

## Policy pointers

**Digital media is the fastest growing source of information exchange.** For impactful decision making and on-trend research, policymakers should track social media conversations, online news discourse and search data.

**The digital divide is a persisting problem that affects both access to digital technology and representation in research.** Focusing on under-represented geographies and engaging local researchers is essential.

**As a relatively new field,** digital media research requires healthy scrutiny to ensure proper accountability. Publish work openly, make data sets and methods available, and adopt a reflexive standpoint.

**One-off research projects provide a helpful snapshot but results quickly become outdated,** especially in such a dynamic media landscape. A regular stream of related information is most effective.

## Data for development: harnessing digital media intelligence

Internet access is exploding around the world. In the 10 years up to 2021, the proportion of people around the world with access to the internet grew from 33 to 63%, and by 2022 the number of active social media users hit 4.62 billion. Policymakers and opinion formers have an opportunity to tap into the wealth of digital media intelligence that is created and to use that intelligence to advance a sustainable development agenda. But like any research practice, gathering digital media intelligence has its challenges. In this briefing we describe some of the pitfalls and how to avoid them, drawing on examples from a partnership between IIED and Marble Global, a digital research consultancy that works with organisations seeking to affect positive change.

Internet use is exploding around the world. In the 10 years up to 2021, the estimated number of internet users worldwide increased from 2.2 to 4.9 billion, or from 33 to 63% of the global population.<sup>1</sup> The number of people logging onto a social media platform in early 2022 increased by as much as 424 million, jumping 10% compared with the previous year to 4.62 billion.<sup>2</sup> The way humans access and share information is undergoing a transformation unlike any we have previously experienced.

In this context, one of the ways policymakers and parliamentarians can inform their decisions is by understanding what their constituencies or supporters are thinking and talking about. Gathering digital media intelligence<sup>3</sup> is fast becoming a way for policymakers to keep their finger on the pulse of the opinions and concerns that impact their field. At IIED, in developing our latest strategy, Make Change Happen, we explored how to respond to this rapidly changing technological scene while building our expertise and understanding.<sup>4</sup> We worked with Marble Global to look at how we could tap into this

opportunity to understand the digital conversations happening in our programme countries and refine our research questions to reflect the issues that people care about most.

Notwithstanding these significant opportunities, digital media intelligence presents its own set of challenges. To maximise this potential — and avoid the pitfalls — policymakers should be mindful of these challenges when entering into a partnership with a researcher or scoping a new project brief. In this briefing, we explore some of the key sticking points associated with digital media research, drawing on representative examples from our previous collaboration, to illustrate how some of these challenges can be overcome.

### Bridging the digital divide

Researchers have long identified a gap between those who do and do not have access to new forms of information technology, and this so-called 'digital divide' persists. The latest research by the UN's International Telecommunication Union (ITU) shows that

*Digital media intelligence is a fundamental source of data for policymakers who need to keep their finger on the pulse of opinions and concerns that impact their field*

despite an acceleration of internet uptake during the COVID-19 pandemic, 2.9 billion people remain offline, 96% of whom live in developing countries. While gender parity has improved,

there is still inequality in the rate of male versus female access to the internet. There are similar gaps between urban and rural communities, as well as between younger and older generations (see Figure 1).<sup>1</sup> Researchers who rely on digital data can therefore find themselves in a position where their work risks reinforcing digital divides through a

form of selection bias, despite best intentions. In our work with Marble Global, we have attempted to mitigate this risk in two key ways.

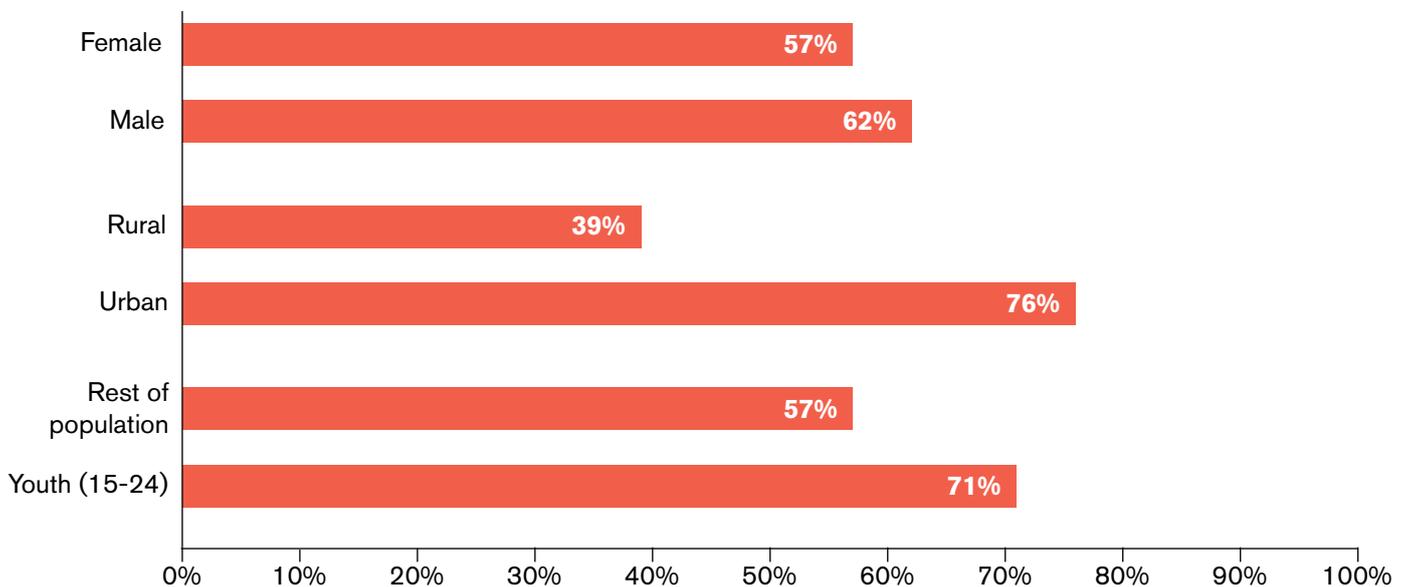
**Explore under-researched geographies.** In March 2021, we commissioned a project to assess digital user perceptions of the benefits of land use for either enhanced food production or ecosystem protection in Ethiopia, Ghana and Zambia (see Box 1).<sup>5</sup> Marble Global used text mining and content analysis methods<sup>6</sup> to capture relevant social media conversations in our target geographies, and statistical weighting to establish the relative importance assigned to each case. Isolating geographies in social media research has its limitations, mainly because the scope for defining location is often limited — for example, it is estimated that just 1–3% of all tweets are geocoded.<sup>7</sup> However, even an incomplete picture can contribute to our broader understanding of how digital communication

interventions can influence the conversation around sustainable development.

Aggregating the relative importance index for available geocoded data between January 2018 and February 2021, we found that Twitter users in all three countries were more likely to prioritise food security over ecosystem conservation. The largest relative importance gap was in Ethiopia, where food security was almost twice as important as ecosystem conservation, according to our analysis. The method also allowed us to identify how and when the trend was reversed, for example when the #GreenLegacy tree-planting campaign<sup>8</sup> was relaunched and amplified by the Ethiopian Prime Minister, resulting in a temporary surge in favour of ecosystem conservation. So long as limitations are acknowledged and findings are contextualised, digital media research of this type is increasingly being recognised as a valuable tool in the development researcher's toolkit.

**Engage local researchers.** Another means of offsetting some of the challenges of the digital divide is to encourage collaborations with researchers who represent demographics that are typically underrepresented in this space. For example, Marble Global has established a global network of analysts who lend their contextual knowledge and native language expertise in the pursuit of research goals in diverse geographies. In a paper developed with the International Organisation for Migration, which explored false narratives about refugees and migrants circulating on social media in the global South, researchers enlisted support from analysts based in Bangladesh and Malaysia during the data interrogation process.<sup>9</sup> This added perspective

**Figure 1. Percentage of individuals using the internet by group, 2021<sup>1</sup>**



helped to ensure authentic interpretation of the dataset and generated research findings that were well grounded in the local context.

### Addressing complex research objectives

Defining the direction of a research project at the outset can be tricky — especially when there are multiple stakeholders involved, sometimes with competing priorities. In our work, we often find that policymakers struggle to align their interests with governmental or departmental strategies; to respond to the interests and demands of individuals; or to contribute to national processes. At the same time they need to keep abreast of both national interests and global developments and make sure they continue to have influence and visibility as an individual. The result is often complex research objectives that present a methodological challenge. Meeting these needs requires a well-conceptualised approach that engages all stakeholders, from the project team performing the analysis to end users of the report.

**Adopt an agile approach to research.** In our research we found there is no one-size-fits-all solution. Rather than depend on any one approach or analysis technique, it is best to draw on a toolkit of different methods depending on the research objectives. Often this will involve deploying multiple, complementary techniques in a mixed-methods approach. There are many reasons for pursuing mixed-methods research, but five key motivations that often apply in the case of digital media intelligence are shown in Table 1.

The methodologies used in our research have varied depending on the research brief — ranging from statistical modelling of citizen perceptions, to narrative analysis that focuses on giving voice to lived experience. In an investigation into the topic of loss and damage in the context of climate change, researchers combined quantitative and qualitative techniques to paint a more comprehensive picture of the global, English-language social media conversation:

- Social network analysis — primarily a quantitative research technique — was used to visualise the connections between social media users discussing loss and damage. Segmenting the wider audience based on their follower relationships, we discovered a small but vocal group of legal and policy professionals from island nations in the Pacific.<sup>10</sup>
- We added a layer of qualitative narrative analysis to build on this initial finding and explored the content being posted by social media users in this discussion. This led us to the observation that Pacific islanders were

### Box 1. Relative importance index

“Our project was looking at land use trade-offs between forests and crop land. We were exploring this in Ethiopia, Ghana and Zambia. We knew that perceptions of these issues were likely to be very different between the countries and we wanted to assess how the general public were expressing their views on these issues. Working with Marble Global, we developed a ‘relative importance index’ to help us tease out the different nuances we were looking for, think through what we actually needed and see what could be done to dig deeper into this debate.”

Barbara Adolph, principal researcher in IIED's Natural Resources Group.

active in lobbying developed nations for support in the form of aid to try to mitigate the worst impacts of rising sea levels.

### Building confidence with new data types and ways of working

Even well-conceptualised research will only have the desired impact on policymaking if the final output is compelling; but digital media data, and the jargon that comes with it, can be confusing for the uninitiated. Policymakers require that research is presented in such a way that they feel empowered to interpret the results and engage fully with the conclusions and recommendations. Clarity and transparency are key: there must be confidence in the validity of the research if policymakers are to adopt key findings in their decision-making process.

**Prioritise research integrity and value over time.** These realities require that digital media research follows the scientific method in its ambition to generate replicable results. Methodology and data acquisition processes should be detailed in an open way — ensuring that full accountability is at the heart of research. To achieve that, we advise researchers to be honest about limitations in their methodology and make data available on request. Research integrity is just one element; another is working to ensure that the value that policymakers derive from research is compounded over time. In the case of digital media research, one-off projects are appropriate for understanding the initial media environment around a relevant topic or audience, but by definition they are static and

**Table 1. Motivations for pursuing mixed-methods digital research<sup>11</sup>**

<b>Triangulation</b>	How can I corroborate findings from multiple perspectives?
<b>Expansion</b>	How can I build on my initial findings?
<b>Completeness</b>	How can I provide a more comprehensive account of the phenomena under study?
<b>Variety</b>	How can I satisfy different types of research questions?
<b>Illustration</b>	How can I use qualitative data to illuminate quantitative findings?

results may become outdated, especially in such a fast-moving information landscape. More effort should be made to establish a regular flow of information so that research is properly contextualised and findings are tracked. This will allow further opportunities to detect emerging patterns that can equip stakeholders with actionable insights.

This approach of combining research integrity and continuous engagement with the aim of compounding value over time is critical to achieving significant impact. IIED, for example, provides evidence to support any recommendations we may be presenting, and while we may challenge conventional wisdom if needed, we always maintain a continuing dialogue with policymakers and opinion formers in the relevant sectors to make sure our goals and motivations are aligned in the long term.

## Opportunities for further research

This research has allowed us to scope out different ways to leverage digital media intelligence and build partnerships that help

advance our mission to build a fairer, more sustainable world. While the examples shared in this briefing are specific to certain topics, these models are transferrable and can be applied in different contexts depending on the research objective. We have identified three core models highly relevant for our field, which can be explored using digital media intelligence research methods:

- Trade-offs: how do social media users engage in a cost-benefit analysis when comparing two apparently conflicting values or end goals?
- Influencers: who are the key opinion formers on the topic area, what can we learn about their motivations and how can we use that information to further a sustainable development agenda?
- Visibility: how do priority topics resonate on social media and how can we identify opportunities to play a leading role in the conversation?

### Michael Urquhart and Liz Carlile

Michael Urquhart is a principal at Marble Global. Liz Carlile is director of communications at IIED.



## Knowledge Products

The International Institute for Environment and Development (IIED) promotes sustainable development, linking local priorities to global challenges. We support some of the world's most vulnerable people to strengthen their voice in decision making.

Marble Global is a digital research consultancy that specialises in building partnerships with organisations that make a difference, leveraging data-driven decision making to help address society's biggest challenges.

### Contact

Liz Carlile  
liz.carlile@iied.org

Michael Urquhart  
michael.urquhart@marbleglobal.com

Third Floor, 235 High Holborn  
London, WC1V 7DN  
United Kingdom

Tel: +44 (0)20 3463 7399  
www.iied.org

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## Notes

<sup>1</sup> ITU (2021) Measuring digital development: facts and figure 2021. [www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf) / <sup>2</sup> Kemp, S (26 January 2022) Digital 2022: Global Overview Report. <https://datareportal.com/reports/digital-2022-global-overview-report/> / <sup>3</sup> Digital media intelligence in this case refers to open source data drawn from social media conversations hosted on platforms such as Twitter, Facebook and Instagram; online news reporting; and search data from platforms such as Google. / <sup>4</sup> IIED (2019) Make change happen: IIED strategy for 2019–2024. IIED, London. [pubs.iied.org/17703iied](https://pubs.iied.org/17703iied) / <sup>5</sup> Vacca, P (2021) The Relative Importance of Food Security and Ecosystem Conservation: Ethiopia, Ghana and Zambia. Marble Global and IIED. / <sup>6</sup> Ignatow, G and Mihalcea, R (2018) Text Mining and Text Analysis. In: *An Introduction to Text Mining: Research Design, Data Collection, and Analysis*. SAGE Publications. <https://methods.sagepub.com/book/an-introduction-to-text-mining/i1778.xml> / <sup>7</sup> Zohar, M (2021) Geolocating tweets via spatial inspection of information inferred from tweet meta-fields. *International Journal of Applied Earth Observation and Geoinformation* 105. [www.sciencedirect.com/science/article/pii/S0303243421003007](http://www.sciencedirect.com/science/article/pii/S0303243421003007) / <sup>8</sup> Embassy of the Federal Democratic Republic of Ethiopia, UK, Ethiopia readies for 2021 Green Legacy tree-planting season. [www.ethioembassy.org.uk/ethiopia-readies-for-2021-green-legacy-tree-planting-season/](http://www.ethioembassy.org.uk/ethiopia-readies-for-2021-green-legacy-tree-planting-season/) / <sup>9</sup> Urquhart, M (2021) Migrants and Misinformation: Key themes in Bangladesh, Malaysia and Nigeria. International Organisation of Migration, Switzerland. <https://publications.iom.int/books/migrants-and-misinformation-key-themes-nigeria-bangladesh-and-malaysia> / <sup>10</sup> Vacca, P (2021) Loss and Damage: Narrative and Audience Analysis. Marble Global and IIED. / <sup>11</sup> Doyle, L, Brady, A and Byrne, G (2019) An Overview of Mixed Methods Research – Revisited. *Sage Mixed Methods Research*. <https://methods.sagepub.com/book/sage-mixed-methods-research/d3.xml>

