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## Ecolinguistics for and beyond the Sustainable Development Goals

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**Abstract:** This article considers potential impacts the study of language, including ecolinguistics, can have on important real-world issues, and how linguists and others can involve themselves in addressing these issues for a sustainable future. The article is divided into two parts. The first part provides an illustrative study in which computer tools were utilized to investigate media reporting. The study examined the relative coverage of issues of basic human needs (food, clean water, and sanitation), which are part of the focus of the UN Sustainable Development Goals, and of the COVID-19 pandemic outbreak, in four major newspapers from Malaysia, Singapore, the UK and the US. Data were collected between November 1, 2019 to March 31, 2020 when the COVID-19 pandemic was in its early days in terms of worldwide attention. During that time period, the pandemic received far more coverage in those newspapers than did the other issues, even though basic human needs greatly outweighed the COVID-19 pandemic as to deaths and other forms of suffering at the time of data collection, not to mention the toll on human life in the many years before the COVID-19 pandemic outbreak. Reasons for this severe discrepancy were explored with insights from professionals working in the media

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and related sectors. The skewed distribution of media coverage, we argue, reflects a crisis of responsibility and values. The second part of the article serves to highlight how those of us in language studies can make a contribution to the wider discussion about, among other important concerns, the role and responsibility of media in shaping the public's views and actions on issues that are at the heart of sustainable development, and how we can be more socially engaged. We conclude by arguing that ecolinguists have much to contribute to the sustainability of the world, which ultimately requires a respect for the entire ecological community.

**Keywords:** clean water and sanitation; COVID-19; hunger; media responsibility; social engagement; sustainability

There is a virus which has killed so many people for years. That virus is called “Hunger” and its vaccine is food. However, no one talks about it. You know why? Because this virus doesn't kill the rich. (Entire Path 2021)

## 1 Introduction

This article considers the potential contribution that language study, particularly that by ecolinguists, can make towards investigating issues that require social action. One case in point is the achievement of the 17 Sustainable Development Goals (SDGs) of the United Nations for a sustainable world. We provide a study that shows how researchers can use language analysis tools to investigate media reporting as a way to raise awareness and potentially promote action which addresses some of the SDGs, including hunger, as mentioned in the above quotation.

The purpose of this article is twofold: first, to demonstrate how media attention to issues of basic human needs can be investigated, and second, to highlight the relevant implications and how efforts for a sustainable world may be promoted in academia, the classroom, and the wider society, in line with the focus of this special issue on practical applications in ecolinguistics.

The study to be reported in the first part of this article might seem to fall outside of linguistics, as the study investigates the presence or absence of topics in four newspapers from various parts of the world, rather than the language used to discuss those topics. However, Stibbe's (2015) seminal book on ecolinguistics highlights two ways in which presence and absence matter.

The first of these ways that presence and absence are important involves what Stibbe (2015: 145) called *erasure*: “[l]inguists give critical attention not only to

participants which are explicitly represented in texts, but also to those which are suppressed, backgrounded, excluded or erased from texts”.

Our data suggest that people suffering from lack of food, clean water, and sanitation had for the most part been erased from newspaper coverage, while people suffering from the COVID-19 pandemic were prominently discussed. The current study used language tools afforded by technology to gain a massively larger sample, so as to move beyond anecdotal impressions.

Related to erasure is another matter that Stibbe (2015: 162) emphasized, *salience*, which he defined as “a story in people’s minds that an area of life is important or worthy of attention”. When newspapers choose to publish articles on certain topics and about certain groups of people, they are making those topics and people more salient in the minds of their readers. One hope of the authors of the present article lies in greatly increasing the salience of the problems of lack of food, clean water, and sanitation, thereby increasing efforts to address these problems. Part of these efforts involves what Stibbe termed *re-minding*, that is, redressing erasure and lack of salience. A major goal of this article is to highlight the role of language investigations in promoting sustainable development by redressing erasure and lack of salience of issues that matter to basic human needs through the present illustrative study, and through a discussion of the implications and suggestions for further action.

What follows is a brief review of the relevant literature. Then we describe our study, which explored the relative coverage of issues of basic human needs (particularly extreme scarcity of food, clean water, and sanitation), on the one hand, and of the COVID-19 pandemic outbreak, on the other hand, in four major newspapers from Malaysia, Singapore, the UK, and the US. Finally, a discussion follows of the implications and suggestions for further actions, before we conclude the article.

## 2 Literature review

### 2.1 Basic human needs

When humans were first learning to farm, around 8000 BC, a total of approximately five million people inhabited the Earth; yet, in 2023, the human population may reach eight billion (Worldometer 2020). Approximately, 144 million people are born every year and approximately 57 million people die (Ritchie 2019). Many of these 57 million may be dying unnecessarily, because despite the great progress that science has made in finding ways to provide humans with food, clean water,

and sanitation, many people still die from lack of these basic human needs (United Nations 2016).

For instance, undernutrition causes an estimated 3.1 million child deaths annually, that is, more than 8,000 daily (World Hunger Education Service 2020). It is another sad reality that the overlapping factors of absence of sanitation facilities and clean water kill 100s of thousands of children before they reach the age of five (World Health Organization 2019). The United Nations estimated that more than 50% of the world's population does not have access to safely managed sanitation (Harvey 2020a). Furthermore, as hand washing with soap and water is believed to be a key defense against the COVID-19 pandemic and other viruses, the absence of clean water puts the poor at greater risk from viruses. UNICEF (2019) reported that globally, one in eight health care facilities were without water service, and one in five had to cope without sanitation service. The poor also have suffered disproportionately from COVID-19 due to the huge disparity in access to vaccines (Tatar et al. 2021).

The UN SDGs were formulated in 2015. The 17 SDGs replaced the Millennium Development Goals which were initiated in 2000 (United Nations Development Program 2020). Of particular interest for this article are SDGs 1 (no poverty), 2 (zero hunger), 3 (good health and well-being), and 6 (clean water and sanitation). Prior to the start of the current study, we had anecdotally noticed that little seemed to be reported in the media concerning deaths caused by inadequate access to food, water, and sanitation. Deaths and infections caused by the COVID-19 pandemic, on the other hand, appeared to be receiving far greater media attention at the time when the data were collected for this study: late 2019 and early 2020. We wondered why we saw so little in the media about deaths caused by hunger and lack of clean water and sanitation, while other causes of death captured headlines. This study sought to bring the light and credibility of research to bear on whether our impressions were correct and, if they were, to investigate why this imbalanced situation came to exist.

## 2.2 Media selected attention

Many areas of scholarship can be drawn upon to suggest reasons for the much greater attention to deaths caused by the COVID-19 pandemic compared to attention to deaths caused by inadequate access to food, water, and sanitation. This section of the article briefly addresses some of these often overlapping reasons.

First, in economics, the concept of supply and demand is well-known. However, just because people want a product or service, such as food or the

construction of a sanitation system, that does not count as a demand unless they are able to purchase the necessary products or services, that is, unless they have effective demand. People who have no difficulty exercising effective demand may not appreciate the struggle of those without the financial wherewithal to buy necessities. However, with the COVID-19 pandemic, even wealthy people, those who can afford media access are vulnerable. Each one is a potential victim.

In addition to economics, psychology is a field that may offer insights as to why some causes of death draw more media attention than do others. For example, psychologists talk about the recency effect (Ebbinghaus 1913) in which more recent phenomena attract more attention. Certainly, the COVID-19 pandemic, which contains the number '19' due to its rise to prominence in November/December 2019, is much more recent a cause of death than hunger and lack of clean water and sanitation. Psychologists have also discussed a tendency for humans to feel a closer connection to people who are more similar (Seidman 2018) or to those who experience similar phenomena with themselves, that is, a closeness effect. Closeness effect links with the concept of circle of compassion. This could also be interpreted in terms of people's tendency to restrict their circle of compassion to those whom they know, those who are close to them both physically as well as in terms of similarities (e.g. nationality and social class), that is, only those close to their lives receive their attention. Perhaps, we can expand our circle of compassion to all people, including those who are suffering from hunger and from access to clean water and sanitation, as well as those affected by the COVID-19 pandemic.

Political science may also provide clues as to why some deaths receive more media attention than others. Herman and Chomsky (2010) introduced the terms *worthy victims* and *unworthy victims*, with worthy victims, deemed to be deserving of people's attention and sympathy, whereas the deaths of unworthy victims, for whatever reasons they die, do not merit much notice in the media. Of course, worthiness depends on who is judging. For example, Pear (2018) criticized a US government perspective by recounting that the US representative to the United Nations held up photos of Syrian children who had been killed by the armed forces of the Syrian government, a government opposed by the US government. At the same time, Pear claimed that the US largely ignored the deaths of 50,000 Yemeni children, as these deaths resulted in part from policies of a US government ally, the government of Saudi Arabia. Perhaps, for many in the media, victims of the COVID-19 pandemic may somehow be more worthy than victims of malnutrition or lack of clean water and sanitation.

Writing on the issue of world hunger, Field (2002: Para. 8–9) also offered a political science perspective on the distribution of attentional resources, writing that

One might think that hunger would be an easy issue for governments, international agencies, and even universities to embrace. Nobody actually favors the existence of hunger, except occasionally as a weapon of war. Most would agree that hunger is undesirable and that its prevalence in the world connotes something wrong that should be addressed. And, indeed, leaders as diverse as Lenin, Franklin Roosevelt, and Ferdinand Marcos have exploited the rhetorical appeal of hunger as an issue, confident that it symbolizes what they oppose and that their people's ethical, humanitarian, and political beliefs will reward them for pledging to rectify the situation. (Field 2002: Para. 8–9)

Despite hunger's seemingly easy appeal to politicians, government and NGO staff, and well as the media, as an issue that casts those addressing it in a positive light, Field noted some reasons that hunger does not receive the media space that it might otherwise seem to merit. These reasons include:

1. Hungry people often lack visibility, living in remote areas or, when situated in urban areas, residing in locations not often frequented by media consumers.
2. The hungry often suffer from an absence of what Field called 'political salience', that is, they do not know how to make their voices heard.
3. While almost everyone agrees that people being without sufficient food and going without water and sanitation is a societal evil, fewer people agree that addressing this evil results in a collective good.

In the field of Mass Communication, Framing Theory (Entman 1993; Stibbe 2015) suggests that how the media frames or presents situations or events has an important impact on media consumers' views and actions. Kogen (2014) found that news articles in US newspapers that covered the issue of hunger in the United States usually framed the problem as an important public matter, with the victims presented as being worthy of political action on their behalf, and the US government and readers being presented as having agency to reduce or end hunger in their own country. In contrast, Kogen (2014) found that articles in the same US newspapers covering hunger in Africa framed hunger there as less relevant to the US public, and focused less on the victims being viewed as worthy of assistance and of the problem being solvable, rendering readers as impotent, either to solve the problem themselves or to influence their government to solve the problem. Thus, framing may be key to reader reactions.

An example of media framing of an issue as one in which victims are worthy of assistance and in which readers are capable of rendering some assistance can be seen in a Singapore newspaper article from early 2020 (Co 2020). In that article, readers were called on to help those in need due to the COVID-19 pandemic outbreak. This assistance effort was painted in a positive light in quoted comments by government ministers, and the effort was described by the use of such terms from Singapore culture as *kampung* ('community') and *sayang* ('caring'). Furthermore, specific guidance was given on what readers could do to assist.

Inclusion/exclusion of solutions-oriented information needs to be considered, since crises represent a key time during which the potential for international engagement is discussed in the mainstream media. However, Kogen (2014) found that US newspapers, when reporting on suffering in Africa tended to imply that no solutions were available or that suggested solutions were unrealistic. Nevertheless, Kogen did maintain that media coverage plays an important role by informing citizens, so that they can shape and express views on what their government and other organizations are doing.

## 2.3 The influence of the media

Before turning to the study, it might be useful to recall a belief held by communication researchers and discourse analysts concerning the influence of media coverage on public beliefs and attitudes: The press “may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about” (Cohen 1963: 13). The link between media attention and public opinions has indeed been a focus of investigations for many years. Citing Boomgaarden and Vliegthart (2009), Kellstedt (2000), Tukachinsky (2015), and Bleich et al. (2021) pointed out how media coverage can influence people’s conceptions of their own status and place in society and affect people’s preferences as to public policies towards different groups. In other words, what the media focus on can have an important impact on media consumers’ views and actions and drive public perception, attitudes, and possibly behavior (Bleich et al. 2021; Entman 1993; Kogen 2014).

While much of past research has focused on media bias towards certain groups of people (Baker et al. 2013; Bleich et al. 2021; Blinder and Allen 2016), the study to be reported in this article seeks to uncover the relative media attention to issues that have for millennia been fundamentally important to human survival (specifically, food, clean water, and sanitation) versus the media’s attention to the COVID-19 pandemic. The motivation for this study began with our disappointment at the continuation of the suffering of children and others when solutions seem to be so easily achieved. For example, undernutrition continues while huge amounts of food – more than enough to feed all the world’s hungry people – are fed to farmed animals, so that these nonhuman animals can live lives far short of their natural life expectancies before being slaughtered to provide meat to those who can afford to purchase it (Smithers 2017).

Similarly, we had been wondering why there is impressionistically so little attention in the media given to deaths caused by hunger and lack of clean water and sanitation, while other causes of death capture headlines. This seemingly

unbalanced media coverage became particularly obvious in March 2020, as the COVID-19 pandemic dominated the news. Using the present illustrative study, this article seeks to contribute to the wider conversation concerning the role of media in shaping the public's views and actions on issues that are at the heart of human sustainable development which, in turn, highlights how ecolinguists can be more socially engaged and make a contribution to achieving the SDGs, the focus of the second part of the article.

## 3 Methodology

### 3.1 Research questions

This study aims to address two questions:

- (1) What is the relative balance of media attention to the problems, on one hand, of extreme scarcity of food and lack of clean water and sanitation, and on the other hand, of the COVID-19 pandemic outbreak?
- (2) What are possible explanations for that (im)balance?

### 3.2 Materials

Four corpora were developed, comprising online articles from four newspapers from the period of November 1, 2019 to March 31, 2020. These newspaper articles were then examined for mentions of either extreme scarcity of food, clean water, and sanitation or the COVID-19 pandemic. The second question was addressed via a literature review and by sending a draft of the current article, along with the results of the first research question, to people in the media, in media studies, in the NGO sector, and in related areas, and asking them for their responses.

For the first research question, media attention was operationalized in this study by examining the number of newspaper articles with a focus on the issues: critically inadequate access to food, water, and sanitation versus the COVID-19 pandemic. Four corpora, representing four well-established English language newspapers in Malaysia (*The New Straits Times*), Singapore (*The Straits Times*), the UK (*The Guardian*), and the US (*The New York Times*), were created in order to examine newspaper coverage of the relevant issues.

To collect articles from the four newspapers, a web crawler program was developed based on the PySpider, a spider system in Python. From the four different newspaper websites as target pages, over 35,000 non-duplicate articles were collected. The articles were all from the “Local/National News” section and



the “World News” section of the online versions of the newspapers published in the period of November 1, 2019 to March 31, 2020.

All of the articles were then stored in separate folders according to the respective newspaper and time period. As can be seen from Table 1, the four corpora comprised 35,162 articles of 26.7 million words (tokens) in total, including 8,740 the *New Straits Times* articles (24.86%), 7,890 *The Straits Times* articles (22.44%), 12,853 *The Guardian* articles (36.56%), and 5,679 *The New York Times* articles (16.15%). Changes of coverage over the five months were also noted. There were 6,172 or 17.55% articles in November 2019, 5,850 or 16.63% in December 2019, 6,596 or 18.76% in January 2020, 7,600 or 21.61% in February 2020, and 8,944 or 25.44% in March 2020.

With the help of the regular expressions package in Python, the newspaper articles with words and phrases associated with extreme scarcity of food, clean water, and sanitation or COVID-19 pandemic in the title or in the text were identified. It is important to note that there is no uniform method to select words related to the issues we were interested in and that there was undeniably a degree of subjectivity in generating the relevant search terms (see also Bleich et al. 2021). That said, prior to the automatic search, a close study of a random selection of the articles in the corpora was done to identify words and phrases that seemed to regularly occur in articles reporting the issues we were investigating. Words like *undernutrition* were initially identified and became the word choice for an automatic search in the corpus of newspapers. A further close study of random individual texts suggested the need to also consider spelling variants such as *under-nutrition* and synonyms such as *malnutrition*.

The resulting list of search items for the automatic identification of the relevant articles based on this interactive process was as follows:

**Extreme scarcity of food, clean water, and sanitation:** *under-nutrition, undernutrition, under nutrition, malnutrition, undernourished, hunger, starvation, famine, clean water, sanitation*

**COVID-19 pandemic:** *corona virus, coronavirus, COVID-19, COVID 19, COVID19, Wuhan virus, China virus, Chinese virus*<sup>1</sup>

A total of 9,425 (26.80%) articles that contained these search items were identified. Next, those articles were divided into three categories: Category 1 – severe inadequacy of food, water, and sanitation; Category 2 – COVID-19 pandemic; and

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<sup>1</sup> The use of the last three terms *Wuhan virus*, *China virus*, and *Chinese virus* was sometimes politically motivated.

Table 1: Description of the data.

Newspaper	November 2019		December 2019		January 2020		February 2020		March 2020		Overall	
	N	%	N	%	N	%	N	%	N	%	N	%
<i>The New Straits Times</i> (Malaysia)	1,467	23.77	1,638	28.00	1,851	28.06	1,667	21.93	2,117	23.67	8,740	24.86
<i>The Straits Times</i> (Singapore)	1,474	23.88	1,356	23.18	1,439	21.82	1,542	20.29	2,079	23.24	7,890	22.44
<i>The Guardian</i> (UK)	2,051	33.23	1,831	31.30	2,127	32.25	3,282	43.18	3,562	39.83	12,853	36.55
<i>The New York Times</i> (US)	1,180	19.12	1,025	17.52	1,179	17.87	1,109	14.59	1,186	13.26	5,679	16.15
Total	6,172	100.00	5,850	100.00	6,596	100.00	7,600	100.00	8,944	100.00	35,162	100.00

Category 3 – articles containing mention of both severe shortage of food, clean water, and sanitation, and the COVID-19 pandemic.

It must also be noted that the kind of scarcity of food, water, and sanitation considered in this study is the kind of extreme scarcity which for years and years has regularly led to millions of deaths, years before the world became aware of the COVID-19 pandemic.

Because the search items, especially for Categories 1 and 3, could have different meanings or interpretations in different contexts in the newspaper articles, the articles with mentions of the extreme scarcity issues in this study were further studied to improve accurate identification of the articles. For example, using the search item *hunger*, we found not only articles reporting on issues of scarcity of food but also articles about the Hunger Games and about a hunger strike. Articles with such irrelevant terms were excluded from our analysis. Thus, all the articles in Categories 1 and 3 were cross-checked by the authors. First, the authors met by Zoom to discuss a selection of about 20 sample articles. Then, the first and third authors separately rated ten articles. Their ratings matched on 100% of the articles. Next, the third author rated all the remaining articles to see if they seemed to truly belong to Categories 1 and 3. This close analysis resulted in the total number of articles changing to 9,175 (26.09%).

To explore Research Question 2, after the results for Research Question 1 were available, about 30 professionals working in journalism and media studies were contacted for their feedback. They were from Malaysia, Singapore, Spain, the Philippines, the UK, and the US, with the researchers relying on their academic connections and their knowledge of the industries relevant to the study. Also, journalists from the four newspapers were contacted. All the professionals were asked to comment, however briefly, on why the COVID-19 pandemic received so much more media attention than extreme scarcity of food, clean water and sanitation. It might be important to note that at the time they were contacted (mid- to late April, 2020), COVID-19 pandemic had yet to cause as many deaths as the scarcity problems cause on a regular basis, not to mention that scarcity had been causing millions of fatality for years.

## 4 Findings and discussion

### 4.1 Research question 1: The balance of media attention

Research Question 1 asked: What is the relative balance of media attention to the problems, on the one hand, of extreme scarcity of food and lack of clean water and sanitation, and on the other hand, of the COVID-19 pandemic outbreak?

Table 2 shows the results of the distribution of articles in the following three categories: Category 1 – Articles focusing on extreme scarcity of food, water and sanitation; Category 2 – Articles focusing on COVID-19 pandemic; and Category 3 – Articles focusing on both the extreme scarcity of food, water and sanitation, and COVID-19 pandemic.

As can be seen from Table 2, of the 35,162 articles in the corpus of articles from the four online publications, 9,175 articles (26.09%) were relevant to Research Question 1. Of those articles, 45 (0.49%) were judged by the researchers to fit into Category 1, 9,109 articles (99.28%) were placed in Category 2, and 21 articles (0.23%) were placed in Category 3. Possible reasons for this distribution of articles into the three categories were the focus of Research Question 2.

## 4.2 Research question 2: Explanations for the imbalance

Research Question 2 asked: What are possible explanations for the imbalance in media attention to the problems, on the one hand, of extreme scarcity of food and lack of clean water and sanitation, and on the other hand, of the COVID-19 pandemic outbreak? Insights into media practice were gained through the feedback from those teaching media and communication studies and those working in the media industry. It must be noted though that of the approximately 30 professionals who were contacted for their expert views, only eight responded. Responses which added to what was learned via the literature review appear below anonymously:

1. The COVID-19 pandemic captures media attention because of its novelty as an unseen, unprecedented, wide-scale phenomenon that has baffled the world's top scientists. This is somewhat similar to the recency effect in psychology, mentioned above.
2. However, as to the novelty effect bringing media attention to the COVID-19 pandemic, one respondent pointed out that zoonotic diseases (diseases spread between humans and other animals) were actually not novel, as they go back thousands of years and may be expanding due to humans increasing encroachment on the lives of other animals (Greger 2020; Spinney 2020).
3. Furthermore, although warnings about upcoming pandemics from luminaries such as Bill Gates were not new, the media's short attention span means that the media tend to focus on problems only when those problems manifest themselves as disasters. Similar criticisms have been made regarding media attention to the climate crisis (Moore 2009).

Table 2: Distribution of relevant articles in four newspapers.

Category	Total		The New Straits Times		The Straits Times		The Guardian		The New York Times						
	Freq.	% <sub>1</sub>	% <sub>2</sub>	Freq.	% <sub>1</sub>	% <sub>2</sub>	Freq.	% <sub>1</sub>	% <sub>2</sub>	Freq.	% <sub>1</sub>	% <sub>2</sub>			
Extreme scarcity of food, water and sanitation	45	0.49	0.13	8	0.29	0.09	9	0.34	0.11	19	0.71	0.15	9	0.81	0.16
Under-nutrition/Undernutrition/Under nutrition/Malnutrition/Undernourished/(Clean) water/Sanitation/Hunger/Starvation/Famine															
COVID-19 pandemic	9,109	99.28	25.91	2,762	99.71	31.60	2,603	99.50	32.99	2,652	98.84	20.63	1,092	98.73	19.22
Coronavirus COVID-19/COVID19															
Wuhan virus China/Chinese virus															
Issues of extreme scarcity of food, water and sanitation, and COVID-19 pandemic	21	0.23	0.06	0	0	0	4	0.15	0.05	12	0.45	0.09	5	0.45	0.09
Totals	9,175	100	26.09	2,770	100	31.69	2,616	100	33.15	2,683	100	21.07	1,106	100	19.67

1. *Freq.* refers to the frequency of articles published in the local/national and world news sections of each of the four selected newspapers. 2. %<sub>1</sub> refers to the frequency divided by the total number of relevant articles in each category, with the sum being 100%. 3. %<sub>2</sub> refers to the frequency divided by the total number of articles (35,162).

4. The COVID-19 pandemic may have a short-term solution, such as a vaccine or a treatment, whereas extreme poverty can only be addressed via long-term solutions, and as noted above, the media have a short attention span.
5. One axiom about media coverage is, 'If it bleeds, it leads'. That is, phenomena receive front-page coverage (they lead) when they have a large negative impact (they bleed). Although the COVID-19 pandemic crisis has not produced bloody photos, there has been no shortage of striking photos of the pandemic's impact, for example, supermarket shelves emptied by panic buying, normally crowded cityscapes suddenly devoid of people, clear skies and waterways normally darkened by pollution, and people in hospital beds connected to multitudes of machines and surrounded by hospital staff covered from head to toe with multiple levels of protection). Such juicy stories bring online clicks and increased readership, thereby growing revenue for the media.
6. The COVID-19 pandemic also gained media attention due to the racial and geopolitical elements. As the virus is thought by some to have begun in China, Chinese-looking people, regardless of nationality, were sometimes targeted.
7. The COVID-19 pandemic brought with it other political issues, such as whether or not to lockdown and for how long to lockdown. Later, after the data for this study had been collected, other issues arose such as whether to mandate vaccinations. Politicians used the media to seek support for their views on these issues.
8. As governments needed to involve the public in addressing the COVID-19 pandemic crisis, the media were key tools for informing and mobilizing the public, including in combatting and promoting fake news. Of course, although this seems to seldom take place, governments could also attempt to mobilize public involvement in addressing the overlapping crises arising from lack of food, clean water, and sanitation. Indeed, the United Nations and others seek to use the media in their campaigns around the SDGs.
9. Some media coverage has linked the COVID-19 pandemic with SDG 2, Zero Hunger (e.g. Godin 2020). However, the fact that our data showed few articles in Category 3 (i.e. articles on both the COVID-19 pandemic and on fatal effects of poverty) suggests that these newspapers may reflect and reinforce a common tendency among too many people to think in isolated, fragmented units of analysis while failing to conceptualize and communicate the interconnectedness of events and conditions (Nguyen and Bosch 2014).
10. The inequitable distribution of food, clean water and sanitation across the world's populations is too political (hot) for media to comment upon, too much for consumers of media to absorb, and seemingly insurmountable given the general lack of political and social will to do anything to even see the problem, let alone talk about strategies to fix it.

All these issues suggest that more research be done. Replication can be a powerful way forward. Porte (2012) and Zwaan et al. (2018), for example, suggested that being able to repeat a study and obtain similar results plays a vital role in the credibility of science. For instance, psychology, in particular, has had the quality of findings questioned due to inability of others to consistently repeat the findings of their research. Another benefit of replication involves the development of research methodologies, as different researchers using varied methods in varied contexts may open scholars' eyes to new possibilities and may raise questions about research paradigms. In addition to attempting to replicate previous studies as exactly as possible, language researchers can also do conceptual replications, which diverge from original studies. For example, in the case of the study reported in this article, variations to be used in possible replications include the languages, media, news topics, discussion of data collection and analysis methods, countries involved, and other SDGs (see, e.g. Bednarek 2016; Chouliaraki and Stolic 2017; Partington 2010; Tagg and Seargeant 2021; Taylor 2010). Also, a comparison between the number of articles in the 'Local/National news section' and the World News section' might offer more insights into relative media attention to local versus global issues.

## 5 Implications and suggestions for building a sustainable world

In this section, we consider the relevant implications from our earlier study and how efforts for a sustainable world may be promoted in academia, the classroom and the wider society.

First, we might ask the question: How can researchers use the findings of this and other studies to attempt to address the inequalities highlighted in the article, inequalities in media coverage, as well as, more seriously in access to food, clean water and sanitation? As to media coverage, we can share our findings with both the media studied in the present research as well as other media. One handicap in doing so is that the publishing of academic research can be a time-consuming process. Nabavi Nouri et al. (2021), in another example of the priority given to the COVID-19 pandemic over other critical matters, described how, health sciences researchers posted the COVID-19 pandemic studies manuscripts on preprint servers. This has the advantage of rapid sharing of findings, leading to faster dissemination of knowledge, as well as more opportunities for feedback and cooperation. Can language researchers do anything like this? For instance, nowadays, vehicles such as ResearchGate exist for putting papers online before

they are published in journals or books. On the other hand, Nabavi Nouri et al. (2021) also noted that sharing research before it has been peer reviewed may lead to greater likelihood that flawed studies will be disseminated. Nevertheless, perhaps language researchers and other scholars should collaborate on ways to expedite sharing of and giving feedback on research papers and other writing, not only with fellow academics but also with others.

In relation to this, Jacobs (2019), Jacobs and Chau (2020) and Phipps and Ladegaard (2020) called for language educators and applied linguists, regardless of whether they spend most of their time teaching in classrooms (virtual or face-to-face) or doing research, to do socially engaged work. Work of this nature would include the following qualities:

- a. This work continually seeks to be inclusive of those who are seldom discussed or represented in teaching materials, academic studies, and/or in mainstream media. This is similar to what was found in the study reported in this article: the four newspapers showered detailed coverage of people with the COVID-19 pandemic, but rarely discussed marginalized populations suffering from such ongoing woes as lack of sanitation. There is a need for language professionals to ask, identify, and explore whether the people and situations we focus on are often people similar to ourselves or situations similar to those in which we often find ourselves. More examples of socially engaged work of this kind can be found in Phipps (2014) and Suppiah and Kaur (2018). This line of work can be extended to our fellow earthlings regardless of species, based on the same spirit of inclusiveness and addressing wider global concerns (e.g. Chau and Jacobs 2021).
- b. This work cannot stop with publishing in academic journals and presenting at academic conferences, although these venues can play worthwhile roles. Socially engaged language educators need to make use of their expertise and take their findings to the public, to policymakers, and to traditional and social media (e.g. Papa and Singhal 2007). For instance, we can engage local communities in language research (e.g. Pillai et al. 2017), develop regional capacity building activities (e.g. Azirah and Azman Firdaus 2018), or support the United Nations' World Food Program, winner of the 2020 Nobel Peace Prize (e.g. Sharma 2020).
- c. While maintaining academic rigor and meeting standards for scholarly work, we must also know how to make our work understandable and accessible to students, other education stakeholders, and the general public (Illingworth and Prokop 2017); otherwise, the knowledge and insights we develop face limited opportunities to bring light to public discussions.
- d. At the same time that we seek to make our work accessible to the general public, we must not oversimplify the many complexities of reality (Burkett



2018). For example, eliminating World Hunger may seem easy, as human agriculture already produces enough food to feed everyone on the planet. However, the issue of food distribution presents a host of complications.

As far as public engagement is concerned for a sustainable world, the following six-part model developed by the United Nations Environment Program (De Hoyos 1976) may be helpful:

1. Increase the public's **awareness** of problems. For example, it is easy for some people in the developed world to lack awareness of hunger when they live surrounded by 24 h eateries and round-the-clock food delivery.
2. Basic **understanding** of the problems, and human beings' roles in relation to the environment. For instance, how does climate change cause disruption of fresh water supplies?
3. An attitude of **concern** for those suffering from the problems. Caring that it is often women and girls who have the main responsibility to walk increasingly longer distances to obtain water, sometimes in the face of threats to their physical security.
4. **Skills** needed to overcome problems. These skills can involve almost everything taught in school and tertiary curricula, from science to language.
5. **Evaluation** of the quality of proposed solutions. People need to be able to access the credibility of claims
6. **Participation** in solving problems. Without participation, the other five parts of the model mean little. Participation can be as simple as making a donation, or supporting political candidates who pledge action, and supporting NGOs.

An example of supporting an NGO is that one of the authors of this article volunteers with Safe Water Gardens,<sup>2</sup> an organization that works in villages in rural Indonesia to address people's sanitation needs. Safe Water Gardens are sanitation systems that take waste water from families' kitchens, showers and toilets, filters it and then uses the water to grow plants, such as chilies, for the families to eat. Another part of the system filters well water so that it is healthy for drinking. Secondary and tertiary students from Indonesia and elsewhere are involved in learning about the villagers' situation and in building the gardens. During the pandemic, this continued via video.

We must note that the glaring reality of the need for social action suggests attention from all disciplines. Those who teach and study languages form a significant group of people who could make meaningful contributions towards addressing this 'pandemic of inequality' and other concerns of importance to this

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2 <https://safewatergardens.org>.

world. This article makes an attempt to contribute to this direction by exploring how some computer tools and techniques in various domains of language study can be used to investigate relative media attention to various issues. It was observed that the four major newspapers considered in the present study failed to make issues fundamental to human survival more visible to the public. This media bias reflects not a mere crisis of numbers but more profoundly, a crisis of responsibility and values. This line of inquiry merits further serious exploration, with the argument to be buttressed by data that can be collected and analyzed.

However, a typical class of students, even university students, does not have access to the tools used in the present study. Nonetheless, even with only a laptop and internet access, a great deal of research can be done. For example, Jacobs and Fong (2020) studied just 10 online newspaper articles about an incident in which two tigers entered a Malaysian village. The 10 articles were analyzed as to such content as human concern for tigers, tigers provoking tigers owned by humans, tigers causing fear among humans, tigers as criminals, pronouns used to refer to tigers, and mention of the decreasing number of wild tigers in Malaysia. The researchers found a human-centric bias in the articles, and they contrasted this with a humans-as-fellow-animals perspective reported in a rural area of India. Students can be encouraged to carry out similar small-scale studies at school or university guided by their teachers, as well as examples in the literature.

After the publication of the 2020 article, the researchers shared their findings with a Malaysian NGO (MYCAT: <https://mycat.my>), which campaigns to protect the remaining approximately 200 tigers still living in the wild in Malaysia. MYCAT does education among people, including students, who live near tiger habitats. MYCAT also leads guided walks in tiger habitats. These efforts decrease poaching. Furthermore, volunteers attempt to reverse deforestation via planting efforts, and collect data on tigers via the use of camera traps. Thus, the efforts of language researchers exist not just to add publications to the researchers' CVs, but also play a role in overall efforts at tiger protection.

Another example of relatively low-tech research relevant to the SDGs was Jacobs and Dillon (2019). This article explained critical literacy (Batista-Morales 2021; Kim and Hachey 2021) and then provided an example by comparing advertisements for burgers made from slaughtered meat and alternative protein foods. This topic is SDG-relevant in several ways: meat production contributes to greenhouse gas emissions, increases deforestation, drives poor people from their land, and worsens air and water pollution. An example of the study's findings was the use of symbols of masculinity in the promotional materials for the slaughtered meat burgers. A co-author of the present article was involved in the burger study partly because he saw that study as a way to connect concern for the SDGs with writing instruction, something in the general curriculum of many education

institutions. Furthermore, data from the study were used in public education by an NGO (Centre for a Responsible Future – [crf.org.sg](http://crf.org.sg)) involved in promoting alternative protein foods.

Suggestions were also made as part of the burger article for facilitating student involvement in critical literacy. These suggestions included students having input into their research topics; teachers checking that while challenging, the research is doable given the level of the students; and students needing opportunities while conducting the study and after it is completed to share with and receive input from others. Other researchers – students, teachers, academics – may wish to investigate this area of low-tech contexts for ecolinguistic research (cf. Chau and Shunmugam 2021; Fritz 2022; Jacobs et al. 2022).

Before we turn to the conclusion section of this article, we must point out that the whole idea of sustainability, including the SDGs, requires serious thought. As Stibbe (2019) observed, terms like *sustainability* and its counterpart *sustainable development* have long been used and abused to serve dominant goals of wealth for the few while disadvantaging other people, other species and the ecosystems that life depends upon. There is a need, Stibbe suggested, for students to develop their own ecological philosophy or ecosophy as a values framework. This is important so that they can assess whether an action or a proposal only benefits humans or also takes into consideration nonhuman species and the whole ecosystem (Visseren-Hamakers 2020). Similarly, ecolinguists would need to assess to what extent the SDGs take into account wider ecological concerns and act accordingly. Ultimately, sustainability requires, we argue, a deep respect for the entire ecological community.

## 6 Conclusion

Some scientists have urged that governments and other key forces in society take climate change, poverty and other SDGs as seriously as the COVID-19 pandemic is being taken. Harvey (2020b: Para. 5) quoted Marmot, professor of epidemiology and public health at University College London, and chair of the commission of the social determinants of health at the World Health Organisation, as calling for efforts to address global heating and the consequences of poverty on the scale of those efforts being mounted to overcome the COVID-19 pandemic. “Coronavirus exposes that we can do things differently”, he said. “We must not go back to the status quo ante”.<sup>3</sup>

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3 <https://www.theguardian.com/world/2020/mar/28/coronavirus-tackle-climate-crisis-and-poverty-with-zeal-of-COVID-19-fight-scientists-urge> (accessed 6 May 2022).

We hope this article will encourage fellow language educators and ecolinguistic researchers to join the exploration for ways to go beyond what we typically teach and research within our ivory tower comfort zones. We need to step outside our comfort zones to join ongoing efforts, informed by the SDGs and other values that promote sustainability. These efforts take into account the many challenges facing the human race, both locally and globally, including how to achieve better lives for all on a healthy planet we share with our fellow animals. Language teachers and ecolinguists can and should explore how language can be a tool for justice for the billions of humans living in poverty and facing discrimination in different arenas of daily life, and by extension, for our fellow earthlings regardless of species, and for our mother nature as a whole. We can join others advocating for social engagement (e.g. Ladegaard and Phipps 2020) and ecological action (e.g. Chau and Jacobs 2021). This article and indeed the entire special issue in which this article appears serve merely as one effort to generate even more thought, discussion, and hopefully inspired action that contributes to a collective effort for a more sustainable, more just world.

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