Chapter 4

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REINVENTING PUBLIC WATER AMID COVID-19 IN TERRASSA

ovid-19 has come to intersect with water poverty, exacerbating the impacts on vulnerable households. To address this, public entities and water companies have undertaken different actions in water provision. In Spain, the national government prohibited disconnecting households from energy (electricity, gas) and water. The government also proposed that unpaid bills be deferred with no interest. Most Spanish water companies followed these options, but some cities, such as Terrassa (part of metropolitan Barcelona) made efforts to guarantee water supply even for those lacking legal access to housing. Terrassa has recently municipalized water services by creating a new public water operator (Taigua) and a citizen observatory (the Terrassa Water Observatory). Responses made by Taigua during the initial lockdown were oriented towards ensuring that citizens did not suffer any interruptions. Furthermore, following the closure of public fountains for sanitary reasons, they also urged the installation of provisional meters to vulnerable households without access to tap water. We argue that the Terrassa model of municipalization, and particularly the existence of systems that facilitate citizen participation and social movement engagement, has played a critical role in shaping these ambitious and radical responses to the pandemic.

INTRODUCTION

The theme for the 2020 World Water Day was "Water and Climate Change," surely one of the most relevant and pressing topics to be faced by human societies during the coming decades. However, March 22, 2020 was also a day in which a new global threat was rapidly expanding with devastating effects on the populations and economies of many countries. At the time of writing (July 2020), Covid-19 was responsible for more than 13.6 million infections and close to 600,000 deaths worldwide (Worldometers 2020). This global pandemic appears to be the worst in a century and, although basically airborne, the virus has implications on water access issues, especially regarding the critical importance of personal hygiene (handwashing) to avoid infection. In fact, the World Health Organization has recognized Covid-19 as a Water Access, Sanitation and Hygiene (WASH) disease (WHO 2020).

Urgent and immediate responses to the pandemic by the water sector should be followed by medium-term measures to increase water security, as the latter is critical for preventing and fighting current and future pandemics (Cooper 2020a). As Neal (2020) suggests, the "recognition that water is an essential service will enhance our ability to respond, recover and rebuild a post-COVID-19 world and provides an opportunity for us to rethink and reprioritize our interests, ambitions and resources." The current pandemic, together with climate change, are "threat multipliers" for the existing issues that water governance faces, as well as in the water-food nexus (Keulertz et al, 2020).

The Covid-19 health crisis raises again the despairing situation of access to water, sanitation and hygiene in a world with more than two billion people lacking reliable and safe water services (Al-Masri

2020). Periodic handwashing, one fundamental action against the virus, is difficult in areas such as South Asia and Africa where as much as 75% of the rural population lacks clean water and soap at home (Bhowmick 2020). Moreover, lockdowns and quarantines can in turn affect access to water, either because of the reduction in maintenance routines or because of the reduction in the activity of non-networked supplies (e.g. water trucks), especially in informal settlements (Cooper 2020b). The pandemic has exacerbated existing challenges faced by water service providers, both formal and informal, especially in informal settings in developing countries, in terms of guaranteeing water supply of suitable quality as well as satisfying sanitation needs and hygienic standards (Armitage and Nellums 2020, Neal 2020, Wilkinson 2020), not to mention some refugee camps, whose limited water access and quality condition could be severely impacted by the pandemic (Kassem and Jaafar 2020).

In Africa, several measures related to water supply have been taken as a response to the effects of the pandemic (Cooper 2020b). Some African countries have announced measures related to free water (e.g. subsidies, free water for the most vulnerable or informal settlements, social tariffs). Other initiatives have aimed to increase (networked) water availability for the urban poor through kiosks or standpipes, for example. Beyond these two bundles of measures, Cooper (2020b) also speaks of additional pre-paid sources, such as pre-paid water meters (recognizing, however, that they might not be appropriate in all contexts and can generate disputes) or digital billing/digitized payments. Other suggested measures include reducing or subsidizing the price of networked water from communal access points, working with community-based organizations to oversee service delivery in informal settlements, and recognizing the important role and enhancing cooperation with private water vendors that cover informal settlements (Cooper 2020b).

Although not comparable in numbers, WASH-related shortcomings are also an issue of preoccupation for people in developed countries. Lack of physical access to improved WASH facilities, for

example, affects perhaps a small proportion of the overall population but concentrates in highly vulnerable segments such as refugees in camps, ethnic groups such as the Roma, temporary agricultural workers, evicted families, homeless populations in cities, and others lacking sufficient water at their homes. Much more important in quantitative terms are individuals and families having increasing difficulties in paying their water bills. Water poverty in terms of affordability has grown to become a serious sanitary and social problem in certain US and European cities (Jones and Moulton 2016, Mack and Wrase 2017, Martins et al, 2016). Up to a third of American households (120 million people) could be at risk of not being able to pay their water bills in the future because of stagnant or declining incomes and, above all, price increases needed to finance an ailing urban water infrastructure (Mack and Wrase 2017). In the US, this scenario could arrive much sooner than expected given the unprecedented impacts of the current pandemic-induced economic crisis on employment, with more than 30 million Americans out of work. Most water companies in the US appear to be reluctant to service households with pending bills despite calls for the contrary, and only about 11% of these companies are willing to reconnect at no cost households that have been shut off (Lakhani 2020). In Europe, public water companies expect a rise in the medium term of people with difficulties in paying the water bills, but water shutoffs have been forbidden in most countries, and a number of financial aid measures (for instance, postponing invoice payments) have been implemented as well (Aqua Publica Europea and GWOPA 2020).

Covid-19 has thus come to intersect in pernicious ways with the issue of water poverty, exacerbating the impacts upon already vulnerable households. While in Europe there appears to be no equivalent to the US in terms of water shutoffs for lack of payment, water poverty remains a matter of concern, especially after the economic crisis of 2008 (March and Sauri 2016). In Spain, shutoff notices exceeded 500,000 in 2014 – 30% more than in 2010 – of which 300,000

ended in disconnections (El País 2014). In the Metropolitan Area of Barcelona (MAB), 9% of all households were in a state of water poverty in 2016 (water-poor households are defined as those dedicating more than 3% of their income to pay for water). For households at risk of poverty, defined as those households with incomes 60% or less than the average household income in the MAB, the percentage of water poverty rose to 82% of all households (Domene et al, 2018).

In Spain, local and regional administrations, water companies, and civic entities are responding to water poverty in different ways and with different capacities, offering assistance and economic help on the water bills through subsidies, discounts and bonuses, among others. Two broad approaches can be discerned from the myriad actions taken to curb water poverty. On the one hand, most water companies consider that the full cost of water should be reflected in prices. For those households unable to afford the bills, assistance may be provided either through general income support or through specific measures (Aqua Publica Europea 2016). On the other hand, civic entities, and particularly social platforms formed to assist those affected by water poverty, objected to the enormous increases in water prices during the worst years of the crisis and struggled for basic rights such as the prohibition of shutoffs for vulnerable households. In Catalonia, for instance, a law passed in 2015 (Law 24/2015 of the Catalan Parliament), explicitly prohibited water and energy shutoffs in vulnerable households for lack of payment (Yoon and Sauri 2019). Public authorities have been supportive of price increases but also critical, depending on the political stance of governing councils and metropolitan boards. Local councils have identified families eligible for financial help, and metropolitan and regional water authorities have provided discounts and other rebates on water taxes, but most relief packages have been provided by water companies.

In March 2020, when Covid-19 was already a pandemic with devastating effects on the Spanish economic and social fabric, public entities and water companies launched several courses of action.

First and perhaps most important, the national government passed a package of economic and labour measures, one of which was the prohibition of shutting off basic flows (electricity, gas, water) for lack of payment (Spanish Government 2020). Demands to write off debts were not accepted. Instead the government proposed extensions on debt repayment, without added interest, until the state of alarm issued on the pandemic ceased.

Most water companies, public and private, are following these options, as illustrated through the examples of Madrid, Barcelona and Seville. The public company Canal de Isabel II, supplying Madrid, has offered rebates to industrial and commercial businesses, charging only the consumption part of the bill but not the fixed fee. Moreover, only 50% of the fixed fee will be charged in the first six months after the lifting of the state of emergency, and 25% in the following six months. For households affected by temporary job losses, a rebate on 100% of consumption (up to 25 cubic meters bimonthly) will be offered as well as a discount of 50% on the fixed fee. Adding all up this would mean that for an average bill of €41, households in this category would end up paying only €9 (Canal de Isabel II 2020). Aigües de Barcelona, the mixed-capital water company serving the Metropolitan Area of Barcelona controlled by AGBAR (see March et al, 2019), has proposed a six-month extension of water bills with no interest added for self-employed and small and medium enterprises (SMEs) once the state of emergency is lifted (AMB 2020). For individual customers, however, no special measures have been taken beyond those already in practice regarding vulnerable households. EMASESA, the public company supplying Seville, has opted for delaying bill payments until six months after the state of emergency is lifted and charging no interest (EMASESA 2020). Many other urban water companies have taken similar approaches, and some, as we will see, have made important efforts to guarantee water supply even for those lacking legal access to housing.

The next sections of this paper examine the water supply actions taken to address the impacts of Covid-19 in the city of Terrassa

(Barcelona, Catalonia, Spain). This is a key case study to learn from since it represents the biggest city in the region of Catalonia bringing its water services back to public control in the ongoing wave of remunicipalizations. Moreover, Terrassa has innovated in terms of water governance by complementing the public operator (Taigua) with a citizen observatory (the Terrassa Water Observatory). Informed by online and phone interviews with civil servants from the city council, workers from the public water operator, and social movements involved in the citizen observatory, we identify two main strategies developed in response to the Covid-19 crisis and reflect on the learnings and limitations of these reactions.

REINVENTING PUBLIC WATER SUPPLY AFTER MUNICIPALIZATION

In July 2016, the City Council of Terrassa approved a motion to publicly control the water supply service after the end of a 75-year concession contract with a private operator. In fact, this operator (Mina, whose main shareholder was AGBAR, a subsidiary of Suez) had controlled the water services in the city since 1842 (Grau-Satorras 2017). Terrassa is broadly representative of urban water supply in Catalonia: a market dominated by private operators. For instance, 9 out of 10 consumers in the Metropolitan Area of Barcelona depend on water from the AGBAR group (March et al, 2019). Since Terrassa is the third-largest municipality in Catalonia, with 220,556 inhabitants in 2019 (Idescat 2020), the case has been closely watched for its potential to become an example of water remunicipalization for other large municipalities in the region, particularly Barcelona (Steinfort and Kishimoto 2017).

While the political support of the city mayor and the municipal parties was key to reversing water privatization, the municipalization process in Terrassa was initiated and driven by social movements (Bagué 2020, Planas and Martínez 2020). This is why the reinvention of water services in Terrassa has been developed under social democratic principles, but it is also characterized by several

features of the "autonomous" remunicipalization type (see the different typologies in McDonald 2018).

Remunicipalization brought about a new governance model based on two entities. First, the public water operator Taigua (created in 2018) is a public enterprise fully owned by the municipality. The goal of Taigua is the direct management of the municipal services of water supply, responsible for capturing, treating and distributing potable water, as well as managing and collecting water bills (Terrassa 2018a). The design of the public water operator fits with the market and political economy characterizing social democratic states involving traits such as robust state intervention, cost-reflexive pricing and the commitment to better integrate water services with other city government departments.

Second, the Terrassa Water Observatory (TWO), legally approved in 2018 and set up in 2019, is an innovative body of citizen participation designed to define polices and guide strategic decisions affecting the municipal water supply service (Planas and Martínez 2020). The goal of the TWO is to stimulate and channel the participation of citizens, social collectives, and other stakeholders related to water, to facilitate their co-responsibility in the government of the city water supply (Terrassa 2018b). While acknowledging the need for public control, the TWO also promotes community-driven governance of water service, reclaims citizen control and celebrates non-market values of water encapsulated in notions such as a "water commons."

DISCOUNTS AND POSTPONING WATER BILL PAYMENTS

The reinvention of the water services in Terrassa has taken the most common form of European remunicipalizations (i.e. a social democratic type), although it also contains several rationales and voices advocating for more autonomous remunicipalization. As we will show below, both typologies are represented in the two major sets of measures taken during the crisis of Covid-19.

One week after the declaration of the state of emergency, the

local government of Terrassa announced that it would allocate €500,000 to reduce water bills for the second quarter of 2020 (Terrassa 2020a). As the president of the Terrassa Water Observatory (TWO) noted, "this was a political decision from the local government, probably because Taigua had the economic room to do so without putting future investments at risk" (Interview, J. Martínez, TWO, May 25, 2020). The civil servant responsible for the water service confirmed that they previously "calculated what Taigua could assume without endangering its budget" – a decision based in part on the public nature of the water operator: "Now, we have direct knowledge of the accounts of the public company. And therefore, the discussion of what impact this measure would have or how far we could go, could be done internally [...]. You can talk directly to the accountants of Taigua to determine these €500,000" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020).

The measure was implemented through a local regulation establishing three discounts on the consumption part of the water bill, as Table 4.1 shows.

Table 4.1 Temporary reduction of water bills in Terrassa due to Covid-19				
	Number of users	Reduction	Estimated cost	
Domestic households (1st Block)	90,894	0.3339 €/m³	€455,243 *	
Domestic households (2 nd Block)	1,685	5 €/quarter	€8,425	
Commercial users (up to 15 mm of diameter)	6,800	0.3559 €/m3	€36,302*	
Total	99,379		€499,970	

Source: Decree No. 260 (March 30, 2020) and data from Taigua.

First, a 100% discount was announced in the first block of domestic consumption (up to 15 cubic metres each quarter). Second,

^{*} Considering that all users consume 15 cubic metres per quarter (e.g. 90,894 domestic households x 15 m3 x 0.3339 €/m3 = €455,243; or 6,800 commercial costumers x 15 m3 x 0.3559 €/m3 = €36,302).

a €5 reduction was established in the bill of the second block of domestic consumption (from 15 to 22.75 cubic metres each quarter). And third, a 100% discount was also decided in the first block of commercial users (up to 15 mm of diameter), basically "small businesses and offices, which we considered to be severely affected by Covid-19" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020). Thus, the reductions mostly affected consumers of the first block "understanding that those who have saved water were the ones who benefited the most" (idem).

These reductions were added to the discount offered by the regional water supplier (the Catalan Water Agency), representing 50% of the fixed water fee for all users and up to 100% for vulnerable households. According to the initial assessment of Taigua, both discounts would represent a reduction of 20-35% of the water bill (approximately €10-25). In the case of vulnerable households with social tariffs, the discounts could represent up to 100% of the water bill.

Moreover, in line with the recommendations made by the Spanish government, the city council of Terrassa proposed postponing the second-quarter bill payments until June 1, 2020, with no interest added (Decree No. 260, March 30, 2020). While it was automatic for vulnerable households (i.e. having a social tariff or reporting residential vulnerability), the rest of consumers affected by Covid-19 could ask for this extension as well. This measure also contributed to the observed trend of accelerating the digitization of Taigua procedures during Covid-19: "we enabled a deferral procedure for anyone who was in a critical situation in these months so that they could request a delay and that could be done from the web" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020). According to Taigua, billing has been automatically postponed in 872 vulnerable households and 71 requests of extension have been submitted, 63 of them from domestic users (Terrassa 2020c).

Finally, it is important to take into account the evolution of the measures already in practice regarding vulnerable households and

water poverty (e.g. freezing of supply tariffs, discounts up to 100% of the water fee for vulnerable households, automatic application of the social tariff to households at risk of residential exclusion). In this regard, both public and social stakeholders anticipate an increase of social tariff requests. As the representative of the platform of social movements noted: "The important thing is to know how many families have requested a social tariff [since the beginning of Covid-19]. By May 15, we knew there were 646 new requests. But how many have been granted? The data should be tracked and updated to know the requests made during the state of emergency and the situation of crisis that will come" (Interview, D. Frigola, Consell d'Entitats per l'Acció Ciutadana, June 9, 2020).

GUARANTEEING WATER SUPPLY TO THE MOST VULNERABLE

When the discounts in the water bill were just being estimated and designed, an unanticipated problem broke out. By March 20, the regional government issued a recommendation to cut all public drinking fountains to prevent new infections and the transmission of the virus (Generalitat 2020). The social movements from the city immediately reacted to this measure: "When they cut off the public fountains we sent a letter to the Mayor and the responsible councillors warning that the people who relied on the fountains were running out of water. Then the water councillor told us that they would act" (Interview, D. Frigola, Consell d'Entitats per l'Acció Ciutadana, June 9, 2020). In fact, the Terrassa Water Observatory (TWO) had already identified those extreme cases of water poverty before Covid-19: "We had recorded 19 cases that were very serious situations that had no water or irregular connection to water. Before Covid-19, the social movements had already reclaimed a solution to the City Council for these cases [...] and when the regional governments' decree asking City Councils to close public fountains came out then we certainly protested. I remember that we replied, 'but are you aware that you are leaving people without water?"" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020; see also local statistics on water poverty in Table 4.2).

To force the local government to rapidly and effectively implement their political commitments, two strategies were put in practice. First, to increase political pressure and bring the issue into the public eye, the platform of social movements published opinion pieces in the local press (Malarrassa 2020, Terrassa Digital 2020). Second, the Terrassa Water Observatory intensified their collaboration and exchange of information with civil servants: "We sent this list of 19 cases [to the water service] and they started working on these 19 cases immediately. On the same day, they began to verify the cases one by one, to ask Social Services for reports, but also to check with Taigua if there was a record of the situation. And meters began to be installed" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020). The installation of water meters guaranteed a legal connection to the networked water supply system in vulnerable houses without in-house access to tap water. The civil servant interviewed confirmed this effective public-communitarian alliance amidst the context of emergency: "we had to be super-fast, because we were at the peak of the emergency [...] We received cases from different sides, and the Water Observatory [TWO] sent many of them" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020).

Nonetheless, the key turning point to unify the response was the (virtual) meeting organized by the city council service responsible for the water supply with various municipal departments, as well as the representatives of the Terrassa Water Observatory and social movements to discuss possible solutions. All parties agreed that the previous legal framework (Terrassa 2016) to install temporary meters in cases of residential vulnerability lacking legal access to housing such as occupied houses was ineffective (see the differences between temporary meters requested, installed and legalized between 2016 and 2019 in Table 4.2). However, the main problem to install meters in these cases was in "juridical terms" (Interview, D. Frigola, Consell d'Entitats per l'Acció Ciutadana, June 9, 2020.

Table 4.2 Indicators of water poverty in Terrassa				
	Background pre- Covid-19 (December 2016 - May 2019)	State of alarm due to Covid-19 (March 2020 - June 2020)		
Number of requests for temporary meters	265	52		
Number of temporary meters installed	34	36		
Number of temporary meters legalized	15	0		
Number of cases closed	180	52		
Number of pending cases	51	0		
Occupied houses with irregular water connection (without meter)	306			
Houses with irregular water connection authorized by OFIMAPE (without meter)	424			
Houses with a temporary meter cancelled	69			
Non-vulnerable houses with unbilled water	135			
Total users with unbilled water	934			

Source: Data from OFIMAPE, Taigua and Terrassa Water Observatory (TWO).

According to the president of TWO, the meeting served to address previous concerns and particularly to drop the requirement to obtain owner's permission before installing the temporary meters in occupied houses: "talking with the head of the services in the context of emergency [due to Covid-19], we unblocked the issue. In this tele-meeting with Technical Services, they had not yet given up the idea to ask permission from the owner [...] and we explained: in Terrassa 30 water meters had been installed following this procedure and they were still blocked after six months; in Barcelona doing it differently there are 500 cases that have been resolved and maybe you have 20 in which the owner has complained. [...] What you cannot do is to encourage the owner to complain! And it be-

came clear that the resolution would follow the Barcelona model" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020).

Therefore, the Technical Services wrote an emergency resolution establishing an easier procedure to install temporary water meters in vulnerable families in order to secure access to tap water during the state of emergency: "All cases were rapidly checked by Social Services [...] and then we gave instructions to Taigua so that they installed a provisional meter" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020). The framework that provided legal coverage for the study and implementation of the new measures to install temporary water meters was directly issued by the Mayor within a few days (Decree No. 2593, March 27, 2020) and was also posted on official social media such as the City Council Twitter account. However, very little public dissemination was made of the emergency resolution explaining the new criteria and procedure to request and install temporary water meters (Resolution No. 2637, April 15, 2020). For instance, the websites from Taigua or the City Council did not post this resolution. Similarly, the local office of energy poverty did not update the criteria, the legal framework (i.e. Terrassa 2016), and the templates available for citizens to ask for temporary water meters (OFIMAPE 2020). Likewise, the report published summarizing the actions taken by the local government of Terrassa to respond to the Covid-19 crisis did not mention the issue of temporary water meters, while the discounts of the water bill were extensively developed in the document (see Terrassa 2020b). As the representative of social movements critically summarized "it was a half-hearted reaction" (Interview, D. Frigola, Consell d'Entitats per l'Acció Ciutadana, June 9, 2020). The president of the Terrassa Water Observatory also noticed that they had asked for a better communication of the measure, for instance by advertising it on official websites or by hanging posters with relevant information on drinking fountains. However, he also recognized that the measure worked in practice: "what is true is that everyone is informed: in Social Services, in the areas of the City Council, in social groups... And

what is also true is that in this way anyone who has arrived instantly has had an immediate response and intervention" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020).

As a result of this measure, 52 cases were studied during the state of emergency, and 36 temporary water meters were installed in vulnerable houses without in-house access to tap water (Table 2). Importantly, irregular water connections, which represented approximately a third of the cases studied, were not addressed or legalized under this action. The emergency procedure implemented therefore only targeted extremely vulnerable situations disconnected from the networked water supply system. Hence, some members of the social movements were critical about the limited scope of the resolution: "According to the little data we now have [early June 2020], 29 meters have been installed. Only 29 families without water? This seems too small for a city like Terrassa" (Interview, D. Frigola, Consell d'Entitats per l'Acció Ciutadana, June 9, 2020).

THE SCOPE OF RESPONSES: POSSIBILITIES AND LIMITATIONS

Compared with other actions taken by water companies in Catalonia, Terrassa stands as an example of practices specifically implemented to overcome some of the worst effects of the harsh economic and social impact of the pandemic and the related lockdown. Other water companies such as the metropolitan Aigües de Barcelona (mixed-capital company) or CASSA (also mixed-capital company) of Sabadell (a neighbouring town with a population and social profile similar to that of Terrassa) did not go beyond the prohibition of water shutoffs (enforced by national and regional legislation anyway) or the establishment of a six-month payment moratorium (after the termination of the state of emergency by the Spanish government) addressed to SMEs and to the self-employed but not to individual customers. Discounts on water bills like those implemented by the public water operator of Terrassa have not been proposed.

Similarly to Terrassa, the public water company of Manresa

(near Terrassa, with a population of some 76,000 people) installed 46 temporary meters in occupied houses and studied the possibility of extending these "solidarity" meters to some 30 additional houses after recommendations by social entities such as Caritas or the PAH (the Platform of People Affected by Mortgages) (Aigües de Manresa 2020).¹ Indeed, while the final impact was modest for the size of Terrassa (36 interventions in a context of 220,000 inhabitants), interviewed stakeholders reported the importance of this measure (and the debate it generated) for three reasons.

First, the process of decision making and the urgent resolutions had the effect of unlocking the revision of previous legislation establishing who and how citizens could access water through temporary meters (Terrassa 2016). As the representative of the Catalan platform against water and energy poverty expressed: "In the case of Terrassa, the activation in emergency mode of these water meters should be highlighted. They are not yet legalized, and they will need to be guaranteed in the future. However, Covid-19 has accelerated their implementation, as it has shown that it is possible to apply a measure to put meters more quickly" (Interview, M. Guiteras, Aliança contra la Pobresa Energètica – APE, June 4, 2020).

In fact, thanks to the urgent procedures more temporary water meters have been installed during the three months of the state of emergency than during the period between 2016 and 2019 (see Table 2). The president of the Terrassa Water Observatory summarized how the debate was transformed in the context of Covid-19: "what was not working until now was the issue of occupations, families who were in a precarious residential situation, and which was a significant volume of people [in Terrassa]. And I think that this debate about the human right to water in the city, which should have been taken place in the Interdepartmental Commission on the

¹ To our knowledge, only two other cities in Catalonia accelerated the installation of temporary meters in vulnerable houses in order to secure water access during lockdown: 21 meters were installed in Tarragona (Tarragona 2020) and 9 in Sant Vicenç dels Horts (El Far 2020).

Human Right to Water and which would surely have been done with reluctance regarding the legal framework [...], has been quickly overcome. And in fact, our proposal has been accepted" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020). The most relevant change will be in terms of the relationship with the owner: "the idea is to let the owners know that a meter has been installed. It is not a question of asking them whether they give us permission or not. But to secure that their right to property is not violated, they will be informed afterwards" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020). At the time of writing (July 2020), the new directive was in process of being drafted and we could not access the document.

Second, the debate caused by the closure of public drinking fountains made more visible (and exacerbated) situations of water poverty formerly overlooked by the local government of Terrassa. Moreover, it stressed the need to improve coordination between municipal departments in order to guarantee the human right to water. As the president of TWO noted: "they [the city council] have not thought that cutting off the fountains put certain families in a very critical situation. Because the cut had been processed not through Social Services but through the Technical Services that manage the issue of water and are in contact with Taigua" (Interview, J. Martínez, Terrassa Water Observatory, May 25, 2020).

Finally, the coordination within the city council, but also with social organizations and platforms, was key to building up the response and securing the human right to water amidst Covid-19. In this sense, the representative of the regional platform considered that "the measure of provisional meters in Terrassa arises from the experience and knowledge of civic entities" (Interview, M. Guiteras, Aliança contra la Pobresa Energètica – APE, June 4, 2020). In contrast to the city of Manresa, which has an experienced public water operator since 1982, in the case of Terrassa the active involvement of social entities and a new model of urban water governance including a citizen observatory seem to have been critical in order to

design and enforce this response (ultimately implemented by the public operator, Taigua).

Nevertheless, the scope and transformative potential of the two main actions developed by the recently municipalized water services of Terrassa may be limited over time and space. On the one hand, there are some uncertainties about what will happen after the state of emergency (which was lifted in Spain on June 21, 2020). For instance, the representative of the platform against water and energy poverty questioned: "when will unpaid bills be paid, and who [will pay them]? [...] will the debt be forgiven?" (Interview, M. Guiteras, Aliança contra la Pobresa Energètica - APE, June 4, 2020). Similarly, it is still unresolved how the legalization of the 36 water meters installed in Terrassa during the state of emergency will be carried out. On the other hand, there have been difficulties in communicating and replicating in other municipalities successful strategies amidst the crisis. As the civil servant in direct contact with the regional association of public water operators (AMAP) recalled, "the coordinator of AMAP created a WhatsApp chat with different public operators to have an agile space to share our actions. The truth is, however, that since everything had to be decided very quickly, we were mostly focused on finding solutions within Terrassa [...] and we did not have time to send them a summary of our responses" (Interview, A. Crispi, Terrassa civil servant, June 4, 2020).

CONCLUSION

The recent reconfiguration of water services in Terrassa has been complex and contested. Through this process, social movements and local entities had an important role to play in how the operator, and more generally the water services, were reinvented (Bagué 2020, Planas and Martínez 2020). This close (though not frictionless) relation with social movements has arguably resulted in a municipalization process that could be halfway between autonomous and social democratic re-municipalization models. In turn,

this has shaped the responses propelled by the water operator and the municipal services to the harsh effects (especially on the most vulnerable group) of the pandemic since March 2020. Responses made by the public water operator, Taigua, during the management of the crisis have been oriented towards ensuring that citizens did not suffer any interruptions because of inability to pay (by offering significant rebates or even free service). Not only that, following the compulsory closure of public fountains because of sanitary reasons, the public water company has also urged the installation of provisional meters to vulnerable households without water access. All these measures were aligned with the actions to ensure universal water access identified by Aqua Publica Europea and GWOPA (2020) among public water operators in Europe. However, we could argue that the case of Terrassa shows a public operator that has gone one step further than most of the existing initiatives in the Spanish context (and probably European context) in terms of providing significant rebates and securing water supply for those lacking legal access to housing. All in all, the existence of an organism that serves to channel citizen participation and social movements engagement, such as the Terrassa Water Observatory (TWO), probably has had a critical role in shaping these ambitious and radical responses to the pandemic.

Aqua Publica Europea and GWOPA (2020) point out that one of the "hot topics" in water governance after the pandemic will be the redefinition of the central role of public water operators in society's wellbeing and safety. The case of Terrassa, with a recently created public water operator that has been able to cope with the harsh effects of the socio-economic crisis provoked by Covid-19, might provide many insights and lessons to be learned in that regard. Of course, it will remain to be seen how the operator (and the water governance structure in which is embedded) can cope with the effect of another Covid-19 wave (and lockdown) if it comes, and how it maintains post-emergency measures in what is expected to be one of the harshest economic crises in decades.

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