GUIDELINES FOR THE NEGOTIATION OF BENEFITS DISTRIBUTION OF HARNESSING SHARED ENERGY RESOURCES ACCORDING TO THE EXPERIENCES OF NEGOTIATORS AND THE APPROACH OF REGIONAL SPECIALISTS. CASE STUDY OF ITAIPU BINATIONAL HYDROPOWER PLANT.

LINEAMIENTOS PARA LA NEGOCIACIÓN DE LA DISTRIBUCIÓN DE BENEFICIOS DEL APROVECHAMIENTO DE LOS RECURSOS ENERGÉTICOS COMPARTIDOS DE ACUERDO CON LAS EXPERIENCIAS DE LOS NEGOCIADORES Y EL ENFOQUE DE LOS ESPECIALISTAS REGIONALES. ESTUDIO DE CASO DE LA CENTRAL HIDROELÉCTRICA BINACIONAL ITAIPÚ.

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ABSTRACT

In South America, in the 1970s, bilateral treaties were signed for the use of the shared hydroelectric potential. These treaties were results of international negotiations among countries of the La Plata Basin, which took place in the midst of various complexities. The systematization of these negotiation experiences could support the advancement of electricity integration, given that there is still a high regional hydroelectric potential to be exploited. The main objective of this work is to systematize the lessons learned in the negotiation processes in which Paraguay participated, in order to provide elements for future decision-making. Methods were applied to systematize these lessons learned. The results of the analysis provide valuable information for strategic decision-making, implementation, monitoring and communication to stakeholders, regarding what to negotiate (considering the revision of Annex C of one the hugest hydropower plant of the world: ITAIPU scheduled for 2023) and how to organize internally to carry out the negotiations. The conclusions of this study are also valid for other region's watershed and also could be applied for the use of shared natural resources in other regions of the world.

Keywords: Energy Integration; Negotiations; Learning History, ITAIPU.

RESUMEN

En Sudamérica, en la década de 1970, se firmaron tratados bilaterales para el uso del potencial hidroeléctrico compartido. Estos tratados fueron resultado de negociaciones internacionales entre los países de la Cuenca del Plata, que se desarrollaron en medio de diversas complejidades. La sistematización de estas experiencias de negociación podría apoyar el avance de la integración eléctrica, dado que aún existe un alto potencial hidroeléctrico regional por explotar. El objetivo principal de este trabajo es sistematizar las lecciones aprendidas en los procesos de negociación en los que participó Paraguay, con el fin de aportar elementos para la toma de decisiones futuras. Se aplicaron métodos para sistematizar estas lecciones aprendidas. Los resultados del análisis aportan información valiosa para la toma de decisiones estratégicas, la implementación, el monitoreo y la comunicación a los actores, respecto a lo que se debe negociar (considerando la revisión del Anexo C de una de las centrales hidroeléctricas más grandes del mundo: ITAIPU, prevista para 2023) y cómo organizarse internamente para llevar a cabo las negociaciones. Las conclusiones de este estudio también son válidas para las cuencas hidrográficas de otras regiones y también podrían aplicarse al uso de los recursos naturales compartidos en otras regiones del mundo.

Palabras clave: *Integración energética; Negociaciones; Historia de aprendizaje; ITAIPU.*

INTRODUCTION

The 1960s saw a strong growth in the demand for electricity in Paraguay's neighboring countries Argentina and Brazil, with which Paraguay shares important hydroelectric resources. In the late 1960s and early 1970s, the Paraguayan State negotiated and signed two bilateral treaties, namely the Treaties of ITAIPU and YACYRETA, that established binational entities with equal state participation, with the aim of harnessing the Paraná River's shared resources for electricity generation. The legal foundations were established for the association between the States (Paraguay-Brazil; Paraguay-Argentina) for their respective exploitation in the aspects of governance of the binational entities (Annex A of the Treaties), based on principles of equal rights and obligations between the signatory countries; the construction work and technical characteristics of the projects (Annex B); and the financial and marketing terms for the energy produced (Annex C). The documents stipulated an equal division of this energy between the partner countries, as well as the exclusive – or, in the case of EBY, priority– rights of companies in the partner countries to purchase the energy, exclusively for domestic consumption.

Bilateral –in some instances tripartite– negotiations took place in the context of disputes over ownership of benefits from shared natural resources –water resources, in particular– in the same hydrographic basin: the La Plata River basin, on its international stretch of the Paraná River.

International negotiations took place in very different contexts in Paraguay and its neighboring partner countries, as regards the size of their electrical systems, development of their industrial sectors –particularly the basic industry and capital goods sectors– and general country conditions for obtaining loans, as the projects were to be carried out through external financial resources due to the very low ratio between the capital of the binational entities formed and their financing requirements. Binational negotiations continued during construction through to operation of the hydropower plants, seeking various adjustments in the three above-mentioned organizational, technical and financial dimensions, the results and strategies of which were contested by some segments of society, particularly in Paraguay. Both international agreements provide for the review of financial aspects as of 2014 in the case of YACYRETA –already approved by the National Congress of Paraguay– and 2023 in the case of ITAIPU.

The 1960s saw a strong growth in the demand for electricity in Paraguay's neighboring countries Argentina and Brazil, with which Paraguay shares important hydroelectric resources.

Main construction work for these two major engineering projects was carried out beginning in the mid-1970s and over the course of four decades, on the basis of complex international agreements reached through negotiations featuring all sorts of complexities, conditions and challenges such as: (i) asymmetries among the countries (Debernardi, 1996; Pereira, 1974); (ii) diversity of geopolitical approaches on the use of a hydrographic basin for electricity generation; (Debernardi, 1996; Pereira, 1974) (iii) technological challenges; (iv) the need for external financing in an unfavorable global context; (Oxilia, 2009) and (v) difficulties in reaching consensus on binational agreements at the country level (Canese & Mauro, 1985; Guglialmelli, 1980; Pereira, 1974).

OBJECTIVES

The main objective of this study is to systematize the lessons learned from the bilateral and tripartite negotiations carried out during the preparation, construction and operation phases of both ITAIPU and YACYRETA binational hydropower projects on the Paraná River, with a view to providing elements for future decision making in the scope of regional integration processes and initiatives, and in the phase of negotiation over financial and marketing aspects of the energy generated by both.

Considering the proposed objective and time elapsed since the first negotiations took place, we propose applying the documentation method based on historical analysis for historical contextualization of the binational projects in combination with the learning history method for collecting information from relevant actors identified on an actor is map.

Identifying and organizing the lessons learned in international negotiations over the Paraná River hydropower plants are relevant for South American countries because of the immense hydropower potential still to be exploited in hydrographic basins whose sovereignty is shared by multiple countries, such as those of the Amazon River and especially that of the River Plate. Difficulties of all sorts that have arisen during implementation of large international or national hydropower projects in South America –e.g., the Inambari, Belo Monte, Madera River Complex projects, among others– demonstrate the usefulness of learning from the evolution of large hydropower projects in the region.

Learning about the experiences of people who participated in the construction of the binational projects is of utmost importance for Paraguay, considering that in the year 2023 Annex C of the Treaty of ITAIPU will be revised. Furthermore, the possibility still exists of building new hydropower projects on the Paraná River, which are binational in essence. That is, these projects would entail a negotiation not so much with Brazil, but rather with Argentina –e.g. the Aña Cuá (related to YACYRETA), expansion of YACYRETA hydropower plant, Itacorá-Itatí and Corpus projects– involving works that would contribute to the attainment of one of the objectives in the Energy Policy of the Republic of Paraguay, namely to "guarantee energy security with self-sufficiency criteria...." (MOPC, 2016).

The proposed objective is relevant for the energy sectors in South American countries and for the advancement of energy integration. This is because a sizeable hydropower potential exists that remains to be exploited in the hydrographic basins whose sovereignty is shared among multiple countries: the Amazon River basin and especially the La Plata River basin, as shown in Table I. Therefore, learning from already completed projects could contribute to an important and crucial future development of the region's power systems.

Regarding future hydropower projects (Table I), some specialists in the region (Sauer, 2015) highlight the convenience of implementing an integrated management approach for both hydropower resources and the assets of existing enterprises by creating a Southern Energy Corporation. This regional corporation's objective would be to invest in construction of new binational projects in the La Plata River basin and in their electrical interconnection networks, with the corporation acting as the main electricity generation hub in an integrated electricity market in the Southern Cone of the Americas[1]. Therefore, learning from already completed projects could contribute to an important and crucial future development of the region's power systems(Ortigoza et al., 2018; Walczak et al., 2021).

1 Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay.

Table 1. Hydroelectric Projects in the La Plata River Basin (not yet implemented)

Projects	Available potential (Paraná and Uruguay rivers)		
	Power	Average energy	Partner countries
Aña Cua (*)	270 MW	2.000 GWh/año	Paraguay – Argentina
YACYRETA (*) (**)	4.650 MW	21.200 GWh/año	
Itacora Itatí (*)	1.660 MW	11.300 GWh/año	
Corpus (*)	2.880 MW	20.200 GWh/año	
Panambi (***)	1.048 MW	5.970 GWh/año	Argentina – Brazil
Garabi (***)	1.152 MW	5.475 GWh/año	

a (*) Source: Technical Report IPPSE (IPPSE, 2017) (**) Includes currently installed capacity (3100 MW)

b (***) Source: http://garabipanambi.com.ar

Although there are accounts from some of key actors in the negotiations, which have sometimes been published as their own work (Damill & Fanelli, 1994; Debernardi, 1996), or as a compilation and analysis by researchers (Oxilia, 2009), these experiences had not been systematized in the form of lessons learned, as has been done in this study[2].

This analysis will focus on systematizing the elements that could be used as an analysis in the preparation of objectives, strategies and internal organization for the revision of Annex C of the Treaty of ITAIPUu. Therefore, the specific objectives for this analysis are:

I. To identify guidelines for organizing the negotiation process, during its preparation phase prior to negotiation; and

II. To define guidelines for defining a new cost of electricity service setting structure for ITAIPU Binational, based on the Objectives of the National Energy Policy 2040 (PEN 2040).

2 It should be noted that this study is being carried out with financial support from the National Council of Science and Technology of Paraguay

MATERIALS AND METHODS

This research work was undertaken in three stages. First, a historical analysis of the projects was carried out. In the second stage, a learning histories survey was carried out through interviews with key actors who expressed their willingness to collaborate with the project. Finally, the third stage consisted in preparing a Preliminary Table of Lessons Learned (PTLL). Each of the stages is described below:

Although historical contextualization of the negotiations helps in understanding the motivations that could explain actions and decisions related to the projects, it fails to capture the learning from experiences during implementation of these projects. This requires deploying tools and techniques for identifying and systematizing lessons learned. Considering the proposed objective and the long period of time elapsed since the last developments relating to the binational treaties –late 1950s for YACYRETA and mid-1960s for ITAIPU– we propose applying the learning histories (LH) method for collecting and systematizing information on lessons learned from actors who were linked to the projects during their various

phases, from initial negotiations through to their current operation phase.

Therefore, both a historical and geopolitical analysis and the application of learning histories serve as components of this study's methodological proposal. Following are theoretical considerations for these methodological components:

Historical analysis with a geopolitical focus on the use of natural resources under shared sovereignty

Several authors (Canese & Mauro, 1985; Cardozo, 1965; Caubet, 1991; Cotrim, 1999; Debernardi, 1996; Oxilia, 2009) contextualize the negotiation and implementation of the binational Treaties of ITAIPU and YACYRETA within the framework of the development of Keynesian policies and as examples of geopolitical disputes over the use of shared natural resources during a particular historical period in the region in which military governments predominated. In addition, the global financial context was very unstable during the period when the terms of the binational treaties were negotiated and financial disbursements began.

Within the methodological proposal, this analysis functioned as the basis for the preparation of research instruments for the surveying of lessons learned, as well as for their systematization and presentation. On the one hand, the oil price shock in 1973 and at the end of that decade produced an unprecedented concentration of foreign currency in oil exporting countries with the consequent abundance of petrodollars. On the other hand, the breakdown of the Bretton Woods agreements and fluctuations in exchange rates among the world's main currencies produced a crisis in the international financial system, with high, fluctuating interest rates, and serious consequences for Latin America, where it was known as a period of external debt crisis or The Lost Decade (1980)(Bértola & Ocampo, 2012; Centro da Memória da Eletricidade no Brasil, 2001) .

Several methods for systematizing lessons learned have been applied in different contexts, such as in topics related to perceptions on inter-company negotiations(Eiteman, 1990), the use of renewable sources (Baigún et al., 2011; Sanyal & Enedy, 2011; Tokman, 2011; Wiltsee, 2000), internationalization in companies (Bianchi & Ostale, 2006), among others. However, no studies can be found in the literature that aim at systematizing lessons learned from international negotiations over binational hydropower enterprises.

Method for systematizing the lessons learned

The main objective of systematizing the lessons learned is to avoid institutional amnesia: the team that participated in the execution of the projects losing that learning. Learning from mistakes made and setbacks, as well as from solutions implemented, is valued (Guzzo et al., 2012).

The tool selected presents the experiences and understandings of participants –people who initiated, implemented and participated in organizational transformation efforts or experiences– as well as direct non-participants who

were affected by these events (Kleiner & Roth, 1996). Thus, tacit knowledge, which in some cases is irretrievable, is codified and converted into a knowledge base, which people can access when similar situations arise.

To apply learning histories, interviews were conducted using techniques (interviews) and instruments (e.g. questionnaires).

Once interview results were obtained, the lessons learned were identified in expert workshops. The lessons learned identified can be organized following an approach related to achievement of the objectives proposed for their systematization. Finally, the results are presented in a Lessons Learned Table.

Additionally, based on the lessons learned, a proposal was designed for: i) future components of the post-2023 UCES, and ii) internal organization of the negotiation process that can be used by either negotiating party.

For Paraguay, the hydropower exploitation of the Paraná River was the most beneficial option to support its long-term electricity development with a centralized approach.

STAGES OF THIS RESEARCH WORK

This research work was carried out in four stages. First, a historical and geopolitical study of the binational enterprises was carried out by means of a documentary analysis. The next step was applying learning histories through interviews with key actors in Argentina, Brazil and Paraguay, who were carefully identified by reason of their links with the projects. Information was collected from various sectoral actors, such as the government, binational entities, public energy companies, private sector and academia. Subsequently, possible elements of the post-2023 UCES and for the preparation of the Lessons Learned Table were assessed. The following is a description of work done in each of the stages:

First stage - Analyzing the socioeconomic roots of the binational enterprises and geopolitical problems related to the use of shared water resources on the Paraná River

The conditions of the economies and electricity sectors of Argentina, Brazil and Paraguay were very different during the decades when the negotiations for the signing of the Treaties of ITAIPU and YACYRETA took place. Paraguay was an agro-exporting country, with production based on family agriculture, small farms and little industrial development. Argentina and Brazil were countries with significant, diversified industrial development. They were the first two economies in South America to have experienced expanding markets, developing basic industries driven by state-owned companies, and significant progress in the local business sector. There were also differences among the countries' electricity sectors and their financing capacities for this sector: Argentina and Brazil had their own financing programs for the electricity sector at the state level. However, there was a common element to all three countries: the State's marked presence in electricity development. State-owned (public) electricity companies operated in all

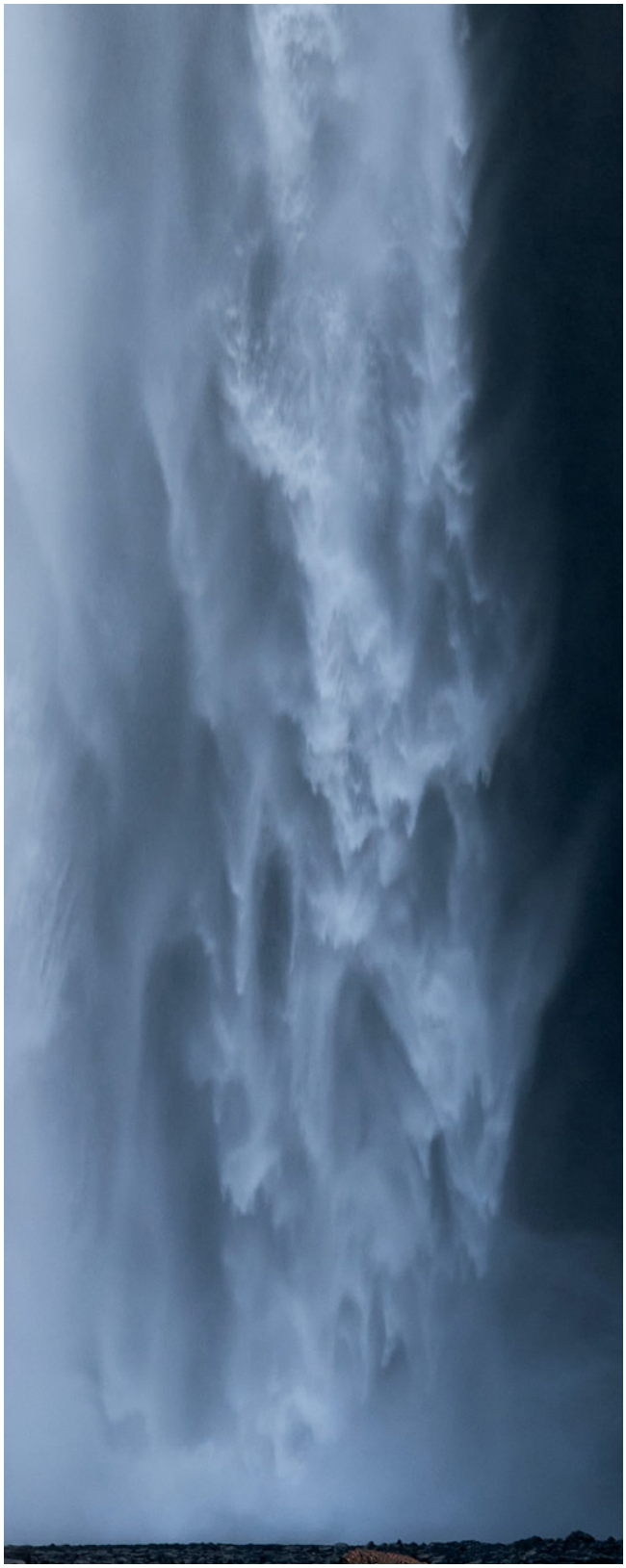
cases under plans to develop their hydropower generation systems, with greater intent after the 1973 oil price crisis, the year of the signing of the binational treaties.

In Brazil, a strong growth in electricity demand necessitated an accelerated increase in electricity production (Centro da Memória da Eletricidade no Brasil, 2001). During the 1950s and 1960s, the Brazilian electricity sector needed to consider options for its electricity supply (Pereira, 1974). Though without the high growth rates of Brazil, in Argentina the increase in electricity demand led Agua y Energía Eléctrica to push a hydropower generation program that was implemented decisively during the 1970s and 1980s (Agua y Energía Eléctrica, 1987).

Since the late 1950s and during the 1960s, Argentina and Brazil showed strong interest in exploiting the hydropower potential of the Paraná River's international stretch, in an environment with a strong geopolitical content.

For Paraguay, a country that had been in the process of organizing its power system through its vertically organized, state-owned company ANDE since the mid-1960s, the hydropower exploitation of the Paraná River was of great importance, as this was the most beneficial option, whether from the perspective of unit capacity cost or energy security and quality, to support its long-term electricity development with a centralized approach.

It should also be recalled that ITAIPU Binational has historical roots in a boundary demarcation conflict between Paraguay and Brazil in the area around the now vanished Guairá Falls. The diplomatic solution is also considered a successful case of negotiation over a geopolitical dispute over the use of a natural resource under shared sovereignty.



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Second stage - Applying learning histories through interviews with key actors from Argentina, Brazil and Paraguay

After better understanding the reasons for the creation of the ITAIPU and YACYRETA binational entities, the most important aspects to be extracted from the negotiation processes and which could be used for future enterprises were identified. Subsequently, interviews were conducted with the relevant actors using the learning histories method.

In order to deploy the learning histories tool selected for data collection, subjects to be interviewed were identified by analyzing their links to and the roles they played in these projects. Interviews were conducted with actors from Argentina, Brazil and Paraguay who were involved in the negotiations over the projects. More than thirty people were interviews in total, from various sectors of society.

Before conducting the interviews, a list was drawn up with the names of the people who were involved in the most relevant negotiations; with this list including actors from Argentina, Brazil and Paraguay. Selection of the actors to be consulted was done on the basis of how closely they participated in the bilateral negotiations. The final list included former directors of ITAIPU and YACYRETA, financial directors, advisors, ministers, builders, presidents of ANDE and ELETROBRAS, legislators, professors, Presidents and others who renegotiated the treaties. Once the list of people to be interviewed had been drawn up, a questionnaire was developed including targeted questions for each actor, depending on the position they held at the time, in order to elicit first-hand experiences that could be relevant and usable in the future.

Interview reports were presented in the format recommended by the learning histories tool, to facilitate the work carried out in the next stage.

Third stage: Assessing the elements that should be considered in the revision of Annex C

Regarding the case study on the unit cost of electricity service (CES), components were assessed that could be part of the new Annex C as a result of the negotiations. To support this assessment, two elements were taken into account: (i) discourse analysis of the interviews conducted and characterized in section D; and (ii) instruments included in Objective IV of the National Energy Policy 2040 (approved by Executive Order 6092/2016), namely to "Consolidate Paraguay's position as a regional energy integration hub based on the sustainable use of its natural resources and on its strategic geographic location"(MOPC, 2016). From the discourse analysis stands out a conservative attitude towards the current CES structure. The National Energy Policy 2040 establishes the creation of a National Infrastructure Bank for Economic and Social Development (BNIDES) to manage the financial resources that would originate from the revision of Annex C, in the event that the current components are maintained and by redirecting the components to new ones.

From the systematization of the lessons learned, following are the elements of a proposed possible structure for the CES that would benefit the societies of Paraguay and Brazil:

1) Operating expenses;

2) Technological updating;

3) Social-environmental responsibility;

4) Capital gain or equity profits (ANDE and ELETROBRAS);

5) Royalties I (refers to the royalties currently in force); and

6) Royalties II (here, new "royalties" are included to be applied towards the creation of the National Infrastructure Bank for Economic and Social Development (BNIDES), as defined in the Energy Policy 2040).

These new elements must be monitored and supervised and must allow society to carry out this task, as an institution belonging to all Paraguayans (50% of the hydropower plant), and must comprise policies, programs and plans for developing infrastructure, education and health. The social participation and transparency are crucial when strategic natural resources are harnessed.

Stage four - Preparing the lessons learned table

Once the interviews were completed, a report was prepared. This report contained the A report was prepared after interviews were completed. This report contained the stories, experiences, suggestions and recommendations from interviewees, who had participated in the different negotiation processes over the ITAIPU and YACYRETA hydropower plants.

Subsequently, a focus group was used to validate the PTLL, with the participation of actors who had been interviewed, specialists in negotiation issues, professors, students, legislators, among others.

The learning history reports were analyzed in an expert workshop[3] and the lessons learned were identified and classified. Bearing in mind that the objective of systematizing the lessons learned is to improve the conditions and results of future negotiations, this analysis showed that achieving this objective is feasible using Deming's continuous improvement approach (Arvesin, 1998). These categories are: 1) Policy decision making; 2) Strategy planning; 3) Strategy implementation; 4) Monitoring and evaluation of strategies and results. Also, based on the interviewees' responses, an additional category to the continuous improvement approach was included (+D) related to communication and social participation, taking into account the content and political nature of the negotiations.

3 Specialists from the Energy Systems Research Group (GISE) of the National University of Asunción Polytechnic School, Asuncion.

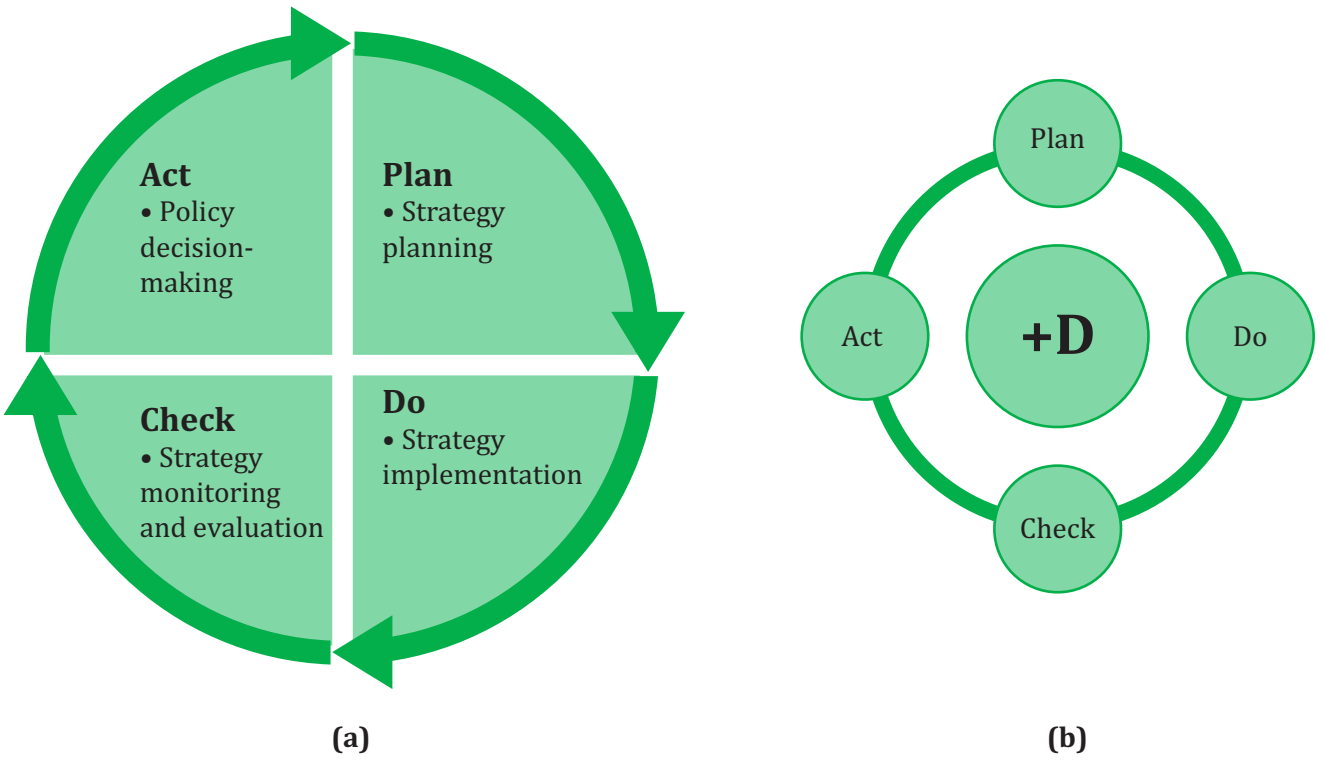
Table 2. Lessons Learned table[1]

Catering	Binational entities	
	Lessons learned	**Remarks**
Policy decision making	Leveraging favorable political situations in both countries.	Environment conditions should exist to carry out the negotiations. Valid interlocutors with strong leadership are needed.
Strategy Planning	Involving government leaders in crucial and difficult-to-agree-on issues.	When situations cannot solved at the technical level, leaders must be involved.
Strategy implementation	Bring country proposals previously developed with technical rigor.	Proposals to be presented must be developed by the experts from the sector.
Monitoring, evaluation and results of negotiations	Monitoring and evaluating progress and results of negotiations.	Decisions made must be followed up on and evaluated.
Communication and social participation	Defining and establishing participatory mechanisms to facilitate communication and participation for consensus on national positions.	Society must participate in strategies that will be followed.

1 From past negotiations

The analysis of the lessons learned systematized following the negotiation process approach over aspects with political content –as these are negotiations between countries over the use of their shared resources– allows to recommend a scheme of internal organization that can be implemented by a negotiating party (a country), at three levels (i) Policy decision-making; (ii) Strategy planning and implementation; and iii) Social consensus building. The classification for the systematization of the lessons learned organized according to the Deming cycle quality tool can be seen in Figure 1. Considering the lessons learned from the international negotiations, it was possible to make a classification following the continuous improvement process, with the objective of providing a tool that could help decision makers when negotiating future hydropower projects, as mentioned above.

Figure 1. (a) Deming Cycle - Continuous Improvement that serves to improve planning and processes within an organization; (b) Deming Cycle adapted for negotiations with other countries, which incorporates the social participation (+D).



Source: Own elaboration.

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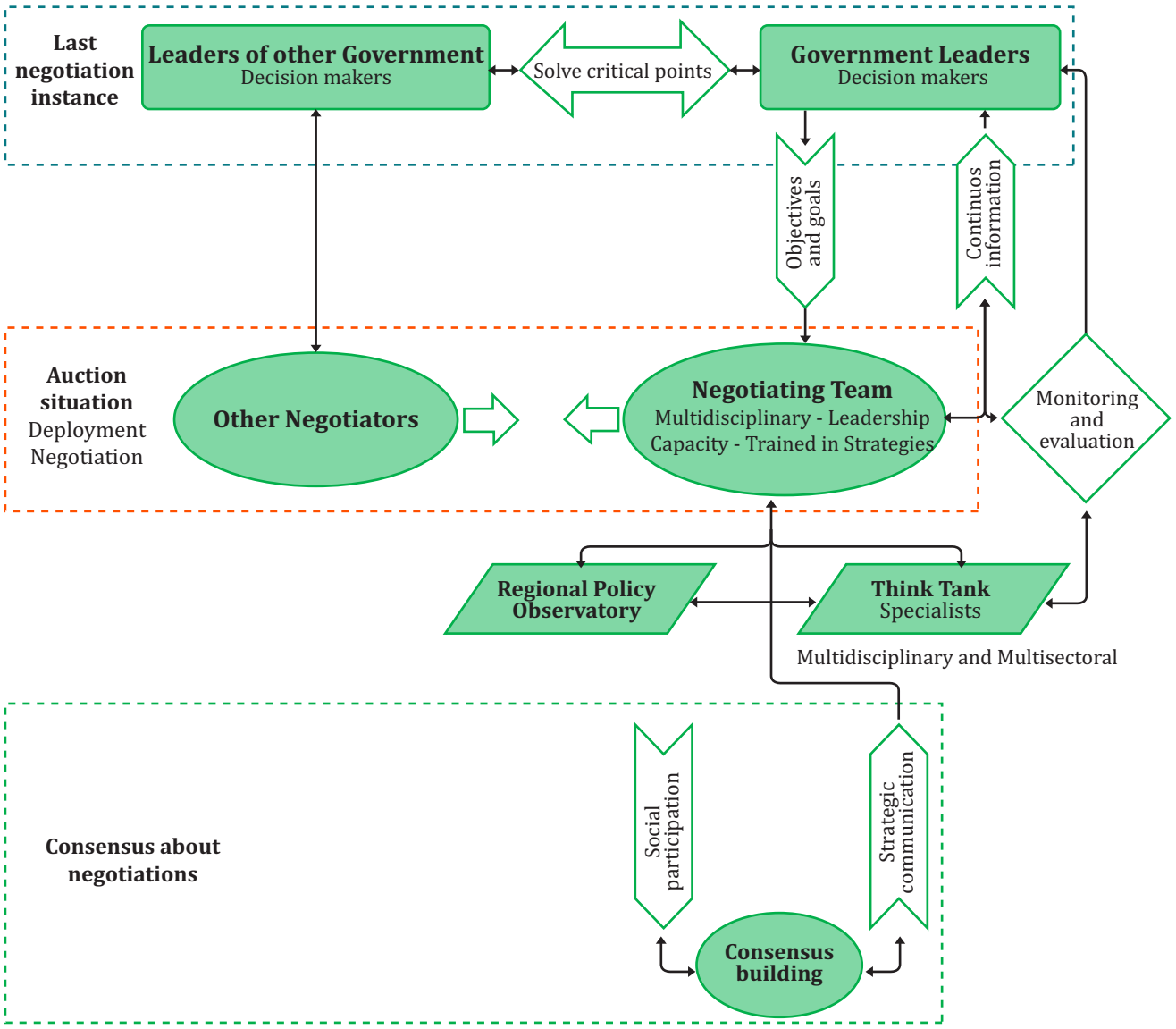

Figure 2. Proposed internal organization of the negotiation process

Source: Own elaboration.

Figure 2 describes an experience-based negotiation process that incorporates a continuous improvement process and includes both the use of prospective techniques and the participa-

tion of civil society stakeholders:

Level I: Policy decision making. On the one hand, it represents the authority that draws up the policies for the negotiation –including the objectives and goals to be achieved– and, on the other hand, the final decision-making authority for the negotiations. This level of hierarchy includes heads of state, ministers, foreign ministers and ambassadors. This authority should clearly brief the negotiating team (Level II) on the objectives and goals. This level must have access to relevant and timely information on the progress of the implementation of negotiation strategies; and intervene in the resolution of critical and conflictive issues between the negotiating parties.

Level II: Strategy planning and implementation. This is the level of permanent negotiation. Teams in charge of negotiations must be multidisciplinary, and possess leadership skills and training in strategy. It is their role to plan strategies and ways to implement them. To achieve this, these teams must rely on contributions from: 1) a specialist think tank implementing multisectoral technical-scientific based methods (proposal and evaluation of prospective studies and systemic analysis, among others); and 2) a regional politics watch that analyzes the political situation in the countries seeking to leverage favorable situations for energy integration. Likewise, monitoring strategy implementation using clear indicators and evaluating the results are relevant to the progress of the negotiation process.

Level III: Social consensus building. This level is represented by a loop of reflections on how the negotiations are perceived socially and adequate communication on the negotiating team's progress. Different sectors of society must perceive transparency in the negotiations and at the same time feel involved in the process. They must endorse the negotiating team's statements (Level II) and the government leaders' decisions (Level I).

DISCUSSION

This article presents an attempt to understand and analyze the negotiations that led to the development of ITAIPU and YACYRETA, while presenting important information on the lessons learned from those discussions, according to the experiences of those who were part of the negotiations or had contact with those who did. The contents collected in the interviews were analyzed by a team of specialists who extracted the central ideas f rom the discourse of the interviewees and clas-sify them in the PTLL. Subsequently, focus groups were held to review the PTLL and validate the contents collected and classified in the table. This section presents a synthesis of the lessons learned, organized by themes following the steps of the PDCA and D+ cycle as described above. The D+ factor introduces an upward feedback that has been absent in the early stages of the negotiations, but which has gradually become more vocal in recent developments. It is now bidirectional, i.e., the population must be involved. On the one hand, it is necessary to design a communication strategy to make the information and the process transparent, so that an active effort to deepen and enrich the downward feedback, from decision-makers to the society, is crucial. Furthermore, upward feedback (from society to decision-makers) should be sought as well. In order to achieve consensus and acceptance of results of these negotiations in society, there must be mechanisms to help public participation in the procedure to achieve final results, as well as contingent planning that creates the necessary flexibility to allow for adaptation (or at least the possibility of doing so) with the adversary.

CONCLUSIONS

This paper analyzed the experiences – whether positive or negative– of the people who participated in the creation of ITAIPU and YACYRETA. Interviews with key actors in the two projects led to the identification of a number of lessons learned.

First, it should be noted that the theoretical and methodological framework proposed is appropriate for systematizing lessons learned. A historical and geopolitical analysis allowed identifying actors and conducting the interviews; the learning histories tool facilitated the recording and analysis of experiences; and the Deming cycle provided a way to classify and present the lessons learned following an approach that allowed to prepare a proposal for organizing the negotiations within the countries, based on prior learning. The results of this work entails that the approach of Deming cycle for the international negotiation process must be complemented by social participation and mechanisms to communicate to the society in a transparent way about the negotiation progress. In this context, the main contribution of this study is the systematization of lessons learned from international negotiations by combining the learning histories tool with Deming's continuous improvement approach.

It has been perceived that when negotiating, there are several factors that contribute to these actions being carried out more promptly and in a cordial environment. These identified factors contribute to the ability to apply this work to any projects with similar characteristics.

Secondly, this research work at its current state points at several elements that should be taken into account for the advancement of energy integration based on the use of shared hydropower resources, among which the following are mentioned: (i) high-level officials should be informed about the follow-up on interests, particularly on critical issues; (ii) negotiating team should be carefully selected; (iii) it is advisable to create a multisectoral forum of advisors and specialists to analyze various strategy and result scenarios.

Regarding the guidelines for the revision of Annex C, a proposal for the CES structure was presented, in which the current cost would be maintained, with both states receiving the distribution of Royalties I and II. ■

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