




RESEARCH ARTICLE

Newspaper coverage of water security issues in the water-stressed Northern Province of Sri Lanka: An explorative study of three Tamil dailies

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Abstract

Newspapers remain as an effective medium for circulating information among the public in the North of Sri Lanka and have the potential to influence public opinion and people's behavior regarding sustainable use of groundwater. This study investigated the extent and scope of newspaper coverage on the subject of water security in the Northern Province of Sri Lanka. Three newspapers, namely, *Yarl Thinakkural*, *Uthayan*, and *Valampuri* were chosen on the basis of readership, circulation in print form, and for being daily local or regional papers in Tamil. The content analysis of 1214 articles published in 2019 and 2020 in the three papers indicated that as much as 80% of space in the papers was allocated to reporting general news items and events in the community related to new water projects, rain and floods or drought events and announcements of allocation of irrigation water for farming. Only 20% of newspaper space was taken up by non-news articles including advertisements related to water. We conclude by saying that the effect of these newspapers on their audiences would merely be to inform rather than to set agendas or frame the discourse in society, let alone persuade readers enough to make changes. The study revealed the significant potential that exists for

newspapers to shift their culture of simply reporting of facts in a dispassionate way to one of environmental journalism with a degree of advocacy in view of the critical nature of the security of groundwater in the Northern Province.

KEYWORDS

media reporting, newspaper coverage, Northern Province, Sri Lanka, water security

1 | INTRODUCTION

The rise in population, unpredictable climate phenomena, and increased anthropogenic activities including poor management of accessible water resources result in water scarcity. The people in the Northern Province (NP) rely almost entirely on groundwater resources for their water needs. Contamination of this groundwater derived from domestic sewage, industrial effluents, and agricultural residues infiltrating into the soil in rural areas presents itself as one category of serious problems threatening water security in the NP of Sri Lanka. Large-scale migration, both within the province and beyond, resulted in much disruption among the population, leading to depletion of water in some areas and degradation of the water resource itself due to neglect. This situation has only been worsened by the speed and unregulated nature of post-war development in the NP in the form of rapid urbanization, industrialization, and intensification of agricultural production.

The forested areas of the four districts south of the Jaffna District, together referred to as Vanni, contain large irrigated agricultural schemes that began in the 1950s with surface water reservoirs referred to as tanks. A more recent phenomenon is the arrival of water supply and drainage scheme aimed at addressing the seasonal shortage of drinking water and the threat of increasing salinization of groundwater, particularly for Jaffna peninsula. All of these contribute to impacts on the available water resources, noticeably moving society towards a threat of serious water shortage in the near future, particularly in the Jaffna peninsula and its adjoining islands (see Rubini et al., 2023).

Therefore, appropriate management practices, policy making, public awareness, and participation of community in water conservation efforts are urgent needs of the NP. Even though participation by all levels of society in responsible community development and environmental conservation is important, experience from all parts of the world tells us that this cannot be easily achieved. It requires the power of influence to unite community to understand the need for environmental conservation and bring them towards actions that will resolve the problem of environmental degradation. Media plays an important role in influencing and reflecting public opinion and providing awareness through making information widely available when it comes to conservation of natural resources (Peters & Heinrichs, 2008; Saleh & Heinrichs, 2020). Public opinion on water conservation and water supply management leads to potential changes in

policies and socioeconomic behaviors. Newspapers are an effective medium that circulates information among people, and this is true in the North of Sri Lanka as well.

Print media have had a long presence in Sri Lanka, and Tamil press has been in operation with the first newspaper in Tamil published in 1841 by the name of *Uthayatharakai* or Morning Star (Bastiampillai, 1999). Newspapers are published in Sri Lanka today in Tamil, Sinhala, and English languages. A market survey published by Sri Ranganathan et al. (2019) reported that a total of 12 different Tamil newspapers are published in Sri Lanka. These included five weekly, five daily, and two weekdays only papers. Tamil newspapers serve a population of Tamil speakers in Sri Lanka numbering approximately 5 million and a further 1 million living outside of Sri Lanka. Today, the leading Tamil papers in terms of circulation are *Uthayan*, *Valampuri*, *Yarl Thinakkural*, *Sudaroli*, *Thinamurasu*, and *Eelanatham*. This study pertains to three newspapers known well in the NP, namely, *Yarl Thinakkural (TK)*, *Uthayan (UT)*, and *Valampuri (VP)*. The first one is a broad sheet while the other two are tabloids, and all three are available as digital publications as well. All three newspapers are owned by business interests, not all of which are openly identified. UT claims to have the largest circulation of around 18,000 copies per day while the other two papers have a circulation of under 10,000 per day.

1.1 | Media reporting of water-related issues

Despite the recognition of the important role of mass media in addressing environmental issues in a general sense seen in community discourse, also expressed by Boyagoda (2017), our literature search did not reveal any study of media coverage specifically on water-related issues in Sri Lanka.

Boyagoda (2017) reported on the news coverage of broader environmental issues in three of Sri Lankan weekend newspapers, one each in the three languages spoken in the country. The three papers were *The Sunday Times*, *Irida Lankadeepa*, and *Virakesari Waraweliyeedu*. Boyagoda recognized that environmental issues in general were not prominently mentioned in the three papers examined. They were merely reporting events and incidents, often in the aftermath of those incidents with no in-depth analysis. This was attributed to a poor understanding by the newspapers of their social responsibility and of environmental journalism itself (Boyagoda, 2017).

On a global scale, the number of studies reporting the role of media in water-related issues is not large (Hurlimann & Dolnicar, 2012). These authors, having analyzed the content of 1253 newspaper articles published in the top 7 newspapers in Australia in 2018, concluded that water-related reports were characterized by a low level of inclusion of views held by a wide range of stakeholders, low level of supporting statements with scientific evidence, and also a low level of impartiality when reporting on opposing views in the community on any issues. This work also reported the low degree of trust people hold on media as a source of information on topics such as the use of recycled water in Australia.

Wei et al. (2015) have studied the evolution of newspaper coverage of water issues in a single newspaper, *The Sydney Morning Herald*, for an extended time frame of 168 years (1843–2011) in Australia, starting before the time any major water resources development began there and extending across the full period of development to the current era where the focus is much more on environment management. An expression of this trend is indicated by the prominence of topics related to urban water supply and sewerage (65% of all entries) during a majority of the time, with concerns for the environment and sustainability picking up only in the mid-1990s and accounting for 15% of total articles. The authors noted the marked improvement

beginning in 1994 in media coverage of water issues for environmental sustainability as an important step towards newspapers influencing public opinion in favor of sustainable water management. A clear lack of inclusion of articles related to people's opinions was also noted, and articles mainly reported on government institutions and their role in water services and management.

A Canadian study on the media portrayal by four newspapers across a 16-year period of the drinking water security among indigenous communities noted that there was minimal coverage of water-related issues by newspapers among these communities, particularly in comparison with coverage of issues among the non-indigenous Canadian community (Lam et al., 2017). These authors argued that the closing of such media reporting gap could help address water-related issues among all Canadians in an equitable way. Caballero et al. (2022) explored the potential drivers of regional water quality narratives within 25 local news sources in United States and showed news coverage varied across socio-demographic features, vis-à-vis Hispanic and non-Hispanic White populations. Their findings elaborated the variations in local narratives when considering nuances of water quality issues and indicated the opportunities for increasing equity in environmental risk communication.

A study done on coverage of water issues in China between 1950 and 2000 in the country's second most widely circulated paper, the *People's Daily*, by Shang et al. (2015) demonstrated a relative shortfall in the coverage of particular types of central government documents pertaining to water and also showed that there was a lack of persistence when propagating water policies. These authors argued that such shortcomings and lack of persistence in newspaper coverage would work against public engagement in water issues and undermine the public's understanding of and confidence in water management measures.

On the matter of source attribution, our review of literature here has shown the existence of a wide range among newspapers in how far they included scientific evidence in support of their reporting on water and citing of sources. For example, Hurlimann and Dolnicar (2012) noted only 14% of the articles they studied presented any scientific information about the water-related topic discussed. In other words, a substantial 86% of the articles had no scientific evidence cited which the authors argued was indicative of either a lack of such evidence or due to the journalists choosing not to cite such scientific evidence.

In the Australian work (Hurlimann & Dolnicar, 2012), politicians were the most quoted people followed by members of independent groups or the general public, totaling 35%, while scientists, engineers, and academics were the least quoted (less than 10%). Wei et al. (2015) reported a similar trend whereby academics and NGOs were the least quoted in comparison to a strong presence of government sources in their long term study of one newspaper in Australia. In discussing these findings, Hurlimann and Dolnicar (2012) contrasted the situation in Australia with what was reported from Europe, where scientific experts and public authorities were the most important sources of scientific information to media. It appears that media reporting cultures with different levels of inclusion of scientific information as basis for the media reports and attribution of the sources of reports exist in different countries and languages.

While there has been no reporting of media analysis pertaining to coverage of water issues in Sri Lanka in the literature examined here, in countries where there have been such extensive studies around water reviewed above, knowledge gaps through non-inclusion of views of a wide range of public and insufficient weight given to scientific evidence have been found to be shortcomings. Therefore, what characterizes media reporting practices in the context of water issues in Northern Sri Lanka is pertinent and worthy of investigation, particularly within the scope of

the larger action research project this study is part of and its ambition of greater citizen engagement in water governance.

Whether or not print media could make any substantial difference to public understanding of a water crisis and sufficiently enough for that understanding to be converted into change in attitude and behavior by that public are important questions. These exact questions have been addressed by a study at Stanford University by Quesnel and Ajami (2017), which is claimed to be the first study to link news coverage to water demand and usage. Linkages between drought-related news coverage in nine prominent newspapers and the use of urban water in 20 selected service areas of California's San Francisco Bay area were explored. A strong link between heightened news coverage and a reduction in urban water use was established by this study with household users more willing to lower water consumption in response to drought news than businesses were.

With all the above in mind, the primary question that motivated the present study was the need to know what the level and scope of newspaper coverage on the topic of water security in the NP were. A subsidiary question sought to know what the trends were in water coverage in terms of areas, seasons, and the years, as well as the issues and events that motivated such coverage.

2 | MATERIALS AND METHODS

This research has used manual content analysis to understand the trend of news coverage on water security in NP in Sri Lanka in 2019 and 2020. The three newspapers, TK, UT, and VP, were chosen based on their popularity according to readership, circulation as print material, and being daily local or regional papers in Tamil. Articles published on all days of the week were collected as scanned copies of printed papers available in the main library of the University of Jaffna and the public library of Jaffna. Initially, 1500 articles were collected by reading the titles of all articles using water-related terms. The collected articles were screened to remove irrelevant content, which resulted in a final set of 1184 articles. Table 1 illustrates the breakdown of articles across the three newspapers.

The compiled articles were coded following inductive coding, which is compatible with a constructivist approach adopted in this study. The first and last authors, as coders, evaluated all pieces of text that referred to water in their entirety as textual units of analysis first and assigned them into emergent categories without them being predicated on any theory, construct, or pre-assigned concept (Chandra & Shang, 2017). The first level of broad categorization was into news articles, non-news articles, and advertisements.

The meaning of the term "news" here is "a report of recent or current events and happenings." The term "non-news" was adopted due to the difficulty in distinguishing and categorizing

TABLE 1 Breakdown of collected articles for 2019 and 2020.

| Newspaper | Number of articles | | % change |
|------------------------------|--------------------|------|----------|
| | 2019 | 2020 | |
| <i>Yarl Thinakkural</i> (TK) | 172 | 136 | -21 |
| <i>Uthayan</i> (UT) | 268 | 150 | -44 |
| <i>Valampuri</i> (VP) | 317 | 141 | -55 |
| Total | 757 | 427 | -44 |

the small number of items other than news encountered in the three papers clearly into opinion pieces and the usual variety of features. The non-news category here included news features, cartoons, letters to editor, and news columns.

News articles were then examined under types of news (17), thematic topics (16), and according to geographic areas they came from (5 districts of the province, as well as those from outside the NP). These subcategories, listed as variables, are tabulated in Table 2. Likewise, non-news items were classified into thematic topics (4) or types (5) and shown in Tables 2 and 3, respectively. The total number of items under each category and the grand total are shown as bold letters in Table 3.

TABLE 2 Coding frame and variables used for newspaper analysis.

| Categories | | Variables |
|---------------|--------------------------|---|
| Article types | | News, non-news, advertisement |
| News | Type of news reporting | Event, incident, information, complaint, call for action, announcement, report 1, report 2, protest, decision, warning, court order, accusation, instruction, discussion, notice, conflict |
| | Themes of issues covered | Illegal sand mining, tree planting and tree supply, rainfall reporting, flood impacts and rainfall impacts, water allocation for agriculture under water reservoirs, drought impact and water scarcity, flood management, water supply and water supply projects, water resources management activities-pond management, water regulation, fund allocation and estimation for water management activities, water supply issues, waste quality issues, awareness activity, irrigation, aquaculture |
| | Geographic focus | Jaffna, Kilinochchi, Mannar, Vavuniya, and Mullaitivu as districts of Northern Province (NP). Northern as NP, other as outside of NP |
| Non-news | Themes | Water quality, water quantity, water management/governance, water and society |

TABLE 3 Number of articles according to the article types in the three papers during 2019 and 2020.

| Article types | TK | | UT | | VP | |
|-----------------------|------------|------------|------------|------------|------------|------------|
| | 2019 | 2020 | 2019 | 2020 | 2019 | 2020 |
| News features | 7 | 7 | 8 | 4 | 13 | 4 |
| Editorials | 0 | 0 | 0 | 1 | 1 | 1 |
| Columns | 0 | 0 | 2 | 0 | 8 | 0 |
| Letter to editor | 0 | 0 | 1 | 0 | 0 | 0 |
| Cartoon | 1 | 0 | 0 | 0 | 1 | 0 |
| Total non-news | 8 | 7 | 11 | 5 | 23 | 5 |
| Advertisement | 0 | 4 | 48 | 8 | 8 | 1 |
| News | 164 | 126 | 209 | 137 | 286 | 135 |
| Grand Total | 172 | 137 | 268 | 150 | 317 | 141 |

Abbreviations: TK, *Yarl Thinakkural*; UT, *Uthayan*; VP, *Valampuri*.

Figure 1 maps the flow of events leading to selection of newspaper articles and methods used for their analysis.

In addition to the media analysis, three participatory events involving media personnel took place parallel to this study. The first two were focus group sessions involving 10–12 media personnel, and the third was a validation workshop conducted virtually whereby the findings of this study were presented to 15 significant media personnel including the editors of the three newspapers examined in this study and the president of the Jaffna Press Club. Some of the comments derived from these events were treated as qualitative data and incorporated in the discussion (Section 4).

3 | RESULTS

3.1 | Distribution of articles—numbers and types

The distribution of articles across the three newspapers for 2 years is shown in Figure 2. VP published the most number of items on water issues with 317 articles in 2019 and 141 in 2020, followed by UT with 268 articles in 2019 and 150 in 2020. TK carried the least number of articles with 172 and 136 items in 2019 and 2020, respectively. Total number of water-related articles published showed a decline from 2019 to 2020 in all three papers, with the largest drop of 55% seen in VP, which is the paper with the highest number of articles among the three. The overall decline of 44% from 2019 to 2020 appears to be associated with the pandemic situation prevailing through most of 2020 and the resulting reduction in newspaper output during the prolonged lockdown.

Collected articles were initially categorized into news versus non-news items in view of the very large number of news items, with a third category of advertisements added afterwards for the purpose of numeric analysis given in Figure 3 and Table 3. Further breakdown of each category into several subtypes, informed by the content analysis that followed, is taken up in Section 3.2.

As evident in Table 3, substantial proportion of coverage was in the form of news reporting, this figure being well over 90% for the 2 years pooled together for TK and VP and 82% in the case of UT that carried as many as 48 water-related advertisements in 2019, accounting for 18% of newspaper coverage. A range of products related to water sales, water purification and filtering, and also the construction of swimming pools were promoted in these advertisements on behalf of a handful of businesses. It is remarkable that the same advertisement for a package of products was being repeated many times and in the same newspaper UT with the intensity of advertising dropping dramatically during the pandemic year of 2020.

VP contained the largest number of non-news articles compared to other two papers examined (28 vs. 16 and 17). These were mainly presented as news features and columns in VP in 2019, and in this sense, VP appeared to stand away from the other two papers with regard to allocating column space to water and nature conservation themes (Table 3). This paper carried a dedicated page in their weekend edition on nature-, environment-, and agriculture-related subjects with contributions from University of Jaffna academic Professor G. Mikunthan and from the Jaffna Science Association. There were eight items covering water in this series in VP in 2019 and none in 2020. The latter was clearly an abnormal year with the advent of the pandemic, and this seems reflected in the numeric outputs in print media as well.

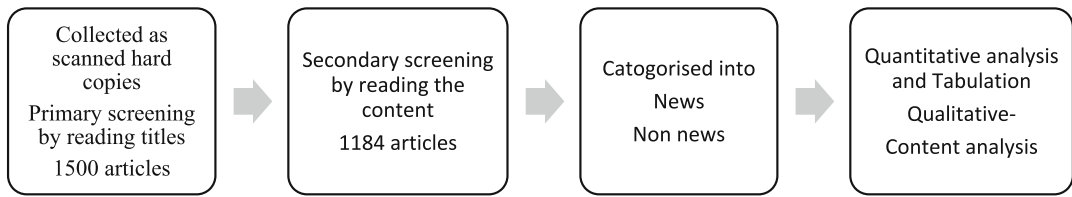


FIGURE 1 Flow diagram of selection of articles and analysis.

3.2 | Coverage of water issues—content

The coding variables of news items were grouped into three categories (Table 2), namely, types of news, issues covered in the news items arranged as themes, and the geographic areas which the news items referred to. A total of 16 types of news items were recognized, and each of these is defined or described in Table 4, and the coverage under each type is presented in quantitative terms in Figure 4. Water issues covered in news items were categorized into 18 thematic groups as shown the Table 6. Geographic coverage of news items was identified according to whether they referred to one of the five districts that make up the NP, the whole of the NP itself, or if the coverage was beyond the province. Articles that were in the non-news category were grouped into five broad water-related themes.

3.2.1 | News items

In the area of news coverage, reporting of events related to water was the most common type noted across all three papers numbering 329 reports in all (Figure 4). In comparison to such reporting of water-related events along with incidents (398), calls for action and complaints (237) arising from the public were the next main types of news items. Announcements initiated officially by relevant water departments and information of public interest also generated by the same official sources (105) together accounted for one broad type of officially released news items. Considerable coverage of calls for action is directed at water authorities, and the allocation of newspaper space for such calls arising from the public as a proactive response is seen in all three papers, with VP standing out from the rest in this regard. The relative absence of reporting on any water-related conflicts in the community among the three newspapers is notable.

Figure 5 and Table 5 are representations of the same data on news items reported in the three papers across the 2 years but in broader thematic groupings, with Figure 5 showing the pooled data of 2 years for the three papers according to the identified themes and Table 5 showing the number of entries for each year separated according to the themes and newspapers.

Taking Figure 5 and Table 5 together, it is evident that two sets of themes dominate the reporting on water matters: impacts of flood and droughts on the one hand and water supply on the other. Events related to water supply or the initiation of water projects were the predominant events reported, and this correlates well with the fact that announcements and information arising from water management authorities were the main categories of news items reported (Section 3.2). News related to impact of drought and water scarcity ranked high in 2019, while in 2020, major news reporting was on water resource management, particularly tank management.

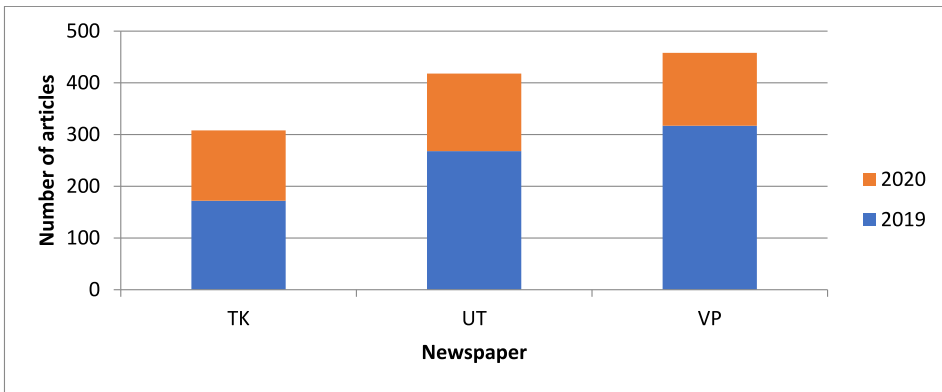


FIGURE 2 Number of articles of three papers in 2 years.

Coverage of tree planting and tree supply and illegal sand mining activity were considered as water-related issues for this analysis in view of the influence these practices have on water resources and water conservation. Coverage of tree planting and tree supply events were reported to a large extent in UT, and illegal sand mining being a major issue in the NP received more attention by the paper VP.

The geographic distribution of water-related reporting presented in Figure 6 showed that, as expected, the majority of the news coverage concerned local news centered on the NP and its five districts. News from two of these districts, Jaffna and Kilinochchi, dominated followed by the Mullaitivu District. As newspapers situated in the NP, their news coverage was minimal in terms of anything from outside of the NP.

Sources of covered items attributed

Table 6 indicates the number of items in each newspaper, which had sources attributed along with the respective sources named in column 1. More than 50% of the articles did not attribute sources, and in the remaining articles, the most quoted sources were government authorities at the central, provincial, and local government levels, including the National Water Supply and Drainage Board. These were followed by general public as sources of information including farmers and fisher folk. Number of articles that quoted academics was close to zero. The number of reporters identified by their names in the news items reported is very low as well.

3.2.2 | Non-news items

The relatively small proportion of coverage in the category of what is referred to in this paper as non-news articles were broken down into four main thematic areas, namely, water quantity, water governance or water management, water quality, and water and society (Table 7).

All three newspapers appeared to have paid more attention to water quantity-related issues over the period of study. The content within what we categorized as water quantity included water conservation, nature conservation, and water scarcity, while water management/governance included water supply, tank rehabilitation and maintenance, governance and institutions, rainwater harvesting practices, farming practices, drainage system, and sand mining. Water quality was prominently about water contamination and salination.

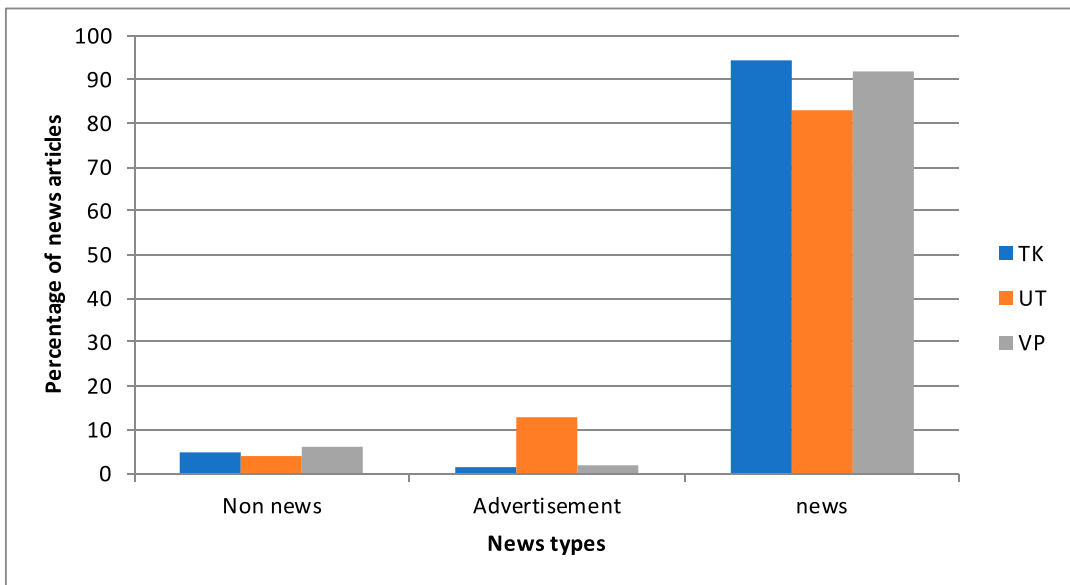


FIGURE 3 Different article types (%) within the three newspapers.

4 | DISCUSSION

The media analysis reported in this study was undertaken on just one aspect of the media landscape in the NP, namely, the print media, and particularly around three Tamil dailies. This media analysis, viewed as a subset of content analysis, followed standard methods associated with content analysis. Macnamara (2005) described content analysis as “a technique which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time.” We were guided by an earlier statement on the core of media analysis by Lasswell (1948) described as “who says what, through which channel, to whom and with what effect.”

Our analysis of what has been said through newspaper coverage in this study revealed two fundamental aspects in relation to reports on water in the NP. First is the general issue of availability of water, and the second is related to the issue of supply of water. Water available in the NP is what is derived from rainfall, which therefore is seasonal, and leads to situations of surplus water, therefore flooding in the rainy season, and situations of lack of rain and, therefore, drought and its impacts on people and nature. On the issue of supply of water, again there are two aspects, namely, supply of drinking water to households and allocation of irrigation water for rice cultivating farmers. These seasonal phenomena and related events and activities appear to be punctuating the interest of media, serving as newsworthy moments to be reported. This also explains the episodic nature of reporting of water revealed in this study.

The 55% drop in the number of water-related articles recorded in 2020 compared to the same statistic in 2019 is a factor of the lowered level of media activity resulting from the COVID-19 outbreaks and the series of lockdowns imposed at national level in Sri Lanka. This reduced activity correlates well with the observation that the number of pages published by each paper was lower than average until the pandemic situation improved a year later. The same phenomenon was seen also in the number of water-related advertisements carried by the papers, with UT in particular carrying a total of 48 advertisements in 2019 that dropped to just 8 in 2020.

TABLE 4 Description of each type of news items as adopted in the study.

| Type | Explanation | Sample headlines |
|-----------------|---|---|
| Event | Reporting water-related events that had recently taken place or about to happen | Handover of water bowsers Cleaning of flooded wells Opening of drinking water treatment plant |
| Incident | Reporting water-related events of sudden onset or unexpected in nature, for example, natural disaster | Well water suddenly turned black in Konavil area During a severe drought, it suddenly rained in Vavuniya |
| Information | Any official information related to water | Water supply project to be successful in 2023 in Jaffna Reconstruction of six irrigation tanks in Mullaitivu at cost of Rs.1.79 million Rs.2000 million allocated as solution to the drinking water problem in the Jaffna Peninsula |
| Complaint | Statements made by public or others to relevant officials regarding a matter of concern | Excessive wastage of water due to deficiency in the rehabilitation of Iranaimadu kulam—farmers' allegations No relief provided to flood victims as complaint from Mulliyawalai North villagers |
| Call for action | Requesting concerned officials to take action regarding water issues | The people of Maruthankulam demanded that people and their ponds be saved from the continuing illegal sand mining in the area around Maruthankulam. Take action to overcome drinking water scarcity—residents of Maathalan village |
| Announcement | Official statements announced about water-related activities | Water cut in Mannar today Sign up to get a water connection 14,000 acres under Iranaimadu tank for small-scale paddy cultivation Announcement of water supply dates in time for sowing |
| Report 1 | Reporting of details of impacts of disaster officially with relevant authorities identified | 16 families affected due to rain accompanied by gusty winds—assistant director of disaster management, Jaffna District 2416 families affected due to Mullaitivu drought—district secretary |
| Report 2 | Reporting of impacts of disaster but no detail, and no relevant authority mentioned | Chavakachcheri—people affected due to sea water entering in Makilankeni |
| Protest | People protesting against any water-related activities | Protest against extraction of fresh water People protest to save groundwater |

(Continues)

TABLE 4 (Continued)

| Type | Explanation | Sample headlines |
|--------------------------|---|--|
| Decision | Decisions on water-related actions taken by government officials/politicians in a meeting | Decision made in Nallur Pradeshya Sabha on the need for a rainwater tank for t new building being constructed |
| Warning | Warning related to disasters (heavy rain or flood) or water-related actions issued by relevant authorities | Municipal council warns of immediate demolition if pillars are erected near ponds Cyclone warning in Gulf of Mannar |
| Court order | Punishment ordered by court for water-related crimes | High court orders Rs 20 million as compensation for drinking water pollution in Chunnakam Penalty of Rs.15,000 for constructing bore wells without permission |
| Accusation | Accusing a person or group for not performing what is expected | Lift irrigation scheme created at a cost of Rs.320 created at a cost of Rs.320 lakhs has been abandoned |
| Instruction/ advisory | Advice and guidelines on health and water management aspects by relevant official with authority (not reporters or journalists) | Farmers in Jaffna District should act keeping in mind the future water requirement: Irrigation engineer |
| Notice | Official notice issued | Announcement regarding the increase in water tariff for the year 2019 |
| Conflict | Water-related conflicts in community reported | Waste disposal in Kannathiddy—conflict between municipal council and public |

An important trend to be noted in relation to advertisements in the papers is the increasing presence of promotional material on equipment for filtering water for drinking purposes at household level, which is a reflection of a growing sense uncertainty and fear in the community about the safety of groundwater. The high proportion (82%) of all advertisements in UT being devoted to water filtering or purifying equipment during 2019 is likely an indication of that fear. The language used in framing these advertisements and indeed the complex aspects of the subject of risk communication associated with trends like this in relation to safety of drinking water in the NP is worthy of further investigation. The adoption of water filtering at household level and the sale of bottled water as a commodity have both continued to grow rapidly in the NP. We believe media has a role to play in not only commenting on these trends at present but also utilizing the potential they have to frame and shape the discourse in society on such matters aided by appropriate knowledge derived from relevant branches of science.

4.1 | Source attribution

More than 50% of the articles did not attribute a source. In the remaining articles, the most quoted sources were government authorities. The full spectrum of water bodies representing the central, regional, and local government structures, and more specifically the Department of Irrigation concerning supply of water for agriculture and the National Water Supply and Drainage Board concerning water supply for domestic use, were the dominant sources quoted. This is

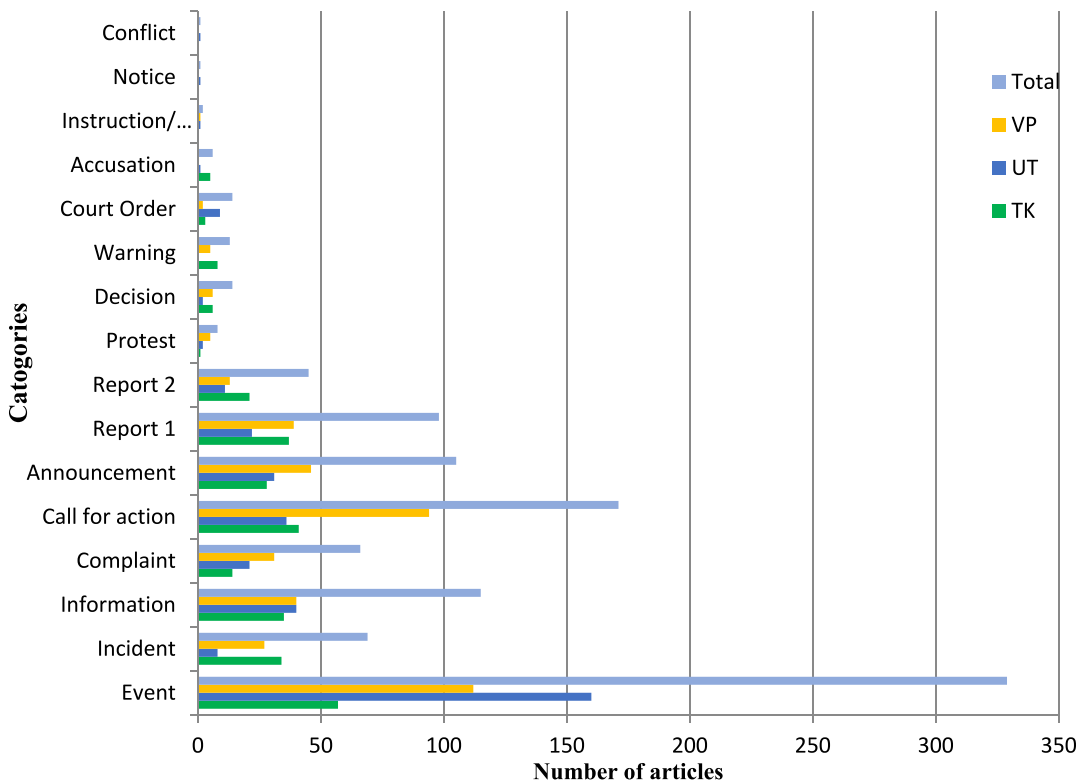


FIGURE 4 Types of news items reported in the three newspapers.

not surprising when the significant role of government institutions in the sphere of water management in Sri Lanka is recognized, which in turn is reflected in the emphasis given to engineering solutions and thereby to physical infrastructures in the reporting. The concerns and voices of the public, including those of farmers and the fishing community, rank below that of government institutions as sources quoted.

A small number of articles quoted academic sources or other general bodies of the state. In this sense, what we recorded in Sri Lanka in this study corresponds well with what research in other parts of the world showed, as discussed in Section 1 (Hurlimann & Dolnicar, 2012; Wei et al., 2015).

4.2 | Culture of reporting versus awareness raising responsibility

In an agricultural landscape dominated by a prominent monsoonal rainy season followed by a distinct dry season of unreliable rainfall, as outlined earlier, flooding in the wet season and periods of drought in the dry season, each phenomenon with its own impact on society and farming create newsworthy consequences from a reporting point of view. Furthermore, management of bodies of water referred to as “tanks” constitutes “water supply” for irrigated farming that also generates its own newsworthy information. In broad terms, these themes account for a significant number of news items covered by all three newspapers across the two years, and we went as far as suggesting 16 different types of news items being produced by the papers. Neither the recurring natural phenomena behind the large

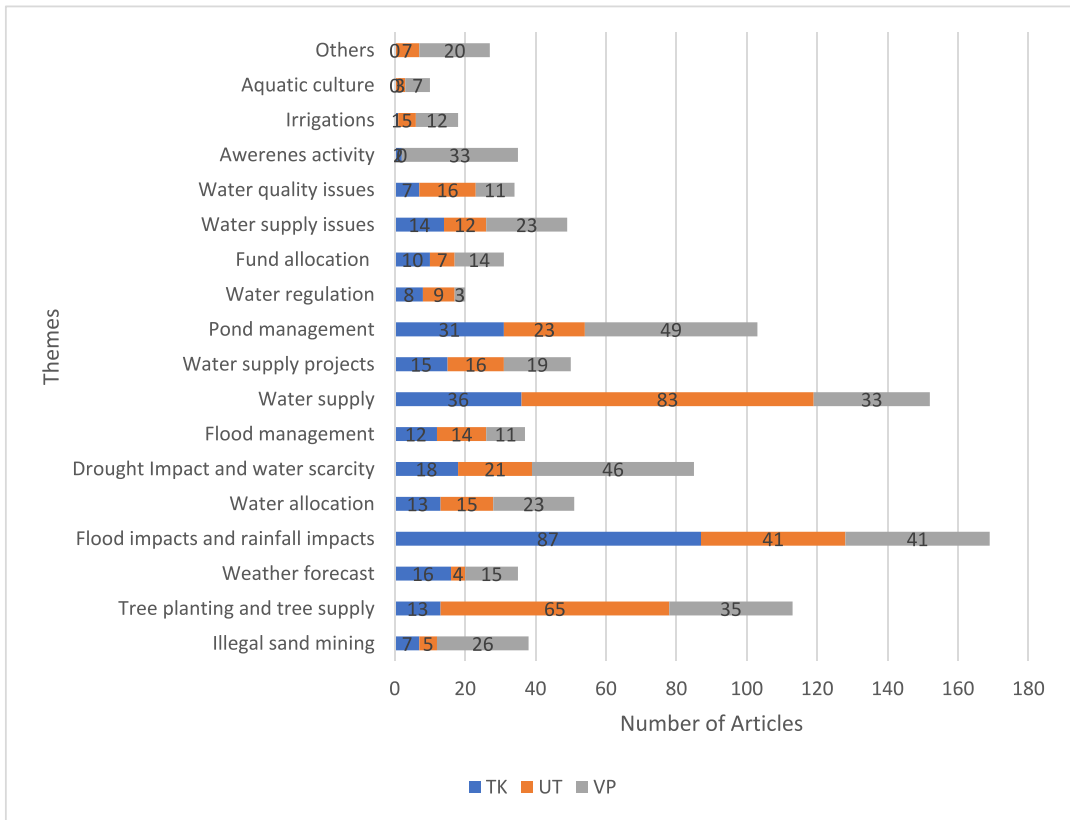


FIGURE 5 Coverage of water issues in three newspapers according to themes.

number of events reported each year and their causes and consequences nor the awareness required among the public about the management of water as a limited resource in the NP appear to be of concern to the media personnel, judging from how they report water-related news.

There was, however, one category of news, calls for action, where there was considerable activity arising from the public, and newspapers seem willing to allocate space to enable exchange to happen, a proactive behavior among all three papers. The fact that, among the three newspapers, VP stood out from the other two in this regard carrying more space for such dialogue is noteworthy. At the same time, the relative absence of reporting on any water-related conflicts in the community indicates a reluctance to include coverage of controversial topics and a failure to see the opportunities such writing may open up for influencing paper-reading public.

Mass media have the possibility for shaping public opinion and influence attitudes and behavior of people (Jamieson & Campbell, 1992). Such agenda setting role for media in relation to environmental matters is seen in other parts of the world. Schmid et al. (2007) picked up in their work covering 10 regional newspapers in the Upper Midwest of the United States, two contrasting sets of messages in relation to water security as two themes, one set offering a hopeful, positive message of improving water security, and the other set that presented a message of water security deterioration as the theme, thus exposing readers to the broader picture regarding water security.

Such a dichotomy in messaging about water security is just as possible in the context of the NP in Sri Lanka as anywhere else in the world, because of the current challenges the water resource base faces everywhere. These challenges come from the demographic and socio-economic pressures on the demand side and from the marketing of water on the supply side. Such opposing perspectives, however, need not be the reason for concern and fears in community if media took their responsibility seriously and offered the bigger picture at all times to bureaucrats, decision makers, and citizens alike, within an appropriate water governance framework going beyond the logic of the institutions and the market.

Journalists' approach to discussing water security or even wider aspects of environmental issues is clearly absent in the media sector studied here. Instead, the culture of reporting events and incidents, usually after they have happened, is dominant with hardly any evidence of environmental journalism. Boyagoda (2017), when writing on news coverage of environmental issues in Sri Lankan newspapers, claimed that environmental issues were not only ignored but, when covered, were given very small and marginal amount of space. Lack of knowledge on environmental questions in general and an attitude of lethargy on the part of the media personnel to learn were attributed as reasons for poor coverage of environmental issues in the form of editorials (Boyagoda, 2016, 2017; Reza & Haque, 2011). Ejaz et al. (2021) reporting on climate journalism in Pakistan noted that journalists there lacked expertise and domain-specific knowledge that prevented them from informing the public about the underlying root causes and drastic effects of climate change. This resulted in them producing cursory news content, far from being able to fill the role of civic educators (Ejaz et al., 2021). In a comparative study of representation of environmental news between New Zealand and Malaysia, Nik Hasan (2007) commented on factors such as journalists' awareness of organizational determinants of news and editorial policies towards the environment as well as journalists' lack of knowledge about environmental issues and science as problematic. Such deficits in the professional capacity of media personnel seem systemic at least in South and South East Asia.

The dominance of a reporting culture, particularly, about events and incidents announced or communicated as government decisions, leaves open the usual questions asked in media research, namely, who said what, who is influencing discourse in society about water, and what impact media has on society's understanding of the critical nature of the water security in this situation. With as many as four out of five articles in the papers being reports on events and announcements by water authorities, one is left with the impression that the newspapers in this study were simply serving as media mouthpiece for informing the decisions government authorities make. There is no evidence from this study to show that the reporters were prepared to undertake their own research on or around the events and issues reported, in order to add depth and create narratives or stories, let alone persuade the public towards responsible behavior regarding water as a threatened resource. Their sense of responsibility appears to be connected mainly to a swift and efficient delivery of news, holding on to the facts alone, and rather let the audience to form their own views.

There is also the other aspect to this question, namely, what the editors think about the work of the journalists when prioritizing allocation of column space. Media personnel who took part in focus group sessions within the larger project this study was part of expressed their frustrations about the business-minded attitude of editors as a handicap in their work and claimed that their writing often got reduced to mere reporting of events and incidents. In other words, the reporters felt powerless to choose what got published in the end, a matter that was a sole decision by the editors based on their own criteria.

TABLE 5 Coverage of water issues according to themes in 2019 and 2020.

| Themes | TK | | UT | | VP | |
|------------------------------------|------|------|------|------|------|------|
| | 2019 | 2020 | 2019 | 2020 | 2019 | 2020 |
| Illegal sand mining | 4 | 2 | 1 | 4 | 13 | 12 |
| Tree planting and tree supply | 7 | 5 | 35 | 32 | 22 | 12 |
| Weather forecast | 2 | 13 | 3 | 1 | 3 | 11 |
| Flood impacts and rainfall impacts | 44 | 42 | 18 | 23 | 28 | 13 |
| Water allocation | 8 | 4 | 6 | 9 | 13 | 9 |
| Drought impact and water scarcity | 15 | 2 | 17 | 4 | 42 | 3 |
| Flood management | 5 | 6 | 12 | 2 | 5 | 5 |
| Water supply | 26 | 9 | 60 | 23 | 28 | 4 |
| Water supply projects | 9 | 5 | 11 | 5 | 12 | 6 |
| Pond management | 16 | 14 | 16 | 7 | 34 | 14 |
| Water regulation | 5 | 2 | 9 | 0 | 2 | 0 |
| Fund allocation | 7 | 2 | 4 | 3 | 8 | 6 |
| Water supply issues | 7 | 6 | 8 | 4 | 18 | 4 |
| Water quality issues | 2 | 5 | 10 | 6 | 6 | 4 |
| Awareness activity | 2 | 0 | 0 | 0 | 32 | 0 |
| Irrigations | 0 | 1 | 1 | 4 | 8 | 5 |
| Aquaculture | 0 | 0 | 0 | 3 | 5 | 2 |
| Others | 0 | 0 | 0 | 7 | 13 | 7 |

Abbreviations: TK, *Yarl Thinakkural*; UT, *Uthayan*; VP, *Valampuri*.

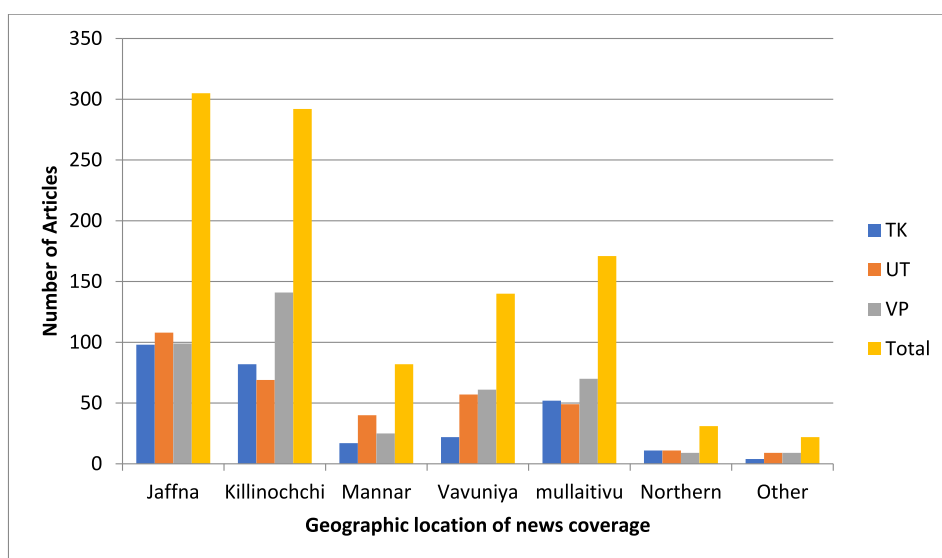


FIGURE 6 Geographic location of news items covered by three newspapers.

TABLE 6 Source attribution in news coverage as % in the three newspapers.

| Source | TK | UT | VP |
|---------------------------|----|----|----|
| No source quoted | 51 | 58 | 48 |
| Public voices | 15 | 14 | 21 |
| Central government bodies | 8 | 13 | 11 |
| Local government bodies | 9 | 6 | 6 |
| Water specific bodies | 8 | 6 | 7 |
| Academic | 1 | 0 | 0 |
| Community associations | 2 | 1 | 3 |
| Politicians | 4 | 3 | 3 |
| Named reporters | 3 | 0 | 0 |

Abbreviations: TK, *Yarl Thinakkural*; UT, *Uthayan*; VP, *Valampuri*.

TABLE 7 Frequency of non-news articles according to themes.

| Themes | TK | UT | VP |
|-----------------------------|----|----|----|
| Water quantity | 6 | 9 | 12 |
| Water management/governance | 2 | 5 | 9 |
| Water quality | 6 | 2 | - |
| Water and society | 1 | - | 2 |

Abbreviations: TK, *Yarl Thinakkural*; UT, *Uthayan*; VP, *Valampuri*.

4.3 | Way forward

In relation to the research questions that motivated this brief study, the level and scope of media coverage of water issues in three Tamil language dailies in Northern Sri Lanka have been established along with geographical, seasonal, and annual trends over the 2-year study period. It could be said that there is an overwhelming tendency in the newspapers to report events, natural phenomena, and announcements made by authorities. One important conclusion we can make here is that the effect of these newspapers on their audiences would merely be to inform rather than to set agendas, frame the discourse on water in society, or persuade readers enough to make behavioral changes in relation to groundwater usage. This obviously leads to a question as to whether too much is being expected from the print media in this instance. Findings by Quesnel and Ajami (2017) from their study of drought-related news coverage in nine prominent newspapers in California's San Francisco Bay area showed that heightened news coverage led to a reduction in water use by urban householders, which offers a promising role for print media. This, however, would require that a concerted effort amounting to a campaign was in place for the level of behavior change to be seen among water users.

The present study has established the potential that exists for newspapers as well as other media in the NP of Sri Lanka to shift their reporting culture towards more responsible, purposeful, and coordinated campaigns when required, along with the production of in-depth writing to create wider awareness and behavior change for water security. Every unusual natural phenomenon, including droughts and floods, could be seen, not simply as a newsworthy moment,

but as an important opportunity to influence public opinion about water use, as discussed by Wei et al. (2015).

The Guardian newspaper in Britain with its longstanding record of powerful environmental reporting, quality, and independence has earned the reputation of being the world's leading liberal voice for the environment, particularly in communicating climate change, and the trendsetter that publishes on average one new environment piece every 3 h (The Guardian, 2022).

The capacity among the reporters and media personnel in the NP for advanced forms of journalism including the conduct of own research, compiling of stories, writing for a variety of readership and for contemporary media can be developed, specifically around sustainable management of natural resources, with the help of the University of Jaffna. In the relatively small field of newspapers published in the NP, it would be sufficient even if one newspaper emerged with commitment to cover matters related to the natural environment pertaining to the region. In fact, a significant group of media personnel including the editors of the three newspapers studied here were gathered at the University of Jaffna for a workshop when the findings of this work were presented to them in 2022. They demonstrated much enthusiasm for making the necessary shift in their professional role in relation to water security and expressed their interest in being part of effort in this direction with support from the academic community. The shift that is foreseen here would be a shift from the present situation where a reporting culture dominates to one where a journalism culture is prominent and professionals actively working for responsible change. Drawing from the work of Hanitzsch (2011) in the Worlds of Journalism Study, involving 1800 journalists in 18 countries, that shift would be to move a journalist occupied with a populist disseminator role to one whose professional milieu would be to be a critical change agent.

In policy terms, further research of the kind presented here, including studies on the role of new social media and its users in representing the environment, can assist policy makers in creating adequate strategies for effective public engagement in and awareness of the status of water, as well as education campaigns for water demand behavior and good governance for long-term water security in the province.

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