibility in those who are specialists in the field" (Barajas, 2007).

In addition to such designation is also the brother of the Governor, Samuel González Márquez, who did not have any experience in the public sector, being administrator by profession, was appointed Sanitation Manager with a gross monthly wage of \$99,000.00 pesos. Also, stands out the case of the appointment of two former aldermen; they were very close to the governor and awarded with two positions in which neither had a natural profile: Abraham Cisneros was appointed Commercial Manager and Paulo Colunga Perry, Administrative Manager (Partida 2007).

More people were rewarded with well-paid top positions with less or none experience in water topics: Manuel de la Cerda, former Director of Municipal Public Services of Zapopan, was appointed Technical Manager; while the financial area remained in the hands of former Director of Social Development of Zapopan and former officer of the COPLADE, Mario Juárez.

To open spaces for these new appointments, it did not matter

for the new Board of Directors to spend \$8'816,000.00 pesos to get rid of ten staff members, most of them experts and in charge of the technical management at least during the recent three administrations.

One by one, each with a quite important pay settlement, in addition to Hernández Amaya, Luis Aceves Martínez (*Manager of Sanitation*), José Julio Agraz (*Manager of Potable Water and Sewerage*), Enrique Cerón Mejía (*Administrative Manager*), Fernando Ascencio Arias Hernández (*Financial Manager*) and Luis Manuel Espino Beltrán (*Commercial Manager*), among others.

Crucial things seemed non-important in SIAPA at that time. For example, the irreversible debt of 1,500 million pesos, the need for new equipment to monitor leaks in the piping system, a need for renewed collectors system in practically the entire metropolitan area or unexpected expenses such as the drainage that was placed next to the overpass of the avenues López Mateos–Las Rosas.

Another issue to be resolved is the *insufficient attention to the citizens' demands*. There are six teams of four workers to respond to four sectors in which is divided the metropolitan area of Guadalajara. The service coverage for over 4 million inhabitants is limited.

Two system workers who came to repair a leak in a house were interviewed but asked not to be identified to avoid possible reprisals. They stated that there is insufficient staff to meet in a timely manner to the demands of citizenship. This statement was supported by Mr. Manuel Salazar González, interunions relations secretary of the Union Workers of the SIAPA in the *Mexico-Germany Symposium (México-Alemania) "Our Water Every Day"* (Salazar, 2008).

To ask to the Director of SIAPA in 2007, if there was a delay in the daily reports, he replied:

Yes, of course, that is the problem. We had a response capacity in the theme of storm drains and wellbores more or less of 60 percent per

month, means that every month we had a lag of 40 per cent that was adding to the daily reports. Therefore, the seriousness of the problem that we were living, today of that lag that we had accumulated -if I am not mistaken- as much as two thousand reports that had not been treated right now, we already have a 50 percent improvement in that lag.⁵

Combined with the above, there is the *lack of transparency*. There are obstacles to access to public information. Not having basic technical information represents a set back to create the system's action plan due to the lack of measurement, but there are also obstacles to facilitate existing information to citizens. This information may be technical, financial or about performance of the agencies. There is no access to memories of calculation of the built infrastructure or duly dimensioned blueprints that would enable an understanding to the system's operations in its different stages. Given this circumstance, the citizen and the experts remain marginalized from basic information to get a thorough knowledge of the current situation of the operation of the system.

Without a question, one of the most important weaknesses in the planning and management of the water system, it is the *absence of citizen participation* in decision-making. Planning is carried out in the highest spheres of power without taking into account the needs of the citizens; it is assumed that the participation of citizens is unnecessary since the executors handle the technical aspects. There prevails a marked ignorance on the common citizen, who keeps apart from the problems, the debates, the importance of recognizing good or bad operation of the system and the importance of their participation in the solution of water problems.

It is also observed, that the citizen participation is underestimated, since it is not considered strategic for the solution of the problems. It diminish the possibility that, domestic savings of aware citizens, represents

5. Interview with Rodolfo Ocampo Velázquez. Director of SIAPA. "Chapala RAMSAR" site event. August 28, 2007. [Http://www.siapa.gob.mx/noticia_entrevista28_8.html](http://www.siapa.gob.mx/noticia_entrevista28_8.html)

one significant highpoint in the series of actions to optimize the delivery of the resource. The citizen is only a receiver of the services but not an actor in the solution of the problems. It is clear that the absence of participation not only hurts interests of various groups, but also limits the response capacity to the complex problems of the water cycle and the urban hydro-sanitary system. However, some organized groups of society have raised their voices to denounce this relegation, demanding participation and pointing the abuses and errors inside the administrative offices of the water system (López, 2007).

To complete the section of the administrative lapses, it is perceivable a marked disorganization reflected in the lack of coordination of actions between the institutions, that limit their ability to respond to the serious and complex problems that arise on a daily basis.

This problem is further complicated when the main decision-makers in these institutions do not have the technical capacity to face them or to design relevant proposals through a strong, overwhelming leadership. This deficient capacity is shown in the poor attention of the daily demands of users who have to wait indeterminate lapses of time to obtain the expected resolution.

Furthermore, another consequence of the limited administrative capacity is the poor

management of the financial resources that have led the organism to a serious debt and to have a poor collection of resources on account of the services provided. So that the capacity of the institution is limited by the scarcity of economic resources to finance actions and plans in the short, medium and long term.

These limitations have generated lack of confidence of the society in the operational institution because they do not count with on-time or history information systems and the exact information about the state of the water resources and also, ostracize the citizen from any involvement.

It is necessary to initiate a public policy that includes reform all the institutional aspects that allow public entities to solve basic administrative problems, to maintain and preserve the water cycle, operate efficiently the hydro-sanitary system and provide adequate services to the population.

CONCLUSIONS

After having raised the theoretical framework in relation to a sustainable management of water and stating the main challenges in the management of water in the city, valuable conclusions will be presented that can facilitate, in a future, the design of public policies that provide a response to the major problems that have been described.

First, it can be concluded that the system does not operate with the criteria that brings the sustainable development through the integral management of water. There is no coordinated development between water, land and other resources; disordered urbanization has affected water resources.

Economical results translate into a very expensive system, in investment, in operation and lacking of appropriate maintenance. SIAPA's debt is a proof of that, expensive investments have been made but have not yielded the expected results.

On the other hand, social benefits are limited because there are still areas where water does not arrive with regularity. There is a big gap between the people of marginalized areas having a hard time getting water with the people who have equipment of high consumption and waters hundreds of square meters.

Secondly, the principles of good governance cannot apply to the management of water in the conurbation of Guadalajara. With regard to the effectiveness, water policies in every level of the government still have undefined, clear, sustainable goals and objectives.

A proof of that comes with the lack of coordination in activities where each order of government is doing what it can, as declared by the Director of the State Water Commission in a debate held in April 2016, "*academics say what needs to be done and us,*

who operate, do what we can" (Muñoz, 2016).

Now, referring to efficiency, the benefits of a sustainable management of the water and the well-being, at the lowest cost to society, are not maximized.

There are poorly defined projects since their very beginning; such is the case of the *Arcediano Dam* or the project of *La Zurda-Calderón*, where the first was not executed, but cost over 700 million pesos, or the second one, that remains unfinished with a large amount of money invested on it as well.

Moreover, the confidence and participation are absent, because the inclusion of actors into the public debate regarding water is neither propitiated nor guaranteed which has led to have a permanent mistrust in everything related to the public sector. Cannot govern the water of the hand of the citizens.

Thirdly, the attention to the water cycle deterioration is zero. Persists in the public speeches, that there must be an increase in the volumes of water. It may come from anywhere, regardless of the environmental, economic and social costs. To leave aside the water cycle, is compromising the availability of water in the next 20 years (UNESCO, 2015).

It is necessary that the authorities understand that the water cycle is damaged and its restoration is a high priority to ensure the survival of future generations.

The decision-makers in the public affairs of water must establish the

water cycle as a point of departure for the design, implementation and evaluation of public policies, if not, it would be to condemn the city to the extreme shortage in the coming years.

Fourthly, the physical failures are the result of a deficient management in every aspect, from planning to the actual administration. In this matter, the contributions of the *integral management of water* are not seriously considered in the planning and management of water because they are not based on an analysis of the current state of water resources and therefore cannot be set goals and objectives or implement any strategies to monitor them.

It is a great challenge to move from a centralist management model, with a paternalistic attitude toward a decentralized and interdependent model to facilitate the coordinated participation between government and society to resolve such a complex problematic.

There is a need for a public policy that integrates the values of sustainability and its derivatives concepts to transit from a model based on the excessive consumption of water resources to one that uses them rationally. It is important to mention that the concept of *IUWM* is not considered part of the projects planning. Instead of integrating the rainwater sphere with the supply and sanitation spheres, the city is promoting mega construction sites to dislodge immediately the

rainwater runoff, which should recharge the aquifer.

This the current case in which the government promotes the investment of five billion pesos to solve the problem of flooding through the construction of collectors and channels to move away rainwater runoff. In 2016, is scheduled the first 800 million pesos to fold down the floods without taking advantage of other strategies or hard data available.

Fifthly, the failures in management are manifested mainly in the poor planning of water resources, as well as in its poor administration. Planning is done without first-hand information, which makes impossible to take correct decisions and giving place to probability to be the sole criteria of planning.

Without data cannot be measure, so you have to measure to decide. It was remarked that this planning does not accept the contributions of the society, mainly those coming from the academic sector (Del Castillo, 2016c), which has not allowed for a serious debate between authorities and experts to come up, in a coordinated way, with concrete actions to solve the problem from its core.

About the administrative part, it is observed that there is a great disorder that is reflected in the lack of coordination of actions between institutions. Then, an unbearable debt that restricts the scope of operation, the choice of non-suitable profiles for the management of water, as well

as the lack of transparency in the management of information and financial resources. The out-of-control administration hits the deficient operation of the system (*physical failures*) and as time passes by, administrative complexity increases as debts keep growing, the system deteriorates, the population demand more water and the scope to achieve a sustainable management of water is moving away ever further.

Finally, there is a true concern, as we do not know with accuracy if we have enough time to resolve these issues. If we think of the time that the water cycle has been damaged in the past 50 years, the time that has passed without a rehabilitation of the hydro-sanitary system and the accumulation of administrative problems; the questions that arise would be:

¿Do we have all the time to correct the course?

¿How much time remains for us to return the negative inertia before the availability of water collapses?

If you take into account the UN's report on water resources we could say that we do not have much time to reverse the damage, in such way that these challenges must be addressed as soon as possible to start with this great integral restoration that guarantees the life of current and future generations.

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E-GOVERNMENT ON LOCAL PUBLIC POLICY. THE SINALOA CASE

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ABSTRACT

Information and Communication Technologies (ICTs) have significantly impacted the organization and function of democratic governments in the past two decades. In this article we discuss the magnitude of changes in the public administration of Sinaloa, Mexico for effects of the adoption of e-government in the 2011-2015 period; also we show the uneven and arbitrary manner that has been put into operation due to the inexperienced and improvisation that has become a feature of local governments in the country.

KEYWORDS: E-Government, Local Government, Sinaloa, ICTs.

INTRODUCTION

The adoption of e-Government (e-Gov) has been taking place in rugged and arbitrarily way in Mexico and Sinaloa. Operation shows the incompetence and improvisation that characterizes Mexican governments for the optimal use of ICTs, which require for its implementation an efficient management and sufficient technological infrastructure, but especially a correct public policy conducted by government agents.

E-Gov allows closer relations between governmental organizations and citizens. It is composed of computer programs, sites, web pages and applications that should be visible through a system of interaction where public information, transactions and services are provided, being ICTs the basis for its development (Almarabehand Abuali, 2010).

Although the inclusion of digital computers in public administration can be traced, in countries like the US or the UK, to the fifties and sixties of the last century, the term e-Gov is linked from mid 90s to the birth of the World Wide Web and the consequent emergence of social use of the

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internet. At that time, governments open their first websites on the net and hang shortly after online services or procedures. Nowadays government at all levels, central and local, use ICTs to solve problems of efficiency and effectiveness, transparency and interaction with citizens. Although it is a global trend, its impact depends on the penetration of technology, the progress of the ideas of the new public management or management of public value, of the various existing institutional designs and government resources, among other factors (Luna, Gil-García and Sandoval, 2005).

The changes generated by ICTs offer great possibilities for academic research. The main e-Gov challenge is not just the application of ICTs (connectivity, generational and digital divide), it is necessary to consider democratization, willingness to share, collaborate and develop a better system for society. This paper analyzes the digital public policy in Sinaloa under the administration of Governor Mario López Valdez (2010-2016). We explain the proposed strategy, what happens within the governmental structure and its implementation in Sinaloa, placing it in the national and international context. For this is necessary to understand how new ways of communication, within reach of a click, affect the organization and public administration, as well as engage opportunities of various actors,

but also allows us to evaluate the performance of government agencies and the quality of information they provide in their official websites which is the key to its credibility.

1. BACKGROUND

The emergence of the so-called post-industrial society led to a host of changes where the added value generation, via knowledge and the use of ICTs, essential for innovation and improving processes, products and services of business and government (Gómez and López, 2009). At the enterprises level, the "new society of knowledge" and the ICTs have produced multiple adjustments in its organization, but also it has happened in a similar way to the interior of governments, predominantly in developed countries (Morales, Chávez, Arreola, Madariaga, 2013). This is because these countries as well as incorporating the technology into its management develop strategies to achieve continuous improvement of service to citizens in key areas such as: knowing the customer, connecting, training human resources and not to act isolated to the realities.

Changes within a government agency are derived from the constant evolution and social environment, so, new designs of public administration should be conducted with users in mind,

so that they are positioned as the main element of interaction government-citizen, assuming that a new political order, built on the ideas of participatory and deliberative processes, where the role of the citizen is not as a passive actor who receives services but a promoter of initiatives and co-creator of public content.

We must insist that the most significant changes at the government organization recently were brought about by a number of factors led by the impact of ICTs: we refer to economic, legal, political, demographic and cultural determinants. Over recent decades, the discussion about state reform has involved the vast majority of the world's governments.

Reform processes, take particular features in each country, but all are driven with a common goal: making government an efficient organization, able to give account to society for their actions (Cabrero, Arellano and Del Castillo, 2000).

A "modern administration" may consider legal, economic, social, organizational, technological and political aspects, which provide different perspectives of modernization itself, as the public administration does in general.

Each discipline can also be seen as an objective of modernization, so that public administration complements what receives from other disciplines, with its nature and principles.

Administration in general has adjusted accordingly to techno-

logical innovations and public administration in particular, it is being developed under the directions of the New Public Management (NPM) and Governance; the first of an administrative nature, and the second of a political nature (Télez, 2014; Quitanilla and Gil-García, 2014).

Although it is true that innovation is ICTs everyday affair, when we relate it to the government, it becomes problematic. It is not easy to apply the innovative dynamic to an institution like this, despite what many NPM authors claim (Osborne and Gaebler, 1992).

The facts confirm it, regardless the substrate bureaucratic that underlies all government organizations in Mexico in which it seems that public policies in this regard are not well defined at the national level (Jiménez, 2014). Similarly, at the local level, as in the state of Sinaloa, a kind of reversal in the modernization of public administration occurs, where the speech of innovation is used to pretend for a non-existent progress as we will discuss later.

2. E-GOVERNMENT AND PUBLIC POLICY

The concept of e-Gov such as the availability of public information on the Internet about government actions and management, to keep the public informed, has already been largely overcome.

There are many aspects of public administration where e-Gov has impacted: from the so-called electronic democracy to systems of social control and surveillance through ICTs. We cannot forget that greater social development will generate greater complexity in the ability to govern. e-Gov, as is defined by state entities, as well as demands of civil organizations, is considered a public policy (Contreras, 2013).

Clearly, many different projects fall within the concept e-Gov, according to its objectives, basic approaches and technological elements that support them.

Centrally, design and usability in public administration should be carried out taking into account users and become interactive as well as the creation of a legal framework which facilitates the development of initiatives in the use of information resources and promote the development of the knowledge society. Regardless of how we refer the e-Gov, citizen participation (e-participation) is primarily for development. For example, the e-services (options and benefits that the Web offers) allow citizens to participate in forums, blogs and answer surveys on issues of social, political and economics that are realized through: a) information, b) citizen participation and, c) carrying out paperwork, which in turn should allow interaction among government, business and citizens (Esteves, 2005).

According to the statements, e-Gov is defined as a public policy that aims at the integration of ICTs in the internal processes of governmental organizations and the services it provides. Also, for effective implementation of results, e-Gov is the result of a process of various stages where there must be participation of different social actors (Morales et al., 2013).

In last decades, there have been numerous texts about the issue of e-Gov. Academics, governments and consulting services had designed different models in order to measure the e-Gov development in different countries according to its realities. Lee (2010) carried out a qualitative comparative analysis of existing models to measure the development of e-Gov.

The revision of the author covers from 2000 to 2009 which defines 10 stages that allow comparisons among models. These phases are grouped as follows: Phase 1: email and intranet; Phase 2: presentation of information; Phase 3: interaction; phases 4, 5 and 6: transaction; phases 7 and 8: integration; Phase 9: transformation; and Phase 10: democracy or participation. The analysis concludes that e-government is based in two perspectives: city / services and operation / technology. In turn, brings together the perspectives according to the following "metaphors" shown in Table 1 that the author stated:

TABLE 1. E-GOVERNMENT STAGE MODEL, LEE (2010)

Stage	Description
Presenting	Refers to the simple presentation of information without much functionality. This metaphor embraces the stage of information that includes cataloging, publishing, scattered information, and billboard stage, etc.
Assimilating	Consists of interaction and integration, refers to the assimilation of basic computing ability (processes and services) with real world situations.
Reforming	Consists of transaction and streamlining, refers to the reformation of business processes of government.
Morphing	Changes of the shape and scope of processes and services that take place both in information space and in the real world, fitting for effectiveness.
E-Governance	Is an ideal stage, where the business processes of administrative and political services can be reconfigured almost real-time based on citizens' actual involvement in decision-making of the government, actually utilizing the full capability of advanced information and communication technologies.

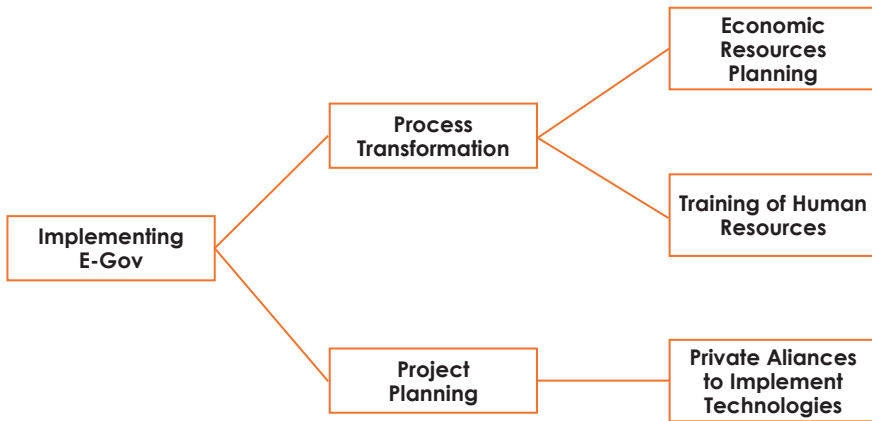
3. IMPLEMENTING A DIGITAL POLICY IN MEXICO

As mentioned, e-Gov is an expression that gained great popularity in the nineties, thanks to advances in information technology, telecommunications, cybernetics, electronics and other areas and the success of its application in the business sector, from where it moved to public administration (Barrera, 2014).

Since the beginning of the century, the success motivated Mexican Federal Government to use it as one of its strategies for administrative modernization boom, and remains today a must for public modernization across government benchmark. During the administration of President Fox (2000- 2006), and the creation of the Ministry of Public Administration (SFP, for its acronym in Spanish), committed to promoting among other things the improvement of public management through a unit dedicated thereto, the actions taken on e-Gov, raised the need to transform the Mexican Federal Public Administration to achieve a world-class government. National e-Mexico System was created, however a digital agenda to define specific strategies to transit to the "Information Society" was not designed until 2009. Its results left much to be desired if, in addition, we consider the high expectations generated. According to Ruelas (2012), e-Mexico was consecrated as a set of portals and data distribution without considering the demand of large groups of the population and the enormous connectivity problems existing in the country.

Implementing ICTs in a particular sector require a careful organization. Hiller and Bélanger (2001) establish the following points shown in Figure 1 as a guide for the government sector that wants to carry out plans to implement e-Gov:

FIGURE 1. IMPLEMENTING E-GOV. HILLER Y BELANGER (2001)



To define the processes in ICTs and Information Security (IS) which the institutions of the Federal Public Administration (FPA) should regulate their operation, apart from its organizational structure and methods of operation using the federal government, through the Ministry of Public Administration. In 2010 the Administrative Manual of General Application in the fields of information technology and communications, and the security of information (MAAGTICSI) was created in order to establish simplified and standardized processes and their regulation, allowing SFP to have indicators for measuring the performance of government agencies.

By the end of 2012 the public policy called National Digital Strategy (NDS) was undertaken, with five pillars, namely: governmental transformation, digital economy, quality education, universal and effective health, and public safety. As enablers, factors as connectivity,

including digital skills, technological interoperability, legal framework and a policy of open data were correctly anticipated. This policy falls under the National Development Plan 2013-2018, and is part of the cross-cutting strategy "Near and Modern Government". The conception of the NDS is virtually flawless in its structure and aims. However, the critical factor for its operation that has to be taken into account is the high level of digital illiteracy and the limited driving range of networks and access.

Due to the reality that e-government depends strongly on ICTs, a proper and coherent ICTs infrastructure for any institution will be one of the key success factors of e-Gov implementation. The lack of ICTs infrastructure and the heterogeneous nature of technologies will increase the digital division. Internet access varies among countries in terms of how fast they adopt new technology and how far they are behind.

Therefore, it is essential to investigate the impact of the ICTs infrastructure on e-Gov implementation in developed and developing countries. Even the recent telecommunications reform states that it is the right of all Mexicans to have access to broadcasting services and telecommunications, including the broadband and Internet (Mexican Constitutional Law, Article 6th), a project into the NDS called "Mexico Connected" has been implemented. This program helps to ensure this right by promoting more and more citizens to have a site or public space in the town, where they have the possibility of using Internet service, those are located mainly in schools, universities, libraries, clinics and hospitals, and government offices. However, its implementation confronts huge connectivity gaps since 2014 the population connected to Internet in Mexico barely reached 51% penetration on the universe of potential users (over 6 years), according to the Mexican Internet Association (AMIPCI, 2015). This situation represents a major challenge. By 2015 the Global Information Technology Report set Mexico ranks 69th out of 143 countries. The same report had ranked our country in the 59th place by 2010, so progress has been slow but significant.

In order to have an approach on the development of e-Gov in Mexico it is necessary to measure, analyze and evaluate the experience in the use of ICTs as a tool for improving governance and governability as performed by Luna et al (2015), who have been evaluating during 10 years the portals under the Electronic Government Index (EGI) in order to facilitate benchmarking and improve these portals. Taking as reference their methodology, we will use data from the period 2010-2015 to assess the government of Sinaloa.

The EGI uses an evolutionary approach on five components (Information, Interaction, Transaction, Integration and Participation), which are conceptually consistent with the rankings of most recognized

e-Gov internationally as the United Nations Public Administration Network (United Nations e-Government Survey).

The rankings out of the 32 Mexican states show important changes; Jalisco, state of Mexico, Mexico City and Nuevo Leon have remained as the leaders for 10 years of study. Although these have the most developed economies in the country, the authors (Luna et al., 2015) indicate that for cataloging a successful e-Gov, sustainability might be considered, which becomes for the Mexican case, generally the crux of politics. As our governments change their plans every 6 years, which means that projects and plans most often do not have continuity and reinvent themselves with every change of regime.

Meanwhile, Sinaloa, which is the object of our study, where the internet access covers 38.3% of the population, has maintained a position in the middle. From 2010 it was preserved above the national average ranking in the range of 40-48 points, between the top 15 of a total of 32. Its development is explained by two initiatives taken since early 2011 when the first digital public policy project for the state, as an innovative and ambitious proposal, was presented; the Ministry of Governmental Innovation (SGI) was created, as a responsible for the implementation of digital policy in Sinaloa, in order to create the necessary mechanisms to reach a consensus citizen participation, promote improvements in services and use technology to make it easier and to build a more friendly relationship with the Government of Sinaloa. Previously, the management of e-Gov was made from informatics office with just a technologist vision, without giving more importance to innovation management. Therefore, since 2012 we found an organizational innovation derived from a digital public policy. According to Lee (2010) the relation between citizen/service and operation/technology perspective, Sinaloa states at the reforming level (stage 3) which consists of transaction and streamlining that refers to the reformation of business processes of government (streamlining) changing their business processes be fitted with the underlying information technologies and systems, and the reformation of how they conduct their business with citizens (transaction).

4. THE DIGITAL PROGRAM IN SINALOA STATE

In order to consider carefully the e-Gov in Sinaloa, the applicable analytical model proposed by Subirats et al. (2008), was used; and we identify the nature of the substantive and institutional results of public action. Thus, the outputs of the Sectoral Plan 2011-2016 Public Management and Governmental Innovation of Sinaloa, provide:

- *Modernize official government portals; that it would be achieved through implementing best international practices in usability and improving user experience.*
- *Increase and diversify the supply channel of authorized payment through agreements with federal entities (Telegraph, Telecom, CFE -Federal Agency of Electric Power) and companies.*
- *Implement 25 mobile units for tax payment collection and delivery services to both individuals and companies. It is equipped with a computer system that would drive single window procedures.*
- *Install five information stands of different ministries and public bodies (with tourist information and government services) placing them in strategic places of tourist inflow and neighboring states (airport terminals, shopping centers, hotels, etc.).*
- *Integration of the National Network of Education, Health, Safety and Government, through the establishment of bases and network interconnection in state dependencies on a single network, bringing significant savings achieved in communications and would expedite the procedures.*
- *Reduction of the digital divide in marginalized areas, expanding coverage technology services to remote and inaccessible places, installing 32 Digital Community Centers (DCC) to provide communication, internet and government services.*
- *Design and implement a technology platform to validate birth certificates and eliminate this requirement before various instances. This would help to reduce the presentation of this document by at least 50%.*
- *Modernize consultations and procedures of the State Cadastral Institute, adapting a cadastral system, with information to citizens about their properties.*

The actions to be taken by the sector plan adheres to the proposals of the NDS and “Mexico Connected” but do not role as a complement to these or specify their connection (external coherence of the policy). The assessment as to the internal consistency of the policy should consider that the general and specific objectives are related to the inputs and outputs of politics, strategies, activities and, in general, all the actions and contents of the policies (Curcio, 2007).

The Sectoral Plan establishes three programs, one of these is the “New model of planning and evaluation of management and public policies” to measure the effects of public policies and show changes in behavior of the target groups and induced the final beneficiaries (outcomes). Its projects and objectives are shown in Table 2:

TABLE 2. PROGRAM 1. NEW MODEL OF PLANNING AND EVALUATION OF MANAGEMENT AND PUBLIC POLICIES

Project	Objective
1. Policy Planning	Design and promote the new planning model for results, which raise the performance culture in public administration and contribute to the overall development of the state.
2. Evaluation of Public Policies	Develop a performance evaluation model in state and municipal public administration, in order to measure the results generated.
3. System of Assessment and Monitoring Goals (SAMG)	Design and operate a system to inform the public about the progress in achieving the goals of the State Development Plan.
4. State Indicator System	Raise the culture of performance measurement, establishing a system of indicators for monitoring and evaluation of results of management and public policy.
5. System for Measuring Citizen Perception	Periodically monitor the perception of society on the progress of government, with a view to identify areas of opportunity to improve policies, strategies and programs.
6. Public Management Planning	Implement the planning of government action aligned to evaluation and budget mechanisms, bringing the innovation instruments to the state government sphere in order to consolidate the creation of a modern and efficient public administration.
7. Evaluation of Public Management	Implement in state and municipal public administration a Model of Management Assessment that allows generating performance indicators of both public servants and dependencies, helping it to decision making and allowing opportunities to improve processes to evaluate with a result-oriented approach.
8. Statistics Institute of Sinaloa State	Contribute to the fulfillment of a modern and efficient administration, thereby boosting government innovation outlined by the government, and strengthen the State Statistical Information System with actions, mechanisms and quality technology to produce the information in an advanced scheme.

The project 8 is vital to have inputs that help government make decisions, but simply was never materialized. Statistical information for the state is only in the “Statistical Yearbook of Sinaloa 2014” conducted by the National Institute of Statistics, Geography and Informatics (INEGI, for its acronym in Spanish) which is responsible for rising and publishing national information. At least, the information about the Website is updated.

In this context, despite the fact that the inclusion of ICTs is a tool for an innovative administration, the actions to relate it to its objectives are not clear in the Plan, only in Project 3. Indeed, the SAMG platform is the jewel of technological innovation for the government officials in Sinaloa; it was designed by the SGI and launched on the web in November 2011. SAMG is organized according to the three key areas in the State Development Plan which is divided: Political, Human and Material Work.

Each fundamental axis contains various topics and these, at the same time, include the 272 goals outlined in the Plan. The internal work between the SGI and the various units was to determine the indicators for each goal and the mathematical formulas that would be used to measure the amount of progress periodically (updated every 3 months). For example, in the axis of Political Work are contained issues such as Modern and Efficient Administration, Transparency and Accountability, Enforcement, Public Security and Social Peace, each one shows an overall percentage of achievement.

What we found, in over five years of system operation, is a wrong and misleading conception of what monitoring and evaluation mean, since the form of monitoring compliance of each goal is to establish itself as evaluators misrepresented the same agents that defined goals. This culture of evaluation was thrown overboard and is rather a bad example of what it should mean.

Government operations are robustly regulated and driven by policy and legal frameworks that comprise local constitutional law and other relevant laws, rules, and regulations. The main concern is required to understand and realize the profits that can be achieved by enabling e-government system. Laws and legislation, procedures and systems outwards towards the public are not only acting for the sake of technological change. To manage an efficient service delivery in the electronic environment, legal framework and legislation are essential. According to the documents consulted on the website SAMG Law initiative was sent and received in Congress since July 2015 but after a first lecture it has not been approved yet.

Enacting the required legal framework needed in Sinaloa to support the usage of new technology and introducing standards and legislation which ensure interoperability, compatibility and secure sharing of

information is one of the main reasons of its accidental implementation.

Due to the missing regulation, Project 6 was also derelict because the budget needed to operate within the SGI was never negotiated. This means, measure the public perceptions that would provide the key to improve the new e-Gov, became just as a good governmental intention.

None of the 3 programs that are the main of the SGI are regulated by norms so their implementation has been arbitrary. As Fountaine (2015) explains, laws are not only rules, when it comes to regulation, we speak of course of legal or juridical regulations, but there are other forms of regulation of behaviors, such as custom, codes of conduct and values transmitted by education.

According to the literature, a variety of studies insist that apart from ICTs infrastructure and legal framework, cultural attitude intended to the expression of differences in Internet dissemination among countries (Maintlan and Bauer, 2001). In some societies, the desire of Internet is not the issue compared to other priorities, such as security, poverty, education, and health, particularly in developing countries, such as Mexico. The priority issue in Mexico in general and Sinaloa in particular where the budget is concentrate in are security and welfare state programs. Additionally, in mid-2016 the SIG suffered a cut of 30% of its budget dedicated to

technological development and software designing. That's means that the objectives and goals of e-Gov have been diminished.

The use of these platforms as SAMG by the citizens and the reduced number of e-services provided are pretty low compared to the population in the state. However the demand is very low even with people who has Internet access and digital literacy, there are many factors that explain this lack of adoption but in this study we will not go throw this issue which is part of another work in progress.

As we noticed, the evaluation model devised by the SAMG platform to generate performance indicators was a failed attempt by how the goals and evaluation arise at the discretion of the same government agents. So there was no improvement of processes and results-oriented approach turned out to be a hoax.

For further analysis of the failed strategy using the e-Gov in Sinaloa, the argument of the "stakeholders", supported by Subirats et al (2008) can be taken, suggesting that public action is neither linear nor perfectly determinant of individual and collective behavior, i.e., that "the actors involved in public policy can, at each stage, use the institutional existing rules and resources that have not yet been exploited to try to influence the content of the stage at issue".

Indeed, in monitoring goals through SAMG, a misleading performance of the SGI is observed, the functionaries are

the ones who give the score advances and these advances are validated through a trade-record annex signed by the leader of the Secretariat itself, so by locating progress in carrying out goals that are certainly unrealistic.

Let's see how two programs shown theoretically evaluated by the SAMG: transparency and accountability, modern and efficient administration.

In transparency and accountability, the SAMG (Table

3) indicates an advance of 85.4% on average in 9 goals that make up this category, reaching under that system, outstanding scores, ranging from 83.3 in effectiveness in the quality of responses to requests for public information; 83.34% on the creation of an accessible and reliable civic center anonymous complaint so that they can report illegal or corrupt acts; up to 100% in terms of modernizing the transparency portal for all units comply with reporting obligations:

TABLE 3. PROGRESS IN TRANSPARENCY AND ACCOUNTABILITY

Goals	Progress
1. Improve and modernize the transparency portal, to resolve information needs and dependencies fulfill the obligations of Access to Information	100%
2. Implementing a Content Management System for the Training of Public Servants	100%
3. Create a public anonymous complaint center, accessible and reliable	83.34%
4. Maintain the standard of effectiveness such as responses to requests for information	83.33%
5. Annually organized the event "Week of Transparency and Accountability"	83.33%
6. Train the administrative personnel on government audit, procurement and public works, to provide greater transparency and certainty in the audit process	83.33%
7. Recognize the importance of citizen participation, involving 100% of the members of the committees of the social programs in the 18 municipalities of the state	83.33%
8. Prepare diagnoses and recommendations of internal control to all the entities of public administration	81.72%
9. Train 100% of public entities that constitute the State Executive Administration	78.57%

Despite these promising results presented by the SAMG, citizen's responsible bodies to monitor accountability and transparency in local progress report different data about the behavior of the government of Sinaloa in this period.

The head of the governor's office, said that "expenses report is a concept applied for international travels and, according to the Manual of Procedures for the Exercise of State Control and Public Expenditure, governor is not required to submit invoices" (Noroeste, 2016). It invalidates the obligation about transparency of official's expenses, according to the State Commission on Access to Public Information Sinaloa.

In the same way the subject of modern and efficient administration (Table 4) shows in February 2016 an advance of 81.1% on average performance of the 20 targets that comprise, among: Perform 46 public audiences through the Government Moving Strategy (92.06%); Promote the Act initiative Electronic Government (100%); and Create the Electronic System Online School enrollment in preschool, primary and secondary (100%):

TABLE 4. PROGRESS OF GOALS IN MODERN AND EFFICIENT ADMINISTRATION

Goals	Progress
1. Perform 46 public hearings, through the Government Moving Strategy	92.06%
2. Promote an initiative for reforms and additions to the Law of Administrative Justice of the State of Sinaloa, for online judgements	100%
3. Develop government portal with relevant information in at least 5 languages	100%
4. Re-engineer the state public administration	100%
5. Install the technological infrastructure to enable 100 Internet free points. Additional: Install infrastructure to enable 250 Internet free points	100%
6. Create the Electronic System of School Registration Online	100%
7. Build 18 technology platforms process for quick opening business	100%
8. Promote online judgments of the Court of Administrative	100%
9. Develop a technology platform for digital library Sinaloa	100%
10. Promote Act initiative Electronic Government	100%
11. Promote the Initiative Administrative Procedures Act and Public Administration	95%
12. Governing for results through a new model of planning and evaluation based on performance indicators	93.50%
13. Promote the ISO 9001 certification at least 40% of key processes and procedures in public agencies and entities	84.50%
14. Promote the initiative Civil Law Career Service in public administration	80%
15. Increase at least 30 online procedures on the government portal	63.30%
16. Achieve reduction of up to 20% of operating expenses with the detection and elimination of duplicate functions, unnecessary procedures and non-essential expenses	63.10%
17. Develop in the 18 municipalities the "System Citizen"	60%
18. Modernize and innovate processes in the 18 administrative units of the state	51%
19. Install 20 ATMs for transactions and services throughout the state	20%
20. Remove the birth certificate of at least 30% of government procedures	7.69%

Almost half of the 21 targets are achieved 100%, 3 are pointed with more than 90% advanced, two are in 80%, 3 to 60% and 3 with minimum percentages, indicating a strong success, however a meticulous analysis indicates that it is not true at all.

For Example 6 goals with high compliance, are drafted in a misleading way as referring to “promote and encourage” the creation of laws, certifications, and initiatives that lack elements to be evaluated, and there is no evidence for at least a real negotiation leading to achieve them. The units responsible for this are the SGI and the General Secretariat the ones that signed the certificate of validation of this data.

Goal # 15 create the system of school registration online is the one which has evidence of effective progress, being one of the main achievements in e-Gov for the SGI; although the initiative offers this tool to facilitate and expedite the process, it has found the problem of digital and generation gap which has brought discontent to parents to such implementation. Another example of unfulfilled goal, which requires fundamentally work and coordination of existing libraries, is the goal #18, which is “to develop a technological platform for creating Sinaloa digital library” (Figure 2):

FIGURE 2. THE INEXISTENT SINALOA DIGITAL LIBRARY



In a direct search on Google the only digital library that can be found is the one from the historic archive of the state, but not the “Sinaloa Digital Library”. In addition, the document that evidence its existence shows just one picture of the portal and a link recommended by them that does not lead anywhere.

It is clear that the different objectives in the 8 projects of the sectoral plan “New model of planning and evaluation of management and public policies” through e-Gov and whose focus was linking with citizens have had an unsatisfactory compliance. Moreover, contrary to the use of

e-Gov to optimize resources and make more efficient and effective services, rather than increasing digital platforms to provide e-services, the “Government Moving” (92.06%) was created, that consist on physically transportation of the offices to different sites of local geography every first Sunday of each month to cater directly to people. This demonstrates the huge local digital divide and lack of vision to overcome that gap approaching digital technologies through public access centers, which provide sustainable and durable service beyond populist and expensive policies, which is what it became.

CONCLUSIONS

The application and use of ICTs offers unprecedented opportunities for teamwork between different actors in society, but in local governments in Mexico it continues to be a pending issue, which has been slow to formulate strategies and initiatives to allow closer dialogue channels within public administration and citizens. Of course it is required an adjustment within the

governmental organization for the implementation of a public policy on e-Gov. In the local administration analyzed we found that the actions and programs designed are not well defined, it is seemed that the problems are not clearly identified as a result of political programs that are confused even in the official documents. The activities of the SGI during this administration, which is about to conclude this year, were never clear and either showed very innovative outcomes as a result it has a low level of credibility by society and some people don't even know about its existence. The law that set the actions to be taken to provide the benefits for citizens and the offer of an appropriate design of digital public policy to set e-Gov in the state continues to be a pending task.

Moving from the traditional way carrying out procedures and government services with the use of ICTs is a phenomenon that currently has not reverse; authorities at all levels will need to adapt and understand that it is the fastest, most efficient, effective and sustainable channel to bring benefits to communities. Certainly, the great gaps for “digital literacy” legal regulation, infrastructure, and the access costs problem, are the main causes that leave the new services beyond the reach of millions of Mexicans. Its attention can take generations and as its nature, will always need a continued progress and adapting to new trends of government.

Therefore the importance of following up research in this area is to be a reference in the design of digital policies that address the particular needs of individual government entities for proper implementation that considers the different actors of the society.

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THE CRAFTSMANSHIP OF POLITICS: NEGOTIATING THE 2014 POLITICAL- ELECTORAL REFORM IN MEXICO

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ABSTRACT

After the presidential election of July 2012, won by the PRI, the prospects for achieving meaningful changes in Mexico were not promising. The more pluralistic and competitive political environment developed in recent years had made increasingly difficult the creation of legislative majorities needed to produce major reforms. On the other hand, there was still unease and mistrust among political actors. The government and the opposition parties negotiated the Pact for Mexico, a multiple-issue agreement which provided the basis for pushing for an ambitious reform agenda, including a political-electoral component. The article theorizes that given the existence of formal constraints, political actors seek and build alternative mechanisms to provide viability and functional capability to the political system.

KEYWORDS: Electoral Reform, Negotiation, Governability, Mexico.

1. FRAMING THE ISSUE

After the presidential election of July 2012, won by Enrique Peña Nieto of the Revolutionary Institutional Party, (PRI, for its acronym in Spanish), the prospects for achieving major changes in the Mexican institutional framework were not promising. The more pluralistic and competitive political environment developed in recent years had made increasingly difficult the creation of the congressional majorities needed to produce major reforms. On the other hand, despite numerous political-electoral reforms, there was still unease and mistrust among political actors,

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with both electoral processes and institutions being questioned.

Mexico's democratization process has focused on a series of successive changes to electoral laws.¹ In the 1990s, and independent electoral authority, the Federal Electoral Institute (IFE, for its acronym in Spanish) was created. Later reforms strengthened IFE's independence and its ability to supervise and manage electoral processes, reinforced the role of the electoral judicial tribunal (TEPJF, for its acronym in Spanish) and allowed a response to increased demands of a more plural political environment.

After 65 years of dominance, in 1994 the PRI lost qualified majority in the Chamber of Deputies, and in 1997, simple majority. In 2000, it lost the presidency to the National Action Party (PAN, for its acronym in Spanish), which would win it again in a close election in 2006. Afterwards, the impartiality and effectiveness of electoral institutions and rules were questioned, and a major reform took place in 2007-2008, focusing on achieving equality in media access. Political parties were forbidden to buy media coverage, now administered by IFE (using government time slots, charged as taxes to media companies).

During the 2012 presidential election, criticisms and dissatisfaction were voiced again, mostly on the lack of control on the flow of resources and overspending in political campaigns, particularly by the presidential candidate of the PRI. The PAN and the Democratic Revolutionary Party (PRD, for its acronym in Spanish) also complained that PRI governors (governing most Mexican states), increasingly empowered by receiving federal oil revenues and acting as local chieftains, controlled local legislatures and electoral authorities, and decidedly intervened and favored their party.² IFE's performance was questioned, and it was argued that it had lost its credibility as an impartial and professional institution.

Democratization in Mexico turned divided government into a real possibility, and brought the risk of stalemate. During the PRI hegemonic regime concentration of power in the presidency and its control of the party meant automatic legislative majorities, with no need for negotiation or the creation

1. Electoral reforms have taken place in 1977, 1986, 1990, 1993, 1994, 1996, 2007-2008 and 2013-2014. See Becerra, Salazar & Woldenberg (2000), Merino (2003) and Woldenberg (2012).

2. Since the early 2000's, state governments increasingly received resources from the federal government, as a share of oil revenues. With little overview, they used the resources discretionally. Governors from all three major parties created an informal organization, the National Conference of Governors (CONAGO, for its acronym in Spanish), to discuss issues of common interest and give statements. Through federal legislators from their home state, many attempted and succeeded in exercising influence over the federal budgetary process.

of coalitions. More pluralism has produced a more active and assertive Congress, and winning coalitions were now needed to be skillfully crafted (Rosell, 2000, ch. 1).

Theorists of democracy have stated the balance between the principles of representation and governability, between more diverse and plural government components and more government efficacy. They are both important to construct democratic legitimacy, since plurality provides moral foundations, but a lack of response to society's needs and problems could undermine such legitimacy.

Depending on a specific situation and context, the balance can lean towards one or the other principle, in order to provide continuity and functionality to the political system.³ After increasing movement towards more pluralism, the need to achieve important reforms in Mexico seemed to call for the strengthening of governability. A presidential regime with three major political parties (PAN-PRI-PRD), it turns very difficult to build winning coalitions, able to approve major legislative changes.

This article theorizes that although formal institutional arrangements constraint the functional capability of a political system, political actors seek and develop alternative mechanisms to improve its performance. A more pluralistic Congress in a presidential system, with three predominant political parties, increases the possibility of confrontation with the Executive and reach stalemate. Furthermore, after a process of strengthening representation and democratization, rising expectations for an effective government, capable of improving general economic and social welfare, mount pressure to obtain results. The difficulty to change the framework or follow time-consuming and uncertain established paths work as incentives for political elites to shorten and make more efficient communication channels and implementation measures.

Following theoretical reasoning, major political players construct semi-formal arrangements for negotiating and improving chances of policy success. Government leadership identifies key actors and their interests, as well as the major issues to be addressed. In a multi-level and multi-issue negotiation

3. On this classic debate, see Sartori (1997b, ch. 1) and Nohlen (1984).

process, every party involved should make some gains, according to its relative leverage position. The negotiators develop a commitment to achieve and implement agreements, even at risk of alienating part of their own constituencies. This allows the political system to work outside and alongside the institutional framework, dramatically increasing the chances of moving forward in a reform agenda.

2. PREVIOUS ATTEMPTS

Attempts to facilitate the creation of majorities and enhance governability have had scant results. In December 2009, President Felipe Calderón from PAN made a proposal for a political and electoral reform that included second ballot for presidential election, legislative and mayoral reelection, reducing the size of Congress, raising the threshold for political parties, and preferred presidential initiatives. It also contemplated measures to favor democratic representation and participation, such as independent candidates, referendum, and citizen initiative. Although many of these components had been part of several previous proposals, the novelty was the way to combine them.

President Calderón had achieved only very limited fiscal and energy reforms, and his political party faced unfavorable results in the 2009 midterm election. Thus, he sought to deal first with a political reform, in order to strengthen the Executive and make more accountable and efficient the legislative process. After a long debate and the introduction of competing proposals, a diminished political reform was approved in August 2012. It only included presidential initiative, independent candidates, citizen initiative and popular consultation. The formation of coalition governments, a theme introduced in the Senate, was also excluded.

In July 2012, Enrique Peña Nieto won the Mexican presidency with 38.21% of the vote, against 31.59% of Andrés Manuel López Obrador of the PRD, and 25.41% of Josefina Vásquez Mota, of the PAN. Unlike the 2006 election, when Calderón won a close victory over López Obrador (35.89% versus 35.33%),

Peña Nieto had a considerable advantage. Despite accusations of spending money during his campaign well above legal limits, his victory was not effectively contested.

After Calderon's election, López Obrador along with the PRD had organized a "civic resistance" campaign, refusing to accept the official result, arguing inequalities during the campaign, particularly in media coverage. He declared himself the "legitimate President" of the country, but his leadership and tactics within his own party began to be questioned and challenged. Even so, the possibility of an alliance with the PAN, Calderon's party, became highly improbable. The new federal government, unable to find support in the PRD, could only turn to the PRI in order to create legislative coalitions large enough to achieve major reforms, since many required a qualified majority in Congress.

The PRI, still baffled by its second presidential defeat, found itself as the key player, with the largest contingent in the Chamber of Deputies and the second in the Senate. It became an unwilling partner, refusing to grant significant gains to the Executive.

As mentioned earlier, Calderón had only limited success on two key items in his agenda, fiscal and energy reform. In the political arena, the PRD demanded changes in electoral laws and the Federal Electoral Institute, which resulted in the prohibition of buying media exposure by political parties, requiring IFE to assign it, and the removal and replacement of IFE's directing body, the General Council.

López Obrador would again be presidential candidate in the 2012 election, but as mentioned earlier, this time his claim was less appealing and more difficult to argue. A more moderate faction of the PRD, labeled New Left (*Nueva Izquierda*), gradually took control of the majority of the party structure.⁴ López Obrador, still with considerable backing but increasingly becoming more distant, would eventually leave the PRD and found a new party, National Renovation Movement (MORENA, for its acronym in Spanish).

4. Jesús Zambrano, member of *Nueva Izquierda* became president of the PRD in 2011. Other leaders of this faction include Jesús Ortega and Guadalupe Acosta Naranjo, former presidents of the PRD, and Carlos Navarrete, elected president in 2014.

3. THE SEARCH FOR AN AGREEMENT

The new PRD leadership was willing to portray itself as a constructive and collaborative option, and some of its members approached president-elect Peña Nieto's transition team, seeking to build an effective communication channel (Hernández, 2012). They got a positive response. Peña Nieto was a pragmatic politician, eager to obtain support for his ambitious government agenda. He saw an opportunity to create an alliance with opposition political parties, with specific commitments by all parties involved. The PRI had the largest legislative group in both chambers of Congress, and could achieve simple majority with his political ally, the Green Party, (PVEM, for its acronym in Spanish). But many reforms required constitutional changes, and thus a qualified majority. Furthermore, wider coalitions were needed to provide legitimacy and reach to any reforms.

The PAN leadership was also invited to join the conversation. In the presidential election, its candidate Josefina Vázquez Mota finished in third place. This was a major disappointment for the party, after a campaign that seemed to lack proper coordination, with confusing political messages, and even a distant relationship with the president and his group.

Vázquez Mota was not Calderon's favorite choice for presidential candidate, and the PAN leader, Gustavo Madero, had to defeat a strong challenger supported by the Executive. Madero was still struggling to achieve effective control of the party structure, and being approached by the president-elect to participate in high-level negotiations seemed useful to strengthen his position.

Peña Nieto hoped to give his presidency a strong start-up, capitalizing on an initial agreement that could provide congressional support. Negotiations for what was labeled Pact for Mexico (*Pacto por México*) were initially very discrete, with only a few individuals involved. But eventually information leaked, and voices of discontent emerged in both PRD and PAN, arguing a too close relationship with the newly elected government. The president-elect wanted to

announce the pact before taking office, but it had to be postponed for a few days, in order to allow PAN and PRD leadership more time to address criticisms. It was finally signed on November 28, three days before Peña Nieto's inauguration.

To move forward with his agenda, Peña Nieto had first to promote changes within his own party. The PRI statutes included opposition to value added taxes in food and medicines, as well as privatization in the energy sector, particularly in the oil industry. The structure and rules of the party, with strong centralized leadership control and incentives for discipline for career advancement, allowed Peña Nieto to change these stands, in preparation for possible reforms.

The PRD, on the other hand, had a long tradition of factionalism. Founded as an aggregation of leftist parties and dissidents from the PRI, it officially recognizes the existence of "tribes" (*tribus*) or groups that gather around political leaders that control votes and party and government positions.⁵ As mentioned before, the group that took the party leadership was moderate and willing to work with the new government, but had more difficulty to gather support. The PAN also presented divisions, but without official recognition, and more oriented towards individual party member participation in internal debate and competition. The so-called "traditional" party membership disliked getting too close to a *priista* government, and the *calderonista* group was struggling to preserve its influence, so PAN leadership had also to deal with questioning and dissent in its cooperation strategy with the new government (Nuñez & Gómez, 2012).⁶

The Pact for Mexico set an ambitious agenda for the transformation of the country, promoting reforms in areas such as the energy sector (including oil, a long-standing nationalist stronghold), fiscal policy, telecommunications, the financial sector, the criminal code and education. The newly elected government followed a bold negotiation strategy, pushing for profound changes and incorporating concerns and priorities of the PAN and PRD leaderships. By negotiating in multiple topics and addressing demands on several issues, President Peña Nieto's close group

5. On the origins, structure and functioning of the PRD, see Cadena Roa & López Leyva (Comps). (2013).

6. The *calderonista* group was headed by senators Ernesto Cordero, Javier Lozano, and Luisa María Calderón, sister of the former president.

was able to build a written agreement that stated 105 specific commitments, signed by his government and the major opposition parties. Thus, this “semi-formal” coalition, a result of able political craftsmanship, paved the ground for the intense legislative and political activity that followed.

The Pact included commitments 89 and 90, which dealt with electoral and political reform. Both PAN and PRD were concerned with issues like the enforcement of campaign spending controls. The PRD also wanted political reform in its stronghold, the Federal District (which includes Mexico City) to turn it into a state, and the PAN asked for the creation of a national electoral authority, overseeing both federal and local elections.

As mentioned before, after the PRI lost the presidency, its governors became autonomous powerful figures, benefiting from oil revenue resources provided by the federal government. The PAN argued that many PRI governors controlled their state legislatures and local electoral authorities, resulting in uneven conditions for electoral competition.

4. THE NEGOTIATION PROCESS

The early legislative approval of the education and telecommunications reforms were presented as important successes of the Peña Nieto administration. This raised criticism within opposition parties, accusing their leaderships of providing support and getting nothing in return. The Ruling Council (*Consejo Rector*, which included the leaders of PAN, PRD, PRI and government officials), established to preside and oversee the Pact, was denounced for assuming legislative functions, reaching agreements that should be discussed and debated in Congress. Madero faced reelection as president of the PAN, and the PRD also had an upcoming election to renew its leadership, and participation in the Pact would become a campaign issue. The leaders of both PAN and PRD were accused of being “too close” to the Peña Nieto Administration. Despite being questioned, participation in the Pact strengthened their position within their own parties.

Later on, for the first time ever, the PRD was able to negotiate presiding over both chambers of Congress.

The leader of the PAN Senators, former presidential pre-candidate and head of the *calderonista* group Ernesto Cordero, openly challenged Madero. Along with a group of PAN and PRD Senators, he introduced a proposal for a major electoral and political reform, including far-reaching changes that would basically result in a semi-parliamentary system. After several calls for discipline and then threats, Madero removed Cordero from senate leadership, and later managed to win reelection. The PRD's New Left group resisted detractors and had to postpone internal elections, but would also keep its presidency and main positions.

The fiscal reform was important for the federal government, since public finances were highly dependent on income from taxes to PEMEX, (for its acronym in Spanish) the state oil company. The Peña Nieto administration wanted to lessen this dependence, and also allow PEMEX to have more resources for investment in exploration and oil production. The government worked on a proposal that included tax increases for middle and high income contributors, as well as new taxes and limit fiscal credits for large companies.

However, it did not contemplate applying the value-added tax to food and medicines, a very sensitive political issue (although no longer a banner for the PRI),

which constituted a critical stand for the PRD. The administration had the approval and support of the PRD, but the PAN denounced the agreement, seen as harmful to its middle-class voter constituency, and refused to endorse the bill.

The energy reform was also a priority for the Peña Nieto administration, since it hoped that the opening to private local and international investment would boost the sector, in particular the oil industry, and drive overall economic growth. Nevertheless, the PRD strongly opposed any measures to increase private participation, so the government's position was much closer to the PAN. But the *panistas* were resentful after being left out in the fiscal reform, and denounced that during the local elections in Veracruz in July 2013, the PRI governor had built an "electoral network" that used social assistance programs and provided unlawful resources and support to his party, reinforcing the argument of a collusion between local electoral authorities and state governments (*Reforma*, 2012).

The PAN leadership threatened to abandon the Pact, but decided to say and demand that only after a political-electoral reform had been approved, they would negotiate an energy proposal with the federal administration.

The government accepted and negotiations continued. PAN President Madero wanted to focus on electoral issues, arguing the lack of time for completing a more

comprehensive agreement that could apply for the 2015 elections. But PAN legislators insisted on a wider reform, including institutional changes, and forced Madero to comply. Both PAN and PRD leaderships introduced political-electoral reform proposals, along with the previous senatorial initiative (supported by groups of PAN and PRD senators). The Peña Nieto administration and the PRI decided not to present their own, and the Ruling Council of the Pact for Mexico announced that negotiations would take place using the three existing ones (*Reforma*, 2013).

The main demand of PAN was the creation of the National Electoral Institute, INE, which would take the place of IFE and be in charge of organizing all local and federal elections. It was expected that this new entity would break the governor's control of state electoral organisms, since local electoral counselors would be named and supervised by the INE, and would contribute to reduce costs by using more efficiently the available resources and centralizing spending controls. Critics (including many academics, IFE electoral counselors, governors and state electoral counselors) argued that the new scheme would damage federalism, ignore the uniqueness of local electoral processes, imply a costly transition, and produce no significant savings (Michel, 2013; Ibarra & Guerrero, 2013). PAN negotiators, however, stood firmly and prevailed.

Other central points in the discussion were campaign spending limits and controls, causes for election annulment, legislative and municipal reelection, threshold for political parties, and the formation of coalition governments. The PRI and the government refused to consider second ballot for presidential election and a new law on government publicity and propaganda. The PAN, PRI and the government went along with the negotiations, and although the PRD participated, its request for political reform in the Federal District was sidelined and left for a later review.

Talks between PAN and the federal government on energy reform had also continued. Nevertheless, when the political-electoral reform seemed to drag in local legislatures controlled by the PRI (a simple majority of state congresses was needed for its final approval, and then signature of the federal Executive), the PAN threatened again to abandon the table. The PRI leadership had to declare that its local legislators were committed to its approval, the reform moved on, and negotiations on energy continued.

Meanwhile, the PRD denounced that the PAN and the Peña Nieto administration were exchanging the political for the energy reform.

The energy proposal brought close the positions of PAN and the government, allowing expansion of private investment in the sector (as noted earlier, Peña Nieto had the PRI modify favorably its posi-

tion on the subject). For the PRD it was a non-compromise issue, and it was left out of the talks. The PRD leadership announced its official withdrawal from the Pact for Mexico, effectively terminating its existence.

During the negotiation of the reforms, the federal government was accused of “buying” legislative votes. Political parties in Congress receive resources for legislative activities, which are used discretionally and with scant accountability. An increase in these resources, extra payments for “legislative performance”, as well as federal allowances for specific projects to be chosen by the legislator in his or her district or state, raised concerns about the issue, although no investigation has proved these allegations (Salazar, 2014; Herrera & Guerrero, 2015).

5. THE NEW RULES

The political-electoral reform was signed by President Peña Nieto in January 2014, and in the following May a new General Law on Electoral Institutions and Procedures (*Ley General de Instituciones y Procedimientos Electorales*), applying for both federal and local levels, was issued. Other new ordinances were the General Law on Political Parties (*Ley General de Partidos Políticos*) and the General Law on Electoral Felony Matters (*Ley General en Materia de Delitos Electorales*), both also published in May, the Federal Law on Popular Consultation (*Ley Federal de Consulta Popular*), issued in March, and modifications to the existing General Law on the System of Impugnation Means in Electoral Matters (*Ley General del Sistema de Medios de Impugnación en Materia Electoral*), also in May. The new framework includes changes related to institutional, representation and governability issues. Some of the major points in each theme are discussed in the following section.

5.1. INSTITUTIONAL CHANGE

The creation of the National Electoral Institute meant that all national and local elections were under its

jurisdiction, although local electoral authorities were preserved as a result of a compromise with the PRI. Nevertheless, local electoral counselors were now to be appointed by INE, not by state congresses or other provisions, and arguably away from governor's control. The conformation of INE's directive body, the General Council, was a result of intense negotiations among PRI, PAN and PRD.

After a selection process that included examination by an outside committee (formed mostly by non-partisan members from academia), the parties supported specific profiles and candidates. The General Council named local counselors, also after a selection process including testing and interviews, and also choosing from the finalists from parties' proposals.⁷ In local electoral tribunals, judges are now named by the Senate, instead of state legislatures and the governor, also attempting to provide them with more leeway from the local executive.

The INE assumed most functions in the general organization of elections, has now the faculty to attract the overall local electoral process, can remove local electoral counselors, and can choose to delegate certain provisions, such as political parties and candidates spending overseeing and controls. This institutional design gives great leverage and control to the central authority, but it also allows its discretionary use and has built-in the potential for conflict.⁸

A commission was created inside INE to supervise and control spending by political parties and candidates, which would closely work together with the existing technical Fiscal Unit (*Unidad de Fiscalización*). This unit was harshly criticized by both PAN and PRD for its reports on allegations of vote buying and overspending by PRI candidates, which denied any wrongdoing. Both the commission and the unit would now be responsible for receiving and reviewing financial reports of every party and candidate in every election, a dramatic increase in workload from previous years.

The reports would have to be revised much faster and efficiently, since overspending became a cause for election annulment (five percent over the authorized limit). As mentioned before, this task

7. The General Council of IFE had 9 members, with the INE it was expanded to 11. The IFE functioned with 8 members since February 2013, when one counselor resigned, and with 4 from November 2013 to April 2014, when PAN and PRD in Congress refused to name their replacements until the creation of the new INE. Local counselors (members of the Public Local Electoral Organisms, *Organismos Públicos Locales Electorales*, OPLES, generically known as such, but that conserved their previous name in each state) were appointed in July 2014 only for the 17 states that would have local elections in 2015.

8. On the use and implications of institutional design, see Lijphart & Waisman (Eds.). (2002) and Horowitz (2002).

could be delegated to local authorities, however, it will probably be centralized given the mandate to improve control over campaign finances. Other causes for annulment are using money coming from illicit sources, taking advantage of diverted public resources, and buying media coverage. When the difference between the first and second place is less than five percent, these causes will be considered determinant in the result of an election.

Although one of the main arguments for the creation of INE was saving resources by centralizing and making more efficient management and spending, it will be difficult to do so. Since the 2007-2008 reform, money allocated for political parties and its campaigns is calculated according to the number of registered voters and the minimum salary. New and expanded faculties and the need to develop more capacities have INE asking for more resources, not less. Local authorities continue to exist and cost money, and now all its counselors receive the same salary (an increase in most cases) and use the same formula to allocate resources for all local elections to political parties (which also meant an increase in most cases).

5.2. REPRESENTATION

Consecutive reelection in Congress had been opposed by PRI, on grounds that it favored the rotation of political membership and that its implementation could erode party discipline.⁹ Arguments in favor include making lawmakers more accountable, giving constituency means to approve or disapprove its performance, professionalization of legislative work (more experienced members), and creating a mutual trust relationship among representatives that can allow giving in today in an issue, in exchange for support in the future (Jacobson, 1992, ch. 5). The PAN and PRD pressed on the matter, and the PRI finally accepted. Senators and Deputies can be reelected

9. On the effects of reelection on party discipline, see Sartori (1997a, ch. 3).

for immediate periods, one for the first and two for the second, for up to twelve years.¹⁰

Nevertheless, PRI's fear of "runaway candidates" that could switch parties or run as independents if they lose internal nomination, took to the provision that reelection only applies with the same party, and if the candidate wants to run by a different party or as an independent, he or she must resign to its original political party before the first half of the legislative period. Political parties retained control over the distribution of campaign resources, and a centralized structure of power remains in Congress, were party leaders and their negotiation arena, the Political Coordination Board (*Junta de Coordinación Política*) controls resources and committee assignments (Rosell, 2000, ch. 5). Immediate reelection for municipal governments, which had also been opposed by the PRI, was also introduced for a second period. The PRI first negotiated that every state Congress would decide on the issue, but legislators from both PAN and PRD insisted and were able to make it mandatory in the Constitution for all states.

The new legislation states that half the candidates for Congress of every party must now be women, and in the party lists of proportional representation candidates, women and men must be intercalated. All election formulas (proprietary and substitute candidates) must be of the same gender. These are important and decisive affirmative action measures.

Independent candidacies, introduced by the 2012 electoral reform, were also regulated. In order to run for office, they must constitute a civil association that will receive the same fiscal treatment that a political party. They will get public resources and have access to media, all together as if they were a newly registered political party (then divided amongst them),¹¹ and can also have private funding. Depending on the election, they can have representatives in councils of electoral authorities at all levels. To be presidential candidate, they must gather signatures of one percent of the electoral registration list, in at least seventeen states. For senatorial and deputy relative

10. The Mexican Senate has 128 members, two elected by formula in each state by the relative majority or winner take all principle, one from the first minority party in each state, and 32 by proportional representation from a national list. The Chamber of Deputies has 500 members, 300 elected by relative majority in their districts, and 200 by proportional representation divided in 5 regional lists. On the issue of improving representation through electoral reform, see Dummett (2004).

11. Available resources for political parties during elections (calculated in reference to the voter registration list, *lista nominal de electores*) are divided as follows: 70% according to the vote obtained in the past election for deputies, and 30% equally amongst all parties. Newly registered parties have only access to the later.

majority candidacies, they must convene signatures of two percent of the state or district electoral registration list.

Although independent candidacies allow direct representation, without the intermediation of political parties, obtaining the required signatures is a daunting task for most citizens, who need to build a mobilization structure. The resources they can gather and use are relatively scarce compared to the support an “official” party candidate can receive, so expectations about this figure should be very modest. Even if elected, independent lawmakers could be isolated, with little chance of effective impact on legislation, without the support of a party group and probably divided amongst them.

5.3. GOVERNABILITY

The electoral reform allowed the creation of partial electoral coalitions, which meant that political parties should support at least 50 percent of common candidates in a given election, under the same political platform. It also contemplates the flexible coalition, with at least 25 percent of common candidates under the same platform. These measures are supposed to facilitate agreements for political parties, encourage a wider support for candidates, and favor the formation of legislative coalitions.

The Law on Political Parties stated first that votes for a coalition candidate in a ballot would count only as one, and not for each allied political party marked in it. But the PRD and the small political parties (Green-Ecological Party of Mexico, *Partido Verde Ecologista de Mexico*; Workers’ Party, *Partido del Trabajo*; Citizens’ Movement Party, *Movimiento Ciudadano*; and New Alliance Party, *Partido Nueva Alianza*) were opposed, and took their claim to the Supreme Court, which invalidated the provision (Fuentes, 2014). This improved their chances of managing enough support to preserve their official registry, and of gaining proportional representation seats.

The legal framework established that no political party could have more than 8 percent of overrepresentation, that is, the number of seats in relation to its percentage of the vote, not only in the Chamber of Deputies (as previously stated), but also in all state legislatures. This principle limits the possibility of larger parties, most likely the PRI, to have access to more proportional representation seats and achieve legislative majority.¹² It favors pluralism and the principle of representation, now uniformly across the country.

The law also rises the threshold from 2 to 3 percent of the vote for political parties, to obtain and maintain their registry. It is argued that a too low threshold could imply the inclusion of irrelevant parties, but one too high might leave out significant options and inhibit the birth of new ones (Sartori, 2005, pp. 105-109). There's the viewpoint that fewer political parties make negotiations easier and agreements more feasible. Only the Green-Ecological Party, PVEM, has had the sufficient size and position to determine the formation of a winning legislative coalition. There's also the public perception that small parties have scarce representation, cost much taxpayers money, and some are managed as private businesses or personal political platforms. Thus, the measure is aimed at reducing the number of political parties, and arguably improving governability.

Popular consultation was introduced with the 2012 reform, and regulated with the new law on the subject. It supposedly provides a decision device for major issues, although running the risk of being overused or increase confrontation (Powell, 2000, ch. 3-4). The consultation issue can be proposed by the Executive, one of the chambers of Congress (with 33 percent of senators or deputies), or a group of citizens (with 2 percent of the voter registration list). It must be approved by the Supreme Court, and voted by both chambers Congress. Matters of human rights, electoral rules, State income and expenses, national security and armed forces, and foundations of the republic (federal, representative democracy) are to be excluded. Its result will become mandatory if the overall turnout is at least 40 percent of the voter registration list. The consultation takes place the same

12. On the subject see Shugart & Carey (1992, ch. 9).

day of the general election, substantially improving the chances of enough participation to become mandatory.

Considered a useful mechanism for breaking political stagnation or stalemate, popular consultation is thus an instrument for effective government. However, Mexican political parties used it as a mean for campaigning. During 2014, the three major parties requested INE (by law in charge of organizing them) to include consultations in the June 2015 midterm elections, the PRD on revoking the energy reform, the PAN on minimum salary raise, and the PRI on eliminating proportional representation seats. This provided them with extensive media exposure, very useful in a non-electoral year. It was dubious that any of them would be approved by the Supreme Court, which actually rejected them. But the gain was considerable, and the incentive is attractive even if they don't fulfill the legal requirements. Furthermore, if one major party proposes a consultation, the others will very likely follow with one of their own.

The political-electoral reform contemplates the possibility of a coalition government, when the president invites one or more political parties different from its own. This allows a wider support base in the Legislative, in exchange for coordinating public policies and positions in the Executive branch. It provides a formal basis for an agreement that could construct a working and enduring majority in Congress, something a single party has not been able to achieve since 1997, when the PRI lost simple majority in the Chamber of Deputies. If an agreement is reached, the Senate would ratify cabinet appointments. This widens the options if the president's party doesn't gain majority in Congress.

The Executive can now choose between a minority government and intense legislative negotiation to have his proposals approved, or negotiating first a coalition that would assure legislative support, although by sharing the conformation of his government agenda. It provides an interesting and useful mechanism to improve governability.

The main criticism to this type of arrangements is the difficulty to achieve consistency in the design and

implementation of the public agenda, and that a cabinet composed by members of different political parties could compromise the unified command structure of the Executive.¹³ Although the agreement should specify the causes for its abandonment, it's hard to foresee its duration. The end of the coalition does not imply the fall of the government and a call for new elections as in a parliamentary system, but it can have a high political cost, hinder future cooperation, and disrupt the continuity of public policies.

The creation of coalition governments was put forward in similar terms during the negotiations for the 2012 political-electoral reform, by the then leader of the Senate, Manlio Fabio Beltrones of the PRI, supported by PAN and PRD. Nevertheless, Beltrones was a contender against then governor Peña Nieto for the PRI presidential candidacy, and its acceptance could have been viewed as an achievement for the senator.¹⁴ The governor's advocates in Congress refused to include the measure then, but it was proposed again by the PAN and PRD and included in the 2014 reform. The Pact for México was actually an attempt to construct a coalition among major political parties and the government, to provide some certainty and continuity to a very ambitious reform agenda. A provision to formalize such arrangements seemed appropriate.

CONCLUSIONS

The Pact for México was an interesting experiment, crafted with a pragmatic sense of opportunity, where every political actor involved was willing to give and take. The close negotiation among a compact group made possible an agreement, offering the government a chance to push for an ambitious reform program. It provided opposition party leaders and their groups with a tool to influence the public agenda, claim credit in some issues, but distance themselves from some others. After successfully confronting and taming discontent within their own organizations, they were able to effectively strengthen their position and party control, and deliver the legislative coal-

13. Shugart and Carey argue that legislative ratification of the cabinet is an effective parliamentary measure to improve governability, allowing participation of both branches in the conformation of government. On the other hand, Pasquino questions the unified functioning of "compound cabinets", although referring to semipresidential regimes. See Shugart & Carey (1992, ch. 6) and Pasquino (2007).
14. Beltrones was later elected deputy and became leader of the PRI group in the 2012-2015 legislature.

tions needed to construct the majorities that made reforms possible. It can actually be viewed as a preview, of how a formal government coalition in the Mexican presidential regime could work.

The political-electoral reform was negotiated as a component of a larger agreement, which sought to also address social and economic issues, and thus arguably improving the overall quality of the Mexican democracy.¹⁵ The multiple level channels of exchange made possible the inclusion of some measures long discussed but discarded in previous reform attempts, such as reelection and coalition governments. It created a new institution, INE, which centralizes the organization and supervision of all federal and local elections, an immense and complex task.

The reform introduces figures that seem to facilitate the creation of legislative majorities, and thus favor governability. They include limbering electoral coalitions, a higher threshold, decision through popular consultation, and the possibility of formal coalition governments. Nevertheless, it also incorporates some that seek to assert representation.

Reelection is supposed to make lawmakers more accountable and responsive to their constituencies, and less disciplined to political party structures. But electoral and congressional rules put a very high price on rebellion, and provide effective means for party predominance. Independent candidates, allegedly a voice for unsatisfied citizens, also have to fulfil tough requirements and overcome major obstacles to have a chance to be elected.

The permanence and extension to all state legislatures of the limit to overrepresentation diminishes the prospects for an outright majority by a single party, implying a clear recognition of a more plural political environment. However, the overall combination of these elements seems to lean toward generally improving governability, but they will have to be tried out and probably modified, or even abandoned along the way. The 2014 political-electoral reform was the result of an innovative negotiating arena and process in Mexican politics, and a further step in the country's democratic advancement.

15. The concept of quality of democracy and its components is discussed in Diamond & Morlino (Eds.). (2005).

As the theoretical framework indicated, non-established, semi-formal negotiation arrangements were critical for success. President Calderon's 2012 electoral reform was very limited, after following established institutional routes that led to strong positioning on issues and even confrontation. The new presidential administration and the leadership of major opposition political parties joined in an early negotiation process, which provided the government with legitimacy and momentum, and the party heads with control of their party structures and chances of advancing their own political careers. Multi-level negotiation made possible the energy reform, pushed mainly by PAN, a fiscal reform in terms sought by PRD, and telecommunications and education reforms supported by PRI. Components pursued by all parties were included and incorporated in a new electoral reform. Interests were identified and attended, major issues and concerns addressed, and relative leverage was exercised. The political system worked its way and was able to break an impasse through alternative channels, making policy reform possible.

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GOVERNANCE AS THE FOCUS OF STUDY IN LATIN AMERICA CITIES

Carlos Alberto Navarrete Ulloa*

Carmona, R. (2012). *Debate about New Government Styles in Argentinian Cities* Buenos Aires: Ediciones CICCUS- Universidad Nacional de General Sarmiento.

The governance idea arose as an answer to the identification of new configurations in State-society relations. The concept has detractors and promoters, its introduction to the social science areas is far from accomplishing the acceptance that public policies have, however, some authors have done acute readings of the emerge of new ways of governance, taking advantage on the wealth of explanatory theoretical framework of governance category.

Rodrigo Carmona, rescues the analytic potential of governance through the study of new governance styles of two Argentinian cities, Autonomía City of Buenos Aires (ACBA), and Rosario city. He understands governance "as an analytical instrument to investigate how different interaction multiactoral processes are developed in decision making, at the same time, as a perspective to understand changes in a sociopolitical level and deployment of new instances of participation (p.211).

Carmona's reflection sets the debate on the investigator side, not consultant, the question posed by the new complexities rather than side dictation action formulas; it is a proposal that weakens some critics' arguments to the approach, because contemplates that government dispute the administration of resources of all kinds (including symbolic, material and power) based on the quality of the instruments of multiactor action, which does not exclude of conflict, friction or ineffectiveness.

The author presents his master piece at the Metropolitan Collection Issues of the UNGS, which focuses particularly in the Metropolitan Region of Buenos Aires. When it was published the author had secondment at the Institute of Conurbano (ICO). Recently has published works about theory and methodology for the study of local governments paying

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attention to state-society related issues (Carmona, 2015a, 2015b, 2015c).

1. CONCEPTUAL PROPOSAL

The analytical question in the book resolves around the description of three kinds of multiactoral articulation: the strategic plan, decentralization and participatory budget; and the explanations of the forms of articulation that emerge in the gestation process of Buenos Aires and Rosario policies.

Before that a long chapter is devoted to the conceptual debate of governance identifying the characteristics and conditions on the arising of new government styles, as well as tensions and new conflicts attached to governance processes. The author offers an extensive analysis of the influential works on governance, could not miss the contribution of Luis F. Aguilar (2006), who lowers his existence from a shift of government to governance process, aimed to increase the capabilities and efficiency in problem resolution scenarios of greater inclusion and participation, which Carmona translates as multiactoral articulation policies.

The exhaustion of centralized government, hierarchic pretensions to omniscience, it is patented by major complexity and diversity, of public problems in times of globalization and densification of access channels and dissemination of information and knowledge.

The previously mentioned makes it necessary momentum to new styles and public management tools as an answer of the state to this complexity, inspired dynamic collaboration that integrates multiple social and political actors, foreshadowing a governance scenario (p.13).

However, these new management styles are not conflict free, proposals that contrast with the governance idea, associated with order and stability aspirations, differs from the governance concept that implies political and institutional conduction. Governance is attached to ideas like co-direction, integra-

tion, cooperation and collective goals achievements in a participative and plural way.

Governance systems are not the panacea, as follows from Carmona's analysis of different authors, in principle because they can interact logic, interests and different abilities. But, on top of that there is the risk of declining responsibilities, among other complications (p.23).

1.1. CONDITIONS THAT EXPLAIN THE RISE OF NEW STYLES

The challenges of context lead to governments to seek adjustments and/or transformations to face these processes effectively. There are known and successful elsewhere that adapting to new contexts are incorporated responses, but generally have to do with increasing the capacity in addressing public issues through inclusion and multiple actors coordination.

Rodrigo Carmona enriches the reflection about governance through the idea of public in Arendt and Habermas, and concludes inviting to think "public" as "non-exclusive attribute of instituted powers, but rather as a responsibility to be developed collectively" (pp.30-31).

This goes hand in hand to track interest to literature about transformations of State-society relations in two ways: the role that non-governmental actors earn, and State crisis as center of representation, planning and driving. These phenomena are observable in the emerge of multiplicity of actors influencing in political processes, the setting of new public spheres characterized by supranational multicentric structures, increased levels of supranational integration and moved by individualistic interests, ways of struggle and mobilizing more autonomous and the crisis of the idea of modern State political representation.

Such scenario demands vertical forms of public intervention, to integrate public action schema that contemplate interactions of greater complexity through dialogue and collaboration that shapes new

public management styles, capable of a flexible performance facing highly changing scenarios.

This demands increasing legitimization mechanisms through direct citizenship participation and implicate more actors in the debate and deliberation on collective projects (pp.30-35), let us not forget that is the change and not stability that provides relevance in governance (p.18), because the levels of success of new instruments will vary depending on historical and contextual aspects,¹ as is shown by Carmona's studies.

1.2. PATHS BETWEEN OLD AND NEW STYLES: NEW TENSIONS SCENARIO

Before we start with the empiric study, Carmona makes two pauses, first devoted a large section of the first chapter analyzing the condition about exhaustion of old management styles and the necessity of new tendencies.

The analysis of the metropolitan phenomenon goes from recognizing that the economical, politics and cultural activities are structured with greater wealth in conurbations, but they both involve jurisdictional fragmentation problems and the necessity to establish metropolitan management schema "managing a city or metropolitan reality involves considering various territorial areas" (p.40).

This reality includes recognition on new conflicts and challenges that come into play in the urban sphere. Assuming governance is that such challenges share the participation of multiple actors in interaction networks to deal with "in situ" objectives. Our author understands the articulation as a challenge that supposes "collective responsibilities deployment in the territory" (p.52).

The strategic planning is the contrast of traditional urban planning and centralized technocratic character. The first seeks to generate fundamental decisions oriented to a future vision defined by economic and social agents of the city. The approach contemplates looking for projects setting city that articulate actions and policies encouraging citizen participation.

1. To rescue the relevance of these aspects, I suggest consulting the theoretical proposal of M. Bevir (2013).

The decentralization topic is considered as a *democratizing* aspect, it is understood as a complex and multidimensional process, planting reformulations in the state-society relations (p.58) and contemplates "tensions which are produced against new set conditions" (p.61).

Carmona is interested in a type of citizen participation where state-civil society interacts and these delve into the first. So focus his study to participatory budget, taking as reference the Porto Alegre case, characterized by a participative of previous civil society history to the participatory budget promoted by the Workers political Party.

2. METHODOLOGICAL ISSUE AND SCOPE OF WORK

In a second pause before the empirical study, reading reflects on the possibilities of the case study method. The book is modest in its aspirations, seeks to better understand the problem investigating to offer new and better questions, and this is possible attending multiactoral articulation policies.

The reality of Argentinian municipality is that it placed in a second place, due to limited powers and competences, public works and supplying of basic urban services. In this way, Argentinian federalism² gives primacy to the provincial level of the municipality, an issue that has central representation on financial dependency: the metropolitan cities are presented as political-institutional fragmented realities where decisions are subject to reached municipal governments and, essentially, to provincial governments" (p.76).

The explanations presented by Carmona are exploratory by systemizing observations. He analyses three sets of variables:

2. For an analysis of metropolitan management in cities of federal countries consult Arellano (Arellano Ríos, 2014).

a) *Multiactoral articulation types, through identification background, institutional settings, content-objectives, integrated perspectives and deployed resources.*

b) Articulation ways of actors and attention to the process, identifying actions, working modalities and articulation scope; deliberation mechanisms, tensions in the process, level of social intervention, as effects of politics in the state system.

c) Politics results.

3. AUTONOMA CITY OF BUENOS AIRES, A REMARKABLE CONTRAST WITH ROSARIO CITY

So far the book has covered conceptual aspects. It is often underestimated the importance to incorporate in these types of texts a theoretical and conceptual reflection, however, in this case it turns out transparent the connection between the conceptual and empirical system, so studious on that area could replicate the study elsewhere, paying attention to the method and conceptual system, opportunity that in very little occasions is missed in the literature on metropolitan governance.

3.1. THE AUTONOMA CITY OF BUENOS AIRES CASE

3.1.1. STRATEGIC PLAN

The book describes in detail backgrounds and the strategic plan evolution. As significant background of strategic planning, in 1993 the University of Buenos Aires and the Secretary of Public Function established a working commission inspired in the case of Barcelona city made in 1992.

In 1996 constitutional status was carried out with the creation of the Strategic Planning Council (SPC),

consultative and autonomous body that was intended to make recommendations through consensus Strategic Plans. As it is familiar to other similar processes, delays were suffered. It was until 2000 that the Coordination of the Strategic Plan of the City Government was instituted. The work of the same would begin to reflect in 2001, in a complex context of economic crisis that placed Buenos Aires as the epicenter of a national protest. Towards 2002, the Plan was conceived officially as a reference framework for public policies of the city with a short and long term vision.

The idea did not contemplate direct citizen participation but by organizations representing the city. The process to reach this Plan was carried out by phases, starts with a study of other experiences; concludes with organization meetings in order to identify problems, and instances of discussion in neighborhood advisory councils, discussion forums and workshops.

In the process methodological corrections were made, even the addition of instruments as SPC internal regulations. The main ideas were defined as familiar clichés, phrases that begin with Buenos Aires over the main idea: decentralization, equitable economic, habitat of excellence, driving city of the Region, etcetera.

By the end of 2004 the 2010 Strategic Plan of Buenos Aires was approved. The vision of the city was

defined highlighting concepts or ideas as participatory democracy, equality, diversity, and metropolitan integration, multicultural, creativity, for and by people. In 2005 was seeking specific action through thematic working groups that were concentrated in specific projects.

The framework worked out to sum the amendment for Urban Planning Code and the law on land use. In 2006 friction surfaced: the Council was leaderless in a context of limited capacity to influence real city policies, solidify problems in the poor coordination with the new government. At the end the main criticism to the process was the lack of integration of social organizations at territorial and neighborhood level.

As a result highlights "the tension between political-governmental logic [...] and the more extensive logic of Plan Council (focused on consensual work consolidated civil society in the development of different recommendations institutions and actions for the city) He made manifest and hinted a level of fragile link between state and social actors" (p.99) with which remained distant strategic quality management and a good multi-stakeholder coordination.

3.1.2. DECENTRALIZATION

Decentralization processes in the nineties found as a role model again the case of Barcelona. The City of Buenos Aires obtained autonomous rank with the reform

of the National Constitution of 1994, and two years later the City Charter was enacted. By decree was delegated to the Deputy Chief Executive Administrative Decentralization Program, which began the process of organizing sixteen Management Centers and Participation (MCP) as prior to its formation deconcentrated as Communes.

It was until 2005 that the Law of Communes was approved, bringing a new map of the city was created, and contemplating fifteen Communes composed of between one and six original neighborhoods and a minimum population of 156 thousand and a maximum of 228 thousand inhabitants. However, the path of decentralization was immersed in political and institutional vicissitudes of the city.

With the new law, in 2006 the CGP were dissolved to give rise to the Centers Management and Community Participation (CMCP), in an atmosphere of widespread ignorance of the new organization by the population.

The results reached can be summarized in one sentence: "[...] fewer innovating tendencies, predominance in the decisions of centralized bodies, strong presence of reactive positions and intervention forms little articulated and stretched networks with little regards to other governmental levels and social actors" (p.123).

3.1.3. PARTICIPATIVE BUDGET (PB)

The PB was set in motion in June 2002 from the Decentralization Secretariat and Citizen Participation of the City Government, consisted multistage: 1) a cycle of neighborhood assemblies, 2) regional forum, 3) the interaction of actors in the Consul PB along the process, 4) the formalization of agreements through a Memorandum of Agreement.

In 2006 the PB went to be operated by the just born Ministry of Public Management and Decentralization, in which stages were redefined of PB, 1) first Promotion forums were organized in the fifteen CGPC, 2) assemblies would carry out in the 69 neighborhoods, 3) representative Community Consuls would settle, 4) each Consul would integrate technically feasible projects and last but not least, 5) projects would be considered by citizenship in the span of a week. The most voted projects would be incorporated to the Preliminary Draft Budget (p.127).

The process had ups and downs along the study period in: participation levels, number of plenary projects, defined priorities and execution level that, in the first year, 2002, reached 80% and by the end of the period, 2006, just reached 20% of the projects contemplated.

Partisan dynamics were not absent, a link between

neighborhood consultants and party actions was observed in many cases (p.133), besides, belonging to neighborhood organizations placed its members in a privileged position from the rest of the citizenship (p.134). In articulation terms the PB, highlights that it was conceived in the context of an institutional crisis, which placed the PB as a governance instrument (p.128).

Carmona's research allow us to observe that the PB in CABA lacked political direction that would allow an appropriate intervention of governance agencies, this affected the allocation of resources. According to the author, some factors behind the poor performance of the PB are the lack of regulation in a law level, its implementation by agencies without autonomy to expand citizenship participation, diversity in both issues such as socio-economic actors, difficulties to articulate demands were linked.

Some participants considered as problematic the community rootlessness, or works bias towards wealthier areas. Long story short, the conditions were not given to neighbors to take ownership of the instrument, reinforced by the poor compliance towards defined priorities. All of this is summarized in a single idea: poor PB institutionalization and problematic articulation between State and society.

3.2. ROSARIO CASE

Perhaps being less complex, the author devotes considerably less space to Rosario. Otherwise, if the joint multiactoral contrast Rosario is Buenos Aires. Rosario is the third largest conurbation in Argentina, with a population of 1,200,000 inhabitants. A crucial fact is that since 1989 Rosario had been ruled by socialist parties.

3.2.1. STRATEGIC PLAN

The first tests of the Strategic city Plan took place in 1995, having Barcelona as a determinate reference. The Plan was conceived as a product, but especially as a process. It did not intend to replace the government plan a *contraire* to supplement it seeking influence beyond periods of governance.

The distinctive features and Rosario's historical backgrounds intertwine with the results of the Rosario Strategic Plan: it was an innovative tool, mobilization of important government leadership, achieving 80% of promoted projects.

Stands out that the "success" of the Plan did not require any regulatory or legal mechanism, the support of different socialist governments was accompanied by the support of main institutional actors. Among the innovative practices monitoring and

following through urban indicators were mentioned. The success of the Rosario Strategic Plan, led to replicate it into a Metropolitan Strategic Plan, but "difficulties in a political and institutional level were found" (p.161).

3.2.2. DECENTRALIZATION

Rosario's decentralization process started in 1996, officially defined as progressive, focused, agreed and systematic (p.163). The key aspects to take into consideration were the administrative, functional or operational reorganization, a public policy articulation between the Urban and Strategic plan, and a renewed management model, consisting of transparency and accountability (p.165).

While the process was routed upside down, a deconcentrating profile, generated areas of articulation between State and society, but with an integration of gradualist participation. Excels the promotion of a closer Municipal Council to the citizen, through what was called the "Municipal Council in the Hoods".

The very own difficulties of the Argentinean State involve however hinders to the multiactoral articulation processes, it is mentioned the lack of autonomy and dependence of the provincial government.

3.2.3. PARTICIPATIVE BUDGETING

The participative budgeting in Rosario started to develop in 2002. In this case the model followed is the Porto Alegre. The PB was established at Bylaw level, in which it is defined as a citizen participative process on debates about budgeting priorities on thematic areas. Again the gradual, dynamic and collective character was highlighted, with the intention to democratize relations between state and society.

The route the PB followed was to approach citizen, going from districts to neighborhoods, and from the discussion of "priorities", to a discussion of "projects" to increase the involvement of government agencies. Also new participative modalities were included, as the Youth Participatory Budget and Participatory Budget and Active Citizenship Women.

Carmona concludes that the PB in Rosario expressed an open political game; new leaderships emerged and spread across partisan logical channels PB. More effective articulation levels to those achieved CABA. However, I was not devoid of dissension, some participants felt that the PP was tightly controlled by the authorities with little democratic opening. On the other hand, an instance of coordination inter-district lacking an overview of the city did not develop.

4. LESSONS AND OPPORTUNITIES CREATED BY THE EMPIRICAL AND CONCEPTUAL APPROACH

The work suggests an urban context immerse in the complexity and greater levels of uncertainty demands broader visions that integrate multiple actors. These policies reflect in practice varying degrees of openness, and types of actors including density and quality of developed networks. The identification of these rules allows Carmona to contrast the cases of Buenos Aires and Rosario.

The author concludes that the CABA reached hardly transforming levels (p. 206) meanwhile Rosario showed greater innovation and in the management and coordination of policies, building new State-Society links. Both cases are similar because policies were conducted from authority and participation was predominantly consultative (p. 207).

If rule today is to act in the complexity and articulate networks, this entails a rethinking of State-society relations, and thus the deployment of a "non-state" public sphere with varying degrees of coordination and efficiency, as this complex relationship between old management styles and the emergence of innovative styles. Thus, the results in different cities vary depending on their contexts and values internalized the emerging new instruments. The shapes of the mixture between old and new, involve differences in their coexistence, types and levels of stress.

A major contribution of the book is the result of selected methods: the study of several cases, which in turns provides other cases or (embedded) subcases including different variables and data sources, which involves a plexus of information of widely magnitude. The result is a kind of thick description (Geertz, 1997) but there is lack of information the reader might miss, for example, the systemized results are not presented about the financial participatory budgeting and neither about the major impact of the projects.

The interested in studies of New Public Management (NPM) and Governance reader will miss a debate and distinction between the two. Throughout the text is concern about whether the State's responses are not primarily type NPM, it can be inferred from the text of Carmona initiatives top-down promoted by governments in turn have limited the framework of NPM aspirations, but pressures from below looking to access new governance, the book shows that the results are variable depending on the case.

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