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Ambivalence about groundwater: promoting conservation while justifying over-exploitation in an Indian newspaper

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Abstract: There has been a huge development in the use of groundwater in India over the last fifty year. This development has had numerous environmental consequences, pointing up the vulnerability of the users drying up of resource and deterioration in the quality of water. This text analyses the wording and picturing of groundwater, a resource almost out of sight, by a specific instrument, The Hindu. This journal, one of the most read Indian newspapers, contributes to make these waters more visible and promotes their conservation. Yet articles also justify over-exploitation. Indeed, we identified four types of qualifications of groundwater associated with management measures: (a) endangered heritage whose access must be regulated, (b) limited resource that must be optimized, (c) issue of survival whose access must be ensured and (d) source of emancipation that must be acknowledged. The analysis advocates careful consideration of the multi-valence of groundwater and compromises between preservation and necessity of using it.

Keywords: communication, heritage, prestige, emancipation

Resumo: Nos últimos cinquenta anos, tem-se verificado o aumento do consumo da água subterrânea na Índia. Esse consumo tem levado a inúmeras consequências que apontam para a vulnerabilidade do esgotamento e a deteriorização das reservas e da qualidade da água. Este texto analisa o problema através de sua discussão empreendida por meio dos jornais indianos mais lidos, como *The Hindu* (O Hindu). Como um dos jornais mais lidos na Índia, ele contribui para dar visibilidade à questão e promover a conservação. Os artigos ainda justificam a super-exploração das reservas. Do exposto, identificamos quatro tipos de reservas subterrâneas associadas às medidas de gerenciamento para herança ameaçada, cujo acesso deve ser regulado; as reservas limitadas, que devem ser submetidas às condições mais favoráveis; o problema da sobrevivência, cujo acesso deve ser assegurado; e fonte de emancipação, que deve ser reconhecida. Esta análise defende uma cuidadosa preservação e uso da água, considerando à questão entre um compromisso a preservação e a necessidade de uso.

Palavras-chave: comunicação, herança, prestígio e emancipação

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Introduction

There has been a huge development in the use of groundwater in India over the last fifty years, allowed by technical progress and supported by public policies, especially during the "Green Revolution". Groundwater represents today more than half of the water used for irrigation and the greater part of domestic water (WORLD BANK, 2010). Access to this resource has played a paramount role in strengthening the economic capacity of farmers who have been able to diversify and intensify their cropping systems. At the same time, this development has had numerous environmental consequences, pointing up the vulnerability of the users: drying up of resource and deterioration in the quality of water. Some authors even speak of "socio-ecological suicide" with regard to the development of individual wells (BON; LANDY, 2005). Currently, most wells are overexploited or polluted and their exploitation accentuates, even creates, inequalities between those who have access and those who have not.

The management of groundwater has become of growing concern in the politics of water and in research works (JAKEMAN et al., 2016; SHAH, 2009; SHANKAR; KULKARNI; KRISHNAN, 2011). In these works groundwater is seen as a resource in danger and calling for careful handling as suggested by the World Bank report mentioned above (2010). The front cover of this report reinforces the warning by showing the difficulty a woman has in drawing water from a well (Figure 1). A quite different image may, however, associate such an action with a moment of joy (Figure 2). These photographs offer two ways of making imagery of access to groundwater and of qualifying the relationship of human beings with this resource.

Attention to the qualification and the objectification of groundwater is all the more interesting in they are quasi-invisible. In fact, hidden as it is from view, it can be seen on the

surface only when it gushes out from a bore well or at the bottom of an open well. In contrast

to waters in a river or a canal, its circulation is concealed and with it the interdependence it creates between humans. Thus, groundwater is made visible by technical devices, such as well or bore well, or spokespersons such as the children and their drawings in a competition organised by the Central Groundwater Board, by photographs or by articles in journals. The interdependencies and the quantities stored are materialised in the productions of experts employing instruments: piezometers, satellites, tables, cartography, etc. The users are not on hold in using instruments to make groundwater visible. A string is used to measure the depth of a well and a watch for that of the duration of the pumping and debit (AUBRIOT, 2013). Such gadgets objectify groundwater in various ways. This article aims at questioning the modalities of the objectification of groundwater and the qualities of its attributes. Particular attention is given to the ambivalence of this water which is at once a heritage in peril and a source of joy and of freedom as the two photos show.

It aims at to contribute to the research exploring the social dimension of groundwater which is limited but developing (MITCHELL et al., 2012). In particular, numerous authors are currently questioning its governance and methods of regulation, especially in India (MUKHERJI; SHAH, 2005; SHAH, 2009; SHANKAR; KULKARNI; KRISHNAN, 2011). These works are mostly in the field of economics in the line of Ostrom but are also developing other approaches in political ecology for example (FAYSSE; PETIT, 2012). We propose here to question the modalities of the management of groundwater with a range of qualifications of these resources. To that end we shall work within the framework of pragmatic sociology distinguishing regimes of engagement with the world (THÉVENOT, 1999) so as to understand the composition between a plurality of values, of objectives and of "attachments" regarding water (RICHARD-FERROUDJI; BARRETEAU, 2012). More precisely, we shall consider the regime of justification (BOLTANSKI; THÉVENOT, 2006),

which provides a way of analysing how the legitimacy of an action is debated by people and according to different order of worth. In disputed situations or in the case of criticize there is a need to justification. Several orders of worth may be to justify good management of groundwater and legitimate measures. Boltanski and Thévenot identified - but without claiming to have been exhaustive- six order of worth on the basis of classic social science works. People can put each one of these principles forward as a justification without being definitively attached to any one of them. A compromise between them may also be achieved. Justification and attributing a quality requires some 'tests' of worthiness in a real world with objects, such as the meter and rope mentioned earlier and mobilised to test if the water level goes up or down. The meter therefore stands high in an "industrial" or worth characterised by efficiency, competence and performance. Objects used in puja (religious ceremonies) are central in an "inspired order" or a "domestic" one that valorises traditions. Engagement with justifications is not exclusive but is articulated with other types of engagements, for example strategic ones. We postulate that a focus on justification and moral arguments makes understanding the resistance to conservation policies due to contradictory definitions of a good management of groundwater.

From the empirical point of view this article focuses on a specific instrument for making visible and circulating information: the press. The choice is motivated by the intention of working with a public artefact that reaches a far wider readership than do expert reports, for example. Moreover, the medias are credited with improving the public's knowledge and influencing opinions while framing environmental issues (NAMBIAR, 2014; NIRMALA; ARUL ARAM, 2016)[i]. More precisely, we have chosen The Hindu, a daily newspaper launched at Chennai (Tamil Nadu) at the end of the 19th century with a large circulation, mostly in South India[ii]. It is centre left, owned by the Kasturi family since generations. In a

study on practices in the reading of Indian newspapers, The Hindu is presented as a serious

paper, “the news paper of the Brahmin community”[iii] even if the “Brahmins do not like its content” (PETERSON, 2010). It is an English newspaper, English being an official language in India and the language of administration. This has allowed us to make an analysis without the intermediary of a translator. It should, however, be noted that the written format of the medium chosen excludes the illiterate section of the population[iv] and those who do not read English. Indeed, English is still the language of the educated elite in India (MONTAUT, 2004)[v]. The choice of this newspaper was also supported by its containing a large number of articles on environmental and rural subjects. Basu et al. also noted that The Hindu publishes more frequently about agricultural issues than other English newspapers in India (BASU; LEEUWIS, 2012). Nirmala and Arul Aram show that in the case of two English language newspapers (The Hindu being one) and two in the Tamil language in 2016, there are far fewer articles on environmental issues in the latter (Nirmala and Arul Aram). Our hypothesis is that The Hindu reflects a diversity of modalities of valorisation of groundwater in connection with the modes of management. We propose especially to question the ways in which different perspectives of justice regarding groundwater are mobilised. For example, in an article of 29/10/10, on the revision of the water policy, Ramaswamy Iyer, former secretary for water to the Indian government, said: “The ecological and social justice perspectives will have to be the overarching perspectives, and all other perspectives subordinated to them. In particular, engineering and economics, which have so far been the dominant disciplines, must be firmly kept under check by ecology and by the idea of social justice”.

Firstly, we present the material upon which this work is based. We discuss the overall treatment of groundwater by The Hindu and its specificities as an instrument to make an issue visible. Secondly we introduce and discuss four typical qualifications identified in the articles, including the management measures associated with them. In conclusion, we focus

on the political challenge posed by the management of groundwater with a consideration of their manifold values.[vi]

1 Material and method: tracking groundwater in The Hindu newspaper

1.1 Number of articles: a newspaper that contributes to bringing groundwater to light

Study of The Hindu was done from the on-line version of the newspaper[vii]. The Hindu, in 1995, became the first Indian newspaper to launch an on-line edition. A second version was fully operational by the end of June 2010. We have used that second version concentrating on the period 1/07/10 to 31/06/15, that is, for five years. Table 1 shows the number of articles listed in that period. We first listed articles labelled with the topic "groundwater". The very fact that this category exists is indicative of the attention given to this subject. We noticed, however, that articles marked "groundwater" were only a small proportion of those dealing with the subject. The article that goes with Figure 3, for example, deals directly with the question of groundwater but "groundwater" is not one of the topics identified (see in Figure 3 on bottom left). Additionally, research on the site with the key word "Groundwater" brought up many more articles (Table 1). The number of articles should, however, be taken with some reservation. In the results of the research, some articles were seen to be repeats, especially when they appeared in different editions of the newspaper[viii]. The number is, however, consistent[ix].

Table 1 shows the annual variability in the number of articles with a peak in 2013 that may be explained by two factors. On the one hand, it was a year of drought following a weak monsoon in 2012. On the other hand, 2013 had been declared "international year for cooperation in the area of water" by the UN and this was the origin of specific articles. By the same token, it is noticeable that each year articles appear around the 22nd March "world water

day", an event that promotes its presence on the agenda.

The result of this initial quantitative approach is the consistent number of articles that make groundwater visible. This is in tune with the editorial policy of The Hindu. This policy is reflected in an 06/04/2014 article, “The death of the press industry”. The author, Anuj Sriva, includes groundwater amongst unpopular subjects that must be dealt with: “Local news stories on corruption, property taxes or the decreasing groundwater table aren't too often rewarded with Facebook likes. They however are exceedingly important as they give citizens vital information needed for voting and give activist organisations the ammo necessary to act on them. “

1.2 Topics of articles: a newspaper supporting the preservation of groundwater

In order to develop the questioning with an analysis of the contents of articles, we have set up a corpus of 168 articles[x] taken from the newspaper’s different rubrics[xi] between July 2010 and June 2015 (Table 1). Amongst the articles analysed the principal subject of 50 of them is groundwater, 73 speak more generally of water and 45 in relation to another subject. Notably, only 35 articles out of 81 headed “groundwater” have groundwater as their main subject. For example, amongst them, articles on the subject of the Bhopal catastrophe[xii] mention – in a single sentence – the fact that the groundwater had been polluted. Other articles refer to groundwater while talking about the suicide of farmers or the banana production. Finally, several articles bring to light damage to groundwater caused by mining, domestic waste, aquaculture, nuclear waste, power plants, factories, etc. The majority of the articles deal with the pressure that exists on groundwater in quantitative terms. In particular, 72 articles (43%) highlight the depletion of groundwater. The issue of pollution is less dealt with, 34 articles (20%). The articles analysed are concerned as much with urban issues (mainly the provisioning of towns) as with rural (mainly agricultural use). From the point of view of moves to implement, 34 articles (20%) consider the regulation of resources[xiii]. 28

articles (16%) are on the issue of groundwater recharge, and 19 articles (11%) on participatory management.

Treatment of the question of groundwater by The Hindu would thus appear to be militantly in favour of the preservation of these resources by spotlighting the threat that weighs on them. This result is reinforced when attention is given to the authors of the articles. Amongst the authors of the 168 articles are activists, water policy experts and agriculture experts, such as Ramaswamy Iyer, former secretary of water resources in the Government of India who brought an alternative voice to debates on water policy, and M.S. Swaminathan, the father of the Green Revolution in India. The Hindu gives a platform to activists such as S. Vishwanath author of the article of Fig 1 and as well as the higher number of articles in our corpus[xiv]. With the aim of raising awareness, his articles accentuate right practices by relating various experiences regarding the rainwater harvesting of rainwater, the careful use of water, the water pricing and the water reuse. If, however, the majority of the articles casts light on the pressure on groundwater and the necessity of protecting it, a variety of treatments as reflected in their illustrations may be noticed.

1.3 Illustrations and texts of article: beyond the issues of protection, a newspaper which values other qualities of groundwater

We were interested in the illustrations to articles asking how hidden resources can be shown as images. Two thirds of the articles in the corpus (110) include illustrations most of which are photographs (98). 6 articles are illustrated by numbered data (tables or graphic illustrations, cf. **Erro! Fonte de referência não encontrada.**) and 6 others by drawings. There are no maps, for example showing the contours of an aquifer, nor any geological section amongst the illustrations even though these are well represented in the expert reports.

Figure 4 lists the subjects of the photos[xv]. We note that an illustration may correspond to the main subject of the article in the 45 articles whose main subject is not water. We have

therefore arranged in the category "other" 44 articles which include various illustrations such as an agricultural field (3 articles) the cover of a book, a tiger, the pyramids of Egypt, plastic bottles, scene of a reunion, etc.

The photos are mostly of surface water (tank, lake, river) as in 28 articles (16%). This may be partly explained by the fact that most of the articles talk about the management of water and not only about groundwater. But it is also because groundwater is not photogenic. Even articles focusing on groundwater have photos of surface water as an illustration (See **Erro! Fonte de referência não encontrada.**). In The Hindu, groundwater is rarely shown directly when it gushes from a pipe, percolating on the surface, or at the bottom of a well. We have listed only 4 articles illustrated by photos of wells in which two wells are dry (See **Erro! Fonte de referência não encontrada.**). Some photos provide an explicit image of dried up wells or earth (10 articles). To a limited extent groundwater is represented as gushing (See **Erro! Fonte de referência não encontrada.**).

The photo in **Erro! Fonte de referência não encontrada.** is interesting for the association it suggests between water and religion. This connection is very strong in India, particularly as regards the historical role of temples in the development of infrastructures. Few articles in the Hindu refer to this though. Specific research[xvi] has only come up with a dozen results, including for example, an article in 23/09/2014 called "inter-religious prayer for rain". Various articles, outside the period considered in the corpus, mention pujas (religious ceremonies) celebrated for the construction of a water infrastructure, such as a check dam at Coimbatore in an article of 21st March 2008. Five articles talk about water diviners employed to find the suitable place for a drilling. Such a result of weak exposition of the religious dimension corresponds to the secularism claimed by The Hindu newspaper. An article by a special correspondent of 26th May 2014 is thus headed "Modi urged to declare

water ‘secular resource’” the background being the denunciation of inequality of access to water according to community.

Groundwater is represented as well by the mechanisms that give access to it and by the users who draw from it. Photos of material (pump, pipes) and drilling equipment illustrate 19 articles (11%). Lastly, photos showing users: a farmer beside a field, children and adults carrying water. Additionally, a significant amount of articles (9) are illustrated by photos of children, the future generations. The photo illustrating the article of **Erro! Fonte de referência não encontrada.** is dissonant with the content of the article. It’s a photo of children playing football in a tank, in fact wading in the water, even though the article recommends preservation of groundwater to make the development of towns possible. The contradiction is intensified by the advertisements for gold jewellery that came with the article on the Internet site the day we consulted it and finds echo in the association of groundwater with this metal. 15 articles (9%) are illustrated by a photo showing users drawing or carrying water in metal or plastic pots (cf. **Erro! Fonte de referência não encontrada.**), pointing up the difficulty and attention involved in this work. These photos cast light on the poverty, not only of resources but also of the users. They go with a text that calls, not for protecting the resource but rather for developing the resource available to ensure access for all. Moreover, they are often critical of the iniquity regarding access and the drudgery of the women whose task is to bring water. These articles focus on the social dimension in relation to groundwater. To conclude, this brief analysis of the reveals a variety of qualities attributed to groundwater over and beyond considering them as an endangered resource.

2 Four qualifications of groundwater associated with management measures

From the systematic analysis of the information in our corpus of 168 articles (photos, body of text, legends, titles, etc. see 2.1) we have identified four typical qualifications that

highlight groundwater in the newspaper in its association with different measures.

2.1 A heritage in danger whose extraction must be regulated

The majority of articles focus attention on the damage to groundwater, showing the pressure on it in quantitative and qualitative terms and pointing to its "alarming depletion" (cf. 2.2). In a number of articles, that depletion goes along with the "ecological crisis" (Art. 29/12/12) India is undergoing, echoing the environmental concerns of the newspaper. However, if authors such as Ramaswamy Iyer call for less interventionist policies to "keep the rivers alive" (art. 29/10/10), it is never requested to "keep the groundwater alive". No deep ecological argument is used apropos groundwater. Its preservation as such is never explicitly dealt with nor respect given for its existence in itself. Its preservation is justified from the point of view of human beings. From this point of view groundwater is a heritage in danger. Such a qualification encompasses an assemblage of arguments that encourage preservation (THÉVENOT; MOODY; LAFAYE, 2000). Yet the compromise conveyed is rarely made explicit in the articles.

The management measures associated with this qualification are aimed at reducing the amount of water extracted, with regulation, incentives or raising awareness. In an article on 2nd May 2014, M.S. Swaminathan proposed to "identify and establish sanctuaries for groundwater in appropriate places. These are hidden aquifers which are not to de drawn upon except in cases of utmost necessity." An article on 20/09/13 on the withdrawal of the "Tamil groundwater act" of 2003[xvii] takes account of the difficulties of regulating access to groundwater in Tamil Nadu while stressing its necessity. The way of regulation meets with difficulties of application in India because of the difficulty of the control of drilling, the lack of information on the condition of resources and the lack of diffusion of existing information. Some actual cases of enforcing regulation are, however, brought forward by the paper, such as

the government of Tamil Nadu cancelling plots allotted to a Coca-Cola factory[xviii] (Art 23/04/15).

As regards reducing the demand for water, few articles speak of any effective action. One article presents agricultural policy in Punjab, prescribing shrinking agricultural surfaces in the interests of the durability of water resources but without presenting any result in terms of effective reduction in demand. Several articles call for a return to a rain-fed agriculture. None of them deals with drip irrigation as a solution. This is considered too expensive in the case of banana cultivation (Art. 09/04/13) or useless (Art. 06/09/13). Several articles refer to the regulation of access to electricity (Art. 28/08/10) or to the introduction of water pricing to encourage economy (Art. 03/04/15). Articles that promote the control of demand are rare, however, to the benefit of those that promote management of the supply which refer to another perspective on groundwater.

2.2 A limited resource to be optimised

Articles focusing on the second type of qualification are backed up by scientific and technical data and statements, to describe the available resource and suggest solutions. They quote officials and experts. They rest upon figures and tables. They use indicators such as the depth of the groundwater or rainfall measurement. Scarcity of rain is considered a major factor in the groundwater depletion. The short format of these articles allows no room for details of technical or scientific considerations. The frame of Figure 8 is an example of that kind of qualification. The author is alarmist but reassuring as to the possibility of the resource being mastered. He features the statement of K.R. Govindaraju (See Figure 8), former chief engineer from the water resources department. In the main part of the article, his statement is reported more completely where he evokes the construction of recharge wells in tanks and

calls upon the government to interconnect the rivers of the State of Tamil Nadu in order to prevent water from being lost into the sea.“ Besides constructing more check dams across

rivers and rejuvenating water bodies with inbuilt recharge wells, the government must link rivers in the State to ensure perennial flow. In Chennai, linking the Adyar and Palar rivers would help save resources that otherwise drain into the sea," he said.

This type of qualification fit with the "industrial" order of worth (BOLTANSKI; THÉVENOT, 2006). It values technical progress and scientific knowledge[xix], typically represented by enthusiasm for the interconnection of Indian rivers. Such a measure is regularly on the agenda of water policy but is still controversial, also in the Hindu. Officials, such as those of the planning commission, are unanimous on two types of action (Art. 11/10/10), as are the activists who contribute to the newspaper: rainwater harvesting and groundwater recharge (discussed in 19 articles). These articles report successful experimentations. They say that lakes and reservoirs should be better maintained and the encroachment of both agriculture and urbanisation on the surface water prevented. They call upon the State to implement this maintenance while others emphasise the implications of resident in the water conservation (Art. 28/05/10). Regional sections take account of mobilisation for tanks while the recharge of groundwater is almost systematically cited. The difficulty of recharging groundwater may encourage the development of drilling. Thus, in an article of 04/05/12, an activist calls upon the administration to drill bore wells: "To arrest and reverse the fall in groundwater level more such recharge structures are necessary, says K. Mylswami of Siruthuli, an NGO involved in water conservation. Prior to the onset of monsoon this year, the Board should dig as many bore wells as possible to recharge groundwater and aquifers. A recommendation from the Central Ground Water Board is also along these lines. He says that rural areas need more bore wells because the people there are dependent on bore wells for all their needs."

That article calls, more generally, for an augmentation of the number of wells with the aim of developing access to water. With this in view, the article opens on another register of groundwater qualification that aims at guarantee access to all.

2.3 A means of survival that must be guaranteed for everyone

In an article of 21st Jully 2012, S. Vishwanath describes the drilling of a bore well and hails the workers as "heroes" (**Erro! Fonte de referência não encontrada.**): « It is tough work providing water to India's growing needs particularly during times of drought and low rainfall. Groundwater is unsustainable without proper demand management and recharge yet it continues to be a source for emergency supply. On the informal sector of people who pick up skills by learning on the ground do we survive. Respect for them and their hard work are due and necessary. That is water wisdom."

The author underlines the relevance of measures associated with the two primary identified types of qualifications. But the article is written explicitly from the point of view of the users in order to value a common good other than resource optimisation or preservation. The common good favoured here is the right of access to water, presented as a "basic right" (editorial, 04/02/12)[xx]. That perspective is found again in articles that emphasise the difficulties in obtaining water (Cf. **Erro! Fonte de referência não encontrada.**) or health problems caused by consumption of contaminated groundwater (Art. 21/03/13). In an article of 14/03/14, an inhabitant testifies: "We have to spend hours to fetch the water from the bore well, which disrupts our daily routine. It becomes an ordeal to send our children to school in time." Among the articles, this one casts light particularly on the weight that presses down on women as they carry out this task. More generally, it focuses on upholding the rights of the oppressed. One article addresses the government, "At the same time, the government should promote greater access of groundwater to the underprivileged, particularly the Dalit

communities."(25/05/12). Then, in an article of 26/05/14, access to water is elevated to the

level of a moral obligation for the Indian nation, “What is essential for the largest pluralistic democracy like India in its march ahead is to provide “enough water to all people, both in terms of quantity and quality,” and this should be the core of the new Indian water policy.” The author of the article is quoting here a member of the State planning commission for whom sharing water is as important as respecting all religions. Civic order of worth (BOLTANSKI; THÉVENOT, 2006) is forcefully mobilised here. The Hindu, at the same time, welcomes systematic criticism of the “commoditisation of water” (Art. 11/04/2015).

Thus, guaranteeing right of access to water justifies the construction of new bore wells especially when it is a question of survival. This means survival of human beings but also the survival of an economic activity or of communities such as that of a launderers (Art. 17/05/13). In an article, Puliyur A.Nagarajan, President, Tamil Nadu Horticulture Crop Producers Association, said, “Farmers have to necessarily go in for deepening their wells or sink new bore wells to save their crops. Farmers, often raise loans, to dig or deepen their wells so as to take up cultivation. The recent government order would cause much hardship to farmers and impose an additional burden on them. The government should immediately withdraw the new law.” (Art. 15/05/15). In an article of 28/07/13, for P Sainath: “The rig operators also respond to a real demand from farmers across the country. A demand driven by despair.” The preservation of agricultural activity is able to mount a strong opposition to regulation on behalf of the survival of farmers and, more generally, to ensure the food security of the country. Such arguments justified the proliferation of bore wells during the Green Revolution. “Conceding that the law is not a matter of priority, a senior government official says it will not be appropriate to insist on its enforcement when the State is about to face a spell of water shortage” (Art. 19/01/13). It is to be noted that these articles do not disregard the pressure on the resource but claim that their exploitation is a necessary evil. Thus, in an

article 03/07/13 called: “development" that harms us all”, Nityanand Jayaraman says: “Development's collateral damage, the argument goes, must be acceptable to us. Otherwise, we would not have development.” In another article, the Vice-Chancellor of the TNAU (Tamil Nadu Agricultural University) made the same observation in an effort at a compromise with the logic of preservation of the resource, “We cannot survive without urbanisation and development. But this has to be done with minimum disturbance to the environment.” (Art. 19/07/13). In these articles, development justifies the exploitation of groundwater prior to conservation.

2.4 A source of emancipation to which the right must be ensured

The preceding citations assert the right to development that justifies the exploitation of groundwater. The claim is not limited to right of access but is presented in terms of emancipation. Groundwater itself have to be considered as a source of emancipation. We have chosen to distinguish this fourth qualification, which raises the justification of social justice different from the qualification in the preceding section. If it is, in fact, less to the fore than other qualifications in the newspaper, it may support the development of bore wells. It appears indirectly especially through the artistic works. In an article of 30th March 2015, “A persuasive play on reality”, Bishwanath Ghosh, underlines the realistic character of a theatre play, Thanneer Thanneer[xxi] given in Chennai in 2015 but written in 1979. This play is considered one of the most important of the last century in Tamil Nadu. In it, the making of a canal is associated with the emancipation of ordinary people. The preface to the translation of the play into English (SHANKAR; SWAMINATHAN, 2001) explains: “The play's apparently aggressive attitude to nature must be read in the context of what it seems to actually recommend: freedom of the villagers to act on their own, drawing on their knowledge

of local conditions. In its commitment to decentralized planning and action, the play is in consonance with current critiques of grand developmental projects that benefit only the elite."

The play promotes narrative of the possible mastering of nature by humans along with a denunciation of the exploitation of human beings by their fellows. Yet the development of access to groundwater has often led to an accentuation of the alienation of those able to invest to gain access to the water from everyone else (AUBRIOT, 2013; JANAKARAJAN; MOENCH, 2006). A similar accentuation is apparent in the paper. P. Sainath, in an article (19/04/2013) entitled "Drilling holes in the Thirst Economy" focuses, for example, on the interdependence of farmers. Access to groundwater means emancipation above and beyond survival. Another such perspective on individual and collective emancipation is demonstrated in the 2009 film, "Well done Abba[xxii]," directed by Shyam Benegal; The Hindu praised it in terms of "rural rhapsody" (09/04/10). In « Well done Abba », the protagonist, a driver in Mumbai, goes to his village to marry his daughter. But when he arrives, to his distress, he sees his daughter refusing a glass of water to the rickshaw driver that has carried him on the basis that she has to walk 3km to fetch water. What is more, his twin brother and his wife are now fugitives because they stole water from a well. He comes up with a project to make a well in his village. The film shows his efforts to construct a well, the search for finance and the application to the government for subsidies. The film depicts the absurd nature of the mechanisms of subsidies and the corruption at all levels of the bureaucracy. At the end of the film, the well is dug and the water problem solved. The movie never questions individual ownership of the well nor evokes the availability of the resource[xxiii].The danger of the groundwater drying up is never mentioned. The well is individual (a song in the film is called, "The well will be mine") and ensures autonomy. Access to groundwater is thus not only presented as the "common man"'s right[xxiv], dispossessed as he is, of water by the powerful but also as a means of emancipation and even a source of prestige. This last dimension is also illustrated by Figure 10. Publicity (at right) shows the bore well as an instrument of fertility

and virility. In the photo on the left illustrating an article of 6th September 2013, a farmer poses beside a pipe that carries water from a bore well to replenish an open well. The author of the article questions farmers' practices, "The money they spend is highly disproportionate to the yield they expect. But the satisfaction of saving the crop is the only reward they savour in this drought spell. 'I am not going to give up as agriculture is a matter of prestige for me and my family,' says (a farmer)*"*. The qualification thus also considers access to groundwater as a source of pride and prestige that enhances the reputation of its owner (AUBRIOT, 2013), a great person in the "fame" order of worth.

4.The challenge of a groundwater conservation policy that is not anti- people

The press, amongst other instruments, contributes to communication, that is, to making the hidden resource of groundwater, visible and common knowledge. This text makes possible the identification of specificities in the treatment of groundwater in The Hindu. An initial result is the observation of some visibility of the subject with a majority of articles calling for the conservation of groundwater considered as threatened. An analysis of the articles, however, brings to light other aspects of this water. We thus distinguished four non-exclusive qualifications of groundwater. An article may talk about several of these qualifications and favour compromise between the logics involved. Table 2 sets out the four qualifications identified with management modalities associated with them.

"Heritage in danger" is the first typical qualification that we identified. If the newspaper strongly supports a preservation policy, we noticed, all the same, that groundwater is considered as a heritage to be protected in the perspective of uses and not in itself. Moreover, the need for protection is often presented as evidence and scantily discussed and, finally, few articles describe effective measures for regulation of the water extraction. The perspective of "ecological justice" (claimed by Ramaswamy Iyer in the introduction) is rarely

argued as such apropos groundwater. In contrast, the logic of technical optimisation or of

"engineering," is still inescapable and widely deployed. It is presented in very many articles in itself or combined with other logics. It goes along with confidence in the progress and the technique for mastering the risk of depletion. There is a consensus on the relevance of measures for rainwater harvesting and groundwater recharge. As regards the "perspective of social justice" also called upon by Iyer, we distinguished two types of qualification that go back to a same modality of management (development of bore wells) justified it in a different way. The first is the right of access to water and the second the right of emancipation. Both serve to justify the pursuit of the exploitation of groundwater and acceptance of over exploitation. While The Hindu promotes the preservation of groundwater, it gives voice, too, to arguments that would legitimise over-exploitation. Survival, like emancipation, may concern an individual, a group or an entire nation when food security is involved, for example. Emancipation is not expressed in purely liberal terms but in combination with a more traditional logic of prestige linked to access to water. Prestige gained by giving, or having, access to water is superior to any gained by saving water. Moreover, in The Hindu, the justification of exploitation is never supported by purely "market" arguments. A number of articles stand against the commoditisation of natural resources, developing a fervent critique. Finally, the paper avoids, for the most part, the religious and spiritual dimensions connected with water and, in the same way, whatever brings up collective rituals involved with this resource that reflect other kinds of attachment bearing on "domestic" or "inspired" orders of worth.

To conclude, this analysis suggests taking seriously the plurivalence of groundwater to the end of extending the framing of policies. There is need to go beyond the opposition between preservation and development to constitute a policy of conservation of groundwater that is not "anti-people." Positioning the debate in terms solely of conservation leads to

deadlock. Those concerned are often well aware of the drying up of these resources but must compound with other individual and social concerns. Over-exploitation may, for example, be justified from the point of view of the survival of agricultural activity in an area. This article is intended to comprehend resistances to changes of practice without laying them to the account of individualistic behaviours but rather to that of contradictory qualifications of common good and of groundwater. The existence of different kinds of valuing of water in India is an explanation of the mechanisms of maintenance of over-exploitation despite repeated warnings of the drying up of resources. Original arrangements between the preservation of groundwater and the necessity of its use must therefore be considered, when, for example, a device for replenishing groundwater is appropriated by river dwellers, who use it as an open well. This article opens the perspective onto a more systematic analysis of the compromises between conservation and development based on the qualifications suggested. These are worth being explored with further empirical works.

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[i] Since the 1990s, research works have questioned the relationship between environmental activism and the press, especially as regards climate change in recent years. Meanwhile, the question of groundwater was rarely raised.

[ii] After the Times of India, it was the second most widely read English newspaper in India in 2013 (Indian Office of circulations) and it is the most widely read in Tamil Nadu with an average distribution of 1 million copies (1 314016 on average Jan-July 2014). According to the Indian Readership Survey 2007, Round 1, the Hindu's readership is 2,2 million people.

[iii] In the caste system, this includes especially priests, professors and lawyers, the judiciary and, more broadly, scholars.

[iv] In 1981, an article pointed out the limitation to the propagation of environmental concerns by the media due to illiteracy (Sekar, 1981). Numbers are smaller today ; in 2011 literacy was calculated at 74,4% (Census of India).

[v] Montaut (2004) estimates that 3 to 11% of Indians have a working knowledge of English. It is worth noting that she cites circulation of Anglophone journals is used as an indicator amongst others to assess this number.

[vi] The author thanks David Annoussamy, Bénédicte Augeard, Gaïa Lassaube and Laurent Thévenot for reading the first versions of this text and contributing to its improvement, and Development Durable and Territoire Journal's reviewer as for their valuable comments as a previous version of this paper was published in French.

[vii] The paper version is about 20 pages. Like the online version it comprises various rubrics : region, opinion, sport, etc.

[viii] The Hindu is published in twelve cities with specific editions.

[ix] To compare, in 2014, we carried out research with other key words. The number in parentheses corresponds to number of articles: Forest (11576), Water (35 174), Biodiversity (1247), France (3643), Defence (7586), Pollution (4885).

[x] This corpus brings together articles in the category of groundwater and articles under the heading opinion, limited to those treating of the Union Territory of Pondicherry and the State of Tamil Nadu.

[xi] Opinion (76), cities (37), national (17), 7 in the category of sciences and techniques, others (31).

[xii] Industrial catastrophe of 1984 in consequence of the explosion of the factory of a subsidary of an American pesticide company, Union Carbide. Several thousand people were killed or taken ill and the residue of the heavy pollution is still present today.

[xiii] The regulation deals with drilling authorisation and other subjects. In 2012, for example, the death of a child who fell down a well made news (26/06/2012) « wells of life and death » and questioned the regulation of the equipment in terms of its safety.

[xiv] 15 amongst 168 listed. Further, 17 authors wrote 2 to 7 articles, 69 wrote just one article of the corpus. The authors of remaining 31 are not identified.

[xv] The total is greater than the number of articles illustrated by photos as articles may comprise several photos and photos may correspond to several categories, such as the children playing in a tank in fig 2.

[xvi] We have specifically carried out research on the newspaper's web site with groundwater as key word added successively to the words religion, spiritual, God, Varuna, prayer, pooja, water diviner.

[xvii]The latter is considered in the article as inapplicable partly because of its very restrictive character (a permit is required, for example, to transport water by lorry) and, too, by the vagueness of some ordinances, for example in the definition of the usages under regulation.

[xviii] In an article not in our corpus (23/04/10), The Hindu reported the famous case of Plachimada, Kerala, where Coca-Cola was ordered to pay compensation for having over exploited groundwater. This case has been the subject of much literature presenting the different arguments which go beyond those of the drying up and pollution of groundwater.

[xix] Some articles recommend the development of scientific knowledge about groundwater or favor innovations in the field on the use of rare isotopes to track former sources (Art. 23/11/11), studies from helicopters to identify new resources to be « exploited without risk » (Art. 24/09/14) or the use of groundwater to predict earthquakes (23/09/14).

[xx] It is noted here that there is no question of the rights of future generations given that the rights of current generations are so little satisfied.

[xxi] « Water Water » in Tamil

[xxii] The title is a pun, meaning both "good job, father" and "the well is drilled"

[xxiii] Only the rule that stipulates a minimum distance of 200m between wells is mentioned.

[xxiv] Expression common in India to designate the average Indian, the man of the people.