

Instructions for authors, subscriptions and further details:

<http://rimcis.hipatiapress.com>

Water Management in the Media and Research: Dissemination in Catalonia and Its Capture by Private Companies

Dídac Jorda-Capdevila^{1,2}, Lluç Canals Casals³

- 1) Institut Català de Recerca de l'Aigua, Spain
- 2) Universitat de Girona, Spain
- 3) Institut de Recerca en Energia de Catalunya, Spain

Date of publication: November 30th, 2019

Edition period: November 2019 – February 2020

To cite this article: Jorda-Capdevila, D., & Canals Casals, L. (2019). Water Management in the Media and Research: Dissemination in Catalonia and Its Capture by Private Companies. *International and Multidisciplinary Journal of Social Sciences*, 8(3), 267-288. doi: 10.17583/rimcis.2019.4600

To link this article: <http://doi.org/10.17583/rimcis.2019.4600>

PLEASE SCROLL DOWN FOR ARTICLE

The terms and conditions of use are related to the Open Journal System and to [Creative Commons Attribution License](#) (CC-BY).

Water Management in the Media and Research: Dissemination in Catalonia and its Capture by Private Companies

Dídac Jorda-Capdevila
Institut Català de Recerca de l'Aigua
Universitat de Girona

Lluc Canals Casals
Institut de Recerca en Energia de Catalunya

Abstract

As a vital resource for human well-being, drinking water is considered a public good worldwide. However, big companies are sometimes in charge of its management leading to an interested distribution of benefits. One of the mechanisms of power that these private companies employ to retain access to water management is the control of the dissemination of information. Thus, the objective of this study is to evaluate the influence of big companies on the dissemination of water management in Catalonia by focusing on two groups of actors: the general public and experts. Accordingly, we analyse the association of big companies with mass media and research institutions. First, we scrutinise local newspapers for the period 2010-2016 to compile news about water management and companies whose activity is related to water. We found some interesting correlations between the amount and subject of the news, the editorial lines and relevant facts. Second, we search scientific articles about water management written by authors from Catalan research institutions. We analyse the production, research topic and funding. In this sense, we found that technological centres are the most funded by private companies and that public funding is more related to topics related to the ecosystem functioning.

Keywords: dissemination, mass media, private companies, research production, water management

La Gestión del Agua en los Medios de Comunicación e Investigación: La Divulgación en Cataluña y Su Secuestro por La Empresa Privada

Dídac Jordà-Capdevila
Institut Català de Recerca de l'Aigua
Universitat de Girona

Lluc Canals Casals
Institut de Recerca en Energia de Catalunya

Resumen

Como recurso vital para el bienestar humano, el agua potable es considerada un bien público en todo el mundo. Sin embargo, grandes empresas privadas a veces se encargan de su gestión y distribución interesadas por los beneficios que eso conlleva. Uno de los mecanismos de poder que emplean estas empresas para retener el acceso a la gestión del agua es el control de la divulgación de información. Así, el objetivo de este estudio es evaluar la influencia de grandes empresas en la divulgación de la gestión del agua en Cataluña, poniendo el foco en dos grupos de actores: el público en general y los expertos. En consonancia, analizamos la relación de las grandes empresas con los medios de comunicación y las instituciones científicas. Primero, revisamos los periódicos locales por el período 2010-2016 para recopilar noticias sobre gestión del agua y empresas cuya actividad está relacionada con el agua. Encontramos correlaciones interesantes entre la cantidad y el tema de las noticias, las líneas editoriales, y hechos relevantes. En segundo lugar, buscamos artículos científicos sobre gestión del agua escritos por autores de instituciones científicas de Cataluña. Analizamos la producción, el tema de investigación y los fondos de financiación. En este sentido, encontramos que los centros tecnológicos son los mejor financiados por la empresa privada, y que la financiación pública está más relacionada con el estudio de los ecosistemas.

Palabras clave: divulgación, medios de comunicación, empresa privada, producción científica, gestión del agua



The obvious fact that freshwater is indispensable for life (biologically, societally and economically) made water gain the consideration of public good worldwide (Acreman, 2001). Moreover, since 2010, access to drinkable water and sanitation is considered a Human right. Almost everywhere in the world, water responsibility and ownership fall into public administrations, although Chile is one of those hurtful exceptions due to the social tensions that private ownership has historically brought (Budds, 2004). Despite the public copiousness, it is not rare that many public administrations have relied on private companies to manage specific processes, such as capture, transportation and treatment that are part of the hydro-social cycle (Linton & Budds, 2014). As in other areas of the administration (education, health, etc.), management is given to private companies because of the lack of financial mechanisms and management capacity of the government, but also due to external pressures, ideology of the government party and self-benefit (Ogden, 1995; Swyngedouw, 2005). Nowadays, about 90% of the population receives water from public enterprises or administration (McNabb, 2017; Platz, 2009). However, this percentage was bigger before the decade of 1980. It was during the debt crisis of impoverished countries that took place during the decades of 80 and 90's that the World Bank (WB) and the International Monetary Fund (IMF) enhanced the participation of private companies in cooperative projects concerning drinking water (World Bank and Center for Public Integrity Analysis). In 1990, less than 20% of WB loans required privatisation of water services while in 2002 this value increased to almost 90%.

Many of the privatisation processes that took place in South America during that period ended up in institutional and social conflict, being the case of Cochabamba one of the worst experiences (Nickson & Vargas, 2002). Fare increases, reduction of investments and contract breaches were some of the reasons of those tensions. Finally, 62% of the concessions were ceased and a 57% of those got back to public control (Basteiro Bertolí, 2008). These conflicts illustrate the value of social awareness towards water.

Meanwhile, there is a question to pose: do private companies manage water to serve public interests? Although this is the objective for the management of public goods, it is too often demonstrated that private

companies look at their own interests first. Dams have often been built with private capital but without the local support, rivers become overexploited, ignoring the welfare that a well-preserved river provides (e.g., [Ojeda et al., 2008](#); [Willis & Garrod, 1999](#)), the same industry that benefit from such over-exploitation pollute the public resource and it is usually the general public who has to pay – through taxes – the water treatment, ending in the privatisation of benefits and socialisation of costs, or cost externalisation. Many countries have examples of such cost externalisation. In Catalonia, the most visible cases are the salted water collectors and desalination treatments payed with public funds to reverse the impact of salt mining ([Gorostiza et al., 2015](#)) and the contamination of land, aquifers and springs from pig feces landfill derived from agroindustry ([Vitòria et al., 2008](#)).

Technology, capital, labour and knowledge are shared mechanisms of power that big companies exercise to directly gain and maintain their access to water management ([Ribot & Peluso, 2003](#)). Precisely the control of information and knowledge, via the control of the dissemination canals, is at the same time crucial to understand the acceptability of the society towards certain water policies and focus debates that have to decide the future of water policies. While a lot of case-study-based research has been done relating neoliberalism, power and water management (e.g., [Bakker, 2000](#); [Budts, 2004](#); [Otero et al., 2011](#); [Swyngedouw, 1997](#)), there is less knowledge specifically focused on the control over the dissemination means.

The objective of this paper is then to account for the influence of big companies on the dissemination of information and knowledge regarding water management. Because dissemination has an effect on different layers of the society, this study attempts to analyse the dissemination towards both the expert public and the general public in the region of Catalonia. Catalonia (NE Spain) is one of the European regions with more water services managed by private companies ([Aiguaesvida, 2015](#)) and has abundant conflicts related to the overexploitation of water resources and to corporative impunity ([Gorostiza et al., 2015](#); [Jorda-Capdevila, 2016](#); [March, 2014](#)).

Regarding the dissemination to the general public, this study analyses mass media during the privatisation processes of two public companies that took place during the 2010-2016 period. Mass media has often collaborated with the discourses that assert that water crises are fruit of natural events (e.g., droughts) rather than political decisions, so accordingly only technical

solutions can be used for coping such crises, favoring the role of big companies in the governance of water decisions (Linton, 2004). A similar idea is spreading throughout research institutions, where the unequal level of funding between research groups can bring to the specialisation towards technical and “apolitical” fields, omitting the study of political economic power relations that influence the current water management (Swyngedouw, 2009). Thus, this study also complements previous works that analyse the tentacles of big companies that penetrate through research institutions in order to control of the dissemination among experts (D’Elia et al., 2016; Vilà Miró & Yvon-Leroux, 2017).

In summary, this paper analyses how much influenced are research and the media by corporations related to water management in Catalonia. Section 2 describes the main actors on water management in Catalonia and explains the methodology used for data acquisition in newspapers and scientific journals and data analysis. Section 3 describes the main findings from the analyses of the mass media and research institutions and discusses the results. Finally, Section 4 presents the conclusions of the findings.

Methodology

As described in the introduction, this study analyses the influence of big companies on the dissemination of information by mass media and research institutions.

The analysis of mass media focuses on the news about two privatisation processes that have been occurring in the water management sector since the political strategy change of the Catalan Government in 2010 towards a more liberal market. First, the public company Aigües Ter-Llobregat (Waters of Ter-Llobregat, ATLL), the one in charge to capture, treat and transport water throughout the entire metropolitan region of Barcelona, was transferred to a private group for 50 years. Acciona and Agbar were the leading companies that competed in the tender process. Acciona’s group won, although Agbar put the process on trial, yet without a definitive resolution. Agbar has historically been the most important company to manage the water at a municipal level and is the main actor of the second privatisation process. In 2010, some activists and water users realised that Agbar was supplying

drinking water to the Àrea Metropolitana de Barcelona (Metropolitan Area of Barcelona, AMB) without a proper contract. The Government of the AMB hurried then to constitute a new company for the water supply using a public-private partnership: 70% Agbar, 15% Criteria-CaixaBank, 15% AMB. This new company became real in 2014 and its constitution is also on trial. Criteria-CaixaBank is, by the way, the biggest bank in Catalonia, which also owns some shares of Agbar.

The methodology employed here consists in collecting all news related to water in different newspaper's libraries for the 2010-2016 period and analysing the number of publications that contains certain keywords related to the privatisation and the struggles against the process: 'privatisation', 'remunicipalisation', 'municipalisation', 'licence', 'win', 'awards', 'good', 'bad', 'positive', 'negative', 'sentence', 'public', 'private'. The newspapers considered are the three most read in Catalonia according to the 2017 Political Opinion Barometer (CEO, 2017): La Vanguardia, El Periódico and Ara.cat. As shown in figure 1, they represent about two thirds of what people reads and are actually those receiving more funding from the Catalan Government for their publications in Catalan (DOGC, 2015). Each journal also has a network of private funders despite the difficulties for bringing that information to light (Media.cat, 2015). As far as we know, La Vanguardia – part of the Grup Godó holding, which controls several radio and TV channels – and El Periódico are somehow funded by CaixaBank; while the president of Ara.cat also belongs to the Board of Directors of Acciona (Sibina & Dante-Fachin, 2014). In order to contrast our findings from mainstream journals to another one less dependent on big private companies and more interested in extensive reports instead of breaking news, we also selected Crític. Crític is a newspaper that does investigative journalism and is not funded by big private companies. In its webpage, it is totally transparent and provide detail of funding: 15% from sponsorships, basically from the public administration. Moreover, Critic is publicly recognised as a good journal, since has lately received the National Award in communication 2019 in the category of digital journal" (Crític, 2019). Finally, we also analyse the publications for the World Water Days (WWD, every March 22) of the last years.

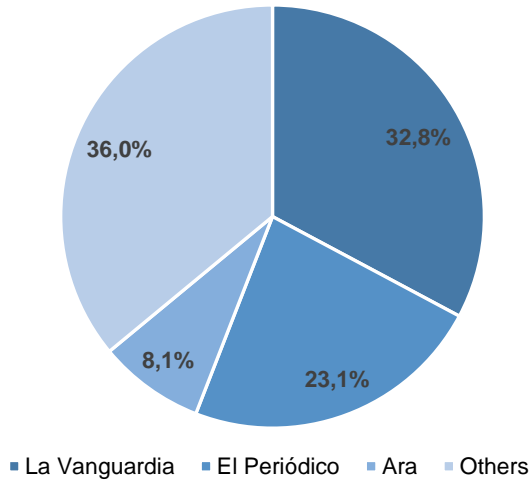


Figure 1. Distribution of most read newspapers (CEO, 2017).

In relation to the influence of private companies on the research production and dissemination, we analyse whether the topics of the articles published in Catalonia about water management depends on the funding source. We also look at the role that some companies (especially big corporations, such as Agbar) have in different stages or organisms related to the research production and dissemination.

We search at the ISI Web of Knowledge all articles on ‘water management’ published between 2014 and 2016 and with one of the four provinces in Catalonia (Barcelona, Girona, Lleida and Tarragona) in the address of the first author. In fact, we exclude all publications whose first author is not from a Catalan institution. From each publication, we extract the abstract, in order to analyse the content of each article, and the affiliation of the first author and the funding sources, as variables to consider in our analysis. As all articles included public funding sources, we classified them according to the sources of additional private funding (e.g., banks, water companies, agroindustry, NGOs).

Once we have the data collected, we perform the analysis in two phases. First, we cross both types of variables (institutions and funding sources) to

see the research of what universities is more captured by private companies. Second, we use IRaMuTeQ – an R-based software that provides statistical analysis on text corpus – to classify the articles in different classes in relation to the words appearing in their abstracts. IRaMuTeQ also uses statistical multivariable methods to significantly relate variables to the created classes.

Results and Discussion

Association Between Companies and Newspapers

Historically, media has spread deceptive discourses that benefit corporations from ‘natural’ disasters and subsequent reconstruction activities (Kaika, 2003; Kallis, 2008). In Catalonia, discourses have also been used for promoting inter-basin water transfers – like the one about the water flow wasted when draining into the sea or the use of euphemistic concepts like ‘inter-territorial solidarity’ – or hydropower production – thanks to the use of ‘clean’ or ‘green’ energy (Jorda-Capdevila, 2016). Moreover, although they should provide information, big companies have the power to silence some critical news, such as the court sentence that declared illegitimate the water management by Agbar in the AMB, which was classified as the second most relevant media silence in Catalonia in 2011 (Balasch, 2012).

Our study indicates that news about water in the three most read newspapers appear in a relatively constant way over time. However, a first overview to the apparition of keywords suggests different approaches to information related to water. In fact, figure 2 presents that *Crític* is the newspaper that mentions license, privatisation and municipalisation issues more often in relation to the number of articles published related to water, which is actually reasonable due to its condition as an investigative journal. This may also be partially explained because high impact newspapers usually include other general information such as weather forecast and international events.

Table 1 shows the overall data, to understand the numbers. In Table 1, *La Vanguardia*, which is the newspaper with more articles related to water, and *El Periódico*, to a lesser extent, do not pay a lot of attention to municipalisation and remunicipalisation processes, being the ones that

mention these keywords fewer times. Note that, apart from tackling these two keywords less times, they do it even considering that they publish and incredibly higher number of articles regarding water issues (which is why the percentages in figure 2 are almost unnoticeable). Moreover, they seem to deliberately deviate the discussion to privatisation. On the other hand, Crític and Ara.cat seem to clearly spend more energy in these topics, hence having either more articles regarding remunicipalisation or a higher percentage of articles with these keywords in relation to the published water-related articles.

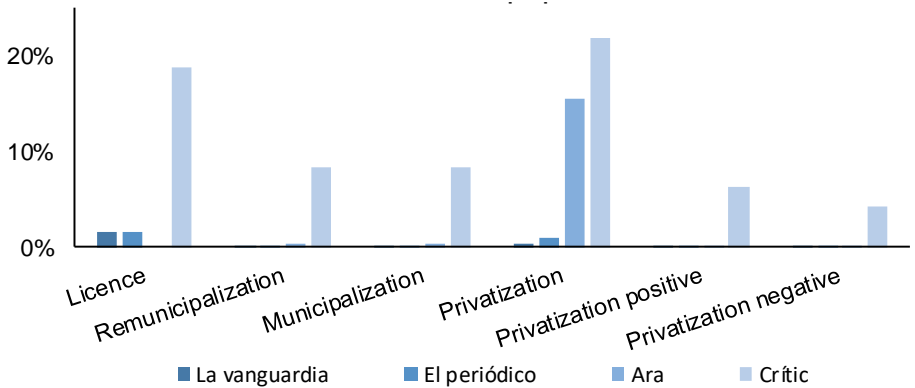


Figure 2. Appearance of water and keywords on news for each analysed journal.

The analysis of the apparition of ‘Agbar’, ‘ATLL’ and ‘AMB’ on these newspapers shows how they are treated according to each journal. It is interesting to notice that Agbar doubles (or more) the number of news having its name and, curiously, almost half of the them involve the Agbar Tower – the symbolic headquarters’ building, which has become part of the skyline of the city (figure 3A). Moreover, La Vanguardia and El Periódico act similarly, not mentioning the word ‘sentence’ – and when they do it, it is for mostly informing that Agbar won a trial – and mentioning visibly more the keyword ‘public’ than ‘private’. There may be confusion regarding ‘public’ and ‘private’ adjectives associated to water, since the ownership is public but the management has almost always been private. Agbar, whose name means Aigües de Barcelona (Barcelona Waters), has usually taken

advantage of that confusion for marketing purposes. For example, Agbar writes about “water is a public good” in its webpage but does not write that it is privately managed; it has social bonus for people in poverty risk, and also provides certificates of sustainable cuisine for restaurants, as the public administration could do (Agbar, 2019a; Agbar, 2019b). On the contrary, Ara.cat takes a totally opposite direction, mentioning ‘sentence’ in many cases and ‘private’ more often than ‘public’. This goes in line with the participation of CaixaBank in Agbar and in La Vanguardia and El Periódico; and the relationship between Ara.cat and Acciona, the rival company of Agbar in the privatisation of ATLL.

Table 1.

Number of news that contain each keyword.

Keyword	La Vanguardia	El Periódico	Ara.cat	Crític
Water	30,747	20,597	13,808	96
License	450	307	0	18
Remunicipalisatio	1	7	35	8
Municipalisation	5	10	45	8
Privatisation	108	204	2,132	21

The apparition of ‘ATLL’ in the media substantially increased since 2012 due to the privatisation process of the company and the judicial conflicts that surrounded it. The competition between tenderers might explain why almost half of the news include either ‘Agbar’ or ‘Acciona’ (figure 3B). In contrast to the previous case, La Vanguardia does mention ‘private’ much more often than ‘public’, although ATLL was a public company before 2012. All other newspapers proceed inversely.

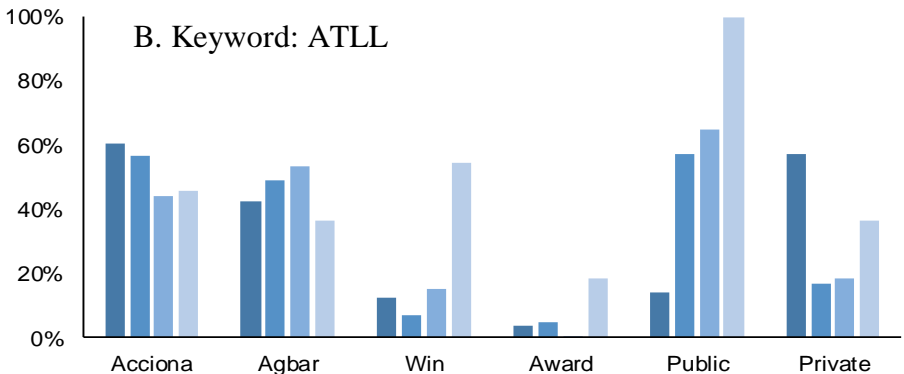
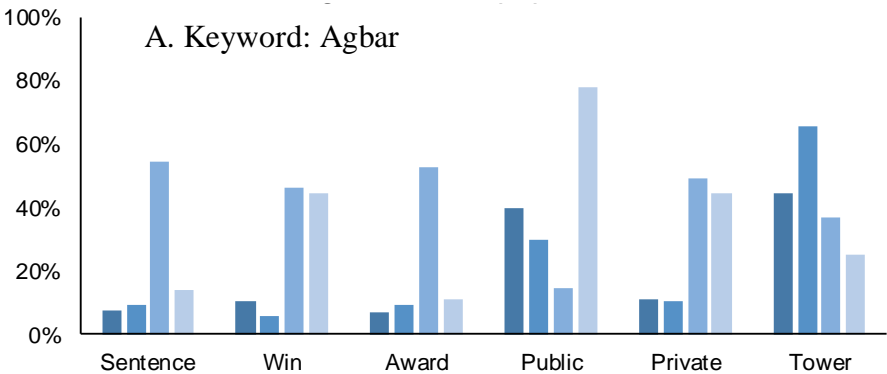
Finally, figure 3C shows the same keywords apparition regarding the ‘AMB’. This inter-municipal association gathers other aspects than just water, thus, results are dispersed in comparison to the previous analyses. Nevertheless, all newspapers enhance its public role in front of the private co-optation done by Agbar in 2014, which might be explained by the fact

that the word 'private' might be diluted by the concept of a mixt company and because the privatisation was recently executed. Again, Crític is the journal that more clearly states the privatisation.

The analysis of the WWD illustrates the surveillance of water companies towards the production of news. La Vanguardia did not have any specific publication until 2012, when privatisations were scheduled and remunicipalisation movements started gaining public support. Since then, they published a monograph of around 15 pages every year. The first year, the monograph began with a full-page advertisement from Agbar and then presented general aspects related to access and water scarcity. Then, some interviews with representatives and initiatives of private companies appeared. ATLL and AMB – both still under public control – were mentioned for the rumours of their forthcoming privatisations. In 2013, the monograph had a similar format but included a half-page interview to Pedro Arrojo, who actually is quite critical towards privatisation. In 2014, the full-page advertisement was from Acciona. It announced that the first citizen initiative ever presented to the European parliament was focused on water management, it had a half-page of the privatised ATLL and then it continued presenting the role of Agbar in the water cycle. 10 essential points were presented for water sustainability, which interestingly enough included aspects such as corporate social responsibility, contact with interest groups and the client – not user – orientation among others. In other sections, the newspaper had a full-page advertisement of the private initiative WeAreWater. Surprisingly, a full-page advertisement of the privatised ATLL was published the day before. Last year, 2016, followed a similar pattern but only mentioned Agbar, as if there were no other actors.

El Periódico's publications in 2010 during the WWD presented some activities in the city of Barcelona, for example, a debate in the Politechnical University of Catalonia (UPC), and the projection of the film FLOW organised by Enginyeria Sense Fronteres (Engineering without borders), organisation that actually opposes privatisation. The following years, 2011 and 2012, this newspaper presented general and official aspects on water conflicts and summarised the key points of a debate that they organised involving private and public companies, engineers' associations and the Institut Català de Recerca de l'Aigua (Catalan Institute for Water Research,

ICRA). This was followed by interviews with Agbar and Acciona representatives. Additionally, in 2012 they also included the citizen initiative that social movements wanted to present to the European parliament and published an article entitled: “Austerity or social sabotage”. This newspaper had no more relevant publications on this day until 2015, when they published a seven-page report facing the different challenges related to water scarcity, including a brief presentation of the Agbar museum. Finally, in 2016, El Periódico published why Barcelona walks towards remunicipalisation, an article written by water activists that, since 2015, are present in the government of the city. In the same day, this newspaper published an article on water access and poverty and presented some actions of the private foundation WeareWater, Esagua (from Agbar), and Acciona.



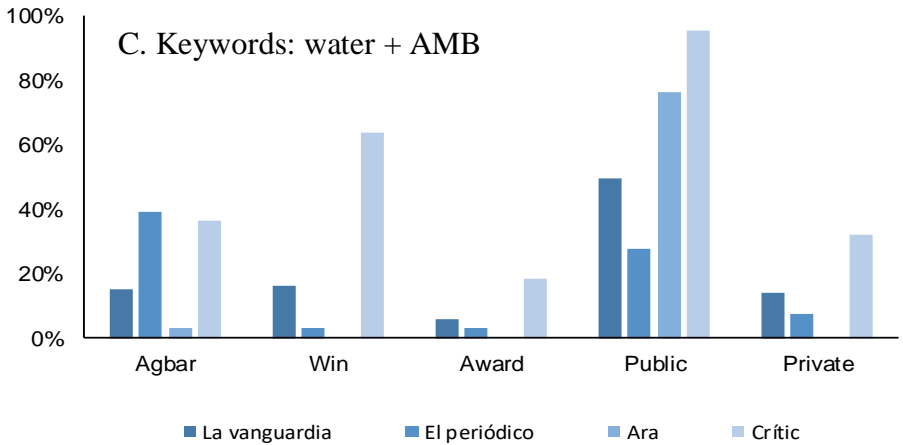


Figure 3. Percentage of appearance of keywords related to Agbar, ATLL and AMB on the analysed newspapers from 2010 to 2016.

Regarding Crític and Ara.cat, the former published nothing special for the WWD, while the latter had some articles only in 2013 and 2016. Ara.cat explained the citizen initiative presented to the European parliament and remarked that the privatisation of ATLL brought a noticeable increase of water prices. In 2016, there was a one-page report on access to water.

From the analysis of the WWD we see some empirical evidences that link the funding of newspapers with the political content in relation to water management. La Vanguardia gradually passed from emphasising the private sector by omitting remunicipalisation or conflicts on water management in Catalonia and ended up only responding to Agbar’s interests. Meanwhile, it is more difficult to identify if El Periódico has had publication directives due to the multiple-focus orientation of the publications. Finally, the lack of advertisements in Ara.cat makes the assignment of any influence difficult.

One last relation between private companies and journalism is found in ATLL. This recently privatised company organises since 2014 the ATLL Award on Water Journalism by the hand of the Journalist’s Association, the Catalan Water Agency and the Department of Territory and Sustainability of the Catalan Government.

Association Between Companies and Research Institutions

The media can also uncover the power relationships between big companies and research institutions through their funding (Altarriba, 2017). Actually, it has been difficult to analyse the funding of a paper by a big corporation because in many times this happens through intermediate foundations or projects.

When we looked at scientific publications, 133 papers appeared in the search accomplishing the proposed criteria: on the topic ‘water management’, led by an author whose affiliation is a Catalan institution, and published between 2014 and 2016. Figure 4 shows the distribution of publications according to the institution of the first author and the funding source additional to the public. Actually, two thirds of the publications were only funded by public resources; 14% of the publications have big corporations such as Agbar, Acciona or CaixaBank as contributors; the 5% is supported by the agroindustry (e.g., Codorniu, Dow Chemicals, Monsanto), especially when the institutions research about agriculture (IRTA and UdL); another 5% is funded by innovation and development small companies (e.g., Eurecat, IsardSAT), which usually correspond to the affiliation of the first author; big NGOs not funded by those other private sources (e.g., Bill and Melinda Gates Foundation, Oxfam Intermón) has contributed to 4% of the articles; and the funding sources of 8% of the publications is unknown.

An especial attention deserves the funding of UPC (which includes UPC-CSIC consortiums) publications, as 62% of it includes private sources, the largest percentage in this study. This is partially due to a consortium created by UPC, CSIC and Agbar called CETaqua. Two works elaborated in the Master's degree in Sustainability Science and Technology, at the UPC examine the penetration of Agbar (and other companies) in the research groups of the UPC (D'Elia et al., 2016; Vilà Miró and Yvon-Leroux, 2017). Agbar – through CETaqua –, not only funds part of the research done by the UPC, but also monopolise the water-related subjects of research, dominates the social network of scientists and research groups, and even controls the higher education by running the UPC Master degree on water management.

The analysis of the 133 abstracts by using IRaMuTeQ software shows a distribution of keywords in six different classes according to their apparition

in either the same or different texts. IRaMuTeQ represents the variety of words of those six classes in a 2D diagram according to two factors that explain the maximal variability (figure 5). Then, the software analyses what variables can be significantly correlated to each class. Factor 1 seems to illustrate the variation between particular (e.g., vineyard, isotope, stomatal, n-15) versus generalist topics (e.g, problem, tourism, society, validation, case-study); while factor 2 moves from socio-political keywords (e.g., society, governance, policy, alternative) to technical ones (e.g., simulation, operate, control-oriented, overflow).

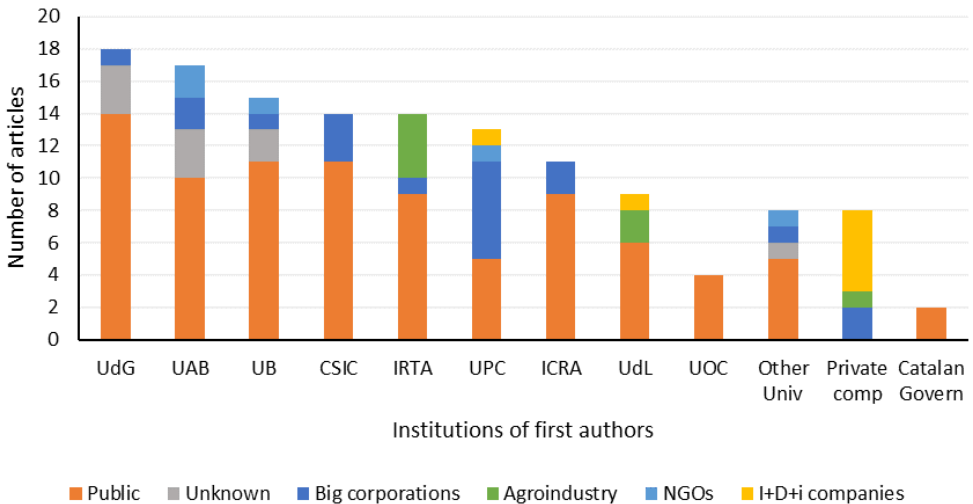


Figure 4. Presence of private companies in the funding sources of different articles about water management led by scientists from Catalan institutions published in the period 2014-2016.

While half of the classes is not correlated with any funding source, the other half is. Thus, big corporations’ contribution is correlated with problem-based studies about water demand, operation of sewers and overflows, which include control, simulation and validation processes; the agroindustry is reasonably correlated with agriculture, physiological needs and water stress and deficit; and only-public sources with ecosystem functioning: river,

temporal, sediment, nutrient, organic matter (see Table 2). Considering that big corporations are usually less interested in river conservation than in making profit, it is logical then that they do not invest in this type of research.

Table 2.

Classes of keywords that appear in the abstracts of articles about water management and the correlated funding sources and research institutions.

Class	Keywords used in the classification	Correlated institutions	Correlated funding sources
1	Drip, orchard, contamination, value, sample, irrigate, plantation, virus, landscape, forest, farm, irrigation, dose, bacterium, tree, soil, density, calibrate,	UB (P=0.0171)	
2	Desalination, tourist, operation, coast, supply, development, geographical, drought, social, climate change, industry, sustainability, paradigm, seawater	UOC (P<0.0001)	
3	Policy, stakeholder, governance, conflict, authority, priority, intervention, society, poor, economic, freshwater, effective, Southern, adapt, decision,	Catalan Government (P=0.0045)	
4	River, downstream, nutrient, sediment, reservoir, dynamic, organic matter, tributary, benthic, bed, community, reach, temporal, Ebro, storage	ICRA (P=0.0011) CSIC (P=0.0132)	Public institutions (P=0.0241)
5	Sewer, overflow, operate, linear, virtual, control-oriented, rain, optimal, propose, solve, problem, tank, simulation, validation, minimise, demand,	UPC (P<0.0001)	Big corporations (P<0.0001)
6	Leaf, stress, yield, grain, deficit, canopy, wheat, durum, composition, isotope, conductance, breed, season, nitrogen, vineyard, stomatal, physiological, harvest	IRTA (P=0.0004) UB (P=0.0412)	Agroindustry (P=0.0550)

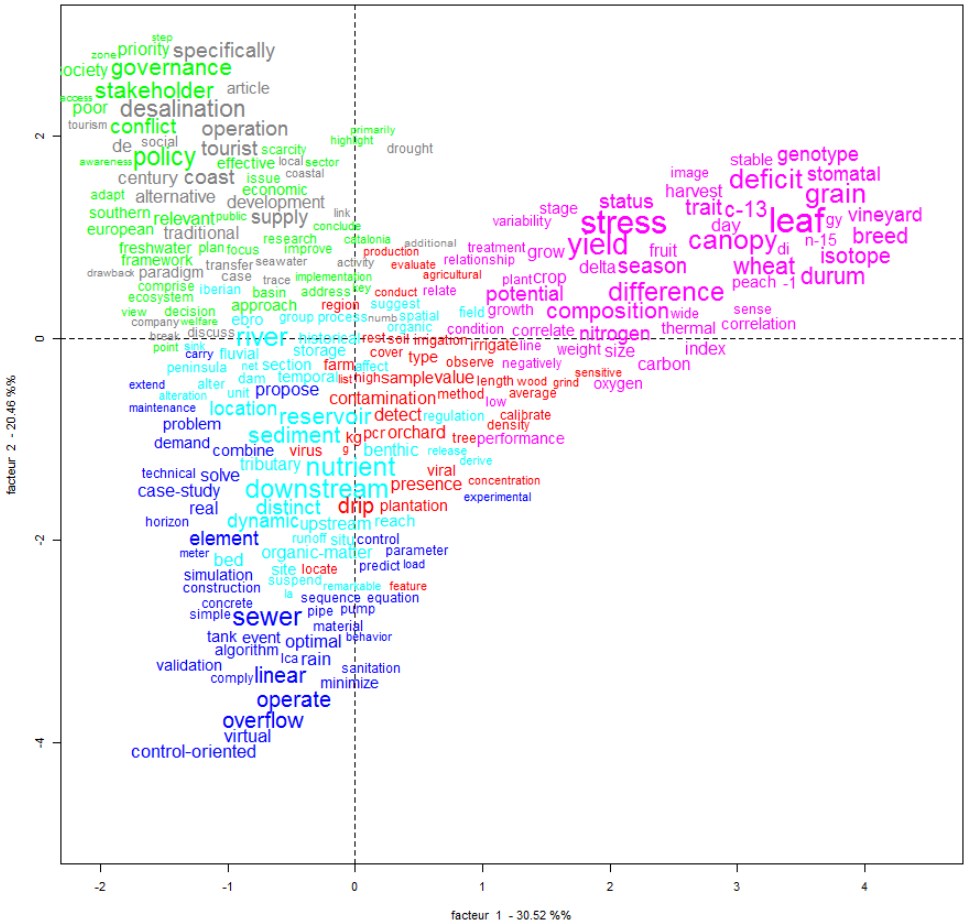


Figure 5. Keywords present in the abstracts of 119 publications classified by IRAMUTEQ in 6 classes.

Big corporations not only have an influence on research through the funding, they are also present in advisory boards of research institutions. We have already explained the relationships between Agbar and the UPC and CSIC through CETaqua. Another example is the Public Administration and

Business Mixed Committee in ICRA, where Acciona and CETaqua – among other companies – are present (ICRA, 2013). The main purpose of this committee is “to ensure the applicability and usefulness of the research conducted from ICRA, so that it is oriented towards market need”. The previous aims are then attributed only to the public administration and private companies, but not to other type of expertise that could be useful for ensuring applicability such NGOs that work on water management. Other means of influence are the participation in awards on water research or on research communication, given by public institutions like the University of Vic - Central University of Catalonia or the Catalan Society for the Scientific Communication (UVIC-UCC, 2013; ACCC, 2016), but with the contribution of Agbar.

Conclusions

Big companies are very present in the public dissemination of information about water management. In this study, we use the case of Catalonia as a clear example where big private companies have an influence on the information published for the general public through mass media and for the experts through research institutions. Although it is difficult to demonstrate specific directives for the publication of news, reports and scientific articles, we have seen multiple mechanisms through which these companies have power enough – capital, labour, knowledge and technology – to exercise such influence. First, we have mentioned executive officers that are part of the executive boards or advisory committees of both water companies and either research institutions or newspapers. This makes obvious conflict of interests especially in scientific publications where results should be neutral. Second, the mentioned corporations fund specific reports through advertisements (e.g., in the WWD) and scientific publications through grants or through donation of material and labour. Third, private companies also constitute private-public consortiums that monopolise research, such as CETaqua, making difficult to undertake research delinked from private companies, especially in engineering institutes. These last points skew the public interest that the research done in public universities and the journalistic comments in inclusive newspapers should have. Finally, private companies even take part in the organisation committees of public awards of

journalism and scientific communication about water management. Under such circumstances, and considering that private companies basically respond to private interests, how can we research about socially, environmentally and economically sustainable management of water resources?

Acknowledgements

D. Jorda-Capdevila acknowledges the support from the Economy and Knowledge Department of the Catalan Government through Consolidated Research Group (ICRA-ENV 2017 SGR 1124) and from the CERCA. The Juan de la Cierva contract of D. Jorda-Capdevila (ref^a FJCI-2017-34977) is funded by La Agencia Estatal de Investigación del Ministerio de Ciencia Innovación y Universidades.

References

- Acreman, M. C. (2001). Ethical aspects of water and ecosystems. *Water Policy*, 3, 257–265. doi: 10.1016/S1366-7017(01)00009-5
- Agbar (2019a). *Bonificacions per pagar la factura*. Retrieved from <https://www.aiguesdebarcelona.cat/ca/el-teu-servei-daigua/bonificacions-i-fons-de-solidaritat>
- Agbar (2019b). Segell blau d'agbar – Un gran premi per a la cuina més sostenible #JoSocBlau. Retrieved from <https://www.josocblau.cat/>
- Aiguaesvida (2015). *Mapa de l'aigua a Catalunya*. Retrieved from https://www.aiguaesvida.org/mapa-aigua-a-catalunya/#territori_gestio
- Altarriba, L. (2017, January 22). Amistats controvertides: càtedres de la universitat pública patrocinades per multinacionals. *Crític*. Retrieved from <https://www.elcritic.cat>
- ACCC (2016, December 6). *Lliurament del X Premi Joan Oró de divulgació científica*. Retrieved from Associació Catalana de Comunicació Científica website: <http://www.accc.cat/index/joanoragbar?sz=1440,900,1440,727>

- Bakker, K. (2000). Privatizing Water, Producing Scarcity: The Yorkshire Drought of 1995. *Economic Geography*, 76(1), 4–27. doi: [10.1111/j.1944-8287.2000.tb00131.x](https://doi.org/10.1111/j.1944-8287.2000.tb00131.x)
- Balasz, L. (2012). *Agbar, Una gestió il·legítima de l'aigua*. In R. Palà & S. Picazo (Eds.), *Anuari Media.cat. Els silencis mediàtics del 2011* (pp. 19–25). Barcelona: Anuari Mèdia.cat 2012.
- Budds, J. (2004). Power, nature and neoliberalism: the political ecology of water in Chile. *Singapore Journal of Tropical Geography*, 25(3), 322–342. doi: [10.1111/j.0129-7619.2004.00189.x](https://doi.org/10.1111/j.0129-7619.2004.00189.x)
- CEO (2017). *Dossier de Premsa*. Baròmetre d'Opinió Política.
- Crític (2019, October 29). Crític, Premi Nacional de Comunicació 2019. *Crític*. Retrieved from <https://www.elcritic.cat>
- D'Elia, G., Helgegren, H., & Yvon-Leroux, J. (2016). The Position of UPC towards Urban Water Management. In *Workshop in Action-Research in Science and Technology of Sustainability*. Barcelona: Universitat Politècnica de Catalunya.
- DOGC (2015). *Resolució PRE/725/2015*.
- Gorostiza, S., Honey-Rosés, J., & Lloret, R. (2015). *Rius de Sal. Una visió històrica de la salinització dels rius Llobregat i Cardener durant el segle XX*. Sant Feliu de Llobregat: Edicions del Llobregat.
- ICRA (2013). *Public Administration and Business Mixed*. Retrieved from Institut Català de Recerca de l'Aigua website: <https://www.icra.cat/seccio.php?id=10&lang=3>
- Jorda-Capdevila, D. (2016). *Water flows to multiple stakeholders: an ecosystem services-based approach to conflicts in the Ter River basin*. Cerdanyola del Vallès: Universitat Autònoma de Barcelona.
- Kaika, M. (2003). Constructing Scarcity and Sensationalising Water Politics: 170 Days That Shook Athens. *Antipode*, 35, 919–954. doi: [10.1111/j.1467-8330.2003.00365.x](https://doi.org/10.1111/j.1467-8330.2003.00365.x)
- Kallis, G. (2008). Droughts. *Annual Review of Environment and Resources*, 33(1), 85–118. doi: [10.1146/annurev.enviro.33.081307.123117](https://doi.org/10.1146/annurev.enviro.33.081307.123117)
- Linton, J. (2004). Global Hydrology and the Construction of a Water Crisis. *Great Lakes Geographer*, 11(2), 1–13.
- Linton, J., & Budds, J. (2014). The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum*, 57, 170–180. doi: [10.1016/j.geoforum.2013.10.008](https://doi.org/10.1016/j.geoforum.2013.10.008)

- Basteiro Bertolí, Ll. (2008). *Con el agua al cuello*. Barcelona.
- McNabb D.E. (2017). Retail Water Management. In David E. McNabb (Ed.), *Water Resource Management*. Palgrave Macmillan, Cham.
- March, H. (2014). La nova “guerra de l’aigua” a Barcelona: austeritat, deute i participació privada. *Documents d’Anàlisi Geogràfica*, 60(3), 505–521. doi: [10.5565/rev/dag.140](https://doi.org/10.5565/rev/dag.140)
- Media.cat. (2015, March 10). Qui són els amos de les notícies? *Media.cat*. Retrieved from <http://www.media.cat>
- Nickson, A., & Vargas, C. (2002). The Limitations of Water Regulation: The Failure of the Cochabamba Concession in Bolivia. *Bulletin of Latin American Research*, 21(1), 99–120. doi: [10.1111/1470-9856.00034](https://doi.org/10.1111/1470-9856.00034)
- Ogden, S. G. (1995). Transforming frameworks of accountability: The case of water privatization. *Accounting, Organizations and Society*, 20(2/3), 193–218. doi: [10.1016/0361-3682\(95\)95745-I](https://doi.org/10.1016/0361-3682(95)95745-I)
- Ojeda, M. I., Mayer, A. S., & Solomon, B. D. (2008). Economic valuation of environmental services sustained by water flows in the Yaqui River Delta. *Ecological Economics*, 65(1), 155–166. doi: [10.1016/j.ecolecon.2007.06.006](https://doi.org/10.1016/j.ecolecon.2007.06.006)
- Otero, I., Kallis, G., Aguilar, R., & Ruiz, V. (2011). Water scarcity, social power and the production of an elite suburb: The political ecology of water in Matadepera, Catalonia. *Ecological Economics*, 70(7), 1297–1308. doi: [10.1016/j.ecolecon.2009.09.011](https://doi.org/10.1016/j.ecolecon.2009.09.011)
- Platz, D., & Schroeder F. (2009). Moving Beyond the Privatisation Debate: Different Approaches to financing Water and Electricity in Developing Countries. *Dialogue on Globalization*. Occasional Papers 34.
- Ribot, J. C., & Peluso, N. L. (2003). A Theory of Access. *Rural Sociology*, 68(2), 153–181. doi: [10.1111/j.1549-0831.2003.tb00133.x](https://doi.org/10.1111/j.1549-0831.2003.tb00133.x)
- Sibina, M., & Dante-Fachin, A. (2014, April 15). *Els diaris són dels bancs... Un repàs als poders que s’amaguen darrere les principals capçaleres*. Retrieved from Associació Cafèamblllet website: <http://www.cafeamblllet.com>
- Swyngedouw, E. (1997). A Power, nature, and the city. The conquest of water and the political ecology of urbanization in Guayaquil, Ecuador:

- 1880-1990. *Environment and Planning A*, 29(1), 311–332. doi: [10.1068%2Fa290311](https://doi.org/10.1068%2Fa290311)
- Swyngedouw, E. (2005). Dispossessing H₂O: the contested terrain of water privatization. *Capitalism Nature Socialism* (after Jan 1, 2004), 16(1), 81–98. doi: [10.1080/1045575052000335384](https://doi.org/10.1080/1045575052000335384)
- Swyngedouw, E. (2009). The Political Economy and Political Ecology of the Hydro-Social Cycle. *Journal of Contemporary Water Research and Education*, 149, 56–60. doi: [10.1111/j.1936-704X.2009.00054.x](https://doi.org/10.1111/j.1936-704X.2009.00054.x)
- UVIC-UCC. (2013, September 3). *2a edició del Premi: AGBAR – UVic. Aigua, usos i coneixement (cat)*. Retrieved from Universitat de Vic – Universitat Central de Catalunya website: <https://mon.uvic.cat>
- Vilà Miró, R., & Yvon-Leroux, J. (2017). *Investigation of the relations network between the academic sector in water research at UPC*. Barcelona: Universitat Politècnica de Catalunya.
- Vitòria, L., Soler, A., Canals, À., & Otero, N. (2008). Applied Geochemistry Environmental isotopes (N, S, C, O, D) to determine natural attenuation processes in nitrate contaminated waters: Example of Osona (NE Spain). *Applied Geochemistry*, 23(12), 3597–3611. doi: [10.1016/j.apgeochem.2008.07.018](https://doi.org/10.1016/j.apgeochem.2008.07.018)
- Willis, K. G., & Garrod, G. D. (1999). Angling and recreation values of low-flow alleviation in rivers. *Journal of Environmental Management*, 57(2), 71–83. doi: [10.1006/jema.1999.0292](https://doi.org/10.1006/jema.1999.0292)

Dídac Jorda-Capdevila is Researcher at Institut Català de Recerca de l'Aigua and at the University of Girona, Spain.

Lluc Canals Castells is Researcher at Institut de Recerca en Energia de Catalunya, Spain.

Email: djorda@icra.cat