

**Water, Pollution, and Management in the Northern Region of Mexico:  
The Case of the Sonora River****Agua, contaminación y su manejo en la Región Norte de México:  
el caso del Río Sonora**Noemi Haro Velarde<sup>1</sup> & Alejandro Salazar Adams<sup>2</sup>

## ABSTRACT

This paper describes the formulation of the decision agenda of “Río Sonora” Trust (SRT)’s Technical Committee (TC), established in 2014 to compensate for the damage caused by Buenavista del Cobre Company’s copper leach spill in the Sonora River Basin. The Multiple Streams Approach (MSA) (Kingdon, 2014) was used to analyze the participation and criteria for technical feasibility and the anticipation of future limitations of the alternatives discussed by the SRT’s Technical Committee. The analysis showed that the approved alternatives were formulated and implemented by hidden participants and characterized by their high visibility, low compliance with technical feasibility criteria, and long-term costs aversion. The results contribute to the understanding of the MSA virtues for the analysis of the remediation of environmental disasters agenda.

*Keywords:* 1. decision agenda, 2. agenda formation, 3. mining, 4. environmental disaster-trust, 5. Sonora River-Mexico.

## RESUMEN

Este artículo describe la formulación de la agenda de decisión del Comité Técnico (CT) del Fideicomiso Río Sonora (FRS), constituido en 2014 para resarcir los daños ocasionados por el derrame de lixiviados de cobre de la empresa Buenavista del Cobre, en la cuenca del Río Sonora. Se utilizó el Modelo de Corrientes Múltiples (MCM) (Kingdon, 2014) para analizar descriptivamente la participación y los criterios de la viabilidad técnica y la anticipación de limitaciones futuras de las alternativas discutidas por el CT del FRS. El análisis mostró que las alternativas aprobadas se formularon e implementaron por participantes ocultos y se caracterizaron por una alta visibilidad, bajo cumplimiento de los criterios de viabilidad técnica y aversión por los costos en el largo plazo. Los resultados contribuyen a comprender las virtudes del MCM para el análisis de la agenda para la remediación de los desastres ambientales.

*Palabras claves:* 1. agenda de decisión, 2. formación de la agenda, 3. minería, 4. fideicomiso-desastre ambiental, 5. Río Sonora-México.

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## INTRODUCTION

On August 6 of 2014, a copper leachate spill, from *Buenavista del Cobre* mining company (owned by *Grupo México*), took place over the course of Sonora River, which affected seven municipalities along its basin. On August 10 of 2014, the federal government, via *Comisión Nacional del Agua* (CONAGUA [National Commission for Water]), issued a preemptive measure consisting in “restricting water supply for providers of municipal services in the seven municipalities” (CONAGUA, 2014a, s/n), which ended up in temporarily suspending the exploitation of 31 water wells for urban public use, therefore, inhabitants of the municipalities of Arizpe, Banámichi, San Felipe de Jesús, Aconchi, Baviácora and Ures had no running water.

Consequently, households had to change from drinking tap water to purified water in large plastic bottles (carboys) according to the mayors of the affected municipalities (J. De la Torre, personal communication, September 23 of 2018; L. Escalante, personal communication, March 22 of 2018; V. Vázquez, personal communication, October 30 of 2018; P. Lugo, personal communication, November 4 of 2018). Some days later, on August 13, with a view to preventing the migration of the pollution from the aquifer, the Committee for Emergency Management broadened the restriction and wells located within 500 meters from either side of Sonora River were closed, the disruption thus reached the agricultural sector.

Setting up precautionary measures was justified in a context in which, up to that moment, the content of the spill was not known; in any case, they consider neither the scope of damage that a water shortage would cause mainly on households and the agricultural sector nor the economic and technical constraints of *Organismos Operadores de Agua* [Public Utilities]. During the suspension, CONAGUA was in charge of monitoring the quality of surface water, sediments and wells, and also defining when to lift the restrictions, once monitoring results indicated water posed no risk for health.

On August 22, CONAGUA reported that the water of the Sonora River was still out of permissible limits, according to Mexican Regulation, NOM-127-SSA1-1994 (CONAGUA, 2014c). Meanwhile, households, public utilities and *Grupo México* afforded the cost of the alternative water supply through water tank trucks and containers. By the end of August, environmental agencies took notice of the spill and on September 12, in order to remediate the polluted sites on Sonora River, the federal government negotiated an alternative mechanism to settle disputes with *Grupo México*; as per article 47 of the Federal Law on Environmental Liability, a fund was established worth up to 2 billion MXN that would be managed by means of a Trust Agreement called Sonora River (RST).

On September 15, settlers *Buenavista del Cobre S. A de C.V* and *Operadoras de Minas e Instalaciones Mineras S.A de C.V* (OMIMSA) celebrated the agreement at the offices of *Procuraduría Federal de Protección al Ambiente*, Profepa [Federal Advocate for Environmental Protection], made the first 500 million MXN available and *Secretaría del Medio Ambiente*, SEMARNAT [Secretariat for the Environment] was appointed to monitor its functioning. Clause VIII in the Sonora River Trust Agreement (SRTA) considered a Technical Committee as a

decision-making body as regards funds in SRT; such type of collegiate body is a historic tradition in public trusts in Mexico (Acosta & Almazán, 2002; Vargas, 2012)

On September 12, the federal government designed a group of federal officials to be members of the Sonora River Working Commission, called Presidential Commission (PC) with a view to fulfilling the goals of SRT, carrying out immediate actions and assessing and remedying the damage to the population. Its members visited the area between September 12 and 18 and met with affected people and representatives with *Grupo México* to become aware of the problem in the zone. On September 19, the federal government, via PC, issued the first proposal to remediate the Sonora River on the basis of an initial sum of 500 million MXN available from SRT. Following, the first proposal for the remediation of Sonora River is presented (Presidencia de la República EPN, 2014b):

Table 1. Government agenda for the Remediation of Sonora River

Actions	Investment (million MXN)
Water tank installation	32
Reverse osmosis water plants	350
Reparation to agricultural sector	122.29
Health loss compensations	0.45
Water tank trucks	7.8
Total	512.54

Source: *Presidencia de la República EPN* (2014b).

Then, the president's proposal was taken as the governmental agenda, that is to say, it turned into "the list of topics that receive attention" (Kingdon, 2014, p. 4) and dealt with topics regarding remediations in the agricultural sector, health care and water supply compensations. Distinguishable are water treatment plants taking 76 percent of the budget. Even if this proposal was not definitive, as it was based on a first amount of 500 million MXN, it clearly oriented the topics that had been noticed by PC and the federal executive.

Two months before the closure, *Comisión Federal para la Protección contra Riesgos Sanitarios* [Federal Commission for Health Risk Protection] ordered to lift the restrictions on 22 wells and stated: "the water from those wells, which account for more than 90% of the supply for the communities affected by the spill does not pose any risk for the population health, as their heavy metal levels are within the regulation; this way, the municipalities may reopen them" (Secretaría de Salud, 2014, s/n).

However, the problem was the declining confidence in using water from the wells due to lack of information and its previous management by CONAGUA. While federal and state officials reopened the wells in symbolical or political events, the population articulated by means of local groups with the purpose of preventing such reopening. They stated the lack of remediation of the

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river, and that had no trust in the in the reopening verdict and asked for the sampling results. In like manner, they demanded actions to ensure the quality of water in the long term.

On February 7 of 2017, SEMARNAT and the settlors signed the termination of the trust agreement and the transfer of funds (SEMARNAT, 2017). It was argued that a: the settlors accredited with TC that relevant authorities issued the resolutions to conclude the Remediation Program; b) the fulfillment of the trust agreement purposes and remedial measures; c) SEMARNAT accredited there was no further claim for compensation or reimbursement.

In spite of the legality and legitimacy conferred by environmental authorities to terminate the trust, the use of its funds evinces a clear distortion between the government agenda and the actions taken by the technical committee. Particularly distinguishable are lack of remedial cleaning actions in the Sonora River and the failure to install water potabilization plants, which, once the trust was terminated, has been the main cause for social discontent and unrest.

The problem stated in the present article is analyzed resorting to the Multiple Streams Approach (MSA) (Kingdon, 2014). The goal of this text is to describe the process to define the alternatives for water supply that took place in the technical committee of the Sonora River Trust. It is sought to identify and disclose the participation of those involved in the approval of the trust resources, and by means of analyzing the alternatives approved, explain the allotment of resources based on technical feasibility and future restrictions. The article is divided into six sections; the first is the introduction; the second presents the theoretical framework; in the next, the methodology is explained; results are presented in the fourth section; finally, the sixth part presents the conclusions.

## THEORETICAL AND CONCEPTUAL FRAMEWORK

The multiple streams approach is a framework noticeably flexible and advantageous to understand decision-making processes in complex environments (Rawat & Morris, 2016). It has been used as of 1984 to study various geographic locations, fields of study and political phases at national and subnational levels and compared by means of qualitative and longitudinal studies, mainly following case study and documentary analysis methodologies (Cairney & Heikkila, 2014; Cairney & Jones, 2015; Rawat & Morris, 2016).

In Latin America, MSA has substantiated various qualitative case studies in several policy fields such as municipal development (Zapata, 2016), child labor (Alza, 2014), education (Benavides-Lara, 2020), public security (Álvarez, 2017; Pedraza & Duarte, 2017; Sanjurjo, 2018), migration (Ramírez, 2007), transport (Cruz & Herrera, 2018; Khayesi & Amekudzi, 2011), unemployment among women (Marín, 2017), indigenous rights (Giraldo, 2016) and environmental disasters (Barrios, 2017).

Kingdon (2014) conceives agenda as “a list of topics, subjects or issues which government officials and people alien to the government –though related to the functionaries–, are paying actual attention to at any given moment” (p. 3). From the processual standpoint of public policy (Cobb &

Elder, 1971), it implies: “(1) forming the agenda; (2) specifying the alternatives; (3) an authorized election; and, (4) the setting up” (Kingdon, 2014, p. 3)

The configuration of the agenda focuses on how the government and its organizations solve endless public problems from limited rationality, how public problems are identified and defined, and solutions generated. This standpoint helps understand why some alternatives are seriously considered and have a prominent place in the policy agenda and some others are disregarded (Kingdon, 2014), and why the public agenda reduces to a relatively small number of issues (Casar & Maldonado, 2010, p. 5)

MSA studies the setting of the agenda in a context of ambiguity (Zahariadis, 2010), and in this scenario, prevails the uncertainty “that describes the lack of complete information and ambiguity” (Cairney & Zahariadis, 2016, p. 88), which according to Kingdon (2014) makes decision making in the agenda setting complex for public officials. This context was the case of the spill in the Sonora River, understood as a dramatic or focal event (Birkland, 1998), whose remediation agenda, once the Trust was created, was carried out supported on limited information, owing to the lack of quantification of socio-environmental damages.

MSA understands agenda setting from three relatively independent streams: problems, policy and politics. In the first, the development of a problem changes in indicators, events, crises, symbols and feedback for public officials. Following this logic, the copper leachate spill is taken as a focal event and considered the main reason for the pollution of the three water bodies and other problems that came as a response. The second stream, policy, refers to a “primordial soup of ideas” in the community of policies composed of experts, researchers, scholars and advocates, where alternative policies come from “mutations” and “reassortments” in a selection process defined by the fulfillment of three selection criteria: *technical feasibility*, *acceptance of values* and *anticipation of future restrictions*. The third stream, politics, refers to campaigns from pressure groups, electoral results, partisan and ideological distributions in the Congress and changes in the administration that influence on the disposition and capacity of the government to address any topic.

According to Kingdon (2014), the key to explain the setting of the agenda is to distinguish between this setting and the specification of alternatives. While a series of alternatives seriously considered by the officials is established in the government agenda, in the decision agenda is where the alternatives are specified. This last process is explained by “two sorts of answers: (1) alternatives are produced and reduced in the stream of *policies*; and (2) relatively hidden participants, specialists in the particular policy area, take part” (p. 200).

Participation is a decisive variable in the formation of the agenda (Aguilar, 1993; Kingdon, 2014). For Aguilar (1993), the definition and justification of the problems is in function of “which groups and organizations are sufficiently strong to transubstantiate social issues into public and governmental priorities, which decision-making government agencies are always ready to act to face demands from certain groups” (p. 27). In this sense, MSA classifies the main participants as *inside* and *outside* the government to study their influence on the agenda setting.

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The participants “inside” are “people in government posts with formal authority granted by statute and by the constitution” (Kingdon, 2014, p. 45). This includes the president, political appointees, public officials, professional career service personnel and congress members. Participants “outside” (with no formal government posts) comprise interest groups, researchers, scholars, consultants, communication media, public opinion, political parties and other actors related to elections.

Kingdon (2014) also groups them, according to visibility, as “visible” and “hidden”. The visible group comprises those who:

[...] receive a lot attention from the press and the public –including the president and the high-level appointees, the administration, prominent members of the congress, the media and actors related to elections such as political parties and campaigns (Kingdon, 2014, p. 68).

Conversely, those “hidden”, or with a low profile, “comprise communities distinguished by their specialization or knowledge regarding that particular political area” (Kingdon, 2014, p. 200). It includes academicians, researchers, professional bureaucrats, staff with the Congress and people appointed by the administration below the superior level.

On the grounds of this classification, Kingdon (2014) states that “visible” participants try to affect the agendas to later specify the alternatives: “they resort to specialists in the community of less visible policies, such as bureaucrats, employees, researchers and interest groups for the alternatives to make an authorized decision” (Kingdon, 2014, p. 70); and for their part, the “hidden” participants are defining in the decision agenda, where the alternatives are specified for their deliberation and authorization.

The entrepreneurs of politics are especially prominent participants (Baumgartner & Jones, 1991; Kingdon, 2014); their relevance is “not only making important people pay attention, but joining the solutions of the problems and the problems with the policies” (Kingdon, 2014, p. 20), and distinguish from the rest of participants because of their willingness to “invest their resources – time, energy, reputation, money– on promoting a position in return of intended future material gains or solidary benefits” (Kingdon, 2014, p. 179). For Roberts and King (1991), entrepreneurs are:

[...] individuals who participate in the first three stages: they develop a new idea, draft a formal document (a proposal, a bill or law), and then, they help implement it in public practice (Roberts and King, 1991, p. 151).

For MSA, entrepreneurs are “individual or corporate actors that try to join the three streams” (Zahariadis, 2010, p. 80) located inside and outside the government; they may be visible and hidden at once. Their performance is also linked to the promotion of ideas (Kingdon, 2014), innovation (Mintrom, 2019), and change in a policy area (Mintrom, 2019; Mintrom & Norman, 2009). Schneider and Teske (1992, p. 738) state that new opportunities are harnessed by means of “arbitration, speculation or innovation” in the search for profits. In contexts of ambiguity, more

than advocates of solutions, they act as “intermediaries of power and manipulators of complicated preferences and scantily clear technologies” (Zahariadis, 2010, p. 79).

MSA explains the formulation from compliance with three survival criteria: technical feasibility, acceptability of values and anticipation of future restrictions. In this regard, Kingdon (2014) states:

[...] proposals which do not meet these criteria –technical feasibility, acceptability of values in the community of policies, affordable cost, anticipated public acquiescence and a reasonable possibility of receptivity among the elected decision makers– probably will not be considered serious and viable proposals (Kingdon, 2014, p. 131).

The three criteria are essential in agenda setting due to their influence on the approval, opposition and blocking of alternatives. Technical feasibility is the first selection criterion, as it is associated with “the actual mechanisms by means of which an idea would be put into practice” (Kingdon, 2014, p. 131) and human resources. For Zhu (2008), the concept of feasibility is “an instrumental notion that consists, among others, in legal, administrative, financial and technological practicalities” (p. 134). However, the author considers it is ambiguous and difficult to quantify when an idea is technically feasible and incorporates the concept of “technical unfeasibility”, applicable when one of the dimensions is not practicable or viable.

Acceptability of values is the second criterion and is internal to the community of politics. The specialists and the very community of a political area produce a welcoming environment for ideas based on similar values and approaches to solve a problem. According to Kingdon (2014), values and beliefs are associated to the specialists’ opinion as regards the role or size of the federal government as compared with states and localities and also the right size of the public sector as compared with the private. Kingdon (2014) points at two concepts that influence on acceptability: the equity criterion and the efficiency principle. Anticipation of future restrictions is the third criterion and means that decision makers must be convinced that the costs of the alternatives are affordable as regards the budget and consider long-term costs as well (Kingdon, 2014, p. 138).

In this case study, SRT is deemed a political opportunity window (Kingdon, 2014) that was created after a focal event (Birkland, 1998): the copper leachate spill in *Buenavista del Cobre*. The Trust is classified as such for it configured the participation and entailed the availability of resources to remediate the damages in that part of Sonora, which was the main demand from the most representative groups, namely: the affected population, productive interest groups, mayors, the governor of the state and both representative chambers (*Congreso de la Unión*).

The decision agenda is put forward as a subcategory of the government agenda and is defined as “the list of topics in the government agenda ready for active decision” (Kingdon, 2014, p. 4). In it, hidden participants specify the alternatives; in this regard, MSA argues that “while government officials are capable of commanding the agenda, they have less control of the alternatives, which are commanded by experts” (p. 14). In this case study, the decision agenda is framed within the session period of the Technical Committee and finishes with the extinction of SRT.

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### *Creation and structure of SRT*

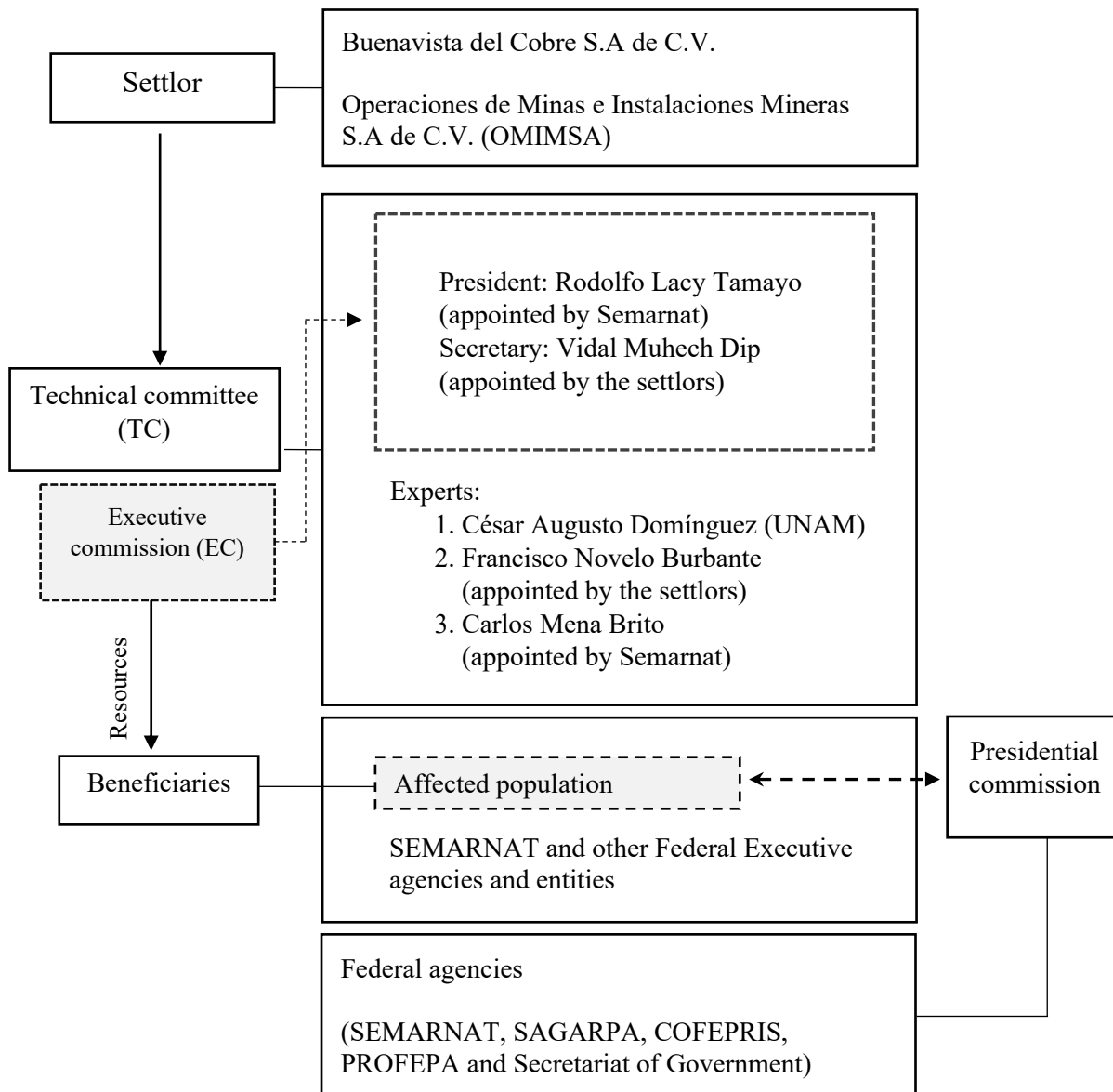
With the purpose of understanding how decisions were made in SRT, in the first place, its constituent parts are shown. Secondly, the internal and external agencies that influenced on the formulation and approval of resources are analyzed. On September 15 of 2014, an irrevocable trust management agreement with no. 80724, called “Sonora River” Trust Agreement (SRTA), was signed; the settlors were the companies responsible for the spill, *Buenavista del Cobre S. A de C.V* (Buenavista) and *Operadoras de Minas e Instalaciones Mineras S.A de C.V* (OMIMSA). The SRT regime is private (Vargas, 2012) because both settlors are private juridical persons, regardless of the ends for which they had been created.

On their benefits, in clause I of SRTA two trustees are set forth: in the first place, the “affected population” or those entitled to redress from material losses and health damages as direct consequences of the spill. Secondly, SEMARNAT and other offices and bodies of the Federal Executive, which in the scope of their power were related to reparations to damages to the environment and human health.

SRTA included two internal agencies. The first was a Technical Committee (TC), defined as “a collegiate body that represents the interests of the settlor and/or the trustee, which aids the fiduciary institution in decision-making processes” (Vargas, 2012, p. 138) and its attributions and functions are usually defined in the agreement; it was composed of a member appointed by Semarnat, another by the settlors and three experts. According to Acosta and Almazán (2002), this configuration follows administrative and political reasons. The second agency was the Executive Commission (EC) of CT, a subgroup of TC that operates with no experts and comprised members appointed by SEMARNAT and the settlors.



Diagram 1. Parts and decision-making agents in SRT



Source: own elaboration based on SRTA

According to SRTA, TC is the sole agency with authority to ask the settlor for resources from the trust. The substantial functions of TC were to issue the operative regulations for payments, issue Applicability Criteria for Remediation Program payments, define reimbursement to SEMARNAT and other federal dependencies, and finally, order the payments for the restitution of material damages. While TC issues the Applicability Criteria, SRT agreement sets forth that EC may deal with and solve the affairs.

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An additional agency, external to SRT was the Presidential Commission (PC);<sup>3</sup> its members were appointed by the Executive to “coordinate the supervision of the works to repair the damage and address the population needs” (Presidencia de la República EPN, 2014a, s/n). It is worth mentioning that this commission only comprised federal officers; its importance is that its members had access to EC and TC owing to their presidential appointment. For their part, its composition and functions bear resemblance with the figure of “special fiduciary delegate” (Acosta & Almazán, 2002). Fiduciary delegates are a recurrent figure in the acts of federal government, though few have been defined in the legislation for trusts in Mexico. One of their defining characteristics is that their members are related to public administration in a hierarchical context and their appointment is influenced by political factors.

Along the same lines, it is considered that the participation in the remediation policy of the Sonora River was configured through these internal and external entities, adding to their direct participation, they defined the patterns of access to decision making and also those who would be excluded from this process.

## METHODOLOGY

The goal of this article is to describe the specification of alternatives to compensate water supply from Sonora River from a revision of the documents of 83 proposals or “alternatives” put forward by a number of interested parties and discussed by the Trust TC between September 18 of 2014, and February 2 of 2017, with a view to receiving funds from SRT. The file on the TC in SRT, obtained from the National Platform for Transparency via written request 0001600486217, records 32 sessions of this committee. These sessions are the main information source in the research that originates the present text.

The analysis unit are the 83 alternatives presented and discussed over the 32 sessions of the EC looking for approval and funding from SRT so as to compensate for the lack of water supply in the aforementioned zone. The main tools to gather information were document review and the analysis of the 83 presented proposals in order to 1) describe the most influential participants in the definition and approval of alternatives, and 2) find out to what extent the alternatives approved by EC and funded by SRT met the criteria of *technical feasibility* and *anticipation to future restrictions* (Kingdon, 2014)

To review the technical feasibility criterion, it was intended to identify in each alternative the inclusion of contracts, investment required, completion dates, existence of infrastructure and human resources needed for implementation and the specification of the mechanisms whereby the

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<sup>3</sup> Composed of Rodolfo Lacy Tamayo (Subsecretary of Environmental Planning and Policies of Semarnat), Ricardo Aguilar Castillo (SEMARNAT), Mikel Arriola Peñalosa (Federal Commissioner for Cofepris), Guillermo Haro Bélchez (Profepa Attorney), Alejandro Ozuna Rivero (Federal Outreach Head for the Secretariat of Government) (Presidencia de la República EPN, 2014a).

works would be performed. To explore anticipation to future restrictions, analyses were run regarding the costs of the works and their relationship with the available budget, and if long-term resources would be needed to operate, also the political acquiescence of solutions was revised. The criterion acceptability of values was excluded from the analysis because the sort of information needed is not available, whereas the analysis technique resorted to in the research that originated this article prevented from deepening into such concept.

The analysis of the alternatives presented by CONAGUA and other firms for discussion by EC had two parts. The first intended to identify the main characteristics of technical feasibility by means of analyzing the hiring mechanisms, staff and physical infrastructure of the executing entities, if they defined effective implementation mechanisms and finally, execution times. The second explored the anticipation of future needs via present and future value analysis of the alternatives and the public and political acquiescence of the solutions approved.

## RESULTS

The executive commission approved 337 million MXN to create, equip and rehabilitate water infrastructure to compensate for lack of water supply, worth 31 percent of the global budget (1 210 million MXN)<sup>4</sup>; plus, it approved 180.5 million to indemnify 12,329 owners of water outlets in the affected region.

Table 2. Decision agenda to compensate for lack of water supply

Alternative	No. of alternatives			Approved resources	Resources (%)
	Discussed	Approved	Rejected		
Wells	10	9	1	101'561 183	27%
Tank trucks	11	10	1	88'696 666	24%
Containers	7	7	0	182'377 692	48%
Potabilization plants	8	2	6	4'722 930	1%
Total	36	28	8	377'358 470	

Source: own elaboration based on minutes of the sessions of the Technical Committee of Trust 80724 Río Sonora (2014).

The alternatives produced and approved by EC focused on drilling and rehabilitating wells, and distributing and storing water, being the installation of tanks the alternative with the highest budget, and the potabilization plant in Bacanuchi, the one with the smallest budget allotment (table 2). Using the government agenda as a reference (table 1), in the decision agenda two initial alternatives to compensate for lack of water supply were flawed. The tanks were the first, in the decision agenda

<sup>4</sup> Additionally, EC authorized 67.3 million MXN for 13 alternatives with no documented proposals in the SRT file. Both sums total 1 278 million MXN, a figure that accounts for 64 percent of the 2 000 million MXN negotiated in the Alternative Mechanism.

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the budget was increased five times, it changed from 32 million MXN (government agenda) to 182 million MXN; then, potabilization plants, established in the decision agenda as a priority solution with 350 million MXN and then, in the decision agenda they were allotted one percent of the budget and had the most rejections.

### *Influential participants in the specification of alternatives*

Although public in nature, the purposes of SRT were organized around closed decision-making entities (EC and TC), with little participation and integrated at the discretion of members of SEMARNAT and incumbent firms. Likewise, they are considered authoritative structures with low visibility because their sessions were held privately, and these virtually were ignored by the media, it did not include the affected and the minutes of results were reserved up to 2014 and 2017. Besides, during the session period, the participation of citizens was absent in decision-making; likewise, EC never visited the affected communities to account for the exercise of SRT and its interaction with the community occurred via PC intermediation.

A transcendental aspect of the participation (emphasized by MSA) is that people in charge of authorizing decisions are not the ones that define and specify the proposals (Kingdon, 2014). On the authorization, SRTA established that TC would be the entity responsible for designing and approving the Applicability Criteria for redress claims. However, in practical terms, TC barely chaired a session, the rest of them was chaired by SEMARNAT and *Grupo México* representatives, who were members of EC. This modification, which contravened SRTA dispositions, implied moreover that EC operated as an administration board in the authorization of SRT funds, doing away with the participation of experts in the solution of public nature affairs.

Although SRTA constitutes TC and EC as the agencies in charge of approving proposals and specifying the alternatives and Applicability Criteria, in the proposal review of EC it was found that the functions associated with definition were carried out by the federal offices of PC, and they resorted to other federal bureaucrats and functionaries with experience and career in areas related to the policy in question. Delegating responsibilities to define the alternatives is a frequent practice, Kingdon (2014) states that “it is quite common that high-level appointees define an item in the agenda and then ask for advice from professionals to draft the proposals” (p. 32).

After reviewing those responsible for defining the technical and financial aspects of the alternatives discussed by EC, the active intervention of PC, federal functionaries and experts outside the government were identified. In compensation for lack of water supply, CONAGUA dominated the design of 86 percent of the proposals discussed in EC. Though, the implementation was also in charge of this office and participants outside the government. Even if CONAGUA representatives were not part of the problem of water supply, some of its directors dealt with the definition of the problem and solutions for compensation. These public servants appeared at the congress in the Special Commission of the Representative Chamber to report on the actions executed by SRT (Cámara de Diputados, 2014; STPS, 2014).

CONAGUA operated through Eng. César Lagarda, who back then was director of the Organ of Northwestern Basin, and was a key actor in the definition of the problem and the formulation of solutions to compensate for water supply in the TC deliberation. By means of requests addressing EC in writing, CONAGUA director operated as an intermediary, promoting the access by means of official letters to EC in which it was suggested hiring private companies and professional associations to set up the works; in like manner, he was thought to promote and hire at least three firms and directly assign 22 work contracts. Out of the latter, eight were for *Colegio de Ingenieros Civiles de Sonora*, CICS [College of Civil Engineers of Sonora], eight for *Colegio de Ingenieros Ambientalistas de México*, CINAM [College of Environmentalist Engineers], and 11 for *GPG Concretos de México*. Likewise, CONAGUA also took part in the implementation of eight contracts.

An investment of 370 million MXN, equivalent to 98 percent of the total resources approved to compensate for the lack of water supply, was concentrated by professional associations, private enterprises and CONAGUA. The above allows stating that EC authorized the alternatives and approved SRT resources; at once, CONAGUA concentrated and conducted the definition of the problem and specification of solutions for water supply. CONAGUA and private enterprises took part in the implementation, being distinguishable the concentration of works by certain state and national professional associations.

In the 32 sessions of EC, distinguishable is the absence of public tenders. However, the mechanism established to hire third parties favored the following firms: CICS, with more than a half of resources (52%), *RGR Concretos de México* (24%), and *Colegio de Ingenieros Ambientalistas de México* (CINAM) (2%).<sup>5</sup> Even if the participation of professional and expert organizations is conceived as a counterweight in the definition of the agenda (Elder & Cobb, 1984, p. 120), they were only involved in the implementation not in the production of solutions to compensate for the lack of water supply. Universities and research centers held one percent of the budget and their participation was only to supervise the works that were previously defined by CONAGUA and implemented by CICS. Marginally, private firms also took part with contracts under one percent of the budget.

Although in a democracy, agendas should reflect collective problems, the literature on agenda setting states that the way in which various groups participate in the process of policy production and the influence they exercise on the alternatives in a context of limited attention are determinant (Birkland, 1998; Cobb, Ross & Ross, 1976; Elder & Cobb, 1984; Kingdon, 2014). As a compensation for lack of water, CONAGUA had a varying participation in the early stages of the agenda and, despite it was not part of PC, indubitably its relevance was the specification of the alternatives to solve the lack of water supply.

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<sup>5</sup> CINAM participated in the supervision of works, it presented three formal proposals that were approved in full by TC, though it is noticed that five additional contracts were approved for them, which reached 30.5 million MXN with no formal proposal.

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Before the creation of SRT, from August 8 to September 19 of 2014, this entity decided to temporarily suspend the closure of wells and managed this duration by reserving the monitoring results from public opinion. Over this period, the entity capitalized the focal event to expand and alter the perception of the public problem, performing as an enterprise characteristic of the *corridor of problems* (Goyal, Howlett and Chindarkar, 2019).

Later on, the creation of SRT opened an opportunity window for remediation and propitiated a favorable political climate. At these critical moments, according to Kingdon (2014), the entrepreneurs of policy invest resources and “develop their proposals and then expect problems to come to add their proposals, or to be developed in the political stream[,] as a change in management[,] which makes their proposals more likely to be considered” (p. 88).

Once SRT was created, CONAGUA monopolized the creation of solutions, becoming an entrepreneur “process agent” (Goyal *et al.*, 2019). According to Goyal *et al.* (2019), this sort of behavior is associated to counselors or senior bureaucrats; that is to say, those who manage the creation and implementation of a policy and act to facilitate the formulation and implementation of activities by means of building networks to connect the participants, monitoring the problems, creating implementation strategies and manipulating institutional rules.

In the agenda setting to compensate for the lack of water supply, participation was similar to the pattern identified by Kingdon (2014), according to which “the president may be able to dominate and even define the political agenda, though cannot dominate the alternatives that are seriously considered nor define the end result” (p. 23). In this regard, even if the executive included a set of actions to compensate for the lack of water supply in the government agenda, in the decision agenda administrative arrangements passed the decision authorized by SRT on internal entities (EC) and left the definition of alternatives to external entities and other federal officials.

### *Fulfillment of selection criteria*

#### *Technical feasibility*

This criterion focuses on the actual mechanisms to set up an alternative. Actions to compensate lack of water supply come from the proposal approved by TC called Payment mechanism to compensate for lack of water supply, approved by EC on September 26 of 2014. The process discloses that CONAGUA was responsible for the design of 88 percent of the solutions discussed by EC, with the exception of four proposals for potabilization. This makes it clear the preeminence of this agency as regards water supply in a context of environmental remediation.

The mechanism established a number of criteria to hire the executing entities, though no evidence on calls or public tenders that included such criteria was found. On the contrary, all of the contracts were directly assigned due to a suggestion via official letter subscribed by the representative of CONAGUA. In the assignation of the works, 38 signed a commercial contract and were assigned to CICS.

As for implementation, all of the approved proposals state the name of the executing entity, 89 percent, the invest required, and 93 percent mentions the goal of the proposal. However, only in six of them the mechanisms and/or procedures to start the works are defined, while 86 percent of the proposals omit specifying the physical infrastructure and the staff of the entity in charge of the works.

Noticeable is that 43 percent of the proposal approved did not specify the execution periods; such omission of EC is not congruent with the context of urgent remediation, in which the very selection of the “Trust” agreement was justified with a view to speeding up fund availability. This omission may explain the delay in the promised water infrastructure.

Finally, 75 percent of the alternatives were approved the first time they were discussed by EC with no further technical requirements. On the basis of these elements, it is estimated that technical feasibility was not an important criterion in the authorization of resources. This pattern to approve alternatives maybe helps explain the poor efficiency in the implemented works, for in 2019, most of these works were abandoned or underutilized due to technical failures.

#### *Anticipation of future restrictions*

Kingdon (2014) states that, in addition to technical feasibility, decision makers “have to be convinced that the budgetary cost of the programs is acceptable, that there are reasonable possibilities that politicians approve it and that the public, in its various sides, both masses and activists, accepts” before approving (p. 137). That is to say, they have to anticipate future restrictions, budgetary and related to public acquiescence. In this sense, three restrictions are identified: budgetary, political and public.

As regards the budgetary limitations of the proposals, although in global terms there was a fund worth 2 000 billion MXN, in practice and according to the available data on SRTA, these funds were made available in blocks of 500 million MXN, this means 1 billion MXN, the total capital of SRT (information provided by *Nacional Financiera* (settlor) in the Extinction Contract). The block of 500 million MNX was utilized as the base for immediate availability of resources. On average, the alternatives discussed required 15.5 million MXN, a sum deemed reasonable as it accounted for 3 percent of the block.

The most expensive alternative approved was the installation of 3 500 water tanks by CICS (64.3 million MXN), and the least, work supervision (one million MXN), which was executed by CINAM and the University of Sonora. On the other side, no approved alternative needed resources to operate in the long run, which releases the settlers from future financial obligations.

By focusing on the alternatives rejected, all of them have high investments costs over the highest approved value, and most of the proposals implied costs to operate in the long term, as it was the case of 36 potabilization plants, which were the most expensive alternatives (977 million MXN) and according to estimations by CONAGUA, some 352.8 million MXN additional would be needed to operate for 5 years. Why was the problem of water quality, in spite of being set in the

government agenda with a prominent budget, absent from the decision agenda? The high investment cost and resources to operate in the long term implied present and future limitations which, despite not begin the only ones, stand out as factors that contribute to explain this denial.

Adding to budgetary restrictions, Kingdon (2014) states that alternatives have to overcome the test of public acquiescence, which encompasses the perceptions of the general and specialized public, elected politicians and their appointees on the impact of politics. For Aguilar (1993), agenda “is the moment in which the government decides on whether deciding on a determinate issue or not” (p. 27). In the present case study, the political acceptance and authorized decision was defined by CE, the highest decision-making entity, in this way, the agency for the environment and the responsible enterprise were those who assessed political support.

As regards political support or opposition, PC was key to ensure and legitimize help for the affected before EC. After the creation of SRT, as instructed by the executive, PC visited the area and held meetings with mayors and the groups of affected with the most visibility in order to identify the main problems; in practice, this was the only communication channel between the affected and EC. During the EC sessions, reports from PC were a relevant source of information, which was resorted frequently by the formulators to define and legitimize certain social demands, prioritize problems and justify the public acceptance of certain solutions.

The mechanism to compensate the lack of water supply entered in the second extraordinary session of EC, on September 26, 2014. By means of official letter, the president of PC testified that in the meetings with the mayors of the affected municipalities, these had asked for the reparation or compensation for various damages in the territories (Comité Técnico del Fideicomiso 80724 Río Sonora, 2014). On the grounds of this claim, PC proposed the regularization of water supply for each of the 7 888 water outlets by means of a proposal called *Payment Mechanism to Compensate for the Shortage of Water at Household level* by means of specific actions such as the installation of water tanks, analyses of the quality of surface water and distribution networks, and extraordinary reparations of systems to distribute and store water. This mechanism does not list the potabilization plants, even though it was the main objective of the government agenda. This omission is another factor that helps understand the late inclusion of potabilization plants in the EC discussions and the rejection of 76 percent of the proposals for such end.

As regards the origin of the topics set in the agenda, Kingdon (2014) identifies two origins: a) they may come from the public by means of “the mobilization of relevant individuals” (p. 15), and b) they may come from participants with access to the agenda setting via “the dissemination of ideas in professional spheres and political elites, particularly bureaucrats” (p. 16). Its importance is that they can influence on the sort of problems that can enter the agenda. In this sense, it is estimated that the access of PC and the officials close to them was fundamental to legitimize problems and solutions.

The most relevant function of CP was the faculty given by the Executive to define problems and legitimize the demands. However, there is no way to ensure that the solutions proposed by PC and considered in the mechanisms were endorsed by the mayors and the affected population. There are



two reasons to contest the legitimacy of the actions specified by PC. The first is that no document evidence that mayors had expressed the same demands as PC was found in the file of SRT; second, the solutions established by PC differ from the demands advocated by the mayors and affected population over the weeks before the creation of SRT and which were presented to *Grupo México* for immediate solution on September 10, 2014, at a meeting before the announcement of SRT (CEDH, 2014).

## DISCUSSION

The responsibility and orientation of the political formulation to compensate for the lack of water supply was jointly shared by CONAGUA, which produced most of the alternatives established in the Mechanism designed by PC, and by the EC, in charge of approving them. A heterogeneous network of participants with low visibility inside and outside the government participated in the implementation, being CONAGUA, CICS, CINAM and *GPG Concretos de México* distinguishable. This behavior concurs with MSA, for which the definition of alternatives usually involves the participation of relatively hidden participants or specialists in the specific political area (Kingdon, 2014, p. 200).

As regards selection criteria, the approved alternatives were characterized by their technical unfeasibility and null budgetary limitations in the long term. Although implemented by experts and their supervision was funded with additional resources, the executed works had poor fulfillment of the technical criteria, lengthy execution periods, installation of works over those required, unfinished works and blatant inefficiency in functioning. Considering the statistical base of *Instituto Nacional de Estadística y Geografía*, INEGI [National Institute for Statistics and Geography] (INEGI, 2015), it is calculated that costs due to the excessive implementation of water infrastructure (e.g., water tanks, metallic frames) and supervision amount to 60 million MXN and is a squander in a context of limited resources in SRT for remediation.

Notwithstanding that in the government agenda, potabilization plants are set as a solution to recover the quality of water, which was the core of the problem in the zone, in the decision agenda the solutions produced by CONAGUA, and approved by EC, focused on its distribution and storage (see Table 2), which had no connection with the problem. Not prioritizing solutions for the problem of water quality is considered one of the gravest failures in the remediation policy of Sonora River.

In the context of MSA, Zahariadis and Exadaktylos (2016) state that a policy fails as it “decouples problems from solutions, undermines the support from the political stream, and alters the estimations of equity and efficiency in the political stream” (p. 59). In this sense, the policy failed because in exercising SRT, the solutions approved were detached from the problem of water quality. Addressing emblematic and short-term alternatives disclosed the orientation of those in charge of producing the alternatives regarding State compensations after an environmental contingency.

The SRT decision agenda was set by hidden participants such as CONAGUA and EC; in this phase, not only relevant topics in the government agenda lost attention but were modified and

denied. Distortions in politics may reduce by means of specific mechanisms that ensure the participation of the affected communities and their local political representatives in the Remediation Agreement, SRTA, in the external entities involved in the formulation, and particularly, that they are granted their rights as trustees to vote in internal organisms such as TC and EC responsible for authorizing funds.

The lack of cleanliness of the Sonora River and the denial of potabilization plants are distortions that demonstrate the failure of the remediation policy to ensure the quality of water in a polluted site in the long term. In the context of MSA, Zahariadis and Exadaktylos (2016) conceive failure as “inability or lack of willingness to duly execute the law within the legally prescribed term”(p.59), then, once SRT was terminated, such failure has become the main argument for social demands.

## CONCLUSIONS

This case study, analyzed from the theoretical scope of MSA, provided information on the management of water in a context of environmental remediation and allowed identifying what attributes promoted the selection of an alternative. As regards the participants in the definition of the agenda, there was agreement with MSA: while the definition of the government agenda was associated with the federal executive via PC, the definition of alternatives in the decision agenda was linked to PC and with less visible government officials and professionals of the political area. In respect of the definition of alternatives, whereas the authorized decision was held by EC, participants such as the executive, the affected, state and local governmental agents and the media were poorly relevant. Even if *Grupo México* included EC as was a settlor in charge of authorizing resources, it had little influence on the alternatives proposed.

In connection with technical feasibility and anticipation of future restrictions (Kingdon, 2014), it was found that no approved alternative met the criteria identified in MSA. More than 80 percent of the alternatives approved specified the actual mechanisms for their implementation, though none has future-cost limitations, in this way, this criterion conditioned the former in decision making. Hence, SRT was terminated without fulfilling all its goals, being the cleaning of the Sonora River and heavy metal treatment the main omissions, which are deemed a failure in the remediation policy, and caused social disapproval and discontent in the exercise of SRT.

As a theoretical standpoint to analyze the case of Sonora River, MSA allowed demonstrating, in the first place, that in a context of environmental remediation, a trust agreement is incompatible with the management of resources because it makes it easy to reach administrative agreements that restrict and centralize participation in decision making, and in the second, that the direct representation of the interests of the affected and local governments is indispensable as a counterweight for the political community in the assessment of selection criteria. Finally, it is considered that opening the process of formulation to participants outside the government via public tenders, hiring ecological appraisers and designing selection mechanisms, endorsed by the

affected population might increase technical feasibility, broaden the orientation of solutions toward the long term and reduce distortions in remediation policy.

Translation: Luis Cejudo Espinosa

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