

Llano-Arias, V. 2015. Community knowledge sharing and co-production of water services: Two cases of community aqueduct associations in Colombia. *Water Alternatives* 8(2): 77-98



Community Knowledge Sharing and Co-Production of Water Services: Two Cases of Community Aqueduct Associations in Colombia

Valeria Llano-Arias

University College Dublin, Dublin, Ireland; valeria.llanoarias@gmail.com

ABSTRACT: Local-level participatory communication practices have enabled the opening of new democratic spaces in which decisions on water policies are taken. Through their resistance to water privatisation policies, many Colombian community aqueducts have made use of a transformed political and social role. Citizens from community aqueduct associations are generating new forms of political participation and citizenship, capable of challenging the widespread political apathy in the country.

This article presents two case studies of community aqueduct associations in Colombia; exploring the scope of their communication and mobilisation actions in challenging power relations concerning water governance and in enhancing citizen participation in democratic actions. The article also explores how local water governance initiatives such as the development of a water management computer software with particular communitarian characteristics, can support local initiatives for political transformation and more sustainable water governance. These new forms of citizenship based on claims of sovereignty over natural, common goods are gradually transforming Colombian democratic space. The article draws on debates around active citizenship, deepening democracy, and participatory communication approaches to explain the aims of community organisations and the mechanisms by which they are self-organising and managing water at the local level.

KEYWORDS: Community aqueducts, participatory communication, water governance, Colombia

INTRODUCTION

Local level participatory communication practices have enabled the opening of new democratic spaces in which decisions on water policies are taken. This article analyses community-level participatory communication practices, and demonstrates how these have opened new democratic spaces in which decisions on water policies are taken. The article begins by presenting the context of the community aqueducts and water provision in Colombia. It then explains how literature on participatory communication can be used to analyse communication practices within and between community aqueducts. The section that follows presents the debates on active citizenship and deepening democracy, which constitute both aims and means in the repertoires of community aqueducts and their political and social demands. The concept of co-production is also discussed with reference to the context of water provision services. The article presents two case studies of community aqueduct associations in Colombia. These case studies illustrate different mechanisms for access, management and sharing of information, and communication practices in processes of water management and governance.

This article draws on data from fieldwork conducted in Colombia and Uruguay during five months, as part of my PhD research, and on other data derived from relevant literature and experiences and from memory about previous years of personal and professional involvement in the water movement in

Colombia and the work with community aqueducts. The data collected in the fieldwork generated important insights regarding the interface between the global and the local in water struggles, power relationships around water, natural common goods, new social movements and communicative action and, particularly, the role of participatory and communicative strategies. The theoretical framework underlying the methodology of my PhD study has been partly built on the Participatory Action Research approach. As described by Gaventa and Cornwall (2008) – who draw on the ideas of Orlando Fals-Borda and Paulo Freire, among others – Participatory Action Research encourages mobilisation and reinforces the alternative forms and categories of knowledge produced by social movements (Gaventa and Cornwall, 2008: 181). This approach is also a process of awareness-building and a critical recovery of the history of different communities. By implementing PAR, I was able to take an active part in the planning and development of some of the activities of the community aqueducts during my five-month fieldwork in Colombia. PAR is closely related to participatory communication approaches. They both call for research which is conducted with, and by, communities, aims at social transformations, and emphasises the central role of communities in development processes. Other qualitative research methodologies employed have been ethnography and Grounded Theory. Data were collected through participant observation, semi-structured interviews, field-notes and analysis of secondary sources.

COMMUNITY AQUEDUCTS AND WATER PROVISION IN COLOMBIA

In Colombia, community aqueducts have existed for decades, creating and managing water provision services. They emerged in response to the lack of coverage in water and sanitation services, mainly in small and rural communities (Gómez-Bustos, 2012). A community aqueduct is a water provision system run by a group of users and neighbours mostly in rural areas. Their main aim is to protect water sources and to improve the distribution, the quantity and quality of water (Peña-Cano et al., 2007). The community water provision service is defined by Salazar-Restrepo (2011: 7):

The community provides the water service when: it creates a non-profit organisation, requests the permission of the use of a water source to the environmental authority, and designs a network system to deliver the water to the homes of the residents in compliance with all regulations for this activity¹.

The functions undertaken by community aqueducts include building pipelines, installing tanks, monitoring treatment plants, and controlling the quality of water and its optimal distribution, amongst others. These groups of users usually elect a Board of Directors that takes responsibility for the aqueduct's operation and, in most of the cases, designates commissions and individuals to carry out the different tasks necessary to ensure water provision services for a certain population. There are more than 12,000 community aqueducts in Colombia with different levels of organisation. Many aqueducts function merely as water providers. However, some have advanced in their organisation and technological development transcending the water provision service to become community organisations involved in the planning of territory, political influence, and education in participatory practices. In the last decade, numerous community aqueducts in different parts of the country have come together and created associations in order to support each other and provide a better service.

Community aqueducts in Colombia face numerous threats and challenges including: water privatisation policies; large-scale infrastructure projects; pollution and water source contamination; and forced displacement caused by the armed conflict. The main challenges addressed in this article are privatisation policies.

The problem of lack of access to water and sanitation in Colombia was addressed in reforms such as Law 142 in 1994 that regulates water and sanitation services. This Law emphasises technological

¹ Translated by the author

innovation and efficiency, privileging the medium and large water providers. Both the National Constitution and Law 142 recognise different entities for the provision of water services, operating under state regulation. Law 142 also establishes the responsibility of the municipalities to provide water for citizens, along with other services. Accordingly, municipalities must ensure the efficient provision of water, sewage, sanitation, electricity, and telephone services through government bodies, private agencies, or public-private companies.

In response to Law 142, many municipalities initiated the sale and concession of municipal systems for water provision to private companies. This decision was motivated by thinking that the private sector has the capacity to easily invest in better infrastructure and could provide a more efficient and profitable service. Colombian scholar Valencia-Agudelo (2007) argues that almost 20 years after Law 142 was enacted, private-sector investments have increased along with a profit-oriented water service, which considers water as a commodity, in opposition of considering it as a human right. He adds that water tariffs have risen leading to the consumption of water by citizens who can afford to pay, and the disconnection of the services for citizens who cannot.

As a water provision service, community aqueducts are regulated by Law 142 of 1994; however, according to some community leaders this Law does not recognise their communitarian ethos or governance structures. Since Law 142 was introduced, many community aqueducts have found themselves in a contradictory situation. On the one hand, they are considered 'illegal' because they are unable to comply with the technical requirements specified in the Law, which are often inappropriate for their size and structure. On the other hand, many aqueducts have received financial support from the government in order to upgrade their facilities and services. Exploring this situation, Perera (2014: 16) analyses the way in which community aqueducts have strengthened their own 'counter-network' and have been able to use the Law 'in an alternative way', resisting the dispossession caused by the corporate model of water provision. Perera adds:

'Becoming formal' is now a strategy for the poor to defend their right to water commons gained by being in place over time and through entrenched patterns of appropriation and material and emotional investment. Given their recognition in several pieces of legislation as legitimate providers of water, 'becoming formal' entitles them to public monies and to the right not to be excluded (*ibid*).

Another set of policies that concern the community aqueducts are the Departmental Water Plans (*Planes Departamentales del Agua – PDA*), renamed Waters for Prosperity (*Aguas para la Prosperidad-APP*) in 2011. The PDA constituted a major component of the National Development Plan, CONPES Document 3463 of 2005². The PDA also constituted a series of strategies (fiscal, budgetary, political, institutional, technical and financial) under the coordination of departments (Colombia's administrative sub-divisions) for the planning and provision of public services, including water supply, sewage and sanitation. November 2011, saw the end of the PDA. According to the then Minister of Housing, the limitations in the coverage and the accusations of excessive bureaucracy were some of the reasons for their end (Botero, 2011).

Quintana Ramírez (2010: 164) argues, "[t]he imposition by the National Government of the private management model of the aqueduct service limits the possibilities of providing running water to the low-income population". She further argues that alternative models of water provision, such as the community aqueduct in Dosquebradas, Risaralda, are perceived by different actors as an impediment to profit-making from water provision services. After the announcement of the cancellation of the PDA, community aqueducts, small public services providers and environmental activists questioned these water policies. For instance, Urrea (2011) argues that water policies should be formulated in

² CONPES documents direct the application and implementation of policies, tools and strategies in the actions of municipalities, departments and the state.

participatory and democratic spaces with people, in accordance with their contexts and needs. He also notes that social initiatives such as the campaign for the water referendum³ (2007-2010) and the wide array of civil society actors composing the Colombian water movement have carried out a constant process of evaluation and critique of these reforms and proposed alternatives and sustainable models for water management and governance.

In the last decade, the community aqueducts have been working to strengthen their associations and networks and push for legislation that reflects their aims and needs. Participatory communication practices have played a crucial role in strengthening the social fabric, as well as the organisational and political capacity, of communities advocating for grassroots-level water governance. The case studies in this article illustrate different actions towards the achievement of autonomous and sustainable water governance through the implementation of participatory communication practices.

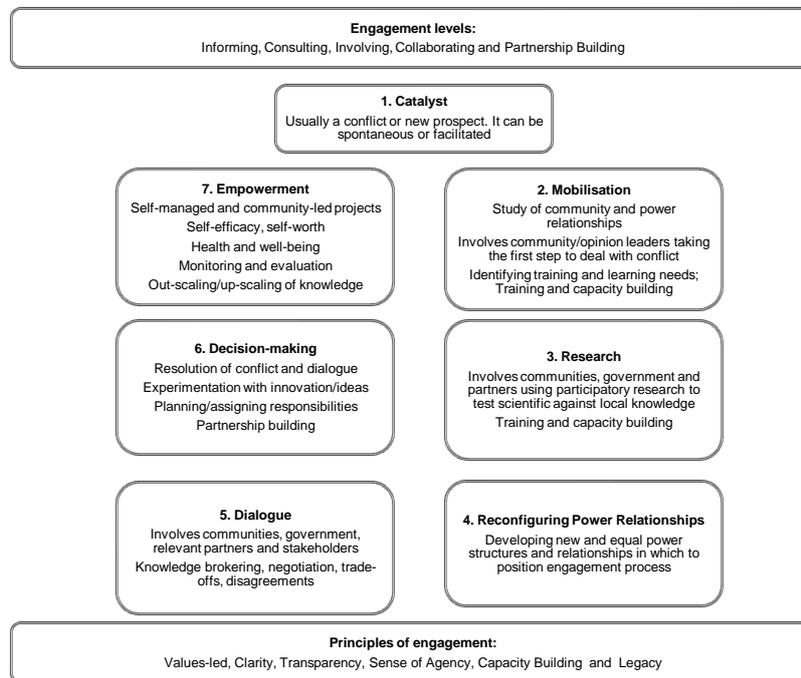
PARTICIPATORY COMMUNICATION

A participatory communication model places value upon horizontal communication, by which participants and interlocutors have equal access to information and equal means of expression (Díaz-Bordenave, 1994). It also advocates for a comprehensive transformation of social practices towards realising the potential of individuals to reach shared goals in development processes (Bessette, 2006). The participatory model of communication stresses the value of communities' cultural identities and the importance of "democratisation and participation at all levels – international, national, local and individual" (FAO, 2007: 4). This participatory model expands the role of the traditional 'receivers' within a communication model, from being simply 'included' to becoming generators of strategies and knowledge (ibid). By encouraging participation, collective action, critical thinking, and *conscientization*, "participatory communication aims to address people's needs and identify their constraints, rather than merely reach some of the outcomes associated with modernisation and progress" (Melkote and Steeves, 2001: 339; Waisbord, 2009: 20).

Manyozo (2012: 191) proposes a participatory communication model that places particular emphasis on community engagement (as shown in Figure 1). This model is used to identify some key elements in the communication processes of the case studies in this article. Manyozo argues that the engagement strategies of *informing*, *consulting*, *involving*, *collaborating*, and *partnership building* have an impact on the other processes and procedures of mobilisation, research, reconfiguration of power, dialogue, decision-making and empowerment. The different stages described in Manyozo's model could be compared to some of the stages that a social movement experiences throughout its evolution until declining or prospering in other social and political arenas. Much like a social movement, Manyozo's communication model starts with a *catalyst*, which "is usually a conflict or new prospect" (ibid). In this article, I provide evidence of the different processes that constitute Manyozo's model of participatory communication.

³ The campaign for the water referendum was a three-year national civil society-led campaign proposing constitutional reform to introduce various articles regarding the human right to water, the protection of community aqueducts, the better management of water systems and the protection of hydrological ecosystems. The campaign drew inspiration from similar initiatives, such as those in Uruguay and Italy, and implemented mechanisms to increase citizen participation in defending the notions of water as a human right, and a common good. Numerous committees were formed across the country to support the campaign and to work on the relevant and most urgent topics for each region. Community aqueducts became very active during the campaign. It was felt that the campaign recognised their work and their aims of community management of water. Their engagement in the campaign helped aqueducts to network, to share experiences and to work together on projects such as the formation of regional associations, a national network of community aqueducts, and the proposal of a new Law that regulates aqueducts according to a communitarian ethos.

Figure 1. Proposed model of participatory communication as community engagement. Adapted from Manyozo (2012: 191)



A process of participatory communication initiated within the communities begins with a self-evaluation of resources, capacities, strengths, and weaknesses. As Altafin (1991: 312) remarks "it is a communication approach based on people’s creative potential and it is this potential which creates the communication processes according to each particular situation". This communication approach enables the democratisation of the diffusion and receipt of information, and of decision-making processes. The use of this type of communication contributes to the claiming of citizenship and civic participation, since it reinforces the role of communities in processes of social change and development.

Through the implementation of participatory practices of communication and mobilisation, these community organisations make an effort to guarantee the sustainability of natural common goods such as water and land, as well as top-reserve systems of social organisation and political intervention, cultural heritage, and traditional practices. The association of community aqueducts presented in this article implement environmental-friendly practices for the conservation of the water sources. For example, they run campaigns of tree-planting and maintenance of the riversides, monitor new constructions in the areas of influence of the aqueducts, and encourage neighbouring farmers not to use pesticides on their lands.

ACTIVE CITIZENSHIP AND DEEPENING DEMOCRACY THROUGH COMMUNITY MANAGEMENT OF WATER

Active citizenship is a concept that helps to explain the community aqueducts actions and goals. The analysis of the case studies of community aqueducts stresses the redefinition of the relationship between community aqueducts and the state. Citizens are not passive clients of a state that provides services but they are negotiating and defining the nature of the policy by claiming their autonomous

governance of water and asking the state for an enabling and supporting legal framework that responds to their specific community aspirations.

Considering examples in Latin America, Dagnino (2005) notes that participation plays an important part in debates around citizenship. She argues that different views on participation often imply alternative conceptions of citizenship; "participation has been seen by analysts and activists alike as a requirement, a condition, but also a guarantee of democracy and citizenship" (Dagnino, 2005: 9). According to Lister (1997: 228), "[c]itizenship as participation can be seen as representing an expression of human agency in the political arena, broadly defined; citizenship as rights enables people to act as agents".

This emphasis on participation is closely related to the notion of citizenship as a form of action, as described by the expression active citizenship:

To become a citizen is to participate, to struggle, to exercise the right to participate in order to achieve, materialise and guarantee other rights. In addition, such an emphasis often overlaps with a stress on citizenship as a process of the constitution of subjects: to be an 'active citizen' is to become a political subject, aware of his/her rights and power to struggle for them (Dagnino, 2005: 9).

Evidence of active citizenship has been found in recent social uprisings, development projects, and grassroots opposition to neoliberal visions of citizenship⁴ (see Dagnino, 2007). Clarke and Missingham (2009: 955) define active citizenship as, "engaging with the political system to build an effective state, and assuming some degree of responsibility for the public domain". An informed and engaged citizenry is a focus of analysis of most theories of citizenship and democracy (Gaventa and Barrett, 2012). These theories are interested in understanding citizenry "who can participate in democratic life, hold the state to account, and exercise their rights and responsibilities effectively" (Gaventa and Barrett, 2012: 2402). However, this active citizenship is not necessarily common in many societies. There are still numerous cases in which citizens are not aware of their rights, or have limited knowledge or power to act and engage. In such conditions, Gaventa and Barrett suggest that a crucial first-level impact of citizen engagement is the "development of greater civic and political knowledge, and a greater sense of awareness of rights and empowered self-identity, which serve as a prerequisite to deepen action and participation" (ibid).

The Development Research Centre on Citizenship, Participation and Accountability (Citizenship DRC) considers that citizens' abilities are determined by vertical, horizontal, local and global relationships. A citizen "belongs to different kinds of collective associations and defines his/her identity from participation in activities associated with these different kinds of membership" (Citizenship DRC, 2011: 4). This acknowledges "the importance of people's aspirations for justice, recognition and self-determination as a driving force for development" (ibid). In Colombia the engagement of citizens in struggles to defend the right to water, land and identity, are expressions of citizenship. Citizens mobilise to negotiate and discuss the water conflicts they are facing; they look for alternative solutions, and strengthen networks and solidarity ties with peers in the process.

In Colombia, the engagement of citizens in collective action may be affected by factors including violence, illiteracy, inequitable access to information, and the isolation of communities, amongst others. In countries such as Colombia with experience of armed struggles, "subsequent or parallel forms of participation" have been hailed as a "rehabilitation of the political sphere" and taken as "expressions of the formation of a citizenship movement and the expansion of the public sphere" (Dagnino, 2005: 11).

⁴ Dagnino argues that in this version of citizenship, social rights are understood as benefits and services to be found in the market. The state responsibility over citizens' rights is reduced, and the market occupies a privileged place in the construction of an alternative version of citizenship (ibid.).

Citizens display a notable agency when they are willing to participate in democratic spaces despite inhibiting factors, such as violence, repression, or various forms of intimidation. The legal and institutional context is also fundamental to the achievement of citizenship (Citizenship-DRC, 2011). However, the creation of new democratic spaces becomes difficult without an enabling legal framework (ibid). Findings from the Citizenship-DRC show that political institutions or developmental interventions alone cannot foster democracy; organised citizens contribute to the strengthening of democratic practices when they "demand new rights, mobilise pressure for policy change and monitor government performance" (Citizenship-DRC, 2011: 20). An active and informed civil society can demand commitment and responsiveness from the government, thus having a positive impact on the widening of new democratic spaces (IDS, 2006).

In recent years, the role of civil society has been acknowledged in debates on democracy. In particular, a body of work has concentrated on so called processes of *deepening democracy*. According to Gaventa (2006: 11), deepening democracy is:

A process through which citizens exercise ever deepening control over decisions which affect their lives, and as such it is also constantly under construction. In some formulations, especially those emerging from Latin America, this view is also about the extension of rights. Full democratic citizenship is attained not only through the exercise of political and civic rights, but also through social rights, which in turn may be gained through participatory processes and struggles.

The aim of deepening democracy is about extending democracy itself; going beyond representative democracy by creating and supporting more participatory mechanisms of citizen engagement, which "in turn are built upon, and support, more robust views of the rights and responsibilities of democratic citizenship" (Gaventa: 12).

Gaventa (2006: 23) highlights the challenge of bringing together the civil and political spheres; in other words, "how participatory and deliberative processes for deepening democracy interact with and strengthen the traditional institutions of representative democracy". Another issue raised by Gaventa is the need to elaborate more inclusive forms of democracy in which power is balanced and non-elites can access spaces of decision-making in order to influence more progressive and redistributive policies. However, Gaventa warns about the risks of 'elite capture' in the processes of institutionalising participation in traditional democratic spaces. Deepening democracy, in this perspective, is work in progress, which is nourished by multiple experiences of participatory processes in local and global arenas.

Multiple social processes relating to community aqueducts indicate ways of deepening democracy. Community aqueducts have been committed to widening citizen participation when extending their physical and social networks by calling for meetings, organising projects, fund-raising, and planning activities for internal development. These actions integrate: 1) reflections on the active role of the members and their contribution to the common objectives; 2) the impact of the aqueduct on the development of the locality; and 3) the incidence of the aqueduct in policy-making on issues related to their aims.

CO-PRODUCTION OF WATER SERVICES AND CITIZENS' EMPOWERMENT

This section explores some theoretical notions of co-production of public services in order to better understand the case studies. For many countries, the rise to prominence of neoliberalism in the 1980s posed big questions on the provision of public services; whether they should be privatised or remain a duty of the state. Pestoff (2006) considers that this debate leaves out the role of civil society and the third sector (non-profit organisations, associations, community groups). According to Pestoff (2006: 504), the analysis of the role of civil society in the provision of services reflects "different perspectives on citizens and different views of citizenship". Pestoff (2006: 506) argues that co-production is distinct

from traditional models of public service production that make public officials responsible for "designing and providing services to citizens, who in turn only demand, consume and evaluate them". The co-production model is centred on the assumption of an active and participative portion of the consumers. Percy (1984, in Pestoff, 2006: 507) remarks that co-production occurs when "consumers and regular producers undertake efforts to produce the same goods or services".

Pestoff (2006) understands co-production as an option for improving municipal productivity. Warren et al. (1982; in Pestoff, 2006) maintain that co-production can reduce costs, improve the quality of services and expand citizens' participation in decision-making processes on public services. For Elinor Ostrom (1999: 347), who analysed co-production in developing countries, co-production implies that "citizens can play an active role in producing public goods and services of consequence to them". She points out that "[o]n the one hand, no market can survive without extensive public goods provided by governmental agencies, but, on the other hand, that no government can be efficient and equitable without considerable input from citizens".

Two similar and relevant experiences of co-production of water services between communities and the state occurred in Nicaragua with the *Alianza por la No Privatización del Agua y el Derecho al Acceso al Agua* (Alliance against Water Privatisation and for the Right to Water, or 'the Alliance'), and the *Comités de Agua Potable y Saneamiento* (CAPS; Potable Water and Sanitation Committees) (Romano, 2012b), and in Venezuela with the *Mesas Técnicas del Agua* (MTAs) (Technical Water Committees) (McMillan et al., 2014). These two experiences serve as a background for the case studies in this article.

In Nicaragua, by implementing educational workshops and consultations at the municipal level, the Alliance engaged "local governments with the issue of water privatisation, resulting in the pronouncement of at least 34 municipal resolutions against the government-sponsored water law" (Barrios and Wheelock, 2005, Gómez et al., 2005, in Romano, 2012b: 506). Findings from Romano's research on Nicaragua show a process similar to the one undertaken by community aqueducts in Girardota (first case study in this article). Romano argues that the Nicaraguan community aqueducts (CAPS) have made water politics more inclusive by 'scaling up' participation of locally based groups (ibid). Moreover, through mobilisation, dialogue, and improving access to information, these grassroots organisations have found a way to pursue legal recognition as organisations, improve their technical competences, and look for new financial opportunities for their transformation (ibid).

In Venezuela, the MTAs were a government initiative to introduce and promote water committees in populous neighbourhoods in order to tackle the severe water crises in the 1990s. The initiative adopted participatory methodologies and was supported by the state-owned water company, Hidrocapital. Despite being created after a government's initiative, the MTAs are autonomous in their decisions and procedures. Through the community water councils (*Consejo Comunitario de Agua*, or CCA), the MTAs "influence government policy and planning" (McMillan et al., 2014: 208). The idea to promote a people-centred water service became a national policy after succeeding at the local level.⁵ For McMillan et al. (2014: 207) the MTAs are:

A co-production arrangement between the state and citizens that is part of a broader process of changing state-society relations. A key element of the model is its attempts to bridge the divide between 'development experts' and community members by mobilizing knowledge for both technical and political ends. This approach to grass-roots co-production draws on local expertise, not just as a means for collecting technical information but also as a way to raise the political capacity of the poor to make claims on the state.

⁵ "Today, there are an estimated 9000 MTAs nationwide; as of 2011, the MTAs had initiated 1500 community-managed infrastructure projects" (Mesas Técnicas de Agua, 2011, in McMillan et al. 2014:206).

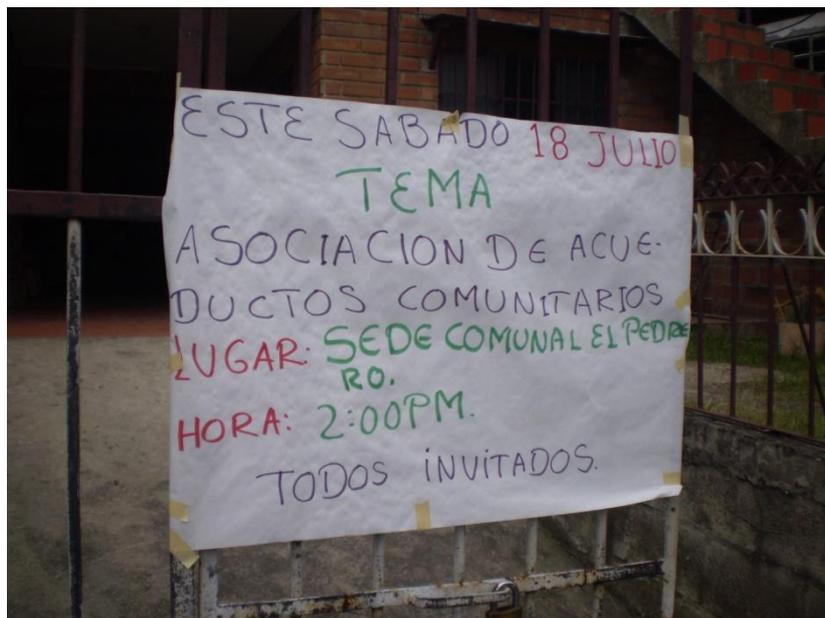
The above examples, along with the case studies in this article can also be analysed using the definition proposed by Joshi and Moore (2006) of 'institutionalised co-production'. For them, 'institutionalised co-production' is:

The provision of public services (broadly defined, to include regulation) through regular, long-term relationships between state agencies and organised groups of citizens, where both make substantial resource contributions (2006: 40).

The co-production of water services between community organisations and the state in the Venezuelan, Nicaraguan and Colombian cases illustrate different types of arrangements and partnerships that have resulted from processes of citizen organisation and mobilisation. These examples reflect an expression of active citizenship and a challenge to market-oriented models for service provision. The case studies in this article also provide evidence of public-communitarian partnerships for water service provision. In various Latin American countries these partnerships are growing an alternative to the public-private partnerships suggested by some governments and international financial institutions.

COMMUNITY AQUEDUCTS: EXAMPLES OF ORGANISED COMMUNITIES AND POLITICAL INTERVENTION FROM BELOW

Figure 2. An invitation to a meeting about the association of community aqueducts (Photo Valeria Llano-Arias, 2009).



Securing access to water and sanitation is an essential requirement for well-being, social development, and national economic growth. The delivery of water and sanitation services is a complex and costly process, which requires large investments in infrastructure, management, governance, and information-gathering (WWC-OECD, 2015). These public services can be provided either by state-owned public utility companies, private companies, or community-managed aqueducts.

Community management of water is not an easy task. Organised communities providing water services face numerous financial, technical and administrative challenges. In some cases, they are the only providers in specific areas. Consequently, many community aqueducts struggle to provide an

adequate service to their constituency. However, in other cases, community aqueducts have managed to strengthen their position to become functioning, viable service providers. The case studies in this article present two community aqueducts associations in Colombia, their different practices, and the challenges they face regarding community water governance, communication and mobilisation.

Sharing of grassroots knowledge, looking for alternative solutions to strengthen the sector, and advocating for more appropriate legislation have been priorities for community aqueducts in Colombia in the last decade. In the words of Correa-Correa (2010), community aqueducts bring together a diversity of actors who constitute a national patrimony because of their socio-cultural and territorial condition and their view of water as a common good and fundamental human right. Gómez-Bustos (2012) affirms that the community aqueducts in Colombia have been a very positive example of collective action. They have built water systems according to the needs of the communities, used alternative technologies, maintained low tariffs, and are characterised by their solidarity and strengthening of the social fabric. Community aqueducts also promote environmental education and the protection of water sources (ibid).

The community represents alternative forms of water governance, by co-producing water services with a communitarian ethos in partnership with the state. A good number of community aqueducts in Colombia make use of the government's subsidy for the water provision service. The work of the community aqueducts is not about shrinking state's responsibilities but focuses on defending their autonomy in water management processes while demanding more support from the state on their own terms.

A considerable number of community aqueducts face multiple challenges including mining and hydroelectric dam construction projects, pollution and water contamination, land grabbing, and water privatisation policies, amongst others. Information and knowledge-sharing are very important for dealing with these challenges. While there are some urban-based community aqueducts, the majority are located in rural areas. The rural location makes access to information more difficult and presents additional challenges for political participation and the development of actions aimed at improving the services. The following case studies illustrate how associations of community aqueducts encouraged democratic practices for decision-making and generated a sense of belonging and sovereignty over the land and the water.

Giraguas: Co-production of water services and community empowerment

Girardota is one of the nine towns forming the Medellín metropolitan area in Antioquia. The population in Girardota is approximately 43,000, more than one third of which live in rural areas. In 2007, in the wake of the campaign for the water referendum, the community aqueducts in Girardota began the process of organising and building an association along with many other aqueducts from Antioquia.⁶ The association was called Giraguas and it started grouping 13 aqueducts. The main aim was to increase the mutual support between the aqueducts and better enable the groups to face challenges, such as water privatisation policies, together.

⁶ The Departmental Network of Community Aqueducts of Antioquia (ADACA) was formed as a result of this campaign.

Figure 3. Physical map with Colombian administrative divisions (*departamentos*) and locations of the two case studies.



Source original map: www2.igac.gov.co/ninos/contenidos/mapas_escolares.jsp?idMenu=3 (Modified by author).

Since their establishment, community aqueducts in Girardota have managed and organised their water systems with little state support and have operated as non-profit institutions, charging a small fee for the maintenance of the aqueduct. Currently, aqueducts from Giraguas provide the service to more than 15,000 people mostly in rural areas. Giraguas has encountered both support and rejection throughout different municipal administrations and mayors in the last few years. Some have praised their work and have helped them to overcome challenges and emergencies such as floods and landslides, and to repair important parts of the aqueducts. However, others have tried to close these aqueducts by pushing for privatisation processes.

Giraguas has encountered various difficulties during its existence, particularly when lobbying local authorities on behalf of its members. For example, on many occasions the city council has postponed the discussion of their projects and concerns. However, Giraguas has also pioneered the proposal and implementation of an agreement between public institutions and communities for the provision of water services (Agreement 037 of 31/08/2009 materialised two years later through the regulatory decree N° 95 of 14/12/2011): The agreement would introduce a public policy in which the municipality commits to give financial, technical and administrative support to the community aqueducts (Villada-Ríos, 2012: 6). The initiative of this agreement has been replicated in other Colombian municipalities and presented in other Latin American countries as a successful experience of community water governance. This case explains some of the actions that led to the municipal agreement and helped strengthening the work of the association of aqueducts.

Participatory communication in community water governance

Giraguas carried out a mobilisation and communication campaign for the promotion of the municipal council agreement in 2009. The agreement aimed at obtaining technical and financial support from the local government for community aqueducts and, at the same time, gaining recognition of their autonomy and community management ethos (ibid). The associates and users of the community aqueducts, as well as other citizens in Girardota, implemented communication actions to inform the population about the agreement. For one of the leaders in Giraguas, education was an important aspect of the association's communication and outreach strategies. In her words:

Every day we try to update ourselves with the latest information on the water issues and legal framework. We debate, discuss and study the new regulations, and the new difficulties that the aqueducts face. We also try to look for experts in different fields to explain to us the things we want to know. Many of these experts are part of community aqueducts as well (Field notes, 7/06/2012).

The meeting spaces were crucial to the success of the communication strategies. One of the main spaces for communication and participation in Giraguas is a general assembly, a meeting where associates make decisions, elect delegates and approve the budget. All the members of the community are associates. Each household selects delegates who can represent the other members of the family in voting and decision-making processes. In the context of the community aqueducts, assemblies are a way of building citizenship, and engaging politically with the issues concerning the local sphere. At the same time, assemblies are public spaces in which certain actors showcase their power and influence people's decisions. For instance, in the case of Giraguas, some politicians wanted to take advantage of the political process of the community aqueducts and tried to take credit for their achievements to get voters' support.

Another participation mechanism implemented by the community aqueducts was the *audiencia pública* (public hearing). *Audiencia pública* is a mechanism in which the local administration and citizens meet to discuss an issue of public concern.⁷ The *audiencia* can be called by the local government, the local council or the citizens themselves. Local governments use it to present their results and achievements. Citizens normally call a public audience when they have complaints, when they want to demand more information on a particular issue, or when they want to discuss a project with the mayor or city council. The community aqueducts in Girardota promoted various *audiencias públicas* and assemblies to discuss the proposals for the public-communitarian agreement. The use of this mechanism for citizen participation was backed up by different participatory communication practices.

Community media played a useful role for the spreading of information on the agreement. Community media use familiar forms of communication and can help to foster solidarity and awareness

⁷ www.mineducacion.gov.co/1621/w3-article-194745.html (accessed March 2015).

among citizens (Sreberny and Mohammadi, 1994), in this case, the members and users of the community aqueducts. However, community media do not always have access to the necessary resources to guarantee their long-term sustainability. In the case of Giraguas, many communication actions respond to specific situations rather than being part of wider processes of planning of a communication strategy. An action involving community media was the broadcasting of programmes on community radio stations. The radios provided weekly slots for the community aqueducts in which guests were invited to speak about a different range of topics. Moreover, posters were displayed in local grocery stores, schools, and cultural centres. In some rural villages, a person with a loudspeaker spread information about meetings and mobilisations. Giraguas also carried out a series of workshops and seminars organised by aqueducts' leaders where the population could voice their concerns and proposals.

The use of ICTs in semi-urban contexts like Giraguas is still very limited. Björn-Sören et al. (2014: 12) affirm that "innovative uses of technologies can broaden the 'public sphere' by facilitating a process to amplify voices in deliberation". Following Benkler (2006, in Björn-Sören et al., 2014: 12) insist that

new technologies have been noted to accelerate communication and information flows and empower people to participate in many-to-many communication (whereby traditional media such as radio or television are one-to-many broadcasting technologies), lower the cost of expressing a diverse set of views and enhance the openness of the public debate.

A Giraguas leader interviewed for this research expressed that people still prefer to be approached directly regarding the call for a meeting or the notification of a decision (RP 35; 'RP' stands for Research Participant.). Face-to-face communication and telephone calls are very popular practices for the diffusion and sharing of information. Many people also like to receive important information by text message on their mobiles. With regard to the use of ICTs, the Giraguas leader explained that the use of emails has increased in the last few years. Through emails and Skype they have been able to communicate with other aqueducts in Colombia and Latin America. For example, they have used Skype to speak with other organisations that are part of the Red Vida Platform of Public-Communitarian Agreements of the Americas (PAPC). Through Skype and email these aqueducts have coordinated collective actions and international meetings. As Ruskulis (2002) remarks, one of the main advantages of the Internet is its low-cost and speed compared to mail, phone or fax. However, in Girardota, many people still have difficulties in accessing it, in particular in rural and isolated areas.

The communication strategies that Giraguas implemented to promote the agreement were intended to change the political role of the community aqueducts in the municipality. According to one of the Giraguas leaders, their proposals were emerging from the people for the people. When people started to know more about what was happening in their territory they had a greater sense of belonging and interest in acting together towards the approval of the agreement and the formation of the association (RP 35). Through the campaign to support the agreement between aqueducts and the municipality, the community aqueducts have become influential political actors in their region. The agreement announced by the Girardota Council and promoted by the community aqueducts was replicated in other municipalities. For instance, in 2011, Sabaneta and Támesis (both located in Antioquia) presented a proposal to their respective local authorities to promote similar agreements in support of the work of the community aqueducts (Villada-Ríos, 2012). These proposals were also shared with the communities through participatory methodologies such as workshops and tours. The practices of sharing knowledge, experiences and materials have been key to the promotion of these agreements and the exercise of citizenship within the communities.

After the approval of the agreement, the phase of implementation has not been easy. The new local administration and the recent elections have changed the arena for the decision-making spaces. The water and sanitation issues have been historically an opportunity to local councillors for making corrupt contracts and obtain particular benefits (RP 40). According to a staff member of an NGO accompanying

the process of Giraguas, the democratic exercise of Giraguas is becoming a discomfort for many politicians. Giraguas has still to lobby for meetings with the councillors, the mayor, and other municipal authorities.

Despite these difficulties, the promotion of the public-community agreement is an example of deepening democratic practices through the encouragement of citizen participation in policy-making. It has been a process and practice of organisational development which implied the construction of new political identities and arenas. By implementing participatory communication practices, Giraguas has challenged traditional spaces for discussion and policy-making. Giraguas has managed to make these spaces more inclusive and redefined the relationship between community aqueducts and the state through a public-community agreement.

The Giraguas agreement has been shared and diffused as a positive experience of water governance by the Red Vida Platform of Public-Communitarian Agreements of the Americas (PAPC). Members of the association of community aqueducts from Girardota have travelled to different places in Latin America to share their knowledge and promote solidarity. These types of networks not only make visible the work of local organisations, but also encourage them to try new tools for improving the communication of their achievements and challenges. Ruskulis (2002: 64) mentions that "in addition to being a means of information exchange between organizations with common objectives, networks may also have other functions, such as lobbying, representing members' interests, and capacity-building".

Giraguas is also a founding member of the URCOLBO project,⁸ a regional network of community aqueducts associations from Uruguay, Colombia and Bolivia. URCOLBO has been one important outcome of the PAPC and it has had two phases, the first in Uruguay in 2013, and the second in Colombia in October 2014. These encounters have allowed the further sharing of experiences, and of popular, theoretical, technical and organisational knowledge between the associations of the three countries. The second encounter held in Colombia was the opportunity for Giraguas to host international guests and show them their work. In the words of Beatriz Isaza, a founding member of Giraguas:

After the Second Phase of the Project URCOLBO, we concluded that we had satisfactory results. The different associations shared experiences and practices around water management and sanitation. The experience was pleasant, with a diversity of approaches, generating new knowledge and solidarity between peoples, departments and nations. It was also a benchmark for social and public visibility of water management. This meeting was a union of knowledge, of doings and power in defence of the planet's most lavish common good⁹ (ADACA, 2014).

RETACO

RETACO is the '*Red Territorial de Acueductos Comunitarios de Bogotá*' (Territorial Network of Community Aqueducts of Bogotá). Bogotá, the capital city of Colombia, has more than eight million inhabitants and consequently a high demand for water provision services. The main water provider is the public-owned municipal aqueduct *Empresa de Acueducto y Alcantarillado de Bogotá* (EAAB) which supplies urban neighbourhoods and some rural areas. RETACO's aqueducts manage water provision mostly in Bogotá's rural areas, which are now becoming more integrated into the urban context due to the expansion of the metropolitan area. As with many other associations of community aqueducts, RETACO was created in response to the water demands of isolated communities in places the state or could not reach.

⁸ www.plataformaapc.org/noticiasDetalles.php?tipo_noticia=Noticias&cod_noticia=121 (accessed in March 2015).

⁹ Translated by the author.

RETACO was born in 2009. According to one of the network's leaders, RETACO could be considered a consequence of the campaign for the water referendum. The campaign strengthened RETACO's organisational structure prompting the establishment of assemblies and sub-committees and the use of legal mechanisms to increase participation, following the example of other aqueducts and environmental organisations.

The campaign was promoted by hundreds of social organisations and was backed by more than two million signatures. Despite the rejection of the referendum proposal by the Colombian Congress, many of the structures and committees created for the campaign remained and continued working on various issues. Many community aqueducts in Bogotá campaigned together in support of the referendum. They realised that they could consolidate forces and experiences in order to strengthen their work and together face the challenges of the Law 142, and the advance of water privatisation projects. One of these aqueducts was ACUALCOS, one of the biggest community aqueducts of the capital. Nowadays, RETACO's aqueducts come from Bogotá, Soacha and the Páramo de Sumapaz.

RETACO has led initiatives in water policy-making and has established a dialogue with the municipality of Bogotá for the consideration of alternative proposals for water governance and protection. One important action was the input on the city's development plan (2012-2015), which had an emphasis on water sources. Through assemblies, public audiences and workshops, RETACO explained to its associates the importance of the issue of water for the local development plan. "Without the previous work of lobbying, mobilisation and awareness-raising, this would have never happened in this city" (RP 26). A staff member of an NGO accompanying the process described the experience in these terms:

A coordinated strategy of incidence was prepared, and it implied many levels of communication and coordination with the aqueducts to have a local impact but also to influence the city development plan. We managed to include in the plan the community's vision of management and conception of water. It was a strategy which involved a lot of communication through the telephone, meetings to share the information and strengthen the spaces for consultation that the city council has with the communities (RP 27).

For the research participant cited above, the attainment of spaces of participation was remarkable because such spaces had been traditionally minimal due to longstanding political apathy, and distrust of public institutions and public workers. "Grassroots organisations define their history of participation in the sentence 'I participate, You participate, We participate, They decide', which means that communities have been left out of many decision-making spaces regarding issues affecting them. On the occasion of the city's development plan, the input from the civil society was legitimised and included in a policy impacting the whole city (RP 27)".

In this case, a participatory policy-making experience was the consequence of citizens' engagement in debates and their own research about issues of collective concern. Another result of citizens' and community aqueducts' lobbying and mobilisation was the decision by the Mayor of Bogotá to provide a minimum quantity of water, free of charge, to cover the basic human needs of people in vulnerable neighbourhoods (Alcaldía Mayor de Bogotá, Decree 064 of 2012) (López-Murcia, 2013: 120).

The role of citizens' participation in shaping Bogotá's development plan and prioritising water as a key policy issue resonates with the findings of the research initiative Citizenship DRC (2011) which shows that citizens' engagement can enhance state responsiveness and accountability, create new forms of participation, and include new actors and issues in public spaces. Free information flow is also necessary to ensure equal opportunities, build consensus, and demand government accountability (Narayan, 1999). The different communication actions for sharing information and experiences on the development plan brought together communities and government authorities, and also urban and rural communities. What happened in Bogotá exemplifies the concept of 'mobilizing the state' referring to "how activists within and outside the state have a crucial role to play in contributing to the state's capacity to implement policy decisions made by deliberative bodies" (Abers and Keck, 2009, in Romano,

2012a: 15). The results achieved in Bogotá demonstrate how communication actions from the grassroots and community media can be used to improve governance practices, monitor the functioning of local governments, and strengthen the social tissue.

Dialogue: A primary communication practice

As explained by Melkote and Steeves (2001), dialogue constitutes an essential component of participatory communication, allowing communication to perform its true function: to bring together different meanings and build commonalities amongst the members of a group who are willing to transform their current situation. It is through this sharing and exchange of ideas that the main concerns are addressed and identified within a development project. Tufte and Mefalopulos (2009) affirm that this type of dialogue also makes possible the empowerment of those in vulnerable conditions. In the context of community aqueducts, spoken word and dialogue are primary communication practices. Members of the aqueducts come mainly from rural areas and talking is much more familiar to them than the use of digital technologies. On the importance of talking within struggles for social change, Vincent and Stackpool-Moore (2009: 633-634) write:

Talking with others can prompt individuals to reflect on their own experiences and situation, and thereby gain new insights from looking at these in the light of the challenges faced by others...Talking also enables the sharing of enthusiasm, the potential emergence of shared commitment to a common cause, and is vital for sustaining networks of people.

For RETACO members, it was very important to create spaces for dialogue, to remember their history and to recover their memories through participatory communication activities. Many people served by RETACO's aqueducts came to the capital looking for better living opportunities, or because they were displaced from their land into other regions due to the armed conflict. Most of the founders of community-run water systems have a history of building neighbourhoods, settlements and communities from scratch (RP 33). These experiences of collective action are part of the legacy passed from one generation to the other.

In order to recover all these stories, some members of RETACO started an initiative called *Chocolatiando la memoria*¹⁰ whereby people – mostly women – would tell stories and share their memories about their role within the community-run water systems. According to a female leader of RETACO, this initiative helped to recognise the achievements that other people had contributed to the community. *Chocolatiando la memoria* was also a space for bridging the gap between the elderly and the youth. The young people joined with innovative ideas and shared their knowledge of media and digital resources, which were not very familiar to the elderly who mostly came from a rural background. The young people recorded the activities through video and photos and then presented them during the meetings and seminars and uploaded them onto the internet.

These communication practices, and especially the way they affected the lives of the youth and community development, demonstrate a strengthening of democratic processes and citizens' engagement in the discussion of issues of public interest for the community. In their analysis of citizenship practices among young people, Enghel and Tufte (2011) remark that new media and information technologies have a great impact on the everyday lives of young people. The use of new media and communication tools impacts upon the process of identity formation in young people. In the case of the young people involved with RETACO, the exercise of citizenship was closely linked to the existence of participatory spaces and opportunities such as *Chocolatiando la memoria*. These spaces met the necessary conditions for participation with equal opportunities for the members of the

¹⁰ A translation of this expression would be something like 'telling stories with chocolate'. 'Chocolatear' is also an expression used to describe when someone is sentimental or emotional in a particular situation.

community. The outcomes of these meetings were not just a reconstruction of history, but also a way of identifying the social capital existing in the aqueducts. The communication instruments utilised by RETACO also enabled the diffusion of the messages to different publics, such as the young people and neighbouring communities. *Chocolatiando la memoria* and other similar communication activities aimed at transforming not only the relationships between the water managers and the aqueducts' associates or beneficiaries but also the language used in water provision services.

New technologies for community water governance

Since 2012, RETACO has been designing a software product to facilitate the accounting and administration of its 16 member aqueducts. With this software, RETACO could analyse expenditure details, and the aqueducts' primary needs in terms of materials, inputs and other purchases. At the same time, the data collected with the software will enlighten the collective decision-making process of the network. The software will work initially on an Intranet with an open source licence. It will also include fields to update demographic information. In the future, other functions will be available through the Internet. According to the staff member of the NGO accompanying the work of these aqueducts (RP 26) it has been a challenge to conciliate 16 different forms of administration.

Some initial ideas for the software were to insert categories such as 'community work' and 'time' in the options for payment, which would never appear in a public or private company's water bill. For RETACO, the inclusion of new, non-monetary payment options in the water bill is a way of recognising the support provided by members. RETACO's emphasis on members' participation beyond a traditional provider/customer relationship, and the recognition of alternative forms of payment for the water service demonstrate a process of constructing new forms of citizenship in their own context; no longer a type of 'neoliberal citizenship' based on monetary exchanges in a free market economy, but a citizenship built on participation in defining rights and a commitment to realising them through collective action.

Throughout the process of designing the software, there have been various constraints (RP 26). For instance, many of the community leaders are elderly people who have difficulties in understanding the functioning and purpose of new communication and information technologies. They were also reluctant mainly because of sharing their internal information. With regard to the use of ICT for development, Castells (1999: 3) affirms that

Technology per se does not solve social problems. But the availability and use of information and communication technologies are a prerequisite for economic and social development in our world. They are the functional equivalent of electricity in the industrial era.

Currently many of the community leaders have accepted the software and are learning how to use the computers before the software is launched. One idea to tackle this technological illiteracy is to provide tailored training and to involve more young people in this particular project. Another difficulty was the old equipment that many aqueducts had, which was not suitable for running the software. This equipment has been replaced gradually with newer equipment donated by different organisations. Also, the location of some aqueducts has impeded a good mobility to attend meetings and trainings. There are some aqueducts that are located at eight hours distance by bus from the RETACO office in Bogotá. For this reason, many of the outcomes were postponed.

Despite the different problems emerging while designing the software, RETACO sees this as an opportunity to deliver a coherent water provision service. The information collected through the software could help RETACO to expand its capacity and strengthen the sharing of knowledge between the aqueducts. Kuriyan et al. (2011 in Björn-Sören et al., 2014) emphasise "how technologies can be used to enhance analytical and visualization tools that help users to understand raw project information" (Björn-Sören et al., 2014: 14). These authors say "platforms that have an aggregation

function can facilitate dialogue among geographically disparate citizens and enable them to share and compare their experiences" (ibid). This observation is particularly relevant for the case of RETACO since the software will stress the sharing of information and working on common goals.

Moreover, as the research participant remarks, this software is another way for the peasants and community leaders to claim the human right to water. The first trials of the software are expected at the end of 2015. After the phase of implementation, RETACO would also be willing to share this experience with other aqueducts' networks in the country. The implementation of this technology for information management demonstrates RETACO's interest to bridge a technological gap. Castells (1999: 4) remarks that, for full realisation of the developmental value of information and communication technologies, an "inter-related system of flexible organizations and information-oriented institutions" is required.

The development of the software will encourage participation by increasing access to information. Björn-Sören et al. (2014: 11) affirm that, by generating real-time data, ICTs "allow for mid-term corrections, learning on-the-go, and generally greater flexibility in service provision and project implementation". The new software will contribute towards the co-production of information and better management in various ways. For instance, the member aqueducts will use the same categories for the collection of information: number of users, type of households, consumption, population and financial contributions. The software will make it easier to obtain facts and figures for the development of future projects. Moreover, the RETACO secretariat can identify specific needs and variables in the aqueducts, for example the expenditure on materials, investments in infrastructure, and training for the workers, among others.

For RETACO it is important to keep developing their communication strategies, which not only benefit their internal work, but have also permitted the inclusion of new actors and issues in external public spaces. Organising, classifying and sharing information have increased aqueduct users' civic and political knowledge, and have widened their capacity to have an influence on other decision and policy-making arenas. Along with participatory communication, the community media used by community aqueducts combine traditional knowledge with new technologies of communication and information. The participatory practices of communication implemented by RETACO have been instrumental in increasing the relevance and visibility of water issues in the region and the country.

COLLECTIVE SHARING AND CONSTRUCTION OF KNOWLEDGE FOR COMMUNITY WATER GOVERNANCE

The community aqueducts emerged from the collective work and objectives of local communities, with the task of providing water and improving the living conditions of all their members. Along with the water supply, other needs and objectives soon emerged, such as community development, political representation, fund-raising for different projects, the preservation of identity and culture, and the defence of the territory. Perera (2014: 12) comments on the work of community aqueducts in these terms: "[a]gainst the national modernizing forces that attempt to measure, quantify, aggregate, homogenize, and detach water from communal habits, users of community-led systems struggle for autonomous, place-based management and organization".

Community aqueducts and their associations have become mediators between the state and civil society with regard to water-provision issues. The two community aqueducts associations analysed in this article are constantly updating themselves on the development of water policies, and continue to disseminate relevant information among their members through communication practices. The two associations are not exempted from the corruption of local governments and the lack of disposition for dialogue and negotiation with the public officials and councillors. Also, these associations represent cases in which many inclusive and participatory practices have had durability over various decades, and have become part of the culture and ethos of the aqueducts.

Even though the state strongly controls many spaces of negotiation, the community aqueducts have autonomy at the local level, which allows them to protect and maintain their organisational practices. Despite not having the same level of resources of large water service providers, community aqueducts have reached important goals through processes of mobilisation, networking and dialogue with other aqueducts and associations. Perera (2014: 12) summarises this reflection in the following terms:

Like all human communities, aqueducts' collective management is far from flaw- less. I heard complaints about the lack of participation in assemblies (the supposedly ultimate decision-making body), arbitrary decisions by the executive bodies, the need to strengthen penalizing mechanisms for uncaring users in the community who waste water or want to take more than their fair share, and users who do not pay what and when they should. But communal systems are about more than (imperfect) local self-management techniques.

The communication practices of the community aqueducts are characterised by consensus-based methodologies for decision-making; the re/opening of spaces for dialogue, encounters and sharing of experiences; and the use and creation of community media. These communication practices emphasise communities' sense of belonging and social cohesion, as well as the preservation and promotion of local knowledge and dialogue, which are all features of communication for social change (Figueroa et al., 2002; Gumucio-Dagrón, 2011).

By appropriating local and communal/collective spaces for participation, communities have become aware of their own capacity to overcome difficulties by working as collectives and setting common objectives. Many of the community aqueducts have become more autonomous and conscious of their own decisions and the implications of their communication and mobilisation actions.

CONCLUSION

Community aqueducts in Colombia have faced numerous challenges associated with the water service provision. These community organisations have limited resources and capacity to invest in infrastructure and development. However, the two case studies in this article demonstrate that community management of water can be improved not only by receiving more support from the state but also by implementing participatory practices in combination with new information and communication technologies.

Community aqueducts' participatory communication practices have facilitated the exercise of active citizenship by transforming the relationship between the community aqueducts and the state, and proposing alternative models for the co-production of a people-centred water service. Through the communication practices citizens have learnt about mechanisms of participation, their rights and duties, while engaging in debates on the commons (shared resources, natural common goods) and policies on water and land.

The role of ICTs in these participatory communication practices varies in each case. In Giraguas, there is limited inclusivity and access. Giraguas has the potential of enhancing processes of political participation and expanding the reach of its service by better utilising ICTs such as the internet and mobile phones. So far, the use of these tools still does not reflect a technology-oriented approach in the processes of communicating with its own members and with other networks. In the case of RETACO it is more evident a sense of collaborative use with regard to ICTs. The making of videos, the use of email and the implementation of the software reflect a will to go beyond their own boundaries and use new technologies to achieve common goals and connect with other similar organisations.

The evolution of the work and scope of community aqueducts in the last decade have created new forms of citizenship, which have emerged thanks to the engagement and popular agency of citizens in matters of public concern for the community. The increased participation of members of community aqueducts in political debates on water management has led to the transformation of decision-making

spaces, political representation, and power relationships. For instance, the consensus-based methodologies for decision-making give more space to the aqueducts members to express their ideas and concerns.

This article argues that community aqueducts have strengthened organisational autonomy and communitarian ethos in managing water by introducing communication practices directed at the sharing of experiences with other aqueducts, the creation of associations and networks, and the active participation in water policy-making. Participatory communication practices have strengthened the social fabric at the local level and promoted democratic practices among citizens in the community aqueducts.

Demonstrating their ability to provide water services and also demanding support from the state to constantly improve, community aqueducts challenge the neoliberal view of citizenship that frames the relationship between citizen and state in terms of client/provider. Instead, community aqueducts claim autonomy, ownership, and the right to define the services they need, taking into account the diversity of their communities. They present a different type of social contract, refuting the universal standardised provision from the state and proposing themselves as co-producers of water services. The aqueducts have clear demands for the state: an enabling legal and policy environment and concrete support provided in the terms mutually agreed between communities and local authorities.

The process of engaging in a dialogue with the state has transformed this relationship ultimately deepening democracy. In this context deepening democracy means that the citizens are able to contribute to set their rights, rather than passively receive them. Overall, the functioning and social aims of the community aqueducts are an example of civil society organisation and political intervention 'from below' in a country where there are frequent political apathy and limits to participation.

The functioning of the community aqueducts in the current Colombian socio-political context demonstrates an alternative way of doing politics from below capable of claiming new spaces for democratic participation and deliberation on issues of public interest, such as water. The participatory procedures of community aqueducts have become a way to challenge citizens' apathy and lack of engagement and to mobilise them in defending their territory and its resources.

ACKNOWLEDGEMENTS

The author is deeply indebted to the School of Sociology and the College of Human Sciences of University College Dublin for the Mary Kelly Ad Astra scholarship and travel grants awarded to conduct this research project between 2011 and 2014.

REFERENCES

- ADACA (Asociación de Acueductos Comunitarios de Antioquia). 2014. *Encuentro Internacional URCOLBO*. www.adacantioquia.co (accessed 14 March 2015)
- Altafin, I. 1991. Participatory communication in social development evaluation. *Community Development Journal* 26(4): 312-314.
- Bessette, G. 2006. *People, land and water: Participatory development communication for natural resource management*. London: Earthscan.
- Botero, L.V. 2011. Se desmontan los planes departamentales de aguas. *El Colombiano*, 29 November 2011.
- Castells, M. 1999. *Information technology, globalization and social development*. UNRISD Discussion Paper N° 114. Geneva: United Nations Research Institute for Social Development.
- Citizenship DRC 2011. *Blurring the boundaries: Citizen action across states and societies*. A summary of findings from a decade of collaborative research on citizen engagement. Brighton: Development Research Centre on Citizenship, Participation and Accountability.

- Clarke, M. and Missingham, B. 2009. Active citizenship and social accountability. *Development in Practice* 19(8): 955-963. www.jstor.org/stable/27752162 (accessed 9 May 2014)
- Correa Correa, H.D. 2010. Acueductos comunitarios, patrimonio público y movimientos sociales. Notas y preguntas hacia una caracterización social y política. In Vélez Galeano, H.; Budds, J.; Colmenares, R.; Perreault, T.; Correa, H.D.; Isch, E.; Guerrero, L. *Justicia Hídrica. 7 ensayos como aportes para articular las luchas*, pp. 81-106. Bogotá: Censat Agua Viva – Amigos de la Tierra Colombia
- Dagnino, E. 2005. Meanings of citizenship in Latin America. IDS Working Papers No. 258. Brighton: Institute of Development Studies.
- Dagnino, E. 2007. Citizenship: A perverse confluence. *Development in Practice* 17(4-5): 549-556. www.jstor.org/stable/25548252 (accessed 9 April 2014)
- Díaz Bordenave, J. 1994. Participatory communication as part of building the participative society. In White, S.; Nair, S. and Ashcroft, J. (Eds), *Participatory communication working for change and development*, pp. 35-48. London: Sage.
- Enghel, F. and Tufte, T. 2011. Citizenship practices among youth. Exploring the role of communication and media. In von Feilitzen, C.; Carlsson, U. and Bucht, C. (Eds), *Yearbook 2011 New Questions, New Insights, New Approaches. Contributions to the Research Forum at the World Summit on Media For Children and Youth 2010*, pp. 261-270. Göteborg: The International Clearinghouse on Children, Youth and Media, Nordicom, University of Gothenburg.
- FAO (Food and Agriculture Organization of the United Nations). 2007. Communication and sustainable development. [ftp://ftp.fao.org/docrep/fao/010/a1476e/a1476e00.pdf](http://ftp.fao.org/docrep/fao/010/a1476e/a1476e00.pdf) (accessed 5 May 2011)
- Figueroa, M.E.; Kincaid, D.L.; Rani, M. and Lewis, G. 2002. *Communication for social change: An integrated model for measuring the process and its outcomes*. Communication for Social Change Working Paper Series No.1. New York: Communication for Social Change Consortium.
- Gaventa, J. 2006. *Triumph, deficit or contestation? Deepening the 'deepening democracy' debate*. IDS Working Paper No. 264. Brighton: Citizenship DRC, Institute of Development Studies.
- Gaventa, J. and Barrett, G. 2012. Mapping the outcomes of citizen engagement. *World Development* 40(12): 2399-2410.
- Gumucio Dagrón, A. 2011. Comunicación para el cambio social: Clave del desarrollo participativo. In Pereira, J. and Cadavid, A. (Eds), *Comunicación, desarrollo y cambio social. Interrelaciones entre comunicación, movimientos ciudadanos y medios*, pp. 19-36. Bogotá: Editorial Pontificia Universidad Javeriana.
- Gómez Bustos, I.J. 2012. El agua como bien común y público, desde el análisis de la acción colectiva del referendo por el agua. MA thesis in Sociology, Universidad Nacional de Colombia, Bogotá, Colombia.
- IDS (Institute of Development Studies). 2006. *Making space for citizens. Broadening the 'new democratic spaces' for citizen participation*. Brighton: Institute of Development Studies.
- Joshi, A. and Moore, M. 2006. Institutionalised co-production: Unorthodox public service delivery in challenging environments. *The Journal of Development Studies* 40(4): 31-49. <http://dx.doi.org/10.1080/00220380410001673184> (accessed 26 March 2015)
- Lister, R. 1997. *Citizenship: Feminist perspectives*. New York: New York University Press.
- López Murcia, J.D. 2013. Regulatory agencies and courts in the south: The overlaps in Colombian water regulation. *Journal of Politics In Latin America* 5(2): 105-132.
- Manyozo, L. 2012. *Media, communication and development. Three approaches*. New Delhi: Sage.
- McMillan, R.; Spronk, S. and Caswell, C. 2014. Popular participation, equity, and co-production of water and sanitation services in Caracas, Venezuela. *Water International* 39(2): 201-215. <http://dx.doi.org/10.1080/02508060.2014.886844> (accessed 23 August 2014)
- Melkote, S. and Steeves, L. 2001. *Communication for development in the Third World: Theory and practice for empowerment*. New Delhi; London: Sage.
- Narayan, D. 1999. *Bonds and bridges: Social capital and poverty*. Policy Research Working Paper, July 1999. Washington, DC: The World Bank.

- Ostrom E. 1999. Crossing the great divide: Coproduction, synergy, and development. In McGinnis M. (Ed) *Polycentric governance and development: Readings from the Workshop in Political Theory and Policy Analysis*. Ann Arbor, MI: University of Michigan Press.
- Peña Cano, D.; Reyes Roa, J. and García Ruíz, J. 2007. Un caso rural de los acueductos comunitarios: El Tunjuelo, Bogotá. In Correa Correa, H.D. (Ed), *Colombia: ¿Un futuro sin agua?*, pp. 105-112. Bogotá: Ecofondo.
- Perera, V. 2014. Engaged universals and community economies: The (human) right to water in Colombia. *Antipode* (special edition 2014). <http://dx.doi.org/10.1111/anti.12097> (accessed 3 November 2014)
- Pestoff, V. 2006. Citizens and co-production of welfare services. *Public Management Review* 8(4): 503-519. <http://dx.doi.org/10.1080/14719030601022882> (accessed 25 March 2015)
- Quintana Ramírez, A.P. 2010. La gestión del acueducto en Dosquebradas Risaralda, una historia de autogestión y privatización. *Revista Luna Azul*, 30 (enero-junio): 164-173. <http://lunazul.ucaldas.edu.co/index.php?option=content&task=view&id=539> (accessed 26 March 2015)
- Romano, S. 2012a. From resource management to political activism: Civil society participation in Nicaragua's rural water governance. PhD thesis, University of California, Santa Cruz, United States.
- Romano, S.T. 2012b. From protest to proposal: The contentious politics of the Nicaraguan anti-water privatisation social movement. *Bulletin of Latin American Research* 31(4): 499-514. www.jstor.org/stable/23274235 (accessed 14 May 2014)
- Ruskulis, O. 2002. Facilitating information dissemination and exchange through formal and informal networking. In Gandelsonas, C. (Ed), *Communicating for development – Experience from the urban environment*. Urban Management Series, pp. 64-77. London: ITDG Publishing.
- Salazar-Restrepo, B. 2011. *Cuadernillo N°3 Prestación Comunitaria del Servicio de Agua*. Medellín: Corporación Ecológica y Cultural Penca de Sábila. <http://corpenco.org/2013/cuadernillo-no3-prestacion-comunitaria-del-servicio-de-agua/> (accessed 20 August 2014)
- Sreberny, A. and Mohammadi, A. 1994. *Small media, big revolution: Communication, culture, and the Iranian revolution*. Minneapolis: University of Minnesota Press.
- Tufte, T. and Mefalopulos, P. 2009. *Participatory communication. A practical guide*. World Bank Working Paper No. 170. Washington, DC: World Bank.
- Urrea, D. 2011. Fin de los Planes Departamentales del Agua: Continuidad de la privatización directa. <http://censat.org/es/analisis/fin-de-los-planes-departamentales-del-agua-continuidad-de-la-privatizacion-directa> (accessed 22 November 2012)
- Valencia-Agudelo, G. 2007. La propuesta de un mínimo vital de agua en Colombia. Unpublished document. Medellín: Universidad de Antioquia.
- Villada Ríos, M.A. 2012. *Estudios de caso sobre la gestión y gobernanza del agua rural como bien común*. Medellín: Corporación Ecológica y Cultural Penca de Sábila.
- Vincent, R. and Stackpool Moore, L. 2009. Moved to act: Communication supporting HIV social movements to achieve inclusive social change. *Development in Practice* 19(4-5): 630-642. <http://dx.doi.org/10.1080/09614520902866413> (accessed 14 August 2013)
- Waisbord, S. 2009. Family tree of theories, methodologies and strategies in development communication. The communication initiative. www.comminit.com/en/node/287575 (accessed 12 October 2010)
- WWC and OECD (World Water Council – Organisation for Economic Cooperation and Development). 2015. *Water: Fit to finance? Catalyzing national growth through investment in water security*. Report of the High Level Panel on financing infrastructure for a water-secure world. April 2015. Marseille: WWC.

