The struggle for water as a common good
The experience of Andean Communities in Bolivia

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Abstract

In Bolivia, as in many other Andean countries, national legislation and policies often fail to consider the specific context of peasant and indigenous groups. With regard to water issues, local rights and community-based management strategies are legally and materially discriminated and overtaken by other water user sectors more influent at decision making levels. In the town of Cochabamba, the attempt to privatize drinking water services and impose a water rights allocation model based on "concessions", provoked the reaction of rural and urban water user organizations that feared loosing control over their community-based water management systems and their rights to water access. In this paper we present the experience of Bolivian's irrigator organizations that elaborated their own Irrigation Law proposal to assure the legal protection of their water rights. It also presents a case study of an Andean community, its irrigation system and an analysis of the efficiency of their water rights allocation system.

Introduction

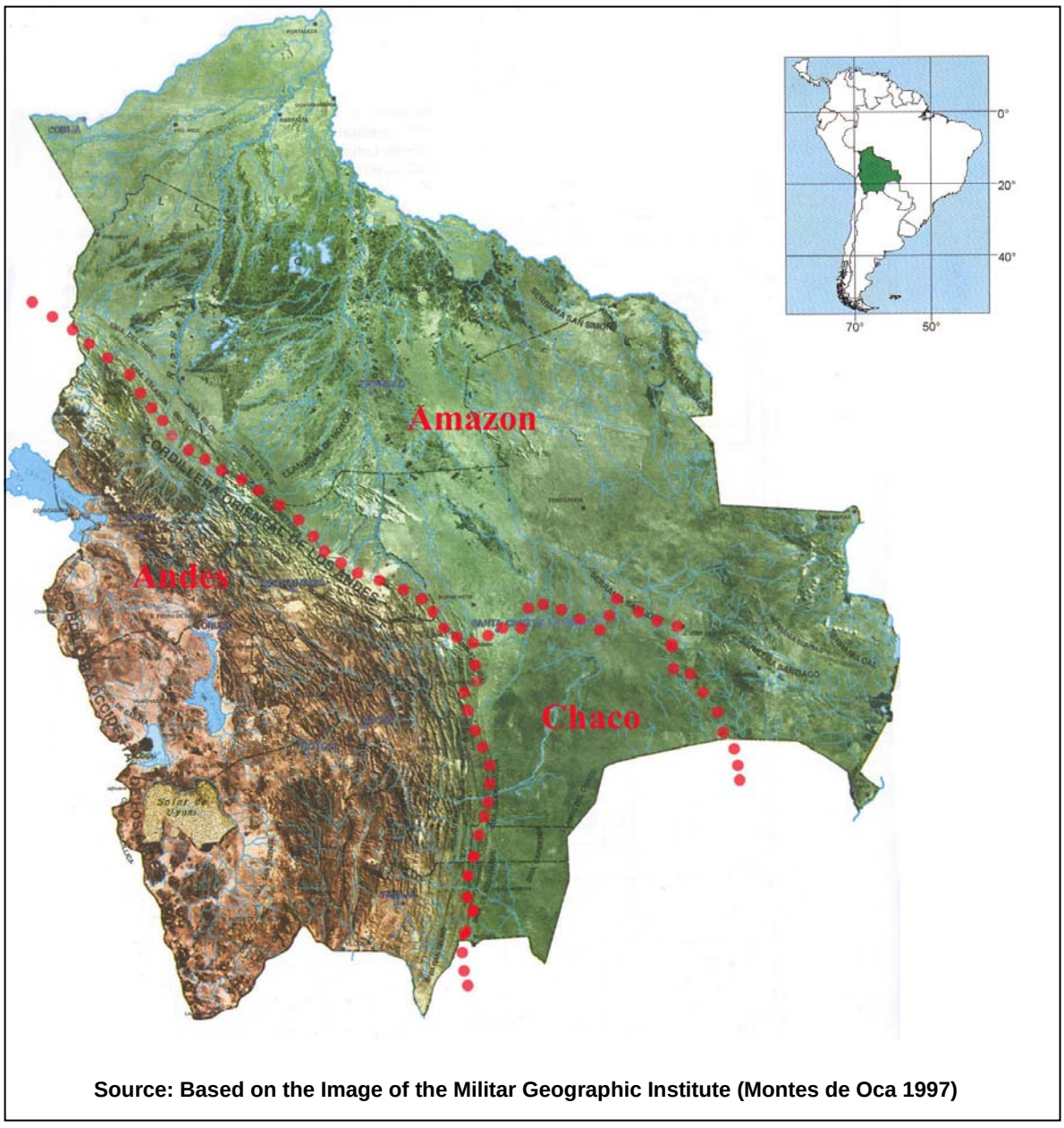
Andean cultures are known for managing their natural resources in a collective way. Since the colonial period their community-based strategies were constantly threatened and more emphasis was given to the assignation of individual rights for accessing resources. Bolivia was born as a republic with a governmental structure characterized by a white elite governing indigenous communities. The inefficiency of the state to reach the rural population enabled the maintenance of traditional communal structures and productive ways. The rural population migrating to urban areas kept this collective spirit and organized itself in the suburbs of the cities where the state did not provide basic sanitation services. That is why until now hundreds of grassroots' organizations managing their small drinking water systems are found in the cities. When the government decided to implement the structural reform and neoliberal measures for the water sector, it was confronted with well organized water users that obliged the authorities to take a step back. This is when a new chapter in the irrigators experience began, finally leading towards positive results for the protection of collective water rights and water governance.

This paper presents the experience of the National Irrigators Association in the defense of their water rights and community-based management systems. It also presents a case study of an Andean community, its irrigation system and an analysis of the efficiency of their water rights allocation system.

Background

Bolivia, located in the central part of South America, has a surface area of 1 098 541 square kilometers and over 8 million inhabitants (8' 247 325 according to the last National Census of 2001). The presence of the Andes mountain chain combined with the proximity to the Equator results in a great diversity of ecosystems. Descending from the peaks of eternal snow (at 7000 m. above sea level), one arrives at the huge Altiplano flat, “the cradle of great civilizations,” (4000 m. above sea level). Continuing, one passes through the fertile inter-andean valleys (2000 m. above sea level) before arriving at the Amazon (humid) and Chaco (dry) regions located at 300 m. above sea level.

Figure 1: Main ecoregions of Bolivia



Source: Based on the Image of the Militar Geographic Institute (Montes de Oca 1997)

Bolivian rural communities are spread all through this huge territory. This dispersion combined with the fact that, during the republican period, Bolivia was governed by a non-indigenous urban elite, resulted in an almost complete absence of the State in rural areas. These communities, though, have a strong Andean tradition of organizational structures, that can be considered a valuable "social capital" for achieving important goals. This tradition is reflected today in an effective organization that links all the rural communities in "Sindicatos", "Subcentrales", "Centrales" and "Federaciones", from the basic unit of a community all the way up to the national level with the "Central Unica de Trabajadores Campesinos de Bolivia" (CSUTCB). This very efficient organizational network helps them face problems at required levels (municipal, provincial, departmental or national). CSTUTCB can heavily influence political decisions.

Historically, Andean cultures were known as "hydraulic societies" having developed advanced technologies for irrigation (Gelles, 1990). Nowadays, irrigation is still an important element in Andean communities, playing an important role not only for food security but also as a cohesive factor in organizational structures. The absence of the State for providing basic sanitation services in rural areas resulted in the strengthening and consolidation of local norms, rules, agreements and water authorities that allowed communities to achieve an efficient water management (Bustamante and Gutiérrez, 1999).

According to the National Inventory of Irrigation Systems (PRONAR, 2000), there are 4724 active irrigation systems. In this Inventory the systems where classified in four groups according to the irrigated area:

- Microsystems: irrigated area > 2 to 10 ha
- Small systems: irrigated area >10 to 100 ha
- Intermediate systems: >100 to 500 ha
- Large systems: > 500 ha

There are only 49 big systems, usually built with external financing. Most of the others (4675 systems) were implemented entirely by local communities and only in the last decades received some external support for investment in better infrastructure. All of these systems are managed by local user organizations, which are sometimes part of the community organization and sometimes are a separate "irrigators association" only in charge of irrigation (PRONAR, 2000).

Water management in communities is known by them as "uses and customs"[1]. Each region, each community, and each system have their own characteristic way of managing water. It is quite difficult to find a common pattern in the various uses and

[1] The terminology "Usos y costumbres" has its origin in roman legislation. The Spaniards brought this terminology in colonial times. The Spaniards used to recognize only the uses and customs of indigenous people that were convenient to their purposes. For water management, besides recognizing indigenous peoples' uses and customs, they also recognized local water authorities, probably to avoid a major number of water conflicts (Gentes, 2005)

customs, since they are a result of the confluence of many factors such as cultural visions, historical processes, proximity to urban areas, ecological and productive aspects, and many others (Gerbrandy, Hoogendam, 1998; Hoogendam et al, 1999, Boelens et al, 2001)

Despite the fact that most of the irrigation systems are built and maintained through the efforts of the users themselves, the irrigators realized that their rights to access water sources were not legally protected and were vulnerable to other sectors with more political influence. During workshops with irrigators many testimonies of community water rights affected by mines, hydroelectric companies, industries and others, have been registered. (Memories of the Workshops of the "Diálogo para la concertación de una normativa de riego", 2001)

Legislation can be tricky, especially if there are different sectorial laws that deal with the same resource as opposed to one coherent national Water Law. In dealing with this problem, Irrigators defended their rights by force in the beginning, and with new Law proposals in their hands in the end.

Brief analysis of legal aspects that affect irrigator's water rights

The legal framework affecting irrigation water in Bolivia is large and complex. For specific details we refer to the review by Bustamante (2002). In this chapter we present only those aspects identified by the irrigator organizations as the most threatening.

> Constitución Política del Estado: The Bolivian constitution states that natural resources like soil, subsoil, lakes, rivers and all superficial water belong first and foremost to the State, which should make laws to establish the concessionary and adjudicatory conditions (Article 136).
>
> Ley de Aguas de 1906. In contradiction with the national Constitution, the Water Act of 1906 established that water belonged to the owner of the land in which the source was located or through which the water passed. Public water could be used with a State concession or authorization, though there were some exceptions in which it could be used for free.

The irrigators identified a threat arising from these two conflicting laws. In many Andean countries, the principle of the State domain over natural resources is part of an inclusive logic. Since the State represents all the society, natural resources should be for the benefit of all (Gentes, 2005). For the irrigators the "State" has always been represented by a government composed by a white elite with a different cultural vision that knows nothing about community-based water management and that is not interested in protecting communities' water rights. On the other hand, the 1906 Water Act facilitates the private appropriation of water, contradicting the principle of water as a communal resource.

Other threats come from norms established in sectorial codes and laws:

Electricity Law N^{o} 1604: This law regulates the use of water and other natural resources for producing electricity. The concessions for hydropower production, which include the use of water, are granted by the Superintendence of Electricity in coordination with the water authority. When there is no water authority the concessions can be granted directly by the Electricity Superintendence, who usually doesn't take into account irrigators or other sectors who may be using this source. It has been the experience of some communities that these companies, though they don't make a consumptive use of water, regulate this resource according to their needs which usually don't coincide with the needs of irrigation. This law also allows Companies to request the establishment of a protected area for the basin that provides them water. The administration of this protected area is also given to the Hydropower Company. The status of protected area can affect land uses in the area and so affect the communities' productive systems.

Mining Code, Law N^{o} 1777: This law allows miners to use all the water that passes through their mining concessions on the condition that it is restored to its original flow. Even though the law includes environmental stipulations, more than 90% of the time the water returns to its original flow completely polluted, affecting all the lower basin users. Most irrigators of the highlands (Oruro, La Paz, Potosí) identified water pollution by mining as their main problem. Another concerning aspect of this law is that miners are permitted to deviate the course of water flow on the condition of notifying other users. If no opposition is voiced within 90 days, nothing can be done later to correct the flow deviation.

There are a few more sectorial norms like the Municipalities Law No 2028 which allows municipalities to grant concessions on rivers, the Forestry Law No1700 that creates the National Natural Resource Regulation System (SIRENARE) based on the Superintendence's system, and others that can affect the irrigators' water rights in one way or another. There are also 32 Water Law versions that the government was trying to approve but failed to obtain acceptance of all the stakeholders. These law versions were even more threatening for irrigators' water rights (Bustamante, 2002; FEDECOR, 2002)

In many of the resultant legal entanglements, local communities had to defend their rights by force, sometimes successfully, others renouncing to part of their original rights. It is not easy for a dispersed rural population to influence policy decisions at the national level. The one way found was the application of social pressure using their organizational structures. So, the last several years, considering that a structural reform with neoliberal principles was being applied in the country, the confrontation between government and social organizations became a day to day reality, leaving the country landscape filled with strikes, road blockages, marches, and an infinite variety of social pressures.

Irrigators found a way out, moving from confrontation to proposals. The turning point was a Water War. Quite a long road has been walked since then. Irrigators realized that once a goal is achieved, a whole bunch of new challenges appear in the horizon, but the important thing is to keep walking together in the same direction.

The spark: Cochabamba's Water War

The Water War was the "beginning" of an alternative path chosen by the irrigators' organization, but it was also a "consequence" of an older process that began some years ago. In the 1980´s and 90´s, structural reforms intended to move the state towards a neoliberal economy were enacted, having a profound influence on the governance of the natural resources. The reforms, designed to both attract and legally guarantee private investments, included the formation of a network of regulatory agencies known as Superintendences. This agencies are highly centralized administrative entities with no direct oversight by Parliament or even the President. The water sector falls under their jurisdiction.

Under this new institutional framework a process of privatizing the urban water services took place in some cities including Cochabamba. In 1999, the public drinking water and sewer system was given in concession to the international consortium Aguas del Tunari. The same year the "Ley de Agua Potable y Saneamiento Básico" (Law N^{o} 2029) was promulgated. To avoid social conflict, the government explained that this law regulated only drinking water services and had no relation with the previously truncated Water Acts.

Water users began to worry when water tariffs were raised, as much as 200% in some extreme cases. When users' organizations were able to obtain and analyze all the information (concession contract, Act N^{o} 2029) they discovered many questionable, and even illegal, aspects. We point out only the most remarkable (Peredo, 2002):

- The price of water was indexed to US dollars (whereas the prices should change according to inflation of prices for US consumers)
- The concession holder had a monopoly on drinking water services, which meant that the more than 200 small water user associations of Cochabamba city became illegal
- All these small water systems, built with investments of local users had to be transferred to Aguas del Tunari for free, with no counterpart investment from the company
- Aguas del Tunari had the legal right to exploit all water sources in the concession area, including irrigator's water sources
- Act N^{o} 2029, which was supposed to apply only to drinking water services, stated that the Superintendent of drinking water was authorized to give concessions for all water uses. This was the equivalent of the conflictive "water law" that the government had agreed with social organizations not to touch without first arriving to a general consensus
- This Act obliged all water user organizations, rural communities and irrigators to obtain a licence for using their water sources. While concessions to big companies were given for 40 years, licenses for local user organizations were only valid for 5 years

Whereas the first spark was the raising of water tariffs, all these other elements further heated the conflict and the grassroots users groups' animosity. The first confrontations started in October 1999 and led to negotiations with the government but with no results. Water users and other social organizations started to coordinate with each other and analyse the options. FEDECOR unified the rural organizations and the workers' union (Federación de Fabriles) did the same for the urban ones. This is how the "Coordinadora del Agua" was born. The "Coordinadora" did not only integrate urban and rural social organizations, it also started to work with a group of professionals whose expertise in water issues helped them analyse the complex jurisdictional and technical aspects.

In April 2000, the confrontations where much tougher. The streets became a battle field. For the first time urban and rural users joined together in the fight. Irrigators blocked all the roads around the city, the main square was taken by the so called "water warriors", workers, housewives, students, etc. Organized as well as non-organized elements of the population came out on the streets demanding for the departure of the consortium Aguas del Tunari and the nullification of Act N^{o} 2029.

Behind this street scenario, at the negotiation table with the government, the "Coordinadora" with the support of the professional team, demonstrated the technical and legal contradictions of the Aguas del Tunari contract, and the unconstitutionality of Act N^{o} 2029.

The popular revolt ended up with the expulsion of the new Water Company. But this time the negotiations didn't end in freezing all attempts of elaborating water norm proposals as in other social revolts. The irrigators had a previous experience in 1998 when they made a first attempt to present to the parliament a proposal of a Water Law taking into account their uses and customs (Crespo et al, 2004). This experience and the fact that social organisations could now rely on precise technical information diminished the usual fear of being fooled again by deceptive norms. Now they knew what to negotiate, what articles were against their interests and how they wanted those articles to be changed. A traditional "no to all" confrontation evolved into a "point by point" negotiation. And so a long serial of commissions and negotiation tables were established. Act N^{o} 2029 was replaced by 2066 which didn't yet include all the social organizations' demands but did assure the main issues that threatened local users water rights.

Through this experience, irrigators and the technical team learned an important lesson: the synergic combination between practical local knowledge with technical and scientific knowledge can lead to significant political incidence by moving opposition towards proposition and confrontation towards negotiation. Local practical experience helps technical and theoretical knowledge put its feet on the ground and direct its efforts towards practical useful results. At the same time, precise information and technical knowledge helps local users visualize threats objectively and propose concrete alternatives. Another lesson learned out of this experience: weather you like it or not, to have real political incidence, in a given moment you have to interact with governmental

entities, it makes it easier if you do it from the beginning (Interview to the President of FEDECOR, Omar Fernandez, 2005)

After this experience, irrigators decided to go further. Considering that the Water Law, although necessary, was so conflictive, they decided to go a step forward and build a legal framework for their own sector. In coordination with a technical team, the support of NGOs and the involvement of the Ministry of Agriculture, the process of "Dialogue for the consensus of an irrigation legal framework" began the year 2002.

The defense of Uses and Customs, what are we talking about?

The new legal framework for irrigation had to include many related elements (institutional framework, water rights, investments, new projects, etc). One thing was clear to the irrigators: "uses and customs" had to be the cornerstone on which all proposals should be built. Local people have a detailed knowledge of their own "uses and customs" and maybe even those of neighboring and similar communities. But even for them it is hard to imagine all the variations and differences that exist across the many regions of Bolivia. Governmental functionaries are used to hearing the term, but most of them (since they are urban people working in urban areas) don't grasp its complexity, and all the cultural and social background that can be embedded in these words.

This is why, as a parallel activity to the dialogue process, a team of researchers, financed by the IDRC (International Development Research Center, Canada), decided to study this issue. The research project "Derechos de Agua" had the objective to contribute with technical elements to the dialogue process. Tiquipaya, a small rural town near Cochabamba, was chosen as a study case. This study had to show in detail one example of uses and customs, and with the support of simulation models, had to show the degree of efficiency of water allocation compared to the water allocation model proposed by the government in the 32nd version of the frozen Water Act. In this chapter we present a fraction of this extensive research showing the irrigators' logic behind the normative proposals they built during the dialogue process.

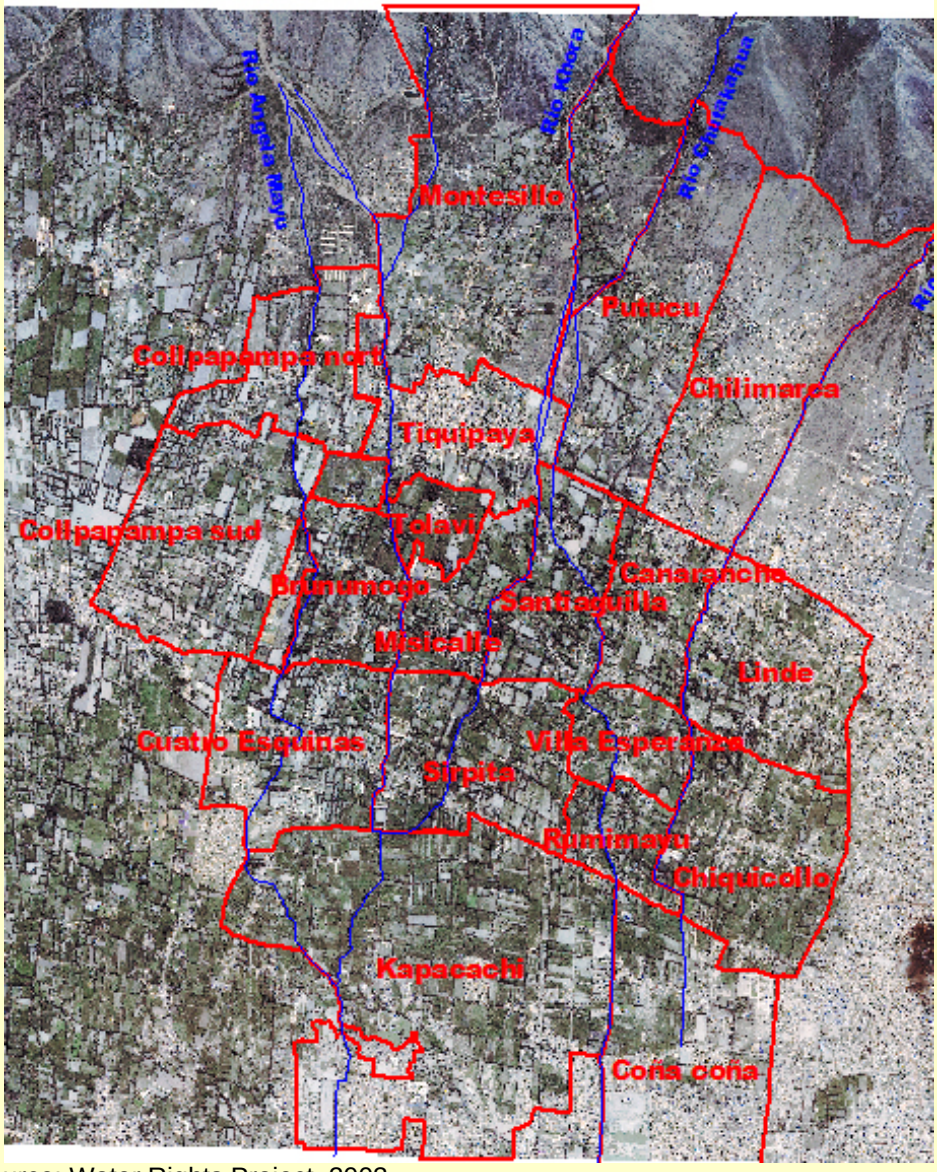
Since early pre-colonial times, all the Cochabamba valley, including Tiquipaya, was populated by diverse ethnic groups. The fertile soil of the valley offered good conditions for the development of agriculture and irrigation systems. Throughout history (pre-colonial, colonial and republican periods), water was managed by local users, who had to adapt to the different impostures of the governing bodies of each period. During the Quechua's empire (Incas), the inhabitants of the valley could access land and water on the condition of providing the centralized religious and military classes part of their crop production. In the colonial period all the dispersed ethnic groups were joined in one area called "Pueblo Real de Indios de Tiquipaya". In this area they were allowed to use land and water on the condition of working in the mines for 3 years and paying tributes to the Spaniard authorities. During the republican period, a great part of this area was occupied by the "Haciendas", who had preferential rights to water and land. Indigenous

people living in these Haciendas had to work for free for the owners in order to access a small piece of land for their own use.

In 1952 the revolution came, and an agrarian reform was imposed. The Hacienda's lands were distributed among the peasant workers. Finally they could own the land and use the water with no conditions, except those established by their own "uses and customs" which were built upon a mixture of rules incorporated or changed at each historical moment.

Actually, Tiquipaya is divided into 17 communities, each with a communal organization. There are 4 irrigation systems that encompass all the users from these communities, and one Association (ASIRITIC) that, in turn, encompasses the 4 irrigation systems.

Figure 2: Tiquipaya's communities



Source: Water Rights Project, 2003

The most ancient systems, Machu Mita and Lagun Mayu, group water rights in units called "Asignaciones". The Assignations originated in 1794 when the Spaniard authorities decided to allocate land and water to individuals instead of the communal property that was respected until then (Fernandez, 1996). With the passing years, water and land rights became separated, but the "asignaciones de agua" are still used today, keeping the names of the 18th century land and waters owners. Nowadays, one Assignation usually belongs to a group of users.

Not only the water rights, but also water distribution systems are influenced by history. Who receives water first, how many times in the year, on what date and at what time. In most cases, answers are found far back in history. Instead of presenting the complete study of the four irrigation systems, we present here one illustrative example:

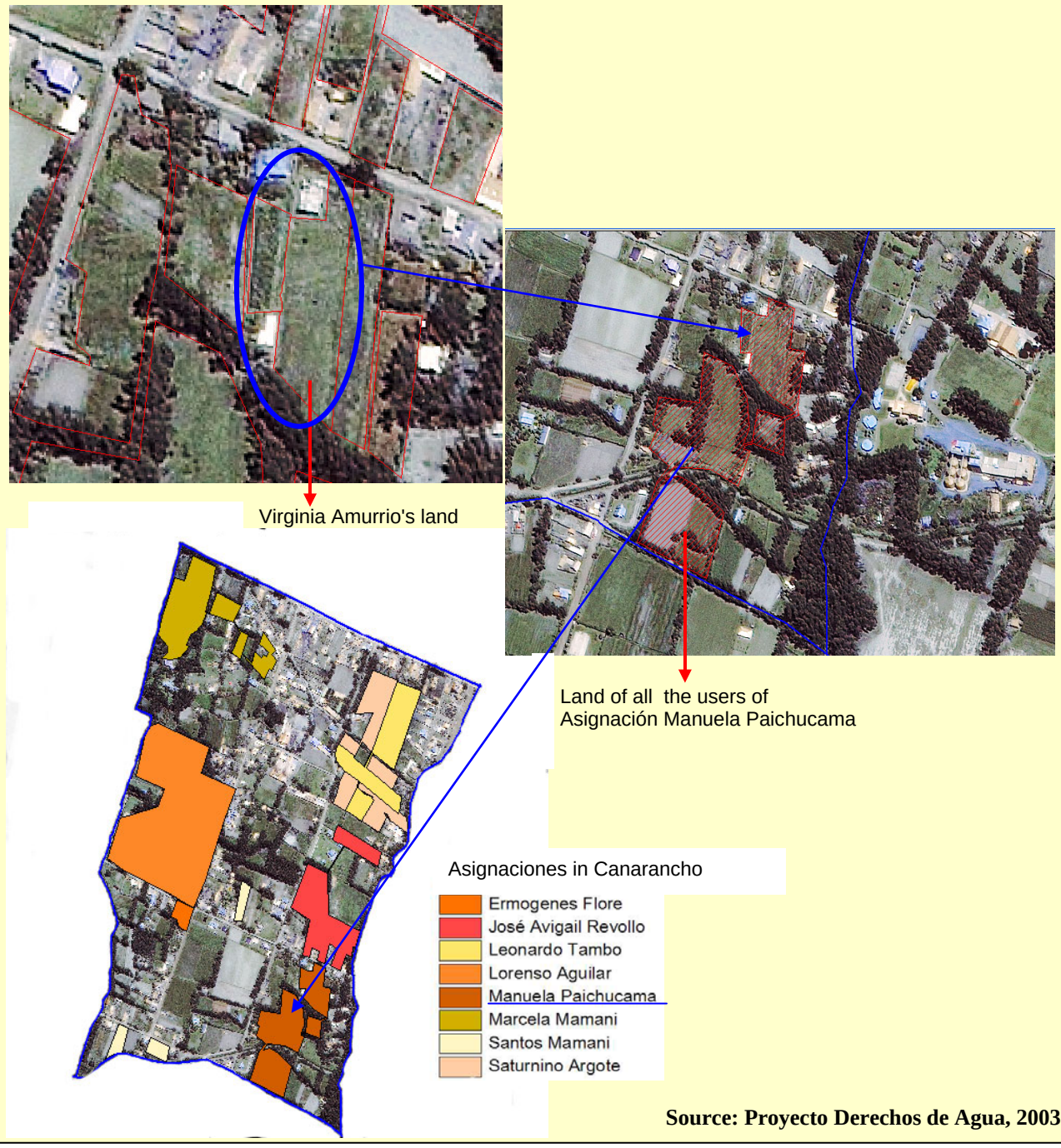
Virginia Amurrio, irrigator from the community of Canarancho has water rights in two systems, Lagun Mayu and Machu Mita. The name of the assignation is the same in both: Asignación Manuela Paichucama. This was originally the name of an indigenous woman who received a piece of land with water rights for both systems in 1794.

Figure 3: Pueblo Real de Indios de Tiquipaya and the Land and Soil distribution in "Asignaciones"

Source: Digitalized from Fernandez, 1996

Asignación Manuela Paichucama has the right to 3 hours in each turn in Machu Mita, and 6 hours in each "largada" (a water release from the dam) in Lagun Mayu. But Virginia only gets 30 minutes in each system because now the water rights of Manuela Paichucama belong to 10 families. This division was made through inheritance and also through the transference of rights from one family to another. Individual users are allowed to make these transfers having to consult system's Directory or General Assembly only in some cases, like the transfer of water rights from one community to another. Virginia belongs to the community of Canarancho where there are other Assignations with other groups of users.

Figure 4: Virginia Amurrio's land, Asignación Manuela Paichucama and Canarancho Community



Source: Proyecto Derechos de Agua, 2003

The dates and hours when Virginia receives the 30 minutes of Machu Mita are fixed. This is because Machu Mita's water source is the Khora River and to manage a constant flow of water the users implemented yearly schedules that specifies the dates and times for each user (though with a great number of exceptions and caveats that have been incidentally incorporated over the years). This complex water distribution system was recorded in a written way only a few years ago. Previously, all this information was stored in the memory of the older people.

Virginia doesn't get her 30 minutes in every turn. She skips a turn because she is a "minorista". The origin of the "minoristas" is from the time when the Haciendas started to usufruct the indigenous people's water rights. The Andean cultures used to divide everything in two complementary parts, including their territory which was divided into "Aransaya" and "Urinsaya". When the Haciendas came, they profited of this division and decided that the indigenous people living in Aransaya would get the water in the first turn, and the ones from Urinsaya in the second turn and so on. But the hacienda would get their water in each turn. After the Agrarian Reform, local people continued to respect all these "uses and customs" even though they originated in the framework of an unfair system. So, since Virginia's land belonged to Urinsaya, she receives her water in alternate turns.

To make it even more complex, the system in Lagun Mayu evolved differently. The water supply in Lagun Mayu can be regulated by a dam, so the General Assembly can decide how many times and when the water will be released each year. At first these dates were fixed, but (and this is important for a true understanding of the dynamic nature of uses and customs) over the years rules got more and more flexible adjusting water release dates to meet crop demands. Actually, Lagun Mayu decides, in a meeting with all the users, the release dates. For each release they make a list of users that need at that time. For Virginia it is an advantage to be able to water her crops in the optimal time, but she has to pay a price: Constant meetings and a lot of coordination is needed for this distribution system to work. All the water flow can not be taken from one extreme to the other only for a few users.

Lagun Mayu has also been more flexible in changing other rules like the ones that apply to "mayoristas" and "minoristas". After much discussion and analysis in meetings and assemblies, it was decided to allow "minoristas" to receive their water rights in each release rather than skipping a turn. This was a major change, and hotly debated at first, but it has now been incorporated in the accepted “uses and customs.”.

To maintain her water rights, Virginia has to fulfill a number of obligations. She must participate in the monthly meetings of each individual system and of ASIRITIC; every year, on July 21, she has to help with river and channel cleaning, she has to participate with hand work or money contributions for the maintenance of the infrastructure, she has to assist to any protest or action that is considered important for the defense of water rights, etc.

This collective water management is no "piece of cake". There are internal conflicts, crises, political interference, etc, but the water has to reach the crop and problems have to be left aside. In the end everything keeps moving, just as conflicts appear, they end up disappearing, and for more than 500 years irrigators jointly manage their water. This makes them feel that, despite all the troubles they have suffered over generations, they have at least control over their water and thus also over their proper lives.

As we can see, behind each water right stands the whole country's history. Having a water right sometimes means that the great grandfathers had to work in the mines or work for free for "patrones" (hacienda owners). In this sense, equity for the Andean communities does not always mean equality "... *the peasant conceptions of equity in Andean irrigation are not simply derivations of the so-called 'pure Indian world view'.....they have influences of colonial and postcolonial relationships, of strict hierarchy, of the process of mestizaje*" (Boelens et al, 1998)

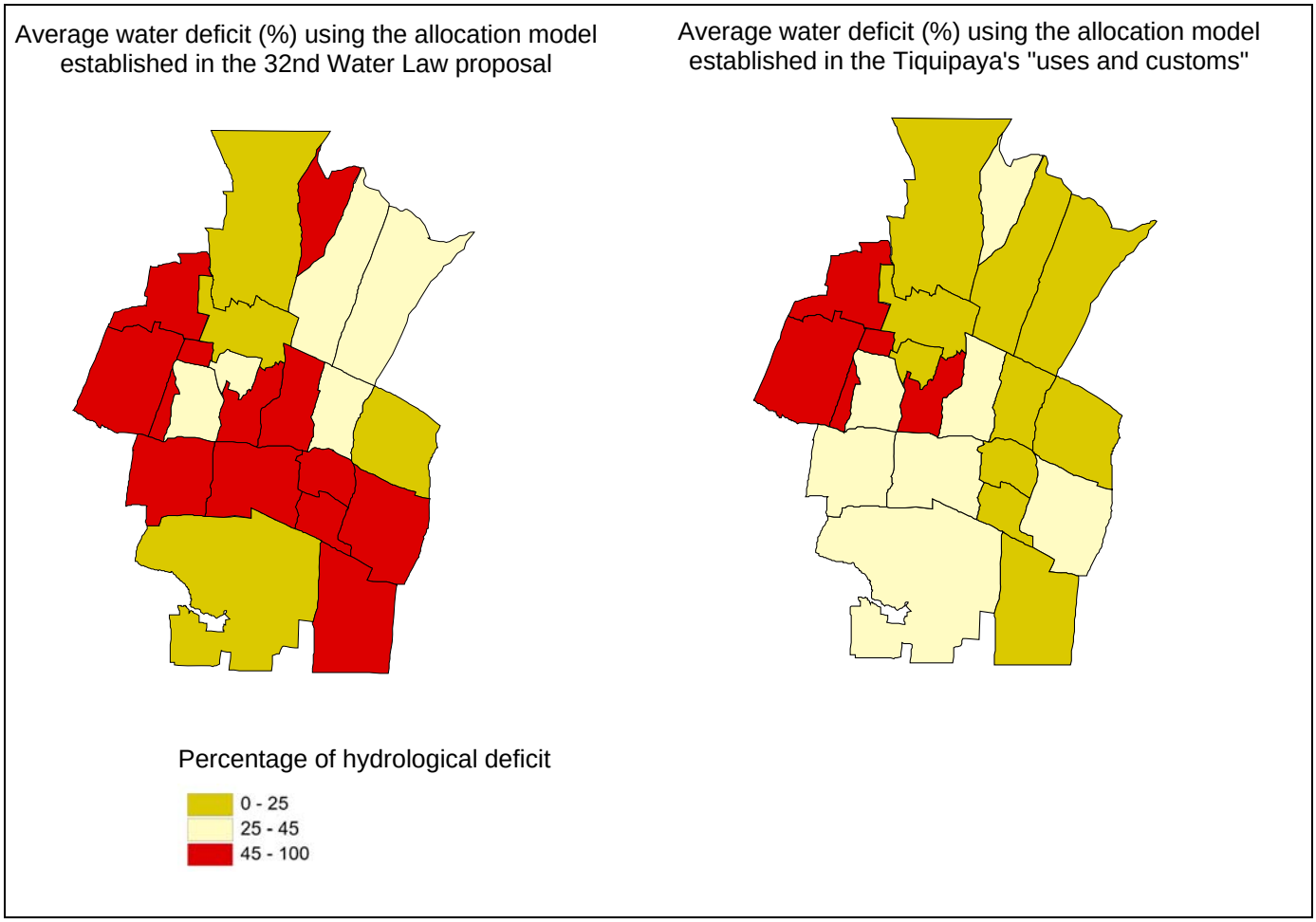
How do we legally protect all this complexity and dynamism of "uses and customs"? The WALIR (Water Law and Indigenous Rights) research group raised some important questions that had to be considered and analyzed in the process of building an irrigation law (WALIR studies, Volume 2, 2002):

- Should indigenous people try to present and legalize *delimited frameworks* of their own water rights, rules and regulations? Or should they rather claim the recognition of their water control rights and thereby the autonomy to develop those rules, without the need to detail and specify these rules, rights and principles within the official legal framework?
- How to define and delimit the domain of validity of so-called indigenous rights systems, considering the multi-ethnic compositions of most Andean regions and the dynamic properties of local normative frameworks?
- Indigenous socio-legal repertoires only make sense in their own, dynamic and particular context, while national laws demand stability and continuity: how to avoid "freezing" of customary and indigenous rights systems in static and universalistic national legislation in which local principles lose their identity capacity for renewal, making them useless?
- "Enabling" and "flexible" legislation might solve the above problem. However, enabling legislation and flexible rights and rules often lack the power to actually defend local and indigenous rights and management systems while not weakening their position in conflicts with powerful exogenous interest groups.
- And what does such legal flexibility mean for "internal" inequalities or abuses of power? How to face existing gender, class and ethnic injustices which also form part of customary and indigenous socio-legal frameworks and practices?

Besides a detailed overview of Tiquipaya's "uses and customs", an important result of the project "Derechos de Agua" was the application of the water management simulation model Mikebasin, developed by the Danish Hydraulic Institute. The main inputs for the application of this model were the hydrological data (water balance) and the water distribution rules. Making some changes in these two inputs (dry, rainy years, uses and custom rules, law proposal rules) several simulations were carried out. The most important result was a didactic and visual way to show the comparative efficiency for distributing water among Tiquipaya's uses and customs and the proposal of the 32nd version of the Water Law. As shown in figure 5, the uses and customs distribution model achieves a more equalitarian water deficit distribution. The law proposal on the contrary concentrates water in less hands and more communities end up with a

deficitarian water allocation. These conclusions were a strong argument for defending "uses and customs" in the "Dialogue for the consensus of an irrigation legal framework".

Figure 5: Water deficit distribution among Tiquipaya´s communities using the average rainfall for the period 1972 - 2002



Dialogue towards a consensus of an irrigation legal framework

After the Water War, the new scenario brought together positive ingredients that motivated the irrigators to move towards a consented irrigation Law:

- With the experience of the Water War, the unfavorable legal situation of local users water rights was not only understood by a few leaders, but by all the grassroots users, whom, from then on were willing to collaborate in finding any possible solution
- International donors pressed the government to provide legal security for irrigation investments. BID (Interamerican Development Bank) decided to freeze

an important credit line for irrigation until a consented Irrigation Law was approved.

- There was a political will to involve and listen to all stakeholders' opinions. The lesson learned by the government: No more laws should be passed without appropriate consultation beforehand
- BID offered financial support to help build a national consensus for an Irrigation Law proposal
- Irrigator organizations received and trusted the support of a technical team.

This positive framework was the starting point of the "Dialogue for the consensus of an irrigation legal framework", conducted by irrigation leaders, a technical team and the central government.

When the process began (July 2001), the only place where irrigators were organized at the departmental level was Cochabamba. After the Water War, FEDECOR (Departmental Irrigators' Federation of Cochabamba) was strong and unified. In the rest of the country the challenge was how to involve in the process a multitude of stakeholders making use of more than 4000 dispersed irrigation systems. At that time, it was clear that FEDECOR had to be the driving force, considering that in many parts of the country social organizations had decided to block any attempt to consider new water legislation.

FEDECOR's leaders and the technical team traveled to all the regions that had irrigation systems, conducting informal informational meetings and asking the users to delegate representatives that had a thorough knowledge of the irrigation situation in their region. This is how the first seed for ANARESCAPYS (National Irrigators and Communal Drinking Water Committees Association) was planted. A small group of irrigators of the four main large basins for irrigation (Río Grande, Río Pilcomayo, Altiplano, Chaco) was formed.

In this first meeting, a baseline document was outlined and four regional workshops were planned. This document presented in a very clear way the legal options, alternative water allocation models, and institutional framework options. The technical team designed the methodology for the workshops in a way that would stimulate irrigators' participation and incorporate their opinions in a systematic way.

In all the regional workshops (the number of participants in each workshop was between 150 and 300) the participants initially distrusted the process. The presence of FEDECOR leaders provided some relief, but in the end, the fact that the information was so clearly presented and well understood overcame that mistrust, encouraging participants to share their experiences and promoting the desire to have their needs and interests reflected in the legal framework. This process had two main outputs: The proposal of a legislation framework (consented between users and the government) and the empowerment of the irrigators sector.

The proposal for the Irrigation Legislation Framework

The dialogue process lasted only three months (July - September 2001) but by raising awareness a huge demand for informational workshops spread over the country. The technical team continued to work with FEDECOR trying to satisfy these demands while continuing to work on a final version of the proposal. Finally two law proposals were elaborated: the Water Authority Law, and the Irrigation Law.

The main contents of the Water Authority proposal are as follows:

- The Water Authority is an assembly ("Junta Nacional de Aguas") composed by representatives from the government and from civil society.
- It is a decentralized system that is organized bottom up, starting with traditional local authorities that are recognized by this law, a departmental assembly and finally the national assembly
- In each of these assemblies, irrigators assured a preponderant participation of the social organizations so that the government can never again arbitrarily impose the rules of the game.
- This Authority has the faculty to grant water rights to all water sectors. These water rights take two forms: Registers and Authorizations

This Law eliminates the figure of the "Superintendence" for the water sector, which was rejected by irrigators because they consider that this scheme concentrates too much power in a single person (since neither the parliament nor the president can contradict the Superintendence's decisions) whom, most of the time, defends the private companies interests' and knows little or nothing about “uses and customs.”

It is clear to the irrigators that this law still has a long way to go since it has to be concerted with all other sectorial water users. That is why, while they are in the process of proposing an Irrigation Water Authority it is the Irrigation Law that regulates irrigation issues, including the assignation of water rights for this sector.

The main contents of the Irrigation Law are as follows:

- Creates a Water Rights Regime comprised of both collective and individual rights, giving juridical security to irrigation users. This regime allows irrigators to register water use according to custom and tradition. The allocation of irrigation water rights is through Registers and Authorizations

- Creates an Institutional Framework that recognizes local authorities, decentralizes local management and incorporates the direct participation of irrigators into its structures

It is always highly recommended to include stakeholder participation in policy design. In that case, irrigators do not feel that they have merely “participated” or been “consulted”

in the process but have a feeling of "property" of the Irrigation Law and there is the clear commitment to move forward with its implementation.

There are many questions that can be made concerning the Irrigation Law. Is it possible to register the great number of irrigation water rights in a country with weak institutional structures? Some scholars consider that trying to control water rights through bureaucratic agencies applying costly and difficult procedures is not recommended, especially in states with governmental structures that are less effective than community institutions in effectively backing types of rights over the resource. It also risks delegitimizing and disrupting existing arrangements. Instead, they recommend indirect control through establishing and regulating institutional frameworks for self governance and voluntary exchange. They also point out examples like the Japanese River Law and the Indonesian case were agencies treat existing users as if they have water rights without requiring any separate process of registration or formalization that is only required for larger water users (Bruns and Meinzen-Dick, 2005).

For sure, the strategy chosen by the irrigators is not the easiest, however it is the product of a context and the irrigators' vision according to the experiences they had already lived. Irrigators DO WANT a "legal paper" because they think it is the only way of effectively protecting their rights. They know that their rights are legitimized by their own traditional structures, but since colonial times the only way to defend themselves against outsiders was using titles and other documents that the Spaniards used to give them. The way the irrigation law has been written enables the strengthening of local water management as well as local water authorities and self governance.

However, after having achieved this goal, new challenges were waiting behind the corner. Once the final version was finished, the irrigators had a tough time to achieve its approval. They had learned a lot about water legislation framework, about cooperatively analyzing and building proposals, and about sitting at negotiation tables. To get the Law ratified they started a lobby process that used all these strengths. The job was done so successfully that in October 2004 Irrigation Law No 2878 was passed unanimously in the congress and promulgated by the president of the republic.

With another goal achieved, another challenge came forward: The practical implementation of the Law. Since the institutional framework proposed by the Law calls for the participation of both the government and the irrigators, efforts have to be made on both sides. This time the irrigators have some advantages. In the wake of the political crisis through which the country passed, an indigenous representative, for the first time, was elected. Now negotiations have to be done with people that understand better their perspectives and have the same vision. The new government created a Water Ministry that facilitates the implementation of the law, coordinating closely with water user organizations.

Concerning the irrigators, they are showing a strong commitment towards this process. The coordination among irrigators from the different parts of the country during the dialogue process, put in evidence a group of active leaders who in November 2003

achieved the goal of giving birth to the "Asociacion National de Regantes y Sistemas Comunitarios de Agua Potable" (ANARESCAPYS). At departmental levels a lot of efforts were made. Irrigators from La Paz conformed a Departmental Association with irrigators from all the provinces (November 2004). The irrigators that participated in the Dialogue had a tough time gaining the trust of the Aymara communities who were convinced that anything resembling a water law had to be blocked. It took them several years to organize meetings with all the groups in the extended rural area of La Paz. The "Federación de Regantes de Oruro" was also established on April 5, 2006, after years of internal negotiations. Santa Cruz is also on its way. In this Department, it is a woman irrigator, who participated in the Dialogue from the beggining, who is leading the process of consolidating the irrigators' association. Each region has special characteristics and so does each association. Some chose to be an "association", others prefer to be a "federation", some have traditional authorities (quechua and aymara), others syndicated authorities, while yet others are a mixture. The conformation of these associations is necessary for the institutional framework to be implemented. The actual results have been encouraging and irrigators keep moving forward.

The technical aspects for the implementation of the law are quite complex and the technical team is still working to overcome some obstacles. The project "Derechos de Agua" is now implementing its second phase and one of the main goals is to provide technical tools that allow the future Irrigation Departmental Services (SEDERIs) to register water rights in an efficient and non bureaucratic way.

Lessons learned

All stakeholders have learned very positive lessons from this process that has provided the country with better water governance. Even if this hard-earned knowledge is not directly transferable to other contexts (as is often the case with governance recipes) it should offer some useful input for people who are moving in the same direction.

Foremost, the way how Bolivian irrigators, in periods of extreme socio-political crisis, found ways to avoid confrontation and achieve their goals provides a valuable lesson. The main impediment blocking all possible negotiations is the fear of social organizations to sit at a table without having clear and transparent information, rendering them vulnerable to manipulation. Once this obstacle was overcome, everything started moving more easily towards positive solutions. And this would never have been possible if not for the fact that the irrigators already had a strong organizational base, all the way down to the grassroots users.

The contribution of local knowledge to policy making is essential for the building of a coherent institutional and legal framework, and makes unnecessary the copying of foreign models that can hardly be adapted to local day to day realities.

As Omar Fernandez, the president of FEDECOR pointed out in an interview, the combination of practical local knowledge and technical, scientific expertise creates a

synergy that can foment positive political change. Local experience helps technicians and scientists keep its feet on the ground and direct their efforts towards practical useful results. The other way around, precise information and technical knowledge helps local users visualize threats in an objective way and look for their own alternatives and propositions in a concrete way.

In Bolivia, indigenous people and peasant communities, after being segregated for so many years, are not satisfied any more with the "consultation" and "participation" slogans. They ask for more, and at present they want to be directly involved in decision making and planning from the beginning to the end. "Being involved" does not mean anymore being invited to never-ending workshops and meetings. They ask for governmental structures that truly guarantee their inclusion and involvement.

The skill and experience in water management that has been developed by local users' organizations over the years is an important social capital that should not be wasted. These organizations should be empowered and utilized in a positive way instead of being eliminated or replaced by other institutional structures.

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