

UNDERSTANDING RESIDENTIAL WATER SCARCITY IN GURUGRAM (INDIA) THROUGH MEDIA CONTENT ANALYSIS

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ABSTRACT

The present paper is an attempt to understand the causes for the on-going residential water scarcity in relation to Gurugram region in the Indian State of Haryana, through the methodology of media content analysis. Gurugram, which is portrayed as one of the fastest growing cities of India, in wake of globalization, urbanization and rising incomes of its citizens, is simultaneously witnessing acute shortages of residential/domestic water for the residents' day-to-day needs. The study employs an innovative research methodology called 'media content analysis' of frequent newspaper reporting about residential water shortages in Gurugram. The media content analysis was done through collecting a sample of newspaper reports from 2011 till 2016. The results from the media content analysis show that there are multiple factors that could be held accountable for the prevailing residential water scarcity in Gurugram.

Keywords: Gurugram, Media Content Analysis, Residential Water, Water Governance, Water Scarcity, Urban Planning.

I. INTRODUCTION

It is maintained in contemporary times that residential water provisioning to citizens in a specific urban-centric space, such as Gurugram, which is witnessing rapid urbanization rate, population out-growth, rising incomes of citizens, and continued expansion towards its peripheries over the years, becomes Herculean task for the civic authorities to provide safe and reliable water to residents through the piped-water networks. The civic agencies of Gurugram regularly struggle to meet the growing water demands of the residents in face of infrastructure deficiency, and other operational and technical constraints in effective water delivery in Gurugram, as visible from various newspapers reporting in the first place.

Given the fact that, there are endogenous reasons for the supply bottlenecks (in form of the factors just mentioned) culminating into residential water shortages, the general curiosity is to

explore certain other causes for the residential water scarcity from the same set of newspapers clippings or reports. Therefore, the attempt is to study and understand the residential water scarcity in Gurugram from various perspectives and dimensions precisely taking the evidences from the media content analysis. The analysis, definitely would lead to assess precisely the causes for the residential water deficiency.

II. GURUGRAM: AN OVERVIEW

Gurugram, also known as *Gurgaon*¹, is a district which falls in the southernmost region in the Indian state of Haryana. It is one of the nine districts of Haryana included in the National Capital Region (NCR) of India. Therefore, Gurugram is a sub-set of the broader NCR. The location of Gurugram district in NCR is considered economically and strategically significant given the fact that it adjoins Delhi, the national capital of India. Being proximity to Indira Gandhi International Airport (IGI-A), New Delhi, added with a predominantly better rail and Delhi metro rail connectivity with adjoining areas, Gurugram has witnessed a rapid industrial as well as commercial development.

In contemporary times, Gurugram is seen as one of the fastest growing mega cities of India under the wave of globalization and private capital. As a result of the New Economic Policy (NEP) of the Government of India initiated in 1991-92, Gurugram has increasingly, become the Information Technology (IT) and Information Technology Enabled Services (ITES) hub, and centre of a plethora of various Business Processing Outsourcing (BPO) and Knowledge Processing Outsourcing (KPO) companies (Prakash *et al.* 2011).

Gurugram has been on a faster track of economic development and has consequently emerged as a leading destination of industrial and financial activities over more than the last two decades. It is the headquarters of the two biggest automobile manufacturers in India – Hero Honda and *Maruti Udyog*. Gurugram city symbolizes Haryana's increasing prosperity in contemporary times, and therefore, Gurugram is synonymous with the notion of sustained economic growth and increased productivity. This is obvious from the fact that the per capita income of the residents of Gurugram is the third highest in India, after Chandigarh and Mumbai (Bhel 2009 *in Singh* 2013).

In present times, Gurugram has been witness to an unparalleled expansion within itself (core) and towards its peripheries. This has become possible because, Gurugram has become one of India's biggest financial centres on the back of easier land acquisition policy and with the private initiatives undertaken mainly by the Delhi Land and Finance (DLF) company, one of the largest

¹ In this paper, Gurugram and Gurgaon are interchangeably used.

commercial real estate developers in India, making all attempt to make its residential and commercial complexes as independent as possible (*ibid.* p.2).

The DLF is fundamentally engaged in developing private residential apartments, shopping malls, commercial establishments, office buildings and other centres of public recreation in Gurugram. Over the years, apart from DLF, other private developers like the Ansal Housing, The Eros Group, The Unitech Group and many others joined in the race of privately nurturing Gurugram city. Therefore, there has been an advent of a series of private players/developers in the real estate sector leading to a boom in the construction sector business in Gurugram. Today, Gurugram is an urban landscape of 43 malls, 9 golf courses, a dozen five-star hotels, 30 of Haryana's 34 ITs and bio-tech Special Economic Zones (SEZs), and over a hundred Fortune 500 companies, apart from a vast majority of residents (Ahuja 2011 *in* Cowan 2015).

Undoubtedly, the private induced investment in creating world class infrastructure in Gurugram is impressive, and therefore, Gurugram is apparently recognized worldwide as the 'Singapore of India'. Gurugram model of development is exemplary in itself in bringing up a township where the State's initiative of involving private sector in the process of urban development has been successful. The drivers of urban growth of Gurugram could be safely attributed to a plethora of endogenous factors such as the favourable tax policy by the Haryana government, improvement in the city's infrastructure by the Haryana Urban Development Authority (HUDA), and most importantly, the need to create a world class business centre close to IGI-A, New Delhi (Prakash *et al.* 2011).

The model of HUDA under which a number of integrated cities in India, have been developed through Public-Private-Partnership (P-P-P), Gurugram has emerged as the most successful of these, with the country's largest private sector integrated township DLF City being established here (Gupta 2012). Gurugram, infact, is two cities living in a bigger ecosystem – the Old Gurugram and the New Gurugram areas (Kait 2013). While the Old Gurugram has poor infrastructure and is very congested, New Gurugram is a complete contrast with skyscrapers and well planned development (*ibid.* p.192). The present Gurugram is more of a metropolitan city than a modern township, encompassing settlements around the original city, and expanding even further in neighbourhood.

III. PROBLEM BACKGROUND

Improved water supply, inerratic electricity, proper sanitation, solid waste disposal and sewerage system, along with public transport facilities to citizens are the basic civic amenities which make an urban space a liveable space (Vaidynathan 2013; Saxena 2013). Clean, adequate and reliable water supply to residents is an essential component of the basic civic infrastructure of urban

settlement (*Economic Survey of Delhi 2012-2013*). There are acute shortages of basic civic amenities in Gurgaon, despite been categorized as a world class city (*CSE Report 2011; 2012*). Water is Gurgaon's most pressing problem which needs immediate attention by the State authorities (Rich 2014 in Deamer 2014).

IV. RESIDENTIAL WATER SHORTAGES IN GURUGRAM IN MEDIA REPORTS

Numerous media releases have appeared over a considerable time frame on the looming residential water scarcity in context of Gurugram. It has been observed that the numbers of such media reports mostly in the form of print media are innumerable. Interestingly, the author notices that no other city in India has been able to produce such insurmountable level of media-stressed reports on residential water insecurity in such a fast urbanizing city like Gurugram.²

This, in a way fascinates the author to carry out an innovative social research methodology called 'media content analysis' on water related issues surrounding residential water deficiency in Gurugram. The objective is to gain insights into the factor linkages to water supply shortages.

The media reports in various forms have the tendency to not simply apprise the citizens the nature and seriousness of the problems of water (and other socio-economic, political issues or environmental hazards of emergent nature for immediate redressal by the government), but also to bring forth attitudes, voices, opinions and responses of various stakeholders in water governance. Precisely, the most important stakeholder is the residents or the water beneficiaries of HUDA piped-network water supply in the present case. Henceforth, in the present paper, the endeavour is to present a media content analysis of water-related problems in Gurugram, precisely taking inputs from a lot of newspaper reports on the issue. Before doing that, the basic content analysis is defined as follows.

V. CONTENT ANALYSIS: MEANING AND PURPOSE

Content analysis is described as the scientific study of the content of communication (Prasad 2008). Neuendorf (2002) describes content analysis as – the primary message-centered methodology (Macnamara 2005). At the best, content analysis is a method of social research that aims at the analysis of the content; qualitative and/or quantitative of documents, books, newspapers, magazines and other forms of written material (Ahuja 2002). Media content analysis is a specialized sub-set of content analysis, a well established research methodology (Macnamara 2005).

² A list of select media reports across prominent newspapers on growing instances of residential water scarcity in Gurugram has been provided in the references.

Berelson's (1952) definition of 'content analysis' is considered the first definition of its kind. Berelson (1952) defines 'content analysis' as a research technique for the objective, systematic and quantitative description of the manifest content of communication (Krippendorff 2013; Ahuja 2002). The word 'communication' here refers to available written material or print media...and the word 'manifest' means which is presented outwardly...and thus excludes implied meaning (Ahuja, 2002). The word 'manifest' refers to the visible actual parts of the texts in the document, that is, words, terms, phrases, sentences, paragraphs and so on (Ahuja 2002). It involves counting frequencies of appearance of such context/research unit (Ahuja 2002).

Neuman (1997) elaborates 'content analysis' as a key non-reactive (that is, non-intrusive) research methodology, and describes it as 'a technique for gathering and analyzing the content of the text. The 'content' refers to words, meanings, pictures, symbols, ideas, themes or any message that can be communicated. The 'text' is anything written, visual, or spoken that serves as a medium of communication (Macnamara 2005).

Yet, in the words of Eckhardt and Ermann (1977), as a qualitative technique, content analysis is directed towards more subjective information such as attitudes, motives, values...and thus "makes inferences about conduct, intentions, ideologies, sentiments and values of individuals and groups (Ahuja 2002).

In nutshell, usually basic content analysis first notes the frequency of certain terms - gathered from a lot of newspapers, and the analyzer comments on the way things are perceived by looking at certain patterns of word/phrase usage, also sometimes looking at changes or disappearance of certain phrase or words over time.

VI. MEDIA CONTENT ANALYSIS OF RESIDENTIAL WATER SCARCITY: THE METHODOLOGY

The endeavour here is to draw a pattern in order to obtain inferences, objectively and systematically, by foregrounding the intention, attitudes and perceptions of the residents of Gurugram regarding the domestic water provision by the State agencies.

For the purpose of carrying out the content analysis, a set of four prominent national dailies, which released news clippings/articles on the water shortages problems in Gurugram were chosen. A sample of such newspaper reports (mostly from archives) have been drawn from the four widely circulated dailies, namely, *The Hindu (H)*, *The Times of India (ToI)*, *Hindustan Times (HT)*, and *The Indian Express (IE)*, exclusively utilized by the author. The author has tried to collect 'texts' from these newspapers from the last five years (from the year 2011 till the end of May 2016) on growing water deficiency issues in Gurugram. For the purpose of current

analysis, from each of these newspapers, the sample has been limited to 20 (news clippings). Therefore, in total, the number of such news items stands 80.

Further, on the methodological front, it is important to understand certain attributes of the ‘news’ that have been captured through newspaper reporting. For instance, the language of the news reports – whether it is critical or pro-State, who are the people addressing the problem (for example, poor or middle or urban elite class) and who are the people being addressed (for example, the State or the administrators, lawmakers or policymakers and so on).

Moreover, how the problem has been addressed (for example, by giving data or figures) and what has been highlighted? What is the authenticity of such news reports (for example, news supported by visual image/photography or not)? Which are the sections of audiences who read the news? Further, it is apparent that the author should have *a priori* knowledge on the subject of the news being reported, for example, familiarity with cultural, social, economic, environmental, or ethical facets of the issue being highlighted.

VII. MEDIA CONTENT ANALYSIS OF RESIDENTIAL WATER IN GURUGRAM: THE DATA

Various words/terms/phrases that have been used in the print media (2011-2016) on problems of water are tabulated in the following table.

Table 1: Media Content Analysis of Residential Water

Terms/Words/Phrases <i>Cluster: Residential Water</i>	Frequency of Context/Research Units				
	H	ToI	HT	IE	Total
(i) Multiple agencies	4	3	3	6	16
(ii) Civic mess	5	4	6	5	20
(iii) Governance crisis	4	4	3	6	17
(iv) Accountability	4	3	6	3	16
(v) Groundwater	5	7	8	6	26
(vi) Water shortage	5	6	5	8	24
(vii) Ban construction	2	3	6	4	15
(viii) Groundwater depleted	3	6	6	7	22
(ix) Agitation	2	3	1	1	7

(Source: Selected newspaper reports)

Observation on Table 1

This tabular representation of the frequency of research units signify overall replicability of the words/terms/phrases across various newspapers chosen over the time. These words/terms/phrases cluster around the problems of residential water in Gurugram. The table gives sufficient information to the author about the water related problems in relation to the area of case study, that is, Gurugram.

If the reader looks at the frequency of occurrence of these words, it is clear that ‘water shortage’ and ‘groundwater’ followed by ‘groundwater depleted’ are most common in all reports. Further analysis will add to the understanding of how the lack of responsibility or governance leads to lack of water in Gurugram. In this direction, the author studies various manifests of the words, or terms which have been repeatedly used across print media, and thus the results are as follows.

VIII. RESULTS AND DISCUSSION FROM THE MEDIA CONTENT ANALYSIS

(i) In the first place, author has tried to find out, who are the people addressing these words/terms. The author while gathering the ‘texts’, found that mostly the residents, irrespective of various localities and socio-economic status have similar kind of perceptions on water problems in Gurugram.

The news reports equally captured the voices on water problems from all segments of residents in Gurugram, be it people residing in elite colonies like DLF Phases or *Sushant Lok* Phases or residents of HUDA Sectors, or those living in urban villages. In other words, residents living in both the Old and the New Gurugram areas have similar resentment towards the State agencies.

(ii) Next, what kind of *perceptions* of these terms and words will be there on the mind of analyzer while analyzing the news reportings? In other words, it refers to the kind of impact on the mind of the analyzer of the nature of words or terms that are consistently used in newspaper clips. On the basis of a comprehensive study of these news reports, the author categorizes the respective words, terms and so on, through the following table. This has been done as perceived by the author as either ‘yes’ or ‘no’.

Table 2: Perceptions Explicit from the News Reports

Terms/ Words/ Phrases	Social	Economic	Political	Environ- -ment	Admini- strative	Planning	Ideolo- gical
(i)Multiple agencies	no	no	yes	no	yes	yes	no
(ii)Civic mess	no	no	no	no	yes	yes	no
(iii)Governance crisis	no	no	no	no	yes	yes	no
(iv)Accountability	no	no	no	yes	yes	yes	no
(v)Groundwater	yes	yes	no	yes	yes	yes	no
(vi)Water shortage	yes	yes	no	yes	yes	yes	no
(vii)Ban construction	yes	yes	yes	yes	yes	yes	no
(viii)Groundwater depleted	yes	yes	no	yes	yes	yes	no
(ix)Agitation	yes	yes	yes	yes	no	no	yes

(Source: Contents of the selected newspaper reports)

Observation on Table 2

The author realizes that most words/terms/phrases point towards the administrative and planning mechanism of the State. In other words, the water problems in Gurugram could be more attributed to the State's governance structure rather than other aspects of scarcity given in the table.

(i) The author observes the *language* of the content of the news. Mostly the language is critical and is projected towards the lack of responsibility of the agencies, in the sense that people who are addressing their grievances are apparently not satisfied with the governance of water supply in their areas of residence. To put it differently, the residents' attitude regarding water shortage problems point out towards the incapacity of the State to create sufficient infrastructure for the water delivery. Therefore, these words/terms/phrases are used to address the problems of water to the State.

(ii) Finally, the most demanding part of the content analysis is to draw a *pattern* of these words/terms/phrases used in various newspaper reports. On minutely evaluating the news clippings on water problems, the author gains the insights on the pattern of certain words appearing again and again or for that matter words/terms/phrases disappearing over the time.

It has been found that as the author starts reading these news reports in chronological order across the newspapers chosen for the study, the term, ‘water shortage’ has consistently been used over time. Apart from it, terms like ‘groundwater’ and ‘groundwater depleted’ follow a regular pattern and appear in all newspapers. Also, words such as ‘multiple agencies’, related with another word ‘civic mess’ do feature regularly in almost all reports. Another word, ‘ban construction’ has regularly been used.

Interestingly, the author has found that none of these words/terms disappear in the said time frame. A very rare word ‘agitation’ has recently started appearing, which might be result of residents losing patience in conveying their message to State about the growing water shortages. The pattern of these words/terms etc. infact, show the gravity of water related problems in the development space of Gurugram.

To enrich and enhance the content analysis further in order to have a deeper understanding of seriousness of water problems in Gurugram, the quotes often used in the news reports have been analyzed by the author. The reason is that the author observes that the quotes carried by the news clippings conveyed a serious message about the plight of governance in Gurugram with respect to public water supply. A few of the striking quotes are tabulated as follows.

Table 3: Important Quotes used in the News Reports

H	ToI	HT	IE
“Ill-mannered growth”	“Gurgaon on its deathbed”	“Gurgaon a concrete jungle”	“Haphazard development”
“Groundwater sucked”	“Insecure future”	“Parched Gurgaon”	“Water crisis”
		“Dark zone”	

(Source: Contents of the selected newspaper reports)

Observation from Table 3

These quotes have consistently been visible in most of the newspaper reports over the time. Infact, these are very strong words which indicate the kind of development space Gurugram provides in contemporary times. In a sense, these prominent words are in conformity with the governance loopholes, which also show how the urban planning design fails to take care of the provision of amenities to residents.

Interestingly, the author observes that the use of such harsh words to show the actuality of lack of governance in Gurugram has never been used in any other water scarcity studies. At the best,

content analysis in the present study has been used to point to a discourse that emphasizes the lack of any agency taking the responsibility of the lack/problems of urban infrastructure in water delivery in Gurugram. It is also interesting to note that Gurugram, otherwise known by various epithets³, the quotes cited in above (table 3) above just say the contrary. In other words, these quotes strikingly say in actuality that Gurugram does not qualify to be one of these.

It is apparent from the study that Gurugram is undergoing serious residential crisis *vis-à-vis* multiple institutional factors. The media content analysis clearly points out the causes which are inherently present in the institutional mechanism of residential water delivery. Undoubtedly, the problem of residential water scarcity in Gurugram is associated with the kind of governance apparatus dealing with water delivery to residents of the city. It appears from the media content analysis that residential water scarcity in Gurugram is more of a problem of 'governance deficit' rather than mere a problem of 'water supply deficit'.

On the policy solutions segment, the author would suggest that Gurugram needs integrated urban water governance and management solutions rather holistic solutions to mitigate the present water scarcity by involving all the stakeholders. The various stakeholders like the civic agencies, citizens or the water beneficiaries, managers, engineers, environmentalists and so on, would definitely have a comprehensive policy packages to re-design the governance parameters of water governance for efficient and effective water delivery to residents.

IX. CONCLUSIONS

The media content analysis clearly indicates the underlying causes for the aggravated residential water scarcity in Gurugram. The fact that the multiple agencies has led to the creation of civic mess in Gurugram cannot be ignored given other reasons for ineffective water delivery. The media content analysis also additionally indicates that residents of Gurugram are not contented with the way civic managers are functioning. The residents aptly feel that there is no accountability of governance of civic amenities. In a sense, the study concludes that the lack of responsibility in provision of water to residents leads to water shortage/crisis in Gurugram.

The study, therefore, indicates that there is a series of linkages which get manifested in one form or the other, rather originates in the very processes of governance mechanism of Gurugram to the growing residential water scarcity. The paper, eventually seeks an answer to the question, what will happen to a city which builds itself, and accommodates only the vested interests of a few. The answer lies first and foremost, with the way governance structure of the city is build upon, and the intention of the State authorities in proper planning and execution in nurturing it. In

³ Millennium city, satellite city, globalized city, Singapore of India and so on.

nutshell, the State agencies need to acknowledge the governance loopholes in residential water delivery, and to correct it, so as to make Gurugram a true global city of India.

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REFERENCES

- (1) Ahuja, Ram. 2002. Research Methods. Jaipur: Rawat Publications.
- (2) Cowan, Thomas. 2015. Fragmented Citizenships in Gurgaon. *Economic and Political Weekly*, Vol. L, Nos. 26 & 27, June 27, 2015.
- (3) CSE-Anon Report. 2011. *71-City Water-Excreta Survey, Indo-Gangetic Plains Gurgaon*. New Delhi: CSE.
- (4) CSE, Report. 2012. *Green Building*. New Delhi: CSE.
- (5) *Economic Survey of Delhi, 2012-13*, Government of NCT-D.
- (6) Gupta, Rajeev. Real Estate in Gurgaon – Opportunity and Challenges, *International Journal of Management and Business Studies*, Vol. 2, Issue 4. Accessed online from the website: www.ijmbs.com, on 10.1.2015.
- (7) Kait, Kuldip Singh. 2013. Water and Sanitation Situation in Urban Villages of Municipal Corporations of Gurgaon – India: A Geographical Analysis, *Indian Cartographer*, Vol. XXXIII.
- (8) Krippendorff, Klaus. 2013. Content Analysis: An Introduction to Its Methodology. Sage Publications: New Delhi.
- (9) Macnamara, J. 2005. Media-Content Analysis – Its Uses, Benefits and Best Practice Methodology, *Asia Pacific Public Relations Journal*, Vol. 6, No. 1, p.1-34.

(10) Prakash, A. Sreoshi Singh, Vishal Narain. 2011. Changing Waterscapes in the Periphery: Understanding Peri-Urban Water Security in Urbanising India. *India Infrastructure Report (IIR) 2011: Water – Policy and Performance for Sustainable Development*. New Delhi: Oxford University Press.

(11) Prasad, B Devi. 2008. Content Analysis: A Method of Social Science Research, *Research Methods for Social Work*. New Delhi: Rawat Publication.

(12) Rich, Nathan. 2014. Globally Integrated/Locally Fractured: The Extraordinary Development in Gurgaon, India in Peggy Deamer. (ed.). *Architecture and Capitalism: 1845 to the Present*. New York: Routledge.

(13) Singh, Abhinav. 2013. Private Provision of Public Utilities: The Solution to India's Urban Problems – An Introduction. *Centre for Civil Society (CCS) Working Paper No. 229*. Research Wintership Programme 2013. Accessed online from the website <http://www.ccs.in>, on 12.1.2015.

(14) Vaidyanathan, A. 2013. Water Resources of India, Oxford India Short Introduction. Oxford University Press: New Delhi.

Newspaper Reports (Exclusively utilized in Media Content Analysis)

(1) Arora, Shipi. 'Over 1.25 lakh hit as acute water crisis grips DLF area'. *The Times of India*. 19.6.2016.

(2)_____. 'Parched Summer - Water protests loom as taps go dry in Gurgaon'. *The Times of India*. 23.5.2016.

(3) Behl, Abhishek. 'Water shortage hits residents in Old and New Gurgaon'. *Hindustan Times*. 7.5.2016.

(4) Dhankhar, Leena. 'Water woes continue in many sectors in Gurgaon'. *Hindustan Times*. 22.6.2016.

(5) Dhar, Anchal. 'Water level depleting, Gurgaon looks to set up its own jal board'. *The Indian Express*. 15.10.2013.

(6) Dutta, Tuhin. 'As mercury soars, Gurgaon reels under power cuts, water shortage'. *The Indian Express*. 22.5.2012.

(7)_____. 'Gurgaon backs HC order against groundwater use for construction'. *The Indian Express*. 18.7.2012.

- (8) Jain, Akanksha. Over-exploitation of groundwater makes Delhi and neighbouring areas critical. *The Hindu*. 7.10.2014.
- (9) Jha, Dhananjay. 'Residents take up issue of water shortage'. *Hindustan Times*. 27.5.2012.
- (10)_____. 'Gurgaon drying up, has no plan B'. *Hindustan Times*. 17.7.2012.
- (11)_____. 'HUDA to boost water supply in New Gurgaon'. *Hindustan Times*. 28.5.2013.
- (12) Jose, Praveen. HUDA plans network to meet drinking water demand till 2031. *The Times of India*. 8.6.2014.
- (13) Kaur, Sukhdeep. 'Retired babus, CEOs in Gurgaon behind litigation against government'. *The Indian Express*. 4.9.2012.
- (14)_____. 'No licence to builders using ground water for construction in Gurgaon'. *The Indian Express*. 17.7.2012.
- (15)_____. 'HC bars new construction in Gurgaon'. *The Indian Express*. 16.7.2012.
- (16) Khandewal, Akshat. 'A township dream turns an infrastructure mess'. *The Indian Express*. 21.8. 2012.
- (17)_____. HUDA takes steps to end Gurgaon's water crisis. *The Indian Express*. 5.7.2012.
- (18)_____. Gurgaon power, water crisis: residents meet district chief. *The Indian Express*. 6.7.2012.
- (19)_____. Gurgaon seeks new tube-wells to quell drinking water shortage. *The Indian Express*. 9.4.2013.
- (20) Kumar, Ashok. Gurgaon Municipal Corporation needs more power: Residents. *The Hindu*. 24.11.2014.
- (21)_____. Gurgaon's posh area facing acute water crisis. *The Hindu*. 18.6.2014.
- (22)_____. Big shortfall in Gurgaon water supply. *The Hindu*. 24.8.2012.
- (23)_____. Haryana seeks Central funds for NCR projects. *The Hindu*. 28.12.2011.

- (24)_____. Residents block traffic to protest against poor infrastructure. *The Hindu*. 29.5.2014.
- (25)_____. Water, power supply falter in Gurgaon. *The Hindu*. 8.3.2016.
- (26)_____. Crisis continues in many parts of Gurgaon. *The Hindu*. 25.2.2016.
- (27) Singh, Rashpal. 'Parched DLF areas not permitted to revive tubewells'. *Hindustan Times*. 26.5.2016.
- (28) Sura, Ajay and Tanushree Roy Chowdhary. New construction in Gurgaon put on hold to tackle water problem, Nod Only For Builders Who Agree Not To Use Groundwater. *The Times of India*. 17.7.2012.
- (28) HT Correspondent. 'Pipe work stuck, city stares at water crisis'. *Hindustan Times*. 17.5.2013.
- (29)_____. 'Gurgaon RWAs want water crisis resolved'. *Hindustan Times*. 27.5.2016.
- (30)_____. 'Gurgaon: water supply not fit for drinking in sector 31'. *Hindustan Times*. 8.12.2014.
- (31)_____. 'Glitzy Gurgaon stares at a dry future'. *Hindustan Times*. 5.3.2014. p.12, City/Gurgaon.
- (32)_____. 'Water table hits rock bottom in NCR'. *Hindustan Times*. 27. 7. 2014, p.6 (metro), New Delhi Edition.
- (33)_____. 'No relief in sight for parched DLF phases in Gurgaon'. *Hindustan Times*. 25.5.2016.
- (34)_____. 'Water crisis acute in Gurgaon, Huda blames power cuts in Basai plant'. *Hindustan Times*. 31.5.2016.
- (35) IE Correspondent. Protest over water shortage in Gurgaon. *The Indian Express*. 20.5.2013.
- (36)_____. Gurgaon plans new power line to water plants. *The Indian Express*. 14.5.2014.
- (37)_____. In new plan, Gurgaon to up water supply. *The Indian Express*. 21.11.2012.
- (38) *The Hindu* Correspondent. No dearth of drinking water in Gurgaon. *The Hindu*. 27.6.2015.

- (39) *ToI* Correspondent. Builders fudge water data. *The Times of India*. 18.7.2012.
- (40)_____. Municipal Corporation of Gurgaon meeting to be held after three months. *The Times of India*. 18.7.2012.
- (41)_____. HUDA completes water supply line for New Gurgaon. *The Times of India*. 27.12.2013.
- (42)_____.Take action against rampant illegal extraction of groundwater, says NGT. *The Times of India*.16.4.2015.
- (43)_____.Why rampant illegal groundwater extraction in Gurgaon, asks HC. *The Times of India*. 27.11.2014.
- (44)_____.Packaged water found unfit to drink, but no action taken. *The Times of India*. 29.10.2014.
- (45)_____.Villages within Gurgaon neglected. *The Times of India*. 25.3.2012.
- (46)_____.Villagers force closure of Sahara mall. *The Times of India*. 7.8.2011.
- (47)_____.NGT cracks down on developers using groundwater for construction. *The Times of India*. 14.3.2016.