

Chapter 8:

Environmental Journalism in Argentina

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This chapter examines environmental news coverage in Argentine media. It begins with an overview of the current status of environmental news in both legacy media as well as alternative forms. Climate change news in particular is examined to discuss the obstacles and opportunities for Argentine environmental news moving forward.

As a news specialization, environmental journalism presents various characteristics, with five essential points to consider: It is investigative journalism; it is a form of science journalism; a form of educational journalism; it is seen to fulfill a specific social responsibility; and it must be exercised with professionalism, objectivity and responsibility but without confusing this with environmental activism (Bachetta, 2002). However, despite its apparent importance for the relevance of the issues discussed, environmental issues have never been as relevant to Latin American media as crime stories or finance, although many of the economies of these countries depend on the exploitation of natural resources (Hansen, 1993). For example, in Argentina, at the dawn of the 21st century, none of the major news organizations had sections devoted to 'environmental news' (Waisbord & Peruzzotti, 2009). While in many developed countries there have been dedicated beats, environmental issues don't have a structured presence as such in the Argentine mass media, whether printed, radio or television. It is a trend that continues despite the general interest of the citizens on such issues and the journalists' efforts to work on environmental stories.

Printed inserts known as 'supplements' related to the environment, sustainability and ecology had largely vanished from national newspapers in Argentina by the year 2000. Only one emerged in recent years: the weekly supplement Sustainable Management of the free daily *La Razón*, owned by the multimedia Clarín

group¹. At the same time, the national dailies did not incorporate the environment as a specific section of their publications, continuing the traditional segmentation in politics, economy and society, among others. That's why environmental issues tended to shift from one section to another and not as a permanent separate section.

Printed magazines specialized in environmental issues followed the same trend as dailies, with none currently being distributed at a massive level. The NGO *Fundación Vida Silvestre* has been running a bimonthly magazine during the last five years, first printed and now only online. At the same time, two smaller magazines were created, *Ecomanía* –monthly- in 2011 and *Futuro Sustentable* –bimonthly- in 2004.

Public audiovisual media run by the government have traditionally given a role to environmental journalism, with at least one show running on their radio and TV stations. For instance, *Televisión Pública*, a news channel runs by the national government, broadcasts since September 2016 *Ambiente&Medio*², a weekly show program focused on the environment, created and conducted by the biologist and journalist Sergio Federovisky. The show's producers describe its mission as journalism applied to ecology: "We do not proclaim or denounce in the void; we do not scream or blame. We simply tell the things that concern society about the environment: pollution, climate change, the mining. And, as the name of the program indicates, we narrate it with journalistic rigor and with scientific seriousness" (The authors' translation)³. As a novelty, this television format gives space to primary and secondary school students who carry out ecological experiments and young eco-entrepreneurs who teach how to produce in an innovative and sustainable way.

¹ The Clarín group is the main communication group in the country, owner of the largest daily newspaper - which bears the same name, Clarín, and partner of several in the interior of the country-, one of the main television channels in Buenos Aires and several others in the interior, a chain of radios, the main system of distribution by cable and also involved in other areas related to cultural industries (Mastrini y Becerra, 2011).

² <http://www.ambienteymedio.tv/>

³ www.ambienteymedio.tv/

⁴ <http://www.ambienteymedio.tv/>
⁵ <http://www.buenosaires.gob.ar/radiociudad>

⁶ www.ambienteymedio.tv/
⁷ <http://www.noticiasambientales.com.ar/>

At the local level, radio *Once Diez*⁴ (Radio City AM 1110), part of the Public Media System of the Autonomous City of Buenos Aires, airs *Sábado Verde*, also a weekly show, conducted by the journalist Selgio Elguezábal, who produced and presented *TN Ecology* in the cable channel *Todo Noticias*, owned by Clarín Group and available throughout country. *TN Ecology* has been the program on environmental issues with more longevity in Spanish-speaking television (from 1995 to February 2014).

Apart from this, in the private sector, environmental television and radio shows have a much smaller role. The air television channel C5N is the only one to have a news program focused on the environment, called *Alerta Verde*, conducted by Luis Pavesio, who also runs the website *Noticias Ambientales. Naturalmente verde*⁵. None of the most significant radio stations have shows related to the environment; such programming is largely limited to smaller stations with a more reduced audience like *Radio Cultura* and *Radio Palermo*. Victoria Bianco runs a one minute long section called *Planeta Verde* in *Cienradios* of *Radio Mitre*, with an own website with environmental news⁶.

Given the absence of opportunities and spaces for thematic in the mass media, a series of independent initiatives have been developed, especially in digital format. *Revista Claves21*⁷ is a non-profit initiative carried out since 2013 by the environmental reporters Fermín Koop and Damián Profeta. The project works as a digital platform for environmental news and at the same time gives tools and resources to reporters seeking to start working with environmental news. *Claves21* has reached over 4,000 reporters with online courses, webinars, news contests and all sorts of activities. Other projects worth highlighting are *Conexión Coral*, a new environmental news

⁴ <http://www.buenosaires.gob.ar/radiociudad>

⁵ <http://www.noticiasambientales.com.ar/>

⁶ <https://planetavivo.cienradios.com/>

⁷ <http://claves21.com.ar/>

website⁸ carried out by specialized reports Tais Gadea Lara and Rafael Otegui; *Alternativa Verde*⁹, a blog run by Mery Castro; *Noticias Positivas*, a news agency with a website¹⁰ and a radio show, and the recently created *PuntoVerde Blog*¹¹ and the website *ComAmbiental*¹². Given that these initiatives are largely new startups and in niche markets, the lack of economic support is a general characteristic seen in all independent environmental news projects, making highly difficult for such initiatives to gain long-term sustainability via advertising on the scale of more established media outlets. As a sample of the lack of structure of environmental journalism in the country, at the end of 2000, the Argentine Association of Environmental Journalists (AAPA) was created, which published a monthly magazine with outstanding reports on environmental news for several years, *Argentina Año Verde*. However, the AAPA ceased to function, and no organization has filled the gap.

The deficiencies observed in the development of environmental journalism in Argentina are also linked to the lack of training opportunities for reporters. A review of university and postgraduate courses in Argentina highlights the lack of academic opportunities for reporters to start focusing on the environment, who have to seek for independent resources such as the ones provided by *Claves21*. Only two universities in the country provide an academic training on environmental communication and neither is located in the Buenos Aires metropolitan area, where almost 40% percent of Argentines live. Only courses related to environmental education and management are offered in the area. The Rosario National University offers a postgraduate course on 'environmental communication,' a course more focused on public relations for non-governmental organizations than on journalism. At the same time, the La Plata National University offers a postgraduate course on 'communication and environment'.

⁸ <http://conexioncoral.com/>

⁹ <https://alternativa-verde.com/>

¹⁰ <http://noticiaspositivas.org/>

¹¹ <https://puntoverdeblog.net/>

¹² <http://www.comambiental.com.ar/>

Environmental issues in Argentine media

Openings for increased environmental news in the mass media has tended to follow increased public interest in environmental issues and crises. When environmental issues or crises emerged that gained intense public scrutiny occurred, mass media were forced to include environmental topics on their agenda but only when there was a highly visible conflict that they couldn't avoid making reference to.

For four years, from 2009 to 2012, the NGO *Fundación Ambiente y Recursos Naturales* (FARN) monitored the environmental news published in the daily print editions of *Clarín*, *La Nación* and *Página 12*. In 2012, *Tiempo Argentino* was added to the analysis. During 2012, the amount of news counted was the lowest since the analysis began. On average, the four newspapers published 47 news stories a month, that is, less than two news items a day. Thus, in 2012, 561 news items were published; 499 if stories by *Tiempo Argentino* are not counted to be able to compare with the previous years. This figure represents 19 per cent less than the previous year because the main theme of the period, the Famatina conflict¹³, which remained for three months in the pages of newspapers, did not become as relevant as pulp mill conflict (el '*conflicto de las Papeleras*')¹⁴ during 2009 and 2010, the British Petroleum spill in 2010 or the Fukushima Daiichi nuclear disaster in 2011. The other topics that stood out in 2012 were contamination in the Riachuelo River and subsequent political fallout over taxpayer money for cleanup, installed in the agenda for years, and the issue of waste management, which was very prominent in the city of Buenos Aires.

¹³ An exploration project for mining, mainly gold, on Famatina hill, located in the province of La Rioja in Argentina. Several international companies have tried to initiate it, but have not been able to do so due to the disapproval of the population of Famatina and Chilecito cities due to the use of cyanide for the extraction of metals with the possible risks to the ecology and health that this element brings.

¹⁴ The pulp mill dispute was a dispute between Argentina and Uruguay concerning the construction of pulp mills on the Uruguay River between 2005 and 2010. Proceedings were brought before the International Court of Justice as a case formally named Pulp Mills on the River Uruguay (Argentina v. Uruguay). It ruled that, although Uruguay failed to inform Argentina of the operations, it did not pollute the river, so closing the pulp mill would be unjustified. The conflict ended in 2010 with the establishment of a joint coordination of the activities in the river.

The author of FARN's report, Federico Sangalli (2010, 2011, 2012, 2013), pointed out that there were still no environmental sections in the newspapers. This makes the location of stories vary according to the particular topic, which, from Sangalli's point of view, undermines the updating and continuity of the news. The section in which most environmental news was published was 'Society,' with 36 per cent, followed by 'Politics and Cities' with 16 per cent. Furthermore, opinion articles and editorials accounted for 9 per cent. For the first time in four years, national news (57%) and local news (27%) displaced international news (20%), which had reached 65% in 2010, due to the oil spill in the Gulf of Mexico and the pulp mill conflict with Uruguay.

According to this analysis carried out over four years, FARN concludes that the only environmental issues that are included regularly on the news coverage are environmental disasters (the Deepwater Horizon oil spill grabbed media attention in 2010 and Fukushima disaster achieved similar coverage in 2011), political and social conflicts (Riachuelo, Fatamina, Papeleras) and large-scale global environmental summits (2009 United Nations Climate Change Conference, commonly known as the Copenhagen Summit and The United Nations Conference on Sustainable Development (UNCSD), also known as Rio 2012, Rio+20).

However, environmental news is not written as such. Only when social, political and economic aspects are involved mass media tend to publish stories regarding the environment forecasting that such trend will continue even further on the future. According to Sangalli, the challenge is to ensure that environmental issues are placed on the agenda of the media, not only when a conflict arises, but also when it comes to incorporating development-related issues and disseminating activities, awareness-raising or public policy debates (Sangalli, 2013, p.562).

González Alcáraz (2013, p. 221) also concluded, from the analysis of his interviews with journalists in Rosario (Santa Fe), that environmental issues occupy a marginal place in the media agenda when they are absent from public controversies or manifest impacts on environmental degradation or natural disasters. It is pointed out that the

coverage of environmental issues would require at least to assimilate a complex look that points to the description of processes rather than isolated or fragmented events.

To know the main environmental issues that appear in the Argentinean television one needs to see the reports broadcasted by *Ambiente&Medio*. In its first months, the show has dealt with issues related to deforestation and protection of biodiversity and natural areas ('Biodiversity, its loss and deterioration'; 'Poaching threatens the Talampaya Natural Park', 'The Impenetrable National Park, a national refuge'), agroindustry ('Disappearing mountains and soy that ravages other crops', 'The impact of the food industry on our habitat'), natural disasters ('Environmental disasters are not natural'), energy (The challenge of clean energy The challenge of clean energy'), mining ('Esquel, the people who said "No" to open pit mining'), pollution of rivers (Why we resign ourselves to enjoy the Rio de la Plata?', 'Is coming back the controversy about the contamination of the Botnia river?', 'The Reconquista, a pending and urgent debt'), waste management and recycling (The contamination of the benefit, the "programmed obsolescence") or 'Not everything is trash') from a national perspective. Others, from an international focus such as 'The Church reflects: analysis of the Pope Francis' Encyclical *Laudato Si'* or climate change ('Global warming and its consequences', 'Trump does not believe in climate change').

These issues respond to the interests of the Argentines who, in a survey carried out by Poliarquia in 2014 on behalf of WWF, expressed concern about deforestation, waste management, river pollution and, above all, climate change, which is discussed below.

Case study: Climate change in Argentine media

Argentina produces 4.6 metric tons of CO₂ emissions per capita and contributes to 0.88% of global emissions of greenhouse gases (GHG). As Non-Annex I Party to the United Nations Framework Convention on Climate Change (UNFCCC), climate change has not been a very relevant topic in the institutional agenda of Argentina in general terms.

However, the geographic position of the country and its socioeconomic characteristics lead to a territory vulnerable to climate change (Magrin, 2007). Large increases in precipitation were observed in eastern Argentina causing floods with large socio-economic impact, while there was a reduction in precipitation in semi-arid zones. Because of the damages and casualties that heat waves and extreme precipitation events are already producing, the first and most urgent adaptation required is to reinforce early warning systems and contingency planning to cope with climatic extremes and their consequences on health (Barros et al., 2015).

Research has indicated nuances across geopolitical borders and within cultural contexts, when discussing environmental and scientific coverage, especially on climate change (referred to as CC). That research is summarized below, beginning with the larger Latin American review, and then focusing on Argentine national and regional media coverage.

La Nación is one of the two top dailies in Argentina, alongside Clarín (Silvestri & Vassolo, 2009). This newspaper was examined by Zamith, Pinto and Vilar (2013); in a comparative study, alongside the following newspapers: Folha de Sao Paulo (Brazil), The New York Times (United States) and El Tiempo (Colombia). The findings showed that news coverage among the four newspapers was not uniform. El Tiempo and La Nación, in countries with comparatively small carbon footprints, presented the issue in a significantly more critical fashion, though with far less frequency. The results also indicated a continued overreliance on government sources and a failure to adequately include impartial expert voices that may facilitate the understanding of a complex scientific issue (p. 351).

Kitzberger and Pérez (2009), in their study on the informative treatment of climate change in seven Latin American countries, concluded that the media analyzed did not reflect any profound discussion on the issue which was approached mainly as an international issue with little attention to the reality itself. The authors determined that Chile, Venezuela and Argentina were the countries with the major international focus, while in Peru and Bolivia this trend was inverted. La Nación published barely

18 texts about climate change, equivalent to 0.46 per cent of the production of the newspaper during one month in 2008; Clarín, only 11, which represented 0.27 per cent of its total volume during the same period. In Argentina the environmental organizations were important as references of authority in the national press, equating in the register the scientific voices. The participation of these NGOs in the definition and characterization of the problem boosts public awareness as a strategy for approaching the problem of climate change. The issue is presented more linked to the participation of the civil society than to the pressure on governmental policies.

In order to unravel the role of local newspapers in light of a problem of global scale like climate change, González Alcáraz (2012a) analyzed the informative treatment of the issue in two newspapers of the Argentinian city of Rosario. The results were no different from those of the national press. Basically, the coverage was concentrated during those periods of the year when transnational event were occurring, and agency news items were published without an apparent series of criteria that in a contextual way expounded on the different aspects from which the problem could be approached. Of the total units analyzed, only 11 referred to the local immediacy of Rosario (p. 20). González Alcáraz pointed out that the international political and scientific agenda overwhelmed the national-local voices. At the same time as governmental managers, local politicians and other actors with the capacity for interference in the local public agenda appeared not to have designed the necessary strategies to influence the media's agenda with a more clear debate on the relationship of climate change with the local reality. The issue is not seen as a relevant question of public debate; it persists in the arena of some local organizations and environmental management, but is unable to permeate to the rest of the society (González Alcáraz, 2012a, p. 14).

The lack of local perspective was also emphasized in the analysis of the 317 pieces published during three and a half years in the newspaper *Clarín*, carried out by Mercado (2103). The results of the research stressed that the issue is focused from an international perspective, with scarce references to policies of mitigation or

adaptation at the local level. The most frequent issues referred to were international negotiation and the presentation of scientific reports. The reduction of GHG emissions on a global level was the solution most mentioned, although in its editorials, the newspaper *Clarín* clearly defined the way to address climate change: dealing with a change in the model of production, of consumption and in the energy system. Argentina needs to position its growth in the direction of sustainable development supported in the renewable energies.

All of these studies reviewed above coincide in highlighting the Copenhagen Summit in December 2009 as the peak of media attention. Twenty nine per cent of the total of environmental news items that were published during 2009 corresponded to the COP15, as indicated in the report carried out by FARN (Sangalli, 2010).

These results are consistent with those found in the study which analyzed the coverage of the climate change in the Argentinean press from 1 October of 2009 to 30 September of 2010, covering the repercussion in the press of the preparations and reactions looking at the results of the COP15 (Mercado, 2012).

Gavirati (2012) studied the COP15 from another perspective. His working hypothesis asked if greater media repercussion did not necessarily mean promoting a greater ecological conscience. The two main flagship outlets, *Clarín* and *La Nación*, reproduced the discourse of the countries of the North. For *Página 12*, the relationship was more regional, linked to the ALBA countries (Bolivarian Alliance for the Americas, among which are Venezuela, Ecuador, Bolivia, Cuba and Nicaragua) because of their greater political and ideological proximity to the then-Argentinian government. But in none of them was there any environmental point of view (p.17).

Media interest in climate change dropped in 2010 to 6 per cent and continued with a bare 8 per cent of all environmental news during 2011. Neither the COP summits of Cancun nor Durban managed to attract the attention of the media. Sangalli (2011) highlighted the growth that the environmental issue saw in the year 2010, but not so for climate change, which appeared to have come to a standstill. The summits held in Bonn, Cochabamba and Cancun went by almost unnoticed in the media. The

Durban Summit was the one which attracted the least interest, not only for its poor results, but also, as Gaitán and Piñuel have pointed out (2013, p. 186), due to the effects of the crisis in the routines of production: 'The transit seen in the discourse of Cancun to Durban is impoverishing, because of to the lack of special envoys and the simplification of the messages reduced to empty political discourse.' The poor advances in international negotiations are reflected in the interest of the media for the issue.

Studies carried out in the United States and the United Kingdom have revealed that the news representations of 'skeptical' or 'denialist' discourse of scientific consensus about climate change have empowered posturing that rejects the actions or measures to address the problem. In the case of the most important newspaper in Argentina, *Clarín*, there is a consensus in climate science, as well as the present gravity of the problem with roots in human actions (González Alcáraz, 2015). As several researchers have stressed, it can be considered that the 'skeptical discourse' about climate change is produced in the Anglo-Saxon world (Boykoff, 2007b; Boykoff and Boykoff, 2004; Carvalho, 2007; Grundmann and Scott, 2012; Painter, 2012), whereas in other latitudes climate change is presented as a legitimate problem that demands solutions. From the Argentinean perspective, the confrontation is clear between industrialized and developing countries. This goes at least for *Clarín*, through the chronicles of its special correspondent at the COP15 that shows this different approach to that of the European or North American countries. But this media construction is not found in *La Nación* as most of their pieces about the summit, and in the International pages in general, come from international agencies (Mercado, 2012).

Ultimately, Argentina resembles more a spectator than an actor. The official position calls for a settling of the 'environmental debt,' but the fight against climate change is not a matter of priority on the political agenda in Argentina, at least seen from the perspective of the Argentinean quality press (Mercado, 2012, p. 206).

Environmental journalists' point of view

Clarín and *La Nación* participated in 2015 in the Climate Publishers Network, an unprecedented content-sharing partnership among international news publishers on climate change stories ahead of the COP21, led by The Guardian. The environmental journalists Marina Aizen, from *Clarín*, Laura Rocha, from *La Nación* and María del Pilar Assefh from *El Cronista Comercial* were interviewed to know their opinion about the coverage of climate change in Argentina (Mercado & Galarza, 2017).

Aizen believes that it was a good experience.' The project made possible a weekly coverage that hadn't existed before, from mid-2015 until the COP21. 'Once this project was over, coverage of climate change went back to being sporadic.' In her opinion, the responsibility for the meager media attention to climate change is in first instance of the editors who have to be convinced in order to report on this issue. The editors do not understand that this is a current issue, not one for a hundred years from now. Journalists who want to cover environmental issues don't have it easy, 'because there is an attitude of almost militant censorship on environmental issues; to the editors they are merely colorful notes, nonsense.' Assefh also suggests there is much work to be done in order to get these issues to public view, because some editors 'don't see it as an issue in the media agenda.'

Rocha thinks that in recent years an opening up to these issues has begun to be seen, and that this has to do with the impacts of climate change beginning to be more tangible. However, the politicians are using the link between floods and climate change as an excuse for their ineffective management in improvement of infrastructures, qualifies Aizen. According to this journalist, the very limited relevance given by the editors has had much to do with climate change not being included in the political agenda of the Kirchner governments and the lack of institutional campaigns. However, 'the government of Macri (2015) has taken the issue of climate change more seriously' and has shown itself very open to the press. 'They call us, they invite us to the ministry, they sit down with us, they tell us things, they answer our questions, answer phone calls, it's another type of relationship,' reflects Aizen. In general,

journalists recognize that climate change is often very badly covered by the media, with not always accurate approaches and with errors that undermine trust. The main cause is the lack of specialization in environmental issues, particularly on climate change, a topic very close to science.

Another issue involves scientists as journalistic sources. As journalists translate the climate science for mass audiences, the scientist are important sources of information. However, for the scientist it is difficult to decode his or her research into a simple, direct language. Scientists would have to see the way to make technical knowledge something that is socially understandable, because even those of us who are involved in the issue and read the scientific papers and journals sometimes find it hard to follow the line of process, claims Aizen. However, according to Assefh, "journalist would have to see in each case what the problem is: if the scientist has expressed him/herself badly or the journalist has not taken the time to properly address and understand. Both things can happen".

Rocha also mentions the permanent distrust between journalists and scientists, who "are never satisfied, above all with the headlines". But beyond this misunderstanding, the scientists are the referent and above all, they will have to have more participation in deciding policies.

To improve the communication of CC, according to Aizen, the editors, those that have the power, need to view climate change news as an imperative—without politicizing it or misrepresenting it—and one that necessitates a beat with dedicated reporters in order to adequately report on the myriad complex issues involved.

Rocha also notes the importance of multimedia storytelling in better CC communication. New platforms, good stories and other ways of talking about CC are needed because "an issue which is so versatile that it can be approached from many angles, according to Aizen. Linking the global science and policy to local impacts is essential. This connection with the day-to-day is fundamentals so that the people have the consistency of news coverage to make it salient as an important topic, because for Assefh, in general terms, given the sporadic state of coverage, there is no real concern,

or understanding of the connection between what one does and how this affects the environment.

Therefore, the sporadic presence of climate change in the Argentinian press presents serious issues not only for audience understanding but also policy outcomes. Climate change has never been an issue of relevance for Argentine administrations, as with other Latin American governments. The Kirchner administrations attached little importance to the environment and to climate change. From 2015, with the Macri administration, there is always a mention of climate change but results are yet to be seen, according to the interviews.

However, in the 21st century as climate change accelerates and impacts are more directly experienced, according to the interviews, journalists believe that something is changing. There is more information on climate change on a daily basis because of an increased personal interest of journalists in learning and reporting about these issues. Media professionals are slowly beginning to understand that this is an issue that cannot be ignored. Effects of climate change are already visible in Argentina so they are forced to report on them, such as frequency of devastating floods in recent years. But a lack of specialized journalists can mean inaccurate reporting, such as attributing outcomes to climate change incorrectly. Or, in the case of audiovisual media, not having anyone on staff to be able to speak about an issue when the topic is covered.

Final considerations

Although historically it has largely been marginalized in mainstream media, environmental journalism moves forward in Argentina in part thanks to the individual interest of reporters and to the development of independent initiatives, all of which seek to widen the coverage of the many open environmental conflicts in the country and broaden public understanding of issues such as climate change.

Conflicts regarding mining projects in the provinces of Chubut, Río Negro, Catamarca, La Rioja, San Juan and Mendoza, floods in entire cities and towns, forest fires in Patagonia, expansion of oil and gas projects and deforestation in the northern

provinces are only some of the issues that have filled pages and front pages over the last few years. These have emerged largely because of their linkages with conflict, human health, and political response.

However, for mass media outlets in the country, environmental issues are something abstract, but with localized and future impacts. As long as they are not seen as issues with a significant impact that alters the everyday life or affects directly social groups, they will hardly be considered relevant issues that should be broadcasted to the public opinion. Further, given the complexity of many environmental issues, in Argentina they would only receive news coverage when they can be simplified. That means they would be fragmented and taken out of context, so to report on concrete episodes instead of looking at the wider picture and offering a more integral representation of the issue. And without dedicated, trained reporters on an environmental beat, the issues appear only sporadically across newspapers, screens and airwaves, and this can contribute to a simplified, fragmented way of reporting and understanding environmental news.

With that scenario in mind, a large number of alternative media outlets have been created on the last few years, especially digital ones, which seek to report on issues ignored by mass media and reply to the need of people that want to be informed on environmental issues that are not just large-scale disasters and conflicts. As climate change accelerates in the 21st century and smartphone technologies increase the ability to bring information to everyone across the world, such independent entrepreneurship will only become more important and urgent to educating mass publics on the changes they experience in the world around them.

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