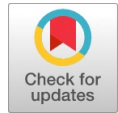


A Study on SDG Linkages in the Eco-Hope Series of News Portal Mongabay India

Lekshmi Priya Sanal, I. Arul Aram



Abstract: *Even after eight years since the birth of UN Agenda 30 and its 17 sustainable development goals (SDGs), climate change and its varying effects continue to loom over the earth and its inhabitants. How well are the SDGs covered by the media and communicated to the masses in a way that may evoke action and participation? The goals actively advocate for participation at global, national, and regional levels, but most importantly, at grassroots and individual levels. The knowledge that individuals or communities practising sustainable ways of living and livelihoods may go a long way in aiding other communities if adapted on a needs and context basis. The role of journalists and communicators becomes crucial here, as such stories, combined with the SDGs, have the power to draw attention not just to the perils of global warming and climate change, but also to the idea that solutions to mitigate these exist. However, media coverage of the SDGs or actions taken by various nations towards achieving these goals has been nearly negligible worldwide, with general environmental reporting itself being rarely covered in the mainstream media. To make ecological news more approachable, a constructive approach that includes context and examines solutions, rather than focusing solely on problems, is the need of the hour. The role of alternative media platforms, which particularly focus on environmental issues, proves crucial here. One such platform in India is Mongabay India, which features its Eco Hope series, highlighting efforts and solutions towards ecological conservation. This paper examines the linkages between the Sustainable Development Goals (SDGs) emerging in 133 feature stories of the Eco Hope series, employing a mixed-methods approach to identify these linkages through content and thematic analyses.*

Keywords: Sustainable Development Goals, Constructive Journalism, Environmental Communication, Solutions Journalism.

I. INTRODUCTION

In 1972, it was the stirring speech of late Indian Prime Minister Indira Gandhi at the first-ever United Nations Conference on the Human Environment in Stockholm, Sweden that elicited the ‘developed’ world’s attention to the underlying nexus of poverty with environmental degradation and that the very ‘western’ idea of conservation cannot be fully realised until quality of life of the global poor is elevated.

Manuscript received on 17 December 2023 | Revised Manuscript received on 30 December 2021 | Manuscript Accepted on 15 March 2024 | Manuscript published on. 30 March 2024.

*Correspondence Author(s)

Lekshmi Priya Sanal*, Research Scholar, Department of Media Sciences, Anna University, Chennai (Tamil Nadu), India. E-mail: lekshmis92@gmail.com, ORCID ID: [0000-0002-2762-9832](https://orcid.org/0000-0002-2762-9832)

Dr. I. Arul Aram, Professor, Department of Media Sciences, Anna University, Chennai (Tamil Nadu), India. E-mail: arulram@yahoo.com, ORCID ID: [0000-0001-8130-461X](https://orcid.org/0000-0001-8130-461X)

© The Authors. Published by Lattice Science Publication (LSP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license ([http://creativecommons.org/licenses/by-nc-nd/4.0/](https://creativecommons.org/licenses/by-nc-nd/4.0/))

Since then, her speech has been consistently misconstrued to meet different agendas; however, it was the first time that a world leader, and not one from the Global North, drew attention to the needs of the developing nations and tried to debunk the ‘development versus environment’ dichotomy (Rao, 2022, [1]). The now-touted speech had a profound and lasting impact on raising environmental consciousness around the world, in varying degrees, and may have laid the foundation for subsequent international laws on environmental conservation and climate action.

II. CURRENT GLOBAL ENVIRONMENTAL ISSUES

While the global narrative focuses on climate change and its effects on the planet, including global warming, melting glaciers, changing weather patterns, flash floods, and droughts, as the primary concern that requires immediate action, numerous other environmental issues also need equal attention. One issue that warrants significant attention is the detrimental effects of unsustainable agricultural practices, including the use of chemicals, monoculture, and fossil fuel consumption, on the environment globally. Often viewed in isolation, the farm sector is a leading contributor to water contamination, soil degradation, and greenhouse gas emissions, affecting all key segments of the environment.

Additionally, there is anthropogenic pollution in all forms, including industrial and chemical waste, plastic pollution, and contamination of air, water, and soil, as well as inadequate waste management and unsafe waste disposal practices. Almost all countries around the world are affected by various forms of pollution. Another primary global concern is the rampant deforestation observed on a worldwide scale to meet human needs, which is now being countered by compensatory afforestation schemes aimed at offsetting carbon emissions. While deforestation in itself is a pressing environmental concern that seems to have no end, poorly researched schemes that include cash crops or ornamental species do little to replace self-sustaining ecosystems such as tropical rainforests or grasslands. Other important environmental issues include irreversible fossil fuel exploitation to meet energy requirements; poor conservation laws along with poaching, trophy hunting and illegal pet trade; inequitable distribution of natural resources and their indiscriminate overuse by those in power, etc. Lastly, usurping forest tracts from tribal and indigenous communities for developmental projects, especially in tropical countries like India and Brazil, is slowly being addressed as a grave environmental issue. Previously viewed only through the lens of human rights violations, their sustainable ways of living as custodians of forests, along with their indigenous knowledge of judicious forest management, are gradually gaining recognition and advocacy globally.



Over fifty years later, thoughts on the environment and its conservation continue to evoke only divided opinions. Paavola shares that “those who focus on development often feel that the pursuit of environmental goals could compromise important developmental goals and that developmental goals should have priority. Similarly, those whose main interest is the environment feel that environmental goals warrant priority and postponing or even sacrificing developmental ambitions” (2002, p. 5, [2]).

In India, this sentiment continues to exist in tandem with the mainstream media increasingly observed to be more development leaning in the development versus environment stance, with regularised profiling and vilification of environmentalists as anti-growth agents; even more so, if they belong to tribal and indigenous communities. This is in sharp contrast to how the Indian media championed the cause of environmentalism during the 1970s, with two historic movements: the Chipko Andolan against deforestation in northern India and the Silent Valley Movement against the wiping out of rainforest tracts for a hydroelectric project in the southern state of Kerala.

The economic reforms of the 1990s may have been the starting point of changing outlooks amidst the masses and the media that now viewed environmentalism as an obstruction to development, employment and economic welfare (Guha, 2013, [3]). Since then, the dominant paradigm regarding development has almost always conflicted with environmental conservation. Mishra asserts that “the necessity of development from within public discourse is never shattered: much of the middle class and the media consider development as significantly more important than environmental impacts of developmental activities” (2022, p. 294, [3]). In the fight towards environmental conservation or tackling climate change on a global front, it doesn't help when influential political figures like Donald Trump and Jair Bolsonaro, at the peak of their respective presidential terms, went on public record dismissing grave environmental concerns like global warming, took actions such as withdrawing from the landmark Paris Climate Accord or made amendments to laws allowing primary tropical rainforests on indigenous land to be razed down for mining, cattle ranches and monoculture cultivations or cutting funds for agencies monitoring environmental crimes. Taking the historic opinion leader concept (Katz & Lazarsfeld, 2017, [5]) into account, such actions not only influence the public's perception of the need for environmentalism and climate action but also undermine and undo decades of hard work and advocacy of activists, journalists, scientists, policymakers, non-profit organisations and grassroots conservationists.

III. DEVELOPMENT AND ENVIRONMENT

As observed throughout the Anthropocene, natural resources from the environment and their utilisation have remained crucial for all forms of development. These serve as inputs for almost all forms of goods and services that we enjoy today (Grossman & Krueger, 1995, [6]). However, the idea of development has been largely restricted towards a

human welfare-based one that is fuelled by economic growth. Lu (2009, [7]) points to the commonly accepted perspective on the interlinkage of anthropogenic development and economic growth, which comes from the monetary- and materialism-based boom that was observed during the industrialization period. She further points out that this world-view of human welfare entirely bases itself on the ‘conquest of nature’ to achieve economic development that can only be measured through industrial expansion and economic growth; with total disregard towards the indiscriminate consumption of finite natural resources. Additionally, Paavola (2002, [8]) highlights how environment and development are often seen as two mutually incompatible spheres, and parties engaged in either sector view each other's goals as impediments to their own. But this need not be the case. It was only after the concept of sustainable development came into the public sphere towards the latter half of last century, following a universal concern over the excessive exploitation of finite natural resources and environmental degradation for human needs, that the idea of development began to shift from the economic growth-based human-centric model to one that sought for the overall well-being of the planet and all its beings—human and non-human.

IV. IMPEDIMENTS TO SUSTAINABLE DEVELOPMENT

Poverty and inequality within and among countries are the foremost impediments to sustainable development, with a select few having monopolised access to common resources in reality, despite these resources being non-excludable in theory. Other factors include continued deployment models of development that only focus on economic growth and progress without considering environmental upkeep, unsustainable agricultural practices, amending ecological protection laws by policymakers to cater to vested interests of industrial and corporate lobbying, inequitable distribution and biased management of natural resources, energy sector's continued dependence on fossil fuels, poor and incompetent waste management systems, wars and associated instabilities, exclusion of indigenous and tribal communities with their resourceful knowledge of sustainable living practices, lack of proper awareness and literacy on various environmental issues among the common public, overpopulation, etc.

V. THE REALITY OF CLIMATE CHANGE

Visible effects of climate change, such as uncontrollable wildfires, increasing flash floods, and incessantly rising temperatures, have been observed in recent years not only in vulnerable countries but also in previously unaffected developed countries. This is now propelling nations to accept the reality of climate change. Subsequently, the United Nations organised numerous conferences on environment and sustainable development to encourage nations to take individual as well as collaborative actions in addressing environmental degradation and global warming; notable among these are the.



Earth Summit in Rio (1992) that led to the production of the Agenda 21, Rio Declaration, and the Statement of Forest Principles, followed by Millennium Summit (2000) that led to the creation of the Millennium Development Goals (MDGs); and most recently, the United Nations Summit on Sustainable Development in Paris (2015) that gave birth to the Agenda 2030 and its 17 sustainable development goals or the SDGs.

Built over the lessons learnt from the inability to achieve the Millennium Development Goals, which only focused on areas of human development sans the environmental angle, Sustainable Development Goals, or SDGs, were outlined by the United Nations in Agenda 30 released in 2015, for all its member-states to adopt as a “shared blueprint for peace and prosperity for people and the planet, now and into the future” (United Nations, 2015, [9]).

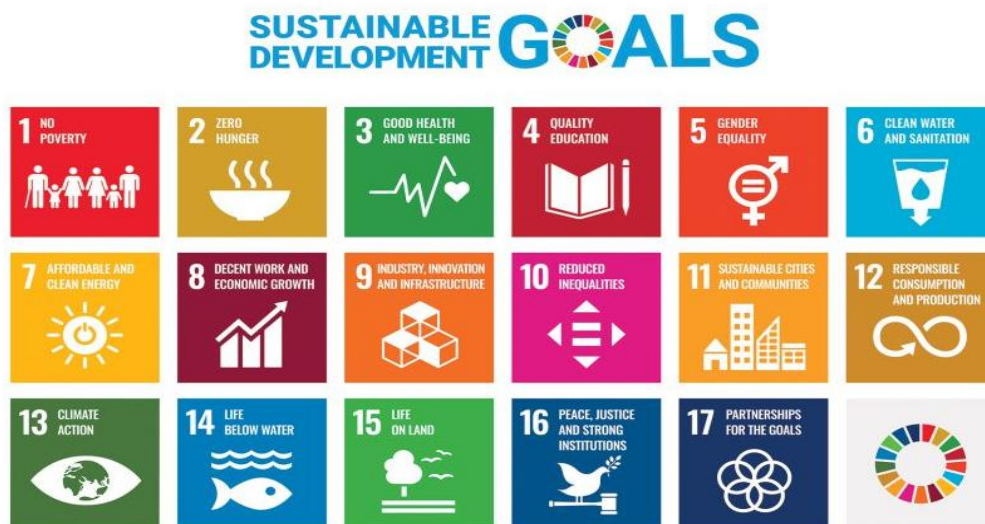


Figure 1: The 17 Goals. Source: Department of Economic and Social Affairs, United Nations

These goals encompass 17 areas of development that call for immediate and collaborative action by member states to promote the well-being of not only people but also the planet. Unlike its precursor, the Millennium Development Goals (MDGs), the inclusion of various goals that revolve around sustainable development, centred on environmental upkeep, has been game-changing. Perhaps the failure of the MDGs could be attributed to policymakers ignoring the inextricable link between human development and ecological well-being, recognising that one cannot exist without the other. Within the 17 Sustainable Development Goals (SDGs), which range from ending poverty and achieving gender equality to environmental conservation and climate action, these areas are interlinked and need to be addressed collectively, not individually.

A. Influence of News on Audience Towards Environmental Awareness

The influence of any form of news on citizens can never be discounted or disregarded. Among the principal functions of journalism are disseminating truthful and accurate information to its audience and raising their awareness about various aspects surrounding and affecting their lives, which can be summarised as providing information and education. These functions have the power to shape opinions, create trends, elicit support or resistance, etc. However, the same cannot be said about the effectiveness of news in influencing the audience regarding environmental issues. This is partly due to the lackadaisical approach towards environmental reporting by mainstream media organisations, which often jump the gun with half-baked research and unverified claims to join the bandwagon. To realistically raise citizens' awareness of environmental

issues, the importance given to news stories from other beats that are substantiated with thorough investigation and facts needs to be delegated and exhibited in the environmental sector as well. The influence of news priming and framing mechanisms remains a prominent area of study in the field of journalism research, and the same can be inferred for environmental news. Additionally, constructive and solutions-based coverage of ecological news may further aid in reducing news avoidance, eco-anxiety or solastalgia (Albrecht, 2005, [10]) in the audience and actively consuming environmental news.

B. Need for Better Communication

How well are the SDGs covered by the media and communicated to the masses in a way that may evoke action and participation? The goals actively advocate for participation at global, national, and regional levels, but most importantly, at grassroots and individual levels. The knowledge that individuals or communities practising sustainable ways of living and livelihoods may go a long way in aiding other communities if adapted on a needs and context basis. The role of journalists and communicators becomes crucial here, as such stories, combined with the SDGs, have the power to draw attention not just to the perils of global warming and climate change, but also to the idea that solutions to mitigate these exist. The necessity to disseminate information to the public about the SDGs, which encompasses not only human development but also environmental conservation, climate action, and mitigation, paves the way for better awareness and a call to action.

Mainstream coverage of environmental issues is either bare minimum, unscientific, or, most often, alarmist in nature. Add negativity bias, sensationalism and polarising views in the mediascape (Constructive Institute, 2022, [11]), there is also a rising observation of news avoidance among people (Benton, 2020, [12]).

While the mainstream media continues to trudge cautiously when it comes to dealing with environmental issues, an emergence of alternative media platforms and independent organisations that extensively cover issues on conservation, climate change, indigenous rights as well as sustainable practices is being observed around the world through constructive, solutions-based, non-alarmist, scientifically-backed and restorative narratives (Sanal & Aram, 2023, [13]).

C. Constructive and Solutions-Based Narratives

In times when solutions for climate change are becoming increasingly relevant, a constructive and solutions-based approach that does not compromise credibility or accuracy while covering environmental issues holds great potential. Constructive journalism is defined as “an emerging form of journalism that involves applying positive psychology techniques to news processes and production to create productive and engaging coverage, while holding to journalism’s core functions” (McIntyre & Gyldensted, 2017, [14]), and involves a solutions-centred approach to news coverage.

Ginsberg (2022, [15]) believes that solutions journalism is rapidly gaining prominence amidst communities bearing the maximum brunt of climate change, such as island nations, and calls it “a method of reporting that could prove more successful than the more alarmist stories readers traditionally associate with climate reporting.”

Mongabay is one such global environmental science and news platform that has been covering a wide range of ecological stories, from conservation and energy to indigenous rights, international laws, and policies, since its establishment in 1999. In recent years, the independent non-profit platform has begun incorporating constructive and solutions-based narratives in its news coverage, which has enabled greater readership as well as better awareness of environmental issues and their solutions.

For this study, the researchers chose the Indian segment of the environment news platform with a particular focus on its solutions-based Eco Hope series. A total of 133 feature-length stories published under this series between 2020 and 2023 were considered for the study. Within the theoretical framework of the SDGs, mixed methods, including content analysis and thematic analysis, were employed to examine the linkages between the SDGs in these articles. Research on this style of environmental news coverage with a targeted SDG focus is novel. It can add value to existing research in the fields of journalism, environmental communication, and climate communication.

VI. REVIEW OF LITERATURE

According to Easterly (2015, [16]), the idea that SDGs have been very well covered and that people around the world have extensive awareness of the goals is a belief that experts in sustainable development circles widely hold. The

author asserts that to genuinely elicit action from the masses, a deeper understanding and comprehension of the initiatives is required.

A 10-year-long longitudinal study by Janoušková et al. (2019, [17]) is perhaps the most exhaustive research done on SDG coverage by mass media. The study examined SDG-related news published between 2009 and 2018 by approximately 10,000 English-language newspapers worldwide. The authors highlight that the concept of sustainable development itself is poorly communicated through mass media, making the target of achieving the SDGs a greater challenge. This study found topics such as climate change (SDG 13), renewable energy (SDG 7), gender equality (SDG 5), extreme poverty (SDG 1), and access to justice (SDG 16) were the most published, although these may or may not have explicitly linked with the goals.

López-Carrión and Martí-Sánchez (2023, [18]) also conducted a longitudinal study from 2015 to 2022 to analyse the coverage and discourse on the SDGs and Agenda 30 in the Spanish digital press. Focusing on 10 digital newspapers with the highest readership in Spain, this study found that while the number of news items related to the goals and Agenda 2030 may have increased significantly by about 1000% over the years, the actual coverage on both topics had been in drastic decline. Additionally, it was found that news articles gave greater prominence to compliance with UN directives by governments and institutions than to the content itself, focusing more on the goals and objectives.

Meanwhile, McArthur and Zhang (2018, [19]) studied media coverage trends surrounding MDGs and SDGs across 16 English-language newspapers with prominent readership worldwide and drew parallels between reportage patterns during both timelines. Their research established that the coverage of goals has most definitely increased, especially when international summits were held. An interesting finding by the authors, however, dispels the general notion that goals' discourse centres in and around only developed nations, when in fact, countries such as India and Nigeria undertook much higher coverage on both the MDGs and the SDGs. Bhattacharya et al.'s (2020, [20]) study identifies the key roles of media and correlates these with the dissemination of SDGs-related information by selected national, sub-national Bangla, English and online newspapers in Bangladesh. Their research, which employed a mapping exercise, found that the media carriers in the country only fulfilled the role of channelling information flow as far as SDG delivery was concerned. Pertinent accountability processes by media houses were nearly non-existent. Litofcenko et al. (2023, [21]) focus on the discourse surrounding the term sustainability, once considered a radical environmentalist concept. Through quantitative analysis of mass media in Austria, they have traced the changing use of the terminology from 1990 to 2020 and uncovered how the narrative is no longer as polarised as it used to be and more frequently includes positive and far-reaching approaches to appeal to conservative populations.



A chapter by Maweu and Paterson (2019, [22]) expands on media coverage of climate action or SDG 13 in Kenya. Their research implicates a problematic media system in the country, which is heavily privatised and commercialised, indicating how development narratives promoting education and advocacy can be twisted to meet the vested interests of private players.

The study examines the coverage of climate action and information gaps on climate change in rural communities in Kenya, concluding that their national media are ill-equipped to effectively support the goal of addressing climate change.

In Adapa and Yarram's (2023, [23]) study, the focus is on the contribution of micro, small and medium-sized enterprises (MSMEs) towards achieving economic growth and employment, or SDG 8 in India. Through in-depth interviews with MSME owners and start-up founders, the authors aim to understand whether these enterprises play a role in achieving the Sustainable Development Goals (SDGs) in the Indian context and develop a framework that specifically assesses the impact of MSMEs on the SDGs. Although this study does not incorporate a media angle, the inclusion of SDG 8, one of the key goals, along with its relevance in the Indian context, makes it important enough to be included in the literature survey.

An interesting study by Mishra (2020, [24]) highlights the media angle on the devastating effects of the COVID-19 pandemic on the Indian economy, which is believed to have reversed years of progress achieved towards implementing the SDGs to reduce hunger and poverty. Using the author's ground reports of the pandemic as a journalist along with official reports and documents issued by the Indian government, the study analyses the nature of media involvement, in terms of extensive coverage that may have strengthened crisis communication measures in the state as well as ponders over criticisms over intents and attempts of restrictions on the institutional flow of official pandemic-related information.

A. Research Questions

1. What are the prominent SDGs emerging in the Eco Hope series articles?

2. What are the prominent linkages between SDGs in the Eco Hope series articles?
3. What do the linkages between SDGs in articles signify?

B. Materials and Methods

The study employs a mixed-methods approach to analyse the data. The collected dataset includes 133 feature articles, dated from January 3, 2020, to July 19, 2023, in the Eco Hope series of the Mongabay India platform. Content analysis was employed first to identify the various Sustainable Development Goals (SDGs) emerging from these articles. The data was organised, coded and quantified using Microsoft Excel. Thematic analysis was employed to identify prominent themes, examine linkages, and discuss relationships between the SDGs identified in the quantitative leg of the analysis.

VII. RESULTS AND DISCUSSION

A total of 133 articles from 2020 to 2023 (as of 31 August 2023) were analysed for this study (Table 1 in the Appendix). Each of these articles was closely scrutinised to find which SDGs best fit into the narratives and how these were linked. Except for two articles, which only included one SDG (SDG 15), all 131 articles were found to have a linkage of at least two SDGs, with the maximum linkages being 15 in a single article. As showcased in Figure 2, 115 articles included SDG 15 (86.46%), 92 articles included SDG 11 (69.17%), 91 articles had SDG 2 (68.42%), 85 articles had SDG 1 (63.90%), 83 articles had SDG 8 (62.40%), 70 articles had SDG 13 (52.63%), 62 articles had SDG 12 (46.61%), 52 articles had SDG 6 (39.09%), 51 articles had SDG 10 (38.34%), 41 articles had SDG 3 (30.82%), 35 articles had SDG 5 (26.31%), 32 articles had SDG 14 (24.06%), 29 articles had SDG 9 (21.80%), 28 articles had SDG 4 (21.05%), 27 articles had SDG 16 (20.30%), 16 articles had SDG 7 (12.03%) and lastly, nine articles included SDG 17 (6.76%).

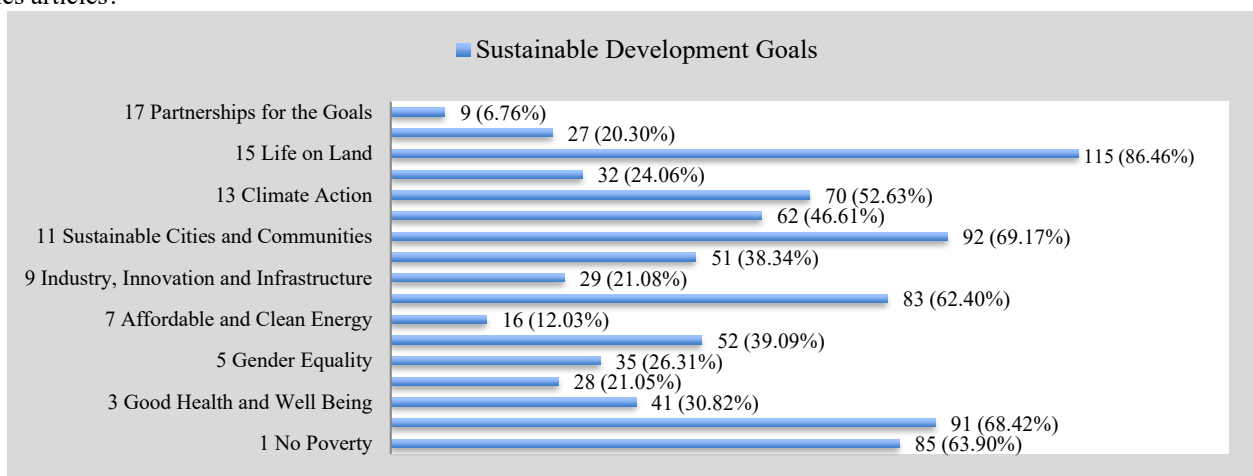


Figure 2: Distribution of SDGs in the Eco Hope Series of Mongabay India

While SDG 15 (Life on Land) was found to be linked with almost all other SDGs in 115 articles out of 133, a cluster linkage between SDG 8 (Decent Work and Economic Growth), SDG 2 (Zero Hunger) and SDG 1 (No Poverty) was prominently observed across 59 articles, in addition to these SDGs being individually found in other articles.

Under thematic analysis, the most prominent themes in the articles that fit closest with the SDG parameters (Figure 3) are as follows: Sustainable practices (11, 12): 91.72%, Conservation (14, 15): 84.96%, Climate action and science (13): 34.58%, Livelihood and economic growth (8-2-1, 9):

28.57%, Water security (6): 24.81%, and Marginalised communities and indigenous knowledge (10): 22.55%.

Themes such as Women empowerment and financial autonomy (5, 8): 19.54%, Health (3): 16.54% and Government and non-government interventions (16): 9.02% were found in the intermediate, while themes such as Education (4): 8.27%, Clean Energy (7): 5.26%, and Global interventions (17): 3.75% were present but a few in numbers. As the Eco Hope series was framed on a solutions-based approach, all 17 SDGs fit well within this narrative. Only two articles in the entire series have actively referenced the SDGs.

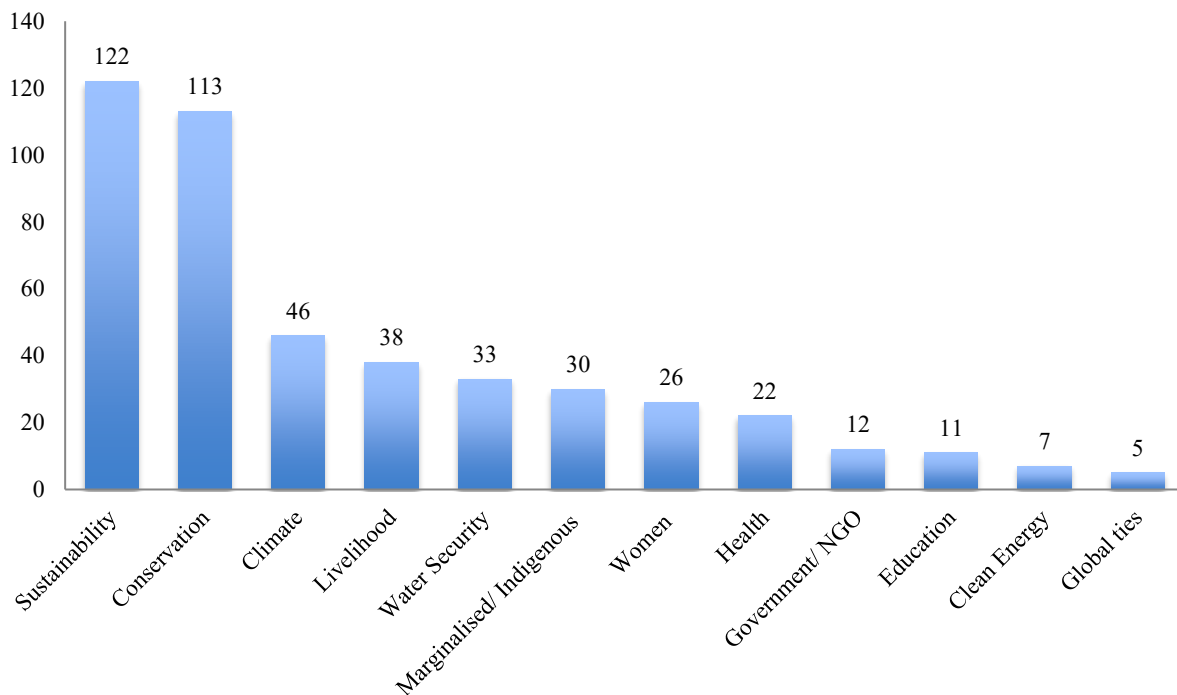


Figure 3: Themes with Respect to SDGs in Eco Hope Series Articles

Considering the antecedent that Mongabay is an environmental platform, the maximum number of articles (86.46 %) coming under the scope of SDG 15 (life on land) is evident from the linkages illustrated in Figure 2. SDGs (11, 12, 8, 13, and 2) that encompass the Anthropocene in terms of human welfare and anthropogenic activities affecting the environment and non-human beings are also major segments that Mongabay India has taken up in the series. Their news coverage focuses on the efforts and actions of individuals and non-state actors, as well as criticisms and commentaries on the schemes and actions of state actors towards conservation and sustainability.

The targeted focus on themes such as sustainability, conservation, and climate change in the majority of articles (Figure 3) sheds light on the narrative of solutions that runs throughout the series. These figures help to understand the areas, themes, and SDG linkages that this platform has primarily focused on. Upon deeper reflection, one can observe constructive narratives that highlight anthropogenic effects on the environment, urge sustainable practices

without forsaking human needs, and propose solutions to mitigate climate change. However, there are relatively fewer explicit mentions of SDGs in the articles.

Following are the various inferences made by the researchers based on the analyses of the linkages and themes emerging in Figures 1 and 2, and further exemplified with screenshots of individual articles (Figures 3 to 9):

- i. One of the key inferences is how SDG 8 is inextricably linked with SDGs 1 and 2, irrespective of any explicit mention of linkages between these areas in the articles. No poverty and zero hunger can only be achieved if decent work and economic growth are available. While linkages with other SDGs may still be further broken down and examined as components, the nexus between poverty, hunger, and work needs to be studied and understood as a whole, rather than in parts, even in fields such as journalism and mass communication. Figure 4 showcases a screenshot of an article illustrating this linkage.

Mongabay Series: [Eco Hope](#)

Aadhimalai, winner of UN Equator Prize from Nilgiris, offers a lesson in indigenous economics

by Arathi Menon on 20 December 2021

f in WhatsApp Email Bookmark



- The Aadhimalai Pazhangudiyanar Producer Company Ltd is run by the tribal people of the Nilgiris, with 1609 indigenous shareholders. Almost 90 percent of employees are tribal women.
- The company collects farm and forest produce from tribal people directly using digital

Social channels

f FACEBOOK
TWITTER

Figure 4: Screenshot of an Article Featuring Linkage Between SDGs 8, 2 and 1

Upon close examination, one can deduce that with lucrative employment opportunities made available to the marginalised, poverty-stricken indigenous communities in the Nilgiri region of southern India, their standard of living bettered in terms of poverty and hunger. Additionally, the inclusion of one of the protagonists with a smiling visage in the cover image helps establish a welcoming and approachable tone for the article.

- ii. Next, it was found that SDG 8, along with SDGs 1 and 2, also has a strong linkage with SDGs 14 and 15. In an inequitably distributed resource-centred society, SDGs 8, 2 and 1 are affected. With the affluent hoarding the majority of natural resources and making them

inaccessible to the rest of the population, nutritional security and poverty alleviation largely depend on the availability of job opportunities. In an environment with high population density, the distribution of resources is already inequitable, and their utilisation is overburdened, making the conservation of the natural environment an additional burden in the race for survival for people experiencing poverty. Furthermore, the connection between the good health and well-being of human beings (SDG 3) and the environment may be invisible at first glance. Still, it is a crucial relationship for the maintenance of both. An example of an article showcasing these linkages is shared in Figure 5.

Mongabay Series: [Eco Hope](#), [Nature-based Solutions](#)

Climate resilient millets boost livelihood opportunities for Odisha's tribal women

by Aishwarya Mohanty on 16 August 2022

f in WhatsApp Email Bookmark



- Millets are being revived in the state of Odisha, on a large scale under its flagship Odisha Millets Mission. Millets grow well in dry zones as rain-fed crops and are considered low-duty crops.

Social channels

f FACEBOOK

Figure 5: Screenshot of an Article Featuring Linkages Between SDGs 14-15 and 1-2-8-3

As the headline suggests, climate-resilient millets offer agrarian practices with lesser environmental damage (SDG 14 and 15), while providing employment opportunities (SDG 8) to marginalised tribal women, which diminishes hunger (SDG 2), alleviates poverty (SDG 1), and offers good health and well-being (SDG 3). Besides the use of relevant keywords, the inclusion of women farmers from the tribal community featured in the article, along with their produce, in the cover image sets a positive and constructive narrative of independence, self-reliance, and success.

iii. In situations where indigenous communities are involved, SDGs 10, 11, 12, 14 and 15 have strong

linkage with SDGs 1, 2, 3 and 8. Native practices and knowledge of indigenous communities (10), which often involve conscious and sustainable management of natural resources to meet their needs (11, 12), are being revisited and adapted by forest authorities towards conservation activities (14, 15). Involving indigenous communities in conservation activities through economic opportunities (8) further achieves goals 1 and 2. Figure 6 features a screenshot of an article that showcases these linkages.

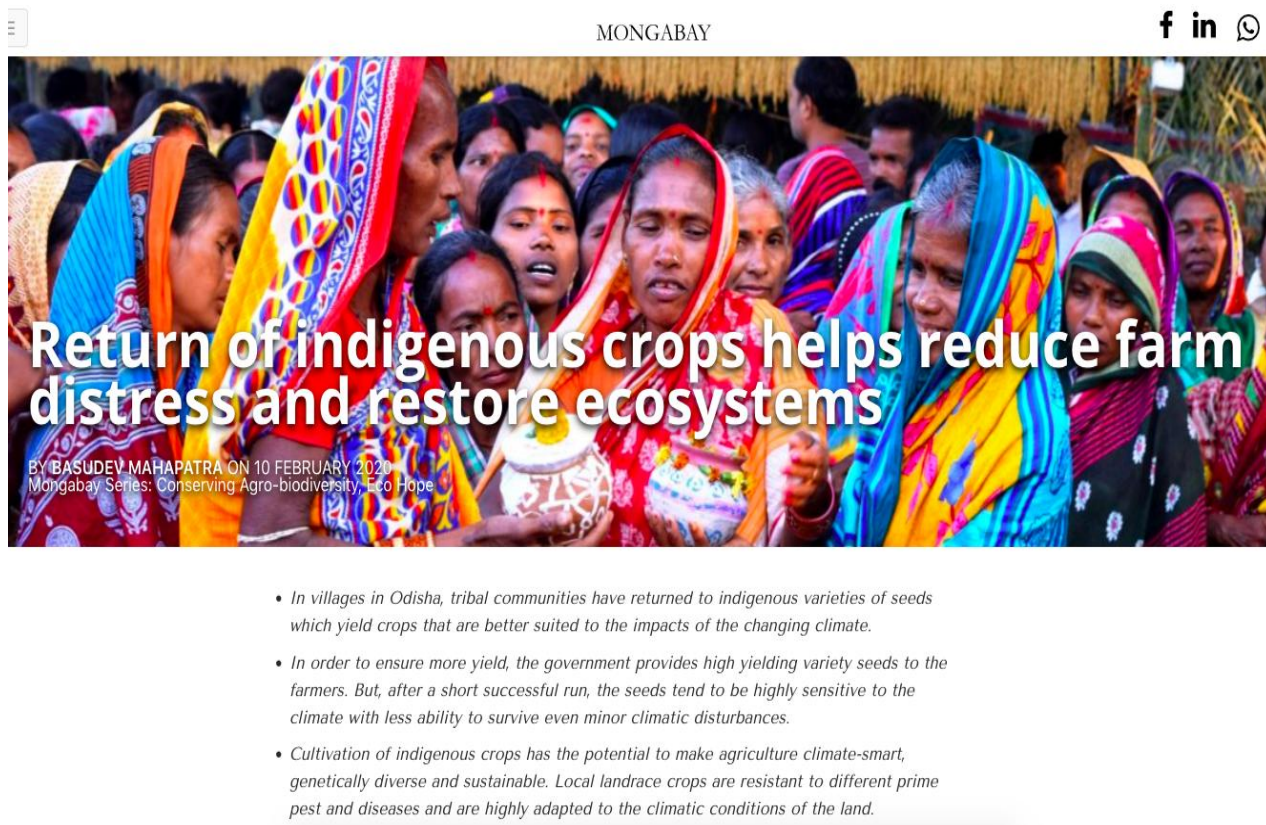


Figure 6: Screenshot of an Article Featuring Linkages Between SDGs 1, 2, 3, 8, 10, 11, 12, 14 and 15

The keywords in the headline alone help in narrowing down the various linkages. Reduced farm distress helps with employment (8), which further alleviates hunger (2) and poverty (1), enhances health and wellbeing (3), and restores ecosystems (14, 15). The return of indigenous crops highlights the importance of indigenous communities (10), sustainable communities (11), and sustainable consumption and production practices (12).

iv. All the articles on conservation measures led by indigenous communities unanimously showcase the strong reverence and commitment that these communities (11) have towards nature, no matter how marginalised they may be. For instance, traditional agroforestry practices of tribal communities living in forest hinterlands, as well as traditional fishing

practices of coastal communities, have been recognised by authorities as nature-centric, sustainable approaches, and are now being revived to promote responsible production and consumption practices (12). Furthermore, as observed in multiple articles, many of these practices have also played a crucial role in climate action (13). This highlights the importance of reporting and disseminating native and indigenous conservation efforts on a much larger scale. This, in turn, will aid other indigenous communities worldwide in adopting their climate mitigation efforts and adapting practices from different communities to fit their specific circumstances. A screenshot of an example of these linkages in an article is given in Figure 7.

Mongabay Series: [Conserving Agro-biodiversity, Eco Hope](#)

An indigenous community in Meghalaya offers lessons in climate resilience

by Sahana Ghosh on 4 November 2021



- The indigenous food system of the Khasi community in Nongtraw village in Meghalaya offers lessons in climate resilience and sustainable food systems, says a United Nations Food and Agricultural Organisation report.
- The traditional food production system is supported by jhum (shifting cultivation), home

Social channels

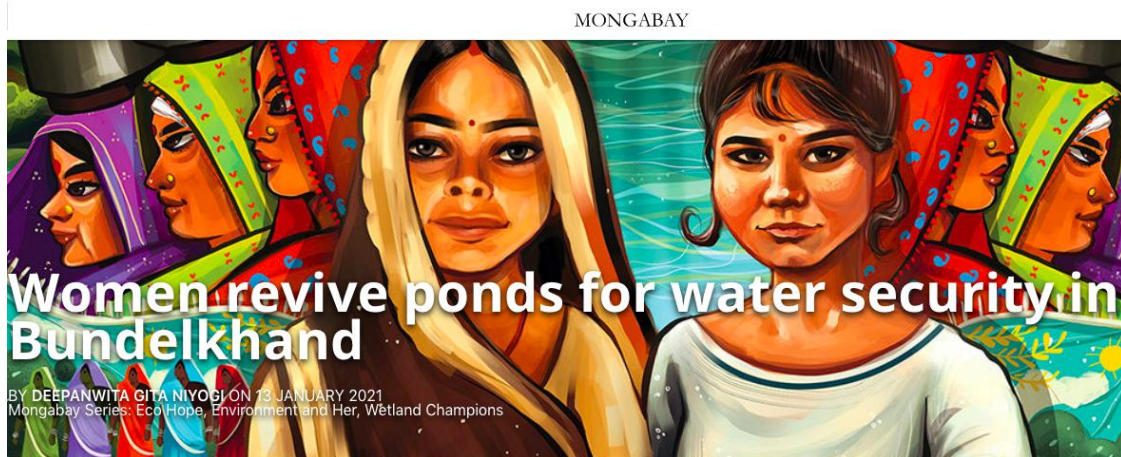


Figure 7: Screenshot of an Article Featuring Linkages Between SDGs 10, 11, 12 and 13

Headline keywords help infer these linkages: indigenous community (10), lessons (11, 12) and climate resilience (13). In place of usual stock or representative images, an in-situ farmer from the featured indigenous community in the article is showcased in the cover image, which may help establish a better connection with the audience.

- v. SDGs 5 and 6 have a critical linkage. Especially in rural India, numerous instances have demonstrated the crucial role of water security in enhancing women's individual, domestic, and social participation. Despite being

sidelined from primary decision-making in their own families, women are the ones who have to source water to run their households, sometimes going kilometres for the same. Access to clean drinking water and sanitation invariably points to food security (SDG 2), good health (SDG 3) and the ability to send children to school (SDG 4). If these SDGs are implemented alongside SDG 6, it can truly empower women, especially in rural areas, as the burden of survival (food and health) is alleviated.



- In the Chhatarpur district of Bundelkhand, Ganga Rajput and Babita Rajput have led the women of their villages to successfully revive ponds.
- The ponds, which now help with water supply in the drought-prone villages, had gone dry and women, who were responsible for the household's water, had to walk long distances in the heat to fetch water.
- A non-profit Parmarth Samaj Sevi Sansthan has created a network of women water warriors in Bundelkhand, Jal Sahelis, and is facilitating women like Ganga and Babita to lead their villages towards water security.

Figure 8: Screenshot of an Article Featuring Linkage Between SDGs 5 and 2-3-4-6

The provision for women to enter public spaces in terms of livelihood and decision-making in society can only come from a certain sense of autonomy that may be further emboldened through water security, as observed in multiple accounts.

Figure 8 showcases one such example of linkage. As one can observe in the screenshot, various facets of this style of reportage, including the illustrations of woman protagonists in the cover image and the headline that celebrates them as the heroes of their communities, set a different tone that deviates from the usual doomsday, alarmist narratives in mainstream environmental news.

Mongabay Series: [Clean Energy](#), [Eco Hope](#)

Addressing challenges in food systems with climate-smart agriculture

by Priyanka Shankar and Sahana Ghosh on 22 December 2021

f in   



• As technologies and practices for better water management and climate-smart agriculture (CSA) improve in India, solar-based irrigation systems and direct-seeded rice are gaining momentum.

Social channels

 FACEBOOK

Figure 9: Screenshot of an Article Featuring Linkages Between SDGs 13, 14, 15, 16 and 17

It is a commentary on various challenges in food systems that employ climate-smart agriculture, as the title suggests. Given the nature of the article, a representative image has been used here. However, unlike usual generic, stock images, this one features a farmer working with irrigation pipelines in a field with multiple solar panels and greenhouses in the background. The relevance of the keyword 'climate-smart agriculture' is represented quite well by the screenshot featured in Figure 9.

vii. Even if one were only to study headlines and cover images of these articles under the constructive journalism framework, it may aid towards drawing comparisons to the mainstream style of coverage of environmental issues. This may also help in incorporating better environmental reporting practices that focus not only on the negative but also on positive

and constructive aspects of society. These two facets are essential, as they serve as openers to any news article and set the tone for readers to continue or decide whether to leave.

Lastly, based on the analysis of all the linkages, the researchers have developed a map that showcases all the linkages between all the SDGs emerging from the articles (Figure 10). The red links, with varying weights, showcase primary and secondary linkages, while the blue links are tertiary but essential nonetheless. The dotted lines that connect SDGs 16 and 17, while encompassing all the other SDGs, signify how the participation of peace, justice, and strong institutions — i.e., governments, non-governmental organisations, and global partnerships—plays a key role in achieving all the other goals.

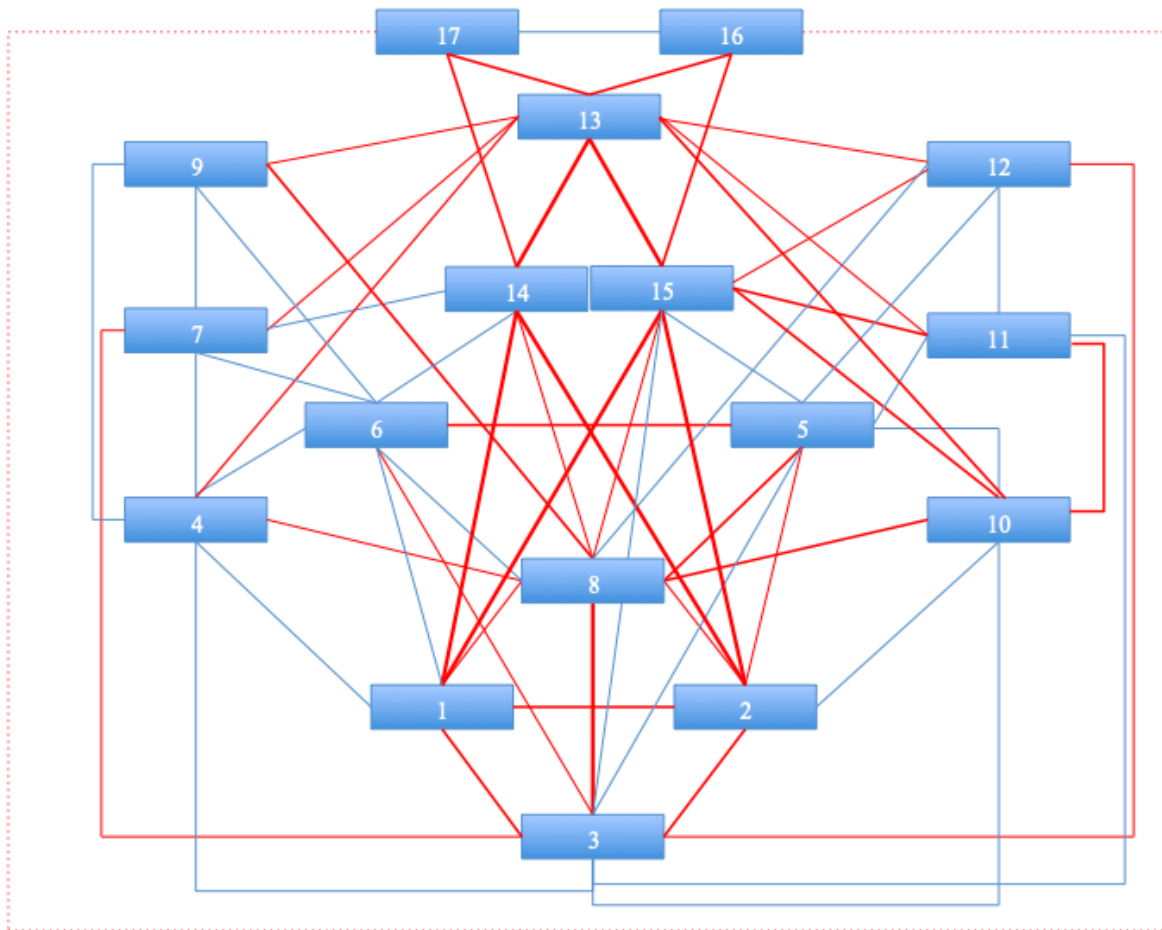


Figure 10: Linkage Map of SDGs Based on the Eco Hope Series.

VIII. CONCLUSION

The need to communicate environmental issues, especially in this time of visible climate effects observed worldwide, is well established. However, news must not just inform citizens but also educate, engage and prepare them. A shift from previous styles of unscientific and alarmist reporting of environmental news needs to be consciously adopted by news organisations worldwide. While constructive and solutions-based coverage may indeed be one way forward, this study has elucidated how a single article focusing on conservation on the surface has linkages with multiple areas, such as employment, poverty, food and water security, climate action, and clean energy. Even journalists may not consider these linkages from the perspective of the SDGs when putting together such stories, which makes this study even more relevant. Stories that showcase the interlinking of the SDGs may further motivate citizens, policymakers, governments, and international bodies to expedite these goals for the betterment of not just their future but also that of future generations. The role of journalists and media organisations as communicators is crucial. It is recommended that extensive media research on target SDGs may be undertaken by researchers that may further help in understanding the linkages between these and communication strategies used for the same. While constructive journalism practising platforms are few, with even fewer covering environmental issues, research on such platforms and their methods of news coverage will prove

beneficial in areas such as Climate Action, Life on Land, Life below Water, Sustainable Cities and Communities, etc.

DECLARATION STATEMENT

Funding	No, I did not receive.
Conflicts of Interest	No conflicts of interest to the best of our knowledge.
Ethical Approval and Consent to Participate	No, the article does not require ethical approval or consent to participate, as it presents evidence that is not subject to interpretation.
Availability of Data and Material/ Data Access Statement	Not relevant.
Authors Contributions	All authors have equal participation in this article.

REFERENCES

- Rao, M. R. M. (2022). A TWAIL Perspective on Loss and Damage from Climate Change: Reflections from Indira Gandhi's Speech at Stockholm. *Asian Journal of International Law*, 1–19. <https://doi.org/10.1017/s2044251322000066>
- Paavola, J. (2002). Environment and Development: Dissecting the connections. *Forum for Development Studies*, 29(1), 5–31. <https://doi.org/10.1080/08039410.2002.9666185>
- Guha, R. (2013, March 27). The Past and Present of Indian Environmentalism. *The Hindu*. Retrieved November 10, 2023, from <https://www.thehindu.com/opinion/lead/the-past-present-of-indian-environmentalism/article4551665.ece>
- Mishra, M. (2020). Environmental Journalism in India: Past, Present, and Future. In D. B. Sachsman & J. M. Valenti (Eds.), *Routledge Handbook of Environmental*



Journalism (1st ed., pp. 291–301). Routledge.

<https://www.routledge.com/Routledge-Handbook-of-Environmental-Journalism-1st-Edition/Sachsman-Valenti/p/book/9781138478503>

5. Katz, E., & Lazarsfeld, P. F. (2017). Personal influence. In *Routledge eBooks*. <https://doi.org/10.4324/9781315126234>
6. Grossman, G. M., & Krueger, A. B. (1995). Economic growth and the environment. *Quarterly Journal of Economics*, 110(2), 353–377. <https://doi.org/10.2307/2118443>
7. Lu, A. (2009). Environment and Development. In *Environment and Development* (Vol. 1, pp. 1–28). EOLSS Publications.
8. Paavola, J. (2002). Environment and Development: Dissecting the connections. *Forum for Development Studies*, 29(1), 5–31. <https://doi.org/10.1080/08039410.2002.9666185>
9. United Nations. (2015). United Nations: Department of Economic and Social Affairs: Sustainable Development. Retrieved August 1, 2023, from <https://sdgs.un.org/goals>
10. Albrecht, G. (2005). “Solastalgia”. A new concept in health and identity. *PAN: Philosophy Activism Nature*, 3, 41. <https://doi.org/10.4225/03/584f410704696>
11. Constructive Institute. (2022, June 14). *What is Constructive Journalism -Definition -Models -Meaning?* <https://constructiveinstitute.org/what/>
12. Benton, J. (2020). *What makes people avoid the news? Trust, age, political leanings — but also whether their country's press is free*. Nieman Lab. <https://www.niemanlab.org/2020/07/what-makes-people-avoid-the-news-trust-age-political-leanings-but-also-whether-their-countrys-press-is-free/>
13. Sanal, L. P., & Aram, I. (2023). Constructive journalism and its effects on environmental discourses. *Communications in Humanities and Social Sciences*, 3(1), 9–13. <https://doi.org/10.21924/chss.3.1.2023.49>
14. McIntyre, K., & Gyldensted, C. (2017). Constructive Journalism: An Introduction and Practical Guide for Applying Positive Psychology Techniques to News Production. *The Journal of Media Innovations*, 4(2), 20–34. <https://doi.org/10.5617/jomi.v4i2.2403>
15. Ginsberg, J. (2022). 30 environmental reporters have been killed in a decade: Why journalism needs to change. Euronews. Retrieved October 30, 2022, from <https://www.euronews.com/green/2022/02/18/30-environmental-reporters-have-been-killed-in-a-decade-why-journalism-needs-to-change>
16. Easterly, W. (2015). The Trouble with the Sustainable Development Goals. *Current History*, 114(775), 322–324. <https://doi.org/10.1525/curh.2015.114.775.322>
17. Janoušková, S., Hák, T., Nečas, V., & Moldan, B. (2019). Sustainable Development—A poorly communicated concept by the mass media. Another challenge for the SDGs? *Sustainability*, 11(11), 3181. <https://doi.org/10.3390/su11113181>
18. López-Carrión, A. E., & Martí-Sánchez, M. (2023). Analysis of the coverage and discourse of the Sustainable Development Goals and the 2030 Agenda in the Spanish digital press (2015-2022). *Revista Latina De Comunicación Social*, 82, 1–21. <https://doi.org/10.4185/rllcs-2024-2057>
19. McArthur, J. W., & Zhang, C. (2018). Measuring the Diffusion of the Millennium Development Goals across Major Print Media and Academic Outlets. *Global Policy*, 9(3), 313–326. <https://doi.org/10.1111/1758-5899.12553>
20. Bhattacharya, D., Khan, T. I. and Sabbih, M. A. (2020). Role of Media in Delivering the SDGs: A Mapping Exercise on Bangladesh. CPD Working Paper 131. Dhaka: Centre for Policy Dialogue (CPD).
21. Litofcenko, J., Vogler, A., Meyer, M., & Mehrwald, M. (2023). From controversy to common ground. *Journal of Language and Politics*, 22(5), 661–686. <https://doi.org/10.1075/jlp.22124.lit>
22. Maweu, J. M., & Paterson, C. (2019). Minding the gap? The media and the realisation of SDG 13 in Kenya. In *Sustainable development goals series* (pp. 71–79). https://doi.org/10.1007/978-3-030-14857-7_7
23. Adapa, S., & Yarram, S. R. (2023). MSMEs and SDGs—Narratives from India. In *Small and Medium-sized Enterprises, and Business Uncertainty* (pp. 1–15). https://doi.org/10.1007/978-981-99-4844-4_1
24. Mishra, H. S. (2020). COVID-19: Reverse migration of labour and the longer road to SDGs, documenting the coronavirus pandemic as a news correspondent. In *Disaster research and management series on the global South* (pp. 359–379). https://doi.org/10.1007/978-981-15-4324-1_21

AUTHORS PROFILES



Lekshmi Priya Sanal is a UGC Senior Research Fellow in the Department of Media Sciences, Anna University, Chennai. Daughter of an Indian Air Force veteran, she has lived all over the country and attended various schools. She has worked as a Journalist at the alternative media platform, The Better India. She has published over 1,000 articles in different fields, including the environment, agriculture, sustainable energy, education, culture, and travel. After a brief stint in the industry, she decided to pursue academic research. Her areas of research interest include constructive journalism, new media and environmental communication.



Dr. I. Arul Aram is Professor, Department of Media Sciences, Anna University, Chennai. He is also the Station Director of Anna Community Radio. He was formerly the Chief Sub-Editor with The Hindu in Chennai and New Delhi. He was a post-doctoral fellow at the London School of Economics. He was Director of UGC's Educational Multimedia Research Centre (EMMRC) during 2010-2011. He has published several research papers in national and international publications, as well as numerous book chapters and authored books to his credit. His areas of specialisation include environmental communication, peace journalism, science communication, and climate change communication.

Appendix

Table 1: SDG Linkages in Articles of Eco Hope Series of Mongabay India.

S.no.	Title	SDGs
1	A restored wetland brings hope to some in flood and drought prone Chennai	15, 14, 11, 13, 1, 6,
2	Pramila Bisoyi's journey from protecting India's national bird to the corridors of power	15, 5, 11, 4, 13
3	Once fighting for Bodoland, 35 men divert their efforts to grow a forest	15, 1, 6, 8-2, 11, 9
4	Indian cobra genome sequence can pave the way for new antivenoms	15, 9, 3
5	Indian government proposes a 10-year plan to protect birds	15, 12, 9, 7, 3, 14, 11, 16
6	Return of indigenous crops helps reduce farm distress and restore ecosystems	11, 15, 13, 3, 1, 2, 8, 12, 5
7	Artificial reefs breathe new life into Tamil Nadu's fishing communities	14, 9, 8, 12, 13, 10, 1, 2, 11
8	Sikkim braces for climate extremes	13, 4, 3, 6, 14, 15, 6, 5, 8-2-1, 10, 16
9	Looking beyond protected areas to conserve species in tea-garden terrains	15, 12, 8-2-1, 3, 1
10	A tiger on my land	15
11	Small but precious: small forest patches act as islands and corridors of biodiversity	15, 11, 16, 17, 3, 10
12	[Video] The barefoot ecologist who brought forests to life	15, 5, 10, 13, 6, 1,
13	Saving sparrows in cities, one nest at a time	15, 12, 11, 9, 4
14	Conservation is serious business at this private nature reserve in Uttarakhand	15, 6, 8-2-1, 11, 5, 4
15	Madhya Pradesh's 'fluoride warriors' unleash citizen science to empower the community	6, 4, 5, 3, 9, 13, 2
16	Why India needs its fishers to save dugongs and their seagrass habitat	14, 13, 15, 11, 12, 8-2-1, 4,
17	Periyar Tiger Reserve, a trendsetter in converting poachers to protectors	15, 8-2-1, 10, 11, 9, 4
18	Mapping the ability of tea gardens to sequester carbon dioxide	15, 13, 8, 2, 9
19	Women act to make slums climate-resilient, one house at a time	13, 5, 3, 9, 1, 6, 7, 10, 8, 11
20	Sunrays light up dark villages in Jharkhand	8-2-1, 7, 6, 9, 10, 11, 4, 13
21	Villagers develop a protective ring around the Ranthambore tiger reserve	15, 11, 10, 8-2-1, 4, 3
22	Indian scientists are building a DNA database to protect the elusive red panda	15, 11
23	Ganjam fisherwomen unite to get back the fish trade from monopolistic traders	5, 8, 14, 10, 1, 2, 4, 13, 15
24	"Ladies First!": Women fight against solid waste dumping in this Himachal Pradesh village	12, 5, 8-1, 15, 3, 2
25	Agrobiodiversity initiatives open women's horizons in Kerala	5, 1, 2, 15, 10, 8, 11, 13
26	Conservation biologists navigate the new normal	15, 3, 14, 11, 4, 17
27	[Commentary] In a pandemic, a chance to make India's recovery and growth equitable	1, 2, 6, 8, 12, 7, 9, 10, 3, 16, 15, 11, 13
28	[Commentary] Finding the middle ground with the Changpa herders in Ladakh	15, 8-2-1, 11
29	Nanotechnology applications can boost agricultural output in emergencies	2, 9, 8-1, 3, 12, 11, 14, 15, 6
30	From east to west, cyclones on Indian coasts are a reminder to put the climate agenda ahead	13, 15, 14, 3, 11, 9, 12, 16, 3, 6, 8-2-1, 10, 4
31	[Commentary] India's Biological Diversity Act finally shows progress due to the NGT	15, 14, 10, 9, 8-2-1, 16
32	Community conservation strengthens biodiversity in the Similipal Tiger Reserve	15, 14, 11, 10, 12, 8-1, 6, 2, 13
33	How carbon cycles in Pichavaram mangroves	15, 14, 13, 6, 8-2-1
34	Ecosystems-based adaptation keeps water running in Bhojdari even in dry months	6, 2, 13, 11, 8-1, 15, 14, 9, 12, 3, 16, 17
35	Bridging the gender gap through groundwater monitoring in a Rajasthan village	5, 6, 11, 2, 17, 10, 4, 8, 1, 3
36	Hope for healthy yak rides on Druk, the yak bull from Bhutan, raised in Sikkim	15, 8-2-1, 10, 12, 13, 16, 17, 11
37	Rare Gunther's toad sighting highlights farms as biodiversity hotspots	15, 2, 6, 8-1, 11, 12, 14, 10, 16
38	[Commentary] Making communities central to conservation	15, 10, 8-2-1, 11, 12, 14
39	Deep below the surface, boreholes offer clues to past warming in the Western Ghats	13, 15, 9, 6, 2, 8-1, 3
40	[Commentary] Why the plane could, yet the country can't, run on biofuel?	7, 9, 13, 2, 8-1, 14, 15, 12, 9
41	India's first two 'Tsunami Ready' villages	11, 10, 14, 15, 2, 3
42	How Rhizophora mangroves on the Car Nicobar islands fought back against a rapid sea-level rise in the 2004 tsunami	15, 14, 13
43	Reverse migration cheers up the agricultural sector in villages	8, 2, 1, 3, 10, 5, 15, 9, 12
44	Splintered habitats may imperil egg-carrying butterflies	15, 11, 2, 3
45	Bat call library for the western Himalayas takes wing	15, 13
46	Sundarbans is endangered as per IUCN's Red List of Ecosystems framework, cautious optimism advised	15, 14, 13, 8-2, 9, 12, 1, 10, 17
47	Nilgiris district collector says, environment before development	15, 12, 10, 11, 16, 3, 8-2-1, 6, 5

A Study on SDG Linkages in the Eco-Hope Series of News Portal Mongabay India

48	It takes a village – and an inspired leader – to protect Kutch’s unique inland mangroves	15, 13, 11, 8-2-1, 14, 4
49	A budding botanist’s quest for plant-indigenous community relations	15, 10, 11, 5, 12, 3,
50	The shepherd who digs ponds for animals	15
51	Migratory openbill storks find haven in Andhra village	15, 11
52	A citizen’s movement to protect wetlands emerges in Jammu and Kashmir	15, 11, 10
53	[Book Review] An ode to the young voices echoing the earth’s call for help	15, 13, 14, 6, 12, 11, 4, 3, 10, 16
54	Beekeeping empowers women, brings in honey and lush kitchen gardens	5, 8, 1, 3, 4, 2, 15
55	How an engineer found his calling in conserving wetlands	15, 6, 12, 11, 8-2-1, 13
56	Sankar and his community dig canals to save Muthupet’s mangroves	15, 8, 13, 2, 3, 1, 14, 11
57	Saving Darbhanga’s wetlands from encroachment and apathy	15, 6, 11, 13, 12, 8-2-1, 10
58	A group of women protect Sindhudurg’s mangroves through ecotourism	5, 15, 11, 8-2-1
59	Govt, NGO, citizens join hands in Maharashtra to conserve heritage trees	15, 2, 3, 11
60	A Navi Mumbai couple fights to save a bird haven from becoming a golf course	15, 14, 11, 16
61	Invoking tradition and science to revive Meghalaya’s ponds	6, 15, 11, 13, 8-2-1, 3
62	People power to clean up the Pune river, bit by bit	15, 12, 11, 9
63	Story of a river bed, a geological marvel and community pride	15, 6, 11
64	Returning to traditional practices to save Vidarbha’s ‘Lake District’	15, 8-2-1, 5, 11, 4
65	The sparks of optimism in a challenging year	15, 8-2-1, 5, 11, 6, 13, 7
66	A birder involves the community and authorities to protect the Haiderpur wetland	15, 11, 6, 8-2-1, 12
67	A community movement saves a Goan heritage lake and brings hope	15, 6, 11, 16, 8-2-1, 14, 13
68	Women revive ponds for water security in Bundelkhand	5, 6, 11, 15, 8-2-1, 4, 10
69	A cluster of villages conserve shy blackbucks in Odisha’s Ganjam	15, 11
70	World Wetlands Day: Celebrating the champions who protect our wetlands	15, 6, 11, 8-2-1, 5, 3
71	Chowkidar turns conservationist for winged friends in Chambal	15, 11, 8-2-1, 12
72	A community-created mangrove forest protects a village from eroding away	15, 11, 13, 10, 8-1-2
73	Genomics offer clues to how forest trees responded to the last Ice Age	15, 13, 16, 3, 7, 8-2-1, 11
74	The monks who protect the Bhagajang wetland	15, 11, 3, 10, 12, 6
75	Managing waste to save the wetlands of Himachal Pradesh	15, 11, 10, 12, 6, 8-2-1
76	Welcome to Tsomgo Lake: Please don’t litter	15, 11, 8-2-1, 12, 16, 6, 7
77	Community restores grasslands in Lamkani, making the village drought-resilient	15, 11, 6, 12, 8, 2, 1, 4
78	Indian “Green Oscar” winner Nuklu Phom envisions a Biodiversity Peace Corridor	15, 10, 11, 8-2-1, 13, 4
79	Shrimp farming gets a push in Uttar Pradesh as India looks to boost exports in the fisheries sector	8-2-1
80	Two young women in Nagaland are leading a crusade against e-waste	15, 5, 12, 11, 9, 3, 8
81	Rural job scheme guarantees carbon sequestration	8-2-1, 15, 13, 10, 6, 16
82	How Sarmoli became a poster child of ecotourism in Uttarakhand	15, 11, 5, 8-2-1, 4, 3, 9, 10, 13, 12
83	Reviving the critically endangered gharials in Odisha	15, 12, 11
84	Desert areas of Rajasthan bloom under afforestation efforts	15, 11, 6, 12, 8-2-1, 4, 13
85	Are we overlooking the role of grasslands in mitigating climate change?	15, 13, 12, 11, 17
86	[Commentary] Nature-based solutions hold the key to transform our cities into resilient spaces	11, 13, 15, 12, 9, 6, 3, 16, 7
87	Microbial boost to Himalayan dry toilets can help mainstream organic farming	2, 8, 1, 6, 15, 11, 13, 12, 7
88	Clean tap water mission in Puri hopes to replenish groundwater	6, 3, 2, 12, 15, 9
89	Kerala’s homegardens are a natural solution for climate change mitigation	13, 15, 2, 11, 8, 1, 6, 14, 12
90	[Interview] The glass ceiling has been shattered, says ZSI’s first woman director	5, 15, 2, 10
91	Keeping alive a mangrove conservationist’s legacy to protect the Kerala coast	15, 10, 1, 4, 14, 13, 11, 9, 12, 2, 3, 8
92	Why tiger conservation efforts need genetic data	15, 17
93	Worshipping Waghoba: Faith meets conservation in Maharashtra, where humans and leopards share space	15, 11, 10
94	Protecting a forest on a hill in Imphal	15, 11, 14, 13
95	Goa’s pilot seaweed farm explores the viability of this climate-smart algae	13, 2, 6, 3, 8, 14, 1, 10, 5
96	An indigenous community in Meghalaya offers lessons in climate resilience	13, 12, 2, 8-1, 11, 3, 10, 6, 4
97	[Photos] A Kashmir spring is protected by a local festival	15, 6, 11, 8-2-1
98	Integrated farming systems emerge as a possible climate adaptation solution	13, 2, 8-1, 12, 11, 15
99	Solar power helps farmers irrigate fields in water-scarce Bastar	7, 6, 2, 8-1, 5, 10, 16, 13
100	Planted forests can tackle flood and erosion impacts along the Brahmaputra	15, 11, 8-2-1, 13, 10
101	Tackling agrobiodiversity loss in Odisha’s Similipal protected area	15, 11, 2, 8, 1, 13, 6, 12
102	Surveying maps, roping in authorities and building a community for Bengaluru’s lakes	6, 11, 15, 12

103	Aadhimalai, winner of the UN Equator Prize from Nilgiris, offers a lesson in indigenous economics	5, 10, 8-2-1, 11, 13, 12, 4
104	In Arunachal's Sessa Orchid Sanctuary, communities collaborate with forest officials to conserve orchids	15, 11, 10, 8-2-1
105	Addressing challenges in food systems with climate-smart agriculture	13, 7, 2, 6, 8, 1, 9, 5, 10, 16
106	Deepen understanding of Indian mangrove ecosystems, says mangrove scientist	15, 13, 14, 11, 8-2-1
107	Hope in the time of a pandemic: Positive news from 2021	15, 13, 11, 5, 6, 14, 8-2-1, 12,
108	Artificial nests for barn owls help farmers befriend these natural rodent killers	15, 2, 11
109	Clean energy startups innovate on products to aid farmers and rural areas	7, 6, 2, 13, 8-1, 16, 12, 5, 9
110	Interwoven in the living root bridges are stories of biodiversity and human interactions	15, 11, 10, 13, 4
111	Grasses spur mangroves to grow in an erosion-riddled Sundarbans patch	15, 13, 12
112	[Video] A Kerala village's quest towards carbon neutrality	13, 15, 12, 11, 16, 8-2-1, 5
113	Indian grasslands hold a treasure trove of endemic plants	15, 13
114	Saving elephants from train hits near Deepor Beel in Assam	15, 11, 16, 12
115	[Photos] Lessons from a 74-year-old farmer who switched to organic sugarcane farming	13, 2, 1, 8, 11, 12
116	Sewing their way to a sustainable menstruation	5, 3, 11, 15, 12, 4
117	A successful model of development in tandem with mangrove restoration	15, 9, 11, 16, 13, 12, 8-2-1, 5, 10, 14, 3
118	Climate resilient millets boost livelihood opportunities for Odisha's tribal women	5, 8, 2, 1, 13, 10, 4
119	The reality of saving young mangroves in the Sundarbans	15, 13, 5
120	Pune citizens recycle clay from Ganesha idols to minimise the impact of clay mining	15, 3, 11, 12, 6
121	Longwood Shola forest is a water source for villages in the Nilgiris, and maintains biodiversity	15, 6, 2, 13, 12
122	Clouds, droughts and other elements of nature recur in Rajasthan's folk songs	11, 15, 2, 6, 5, 8-1
123	[Book Review] 'First Steps' tracks the beginnings of citizen science in India	15, 11
124	Urban farms offer a fresh perspective on managing kitchen waste and nurturing a community	11, 12, 2, 8, 1, 13, 10, 3
125	Nations adopt Global Biodiversity Framework amid concerns over watered-down targets	15, 14, 10, 17, 11, 16, 12, 13, 5, 2
126	To increase fish production, Odisha turns to cage aquaculture	2, 8, 1, 5
127	How an equitable model of irrigation is changing this drought-prone Maharashtra region	6, 2, 8, 1, 10, 12, 13
128	Hosur forest division runs a campaign to collect illegal guns in a move to protect elephants	15, 16
129	Working with biomaterials to add to the sustainable energy mix	7, 3
130	India budgets for mangroves and wetlands	15, 16, 8-2-1, 11, 13, 12
131	[Interview] Scientist Ruth DeFries on deforestation: There isn't one driver, there's a different context in different places	15, 10, 12, 8, 2, 1, 7, 13
132	[Interview] Conservation scientist Joli Rumi Borah on integrating traditional knowledge in research	15, 11, 10, 8-2-1, 12, 16
133	[Video] Restoring the perennial Thamirabarani river with people power	15, 6, 8-2-1, 12, 9, 11

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the Lattice Science Publication (LSP)/ journal and/ or the editor(s). The Lattice Science Publication (LSP)/ journal and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.