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Environmental justice and the politics of pollution: The case of the Formosa Ha Tinh Steel pollution incident in Vietnam

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Abstract

Research on environmental justice in authoritarian regimes, and in particular on how transnational networks support problem framing and claims-making in the absence of state-led democratic participation instances, is limited. This article uses the case of untreated wastewater from a steel mill owned by Taiwanese conglomerate Formosa Plastics Group, which caused mass fish deaths along coastal provinces in Vietnam in 2016, to explore how civic groups and local communities problematize official accounts of events and engage with transnational networks to make claims to environmental injustice. The paper highlights local narratives about the adverse impacts of the disaster on residents' livelihoods and wellbeing, controversies over the causes of and responsibility for the disaster, and the role of transnational alliances with Taiwan in sustaining and magnifying claims to injustice. We argue that viewing issues such as the Formosa steel incident through a transnational environmental justice lens illuminates the effect of global and national processes of economic reform in shaping uneven environmental and social impacts from new infrastructure developments. We also argue that thinking in terms of transnational networks can make sense of the spaces which can emerge for claims-making in authoritarian contexts, where democratic participation instances and access to knowledge may be restricted.

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Environmental justice in a global context

Environmental justice has been a central organizing discourse of environmental and social movements for the past three decades. Having emerged as an explicit framework in the American context as a combination of environmental activism and civil rights advocacy (Taylor, 2000), environmental justice has since spread across the globe and been applied to a wide range of issues. Yet empirical research on environmental justice in the context of authoritarian regimes and less-developed countries is more limited. With increasing awareness that much infrastructural and socio-economic development globally is taking place in authoritarian contexts (Doyle and Simpson, 2006; Huang and Liu, 2020; Moser, 2020), this is an important gap in the literature. In response, this paper assesses claims to environmental injustice associated with the Formosa Ha Tinh Steel (FHS) plant in Ha Tinh Province, Vietnam. Located on Vietnam's North Central Coast, the FHS plant is operated by the Taiwanese Formosa Plastics Group. The plant has been at the center of high-profile claims to environmental injustice, with residents and fishers claiming that discharges from the plant into the sea have killed fish and caused health problems. As well as speaking to the body of existing literature on transnational environmental justice by adding an example of claims to injustice between a higher-income east Asian and mid-income southeast Asian nation, the FHS incident is a valuable case to evaluate the role of transnational alliances in supporting claims-making around environmental injustice for victims living in an authoritarian context.

Outside of a Western context, environmental movements in the Global South increasingly pursue human rights alongside environmental justice. Justice and democracy are key themes and practices within these movements. Adeola (2000) declares that environmental activists, powerless indigenous populations, and other minorities face concomitant threats of environmental injustice and human rights abuses, especially under authoritarian regimes. Adeola argues for the need for stronger international norms protecting human rights to a safe and sound environment, and that environmental injustice needs to be included as a component of human rights protocols. Indeed, Pellow (2018) notes that social movements and organizations working toward environmental justice frequently produce imaginary and material linkages among advocates over space and across scales.

At the same time, Bucchi and Neresunu (2008) believe that science and technology have become resources for the identity, organization, and action of new environmental justice movements, and that different forms of civil society participation can exist depending on the local context and nature of the controversy at hand. The key question, Bucchi and Neresunu (2008: 454–455) believe, is "under what conditions do different forms of public participation emerge" rather than "which model of participation accounts best" for expert–public interactions. Given the shortage of empirical research into environmental justice in authoritarian regimes and less-developed countries, and the nascent field of research into the contribution of transnational networks of activism for problem framing and knowledge production, this is an important research challenge. Following Bucchi and Neresunu, as well as exploring how different forms of civic actions for environmental justice emerge in specific contexts, there is hence an imperative to understand how exactly science and technology can be appropriated by environmental justice movements—both to provide evidence for claims

to injustice within existing fora and to create new platforms on which to raise claims to injustice in the absence of state-led democratic instances.

In response, this paper evaluates the environmental justice dimensions of the pollution controversy at the FHS plant in Ha Tinh Province, Vietnam. A discharge from the steel plant has been claimed to have caused mass fish dieoffs, making residents ill, and destroying the livelihoods of coastal communities dependent on fisheries. We examine how civic groups and local communities have made claims to environmental justice and built transnational alliances to challenge states and corporations. In particular, we offer insights into the contribution of transnational movement networks and alliances in creating new transnational public spheres and facilitating transmission of ideas and knowledge claims, in situations where features of democracy in the state level are limited.

Discourses on transnational environmental justice

We evaluate the FHS incident through the lens of environmental justice. Schlosberg (2004, 2007) argues that inequitable distribution, a lack of recognition, and a decline in participation are interwoven in political and social processes. By challenging social structures and institutions that exclude involvement in decision-making processes, it is argued that the environmental justice movement can lead to transformation on different levels—the individual, the group, and the community, ultimately influencing institutions, government, and social structure (Cole and Foster, 2001: 14–15). Approaching the FHS incident through environmental justice thus allows us to understand the contours of the controversy in relation to a full suite of formal and informal political and social processes operating at different spatial scales and identify potential pathways to transformative action in response to claims to injustice associated with the plant.

Thinking of the FHS incident in terms of justice can be supported by looking in particular to the literature on transnational environmental justice movements. Ureta et al. (2020) explain that the transnational environmental justice regime is slowly rising, with a trend toward corporations being sued locally by the overseas victims of their alleged misbehaviors. A fundamental driver behind this trend, Pulido (1994) argues, is that processes of restructuring, deregulation, and internationalization add a transnational element to environmental injustice, which stretch the limits of what can be understood and achieved through traditional appeals to procedural justice. Such arrangements give rise to what Morello-Frosch (2002) terms a "political economy of discrimination", whereby economic restructuring and associated industrial location behavior can shape the distribution of people and of pollution.

Walker (2009: 371) hence summarizes that transnational environmental justice thought is concerned with "the positioning of transnational responsibilities for harm in distant locations firmly within the frame, connecting globalized economic and political relations with their environmental consequences". A key argument within this body of literature is that it is not sufficient to identify injustice in distribution of environmental and health impacts or point out injustice in processes, across country borders. Rather, there is a need to account for *why* flows of technology and materials happen (Iles, 2004). This includes illuminating patterns (such as perverse regulatory incentives) that generate these flows (Walker, 2009) and understanding how the lack of democracy within private production decisions may lead to claims to injustice (Pulido, 1994).

Nonetheless, the literature also identifies challenges for transnational environmental justice scholarship and practice. Ureta et al. (2020) argue, in the context of toxic harm litigation, that the long timeframes, spatial distance, and regulatory differences associated with transnational justice claims can make it even more difficult to prove beyond doubt that

certain harm has been caused, because the effects of contamination do not appear immediately and the victim often only becomes aware of the harm after some time has passed. Ureta et al. also hold that transnational claims to environmental injustice are complicated by the need to move victimization devices (i.e. the "evidence" and grounds on which claims to injustice are based) to distant locations, with different political and cultural contexts, from that in which the harm occurred. Furthermore, Schlosberg (2013) adds that transnational environmental justice analysis ought to encompass the role of creativity and networking in responding to claims to injustice. In other words, there is an imperative to understand actions that may be taken to redress harm to victims of companies' transnational activities.

As such, consideration of environmental justice in the FHS incident needs to be aware of (a) the potential limitations of the state in being able to protect the natural environment necessary for local residents' wellbeing, community cohesion, and sense of identity; (b) the lack of fora through which claims to harm or injustice may be contested domestically, given the authoritarian nature of Vietnam; and (c) the challenges of articulating claims to injustice across scales, cultures, and political systems given the transnational nature of the project. In this regard, a transnational environmental justice alliance could send resources to disadvantaged people at the bottom of the power hierarchy and challenge the power of growth-oriented government institutions and investors (Schnaiberg and Gould, 1994). The linkages formed with nations that share common experiences and develop strategies for environmental problems have been regarded as a significant evolution in the environmental justice movement (Miller, 1993). It is hence crucial to explore how grassroots groups organize and link their struggles to issues of environmental justice and consider how these actions may shape policy and knowledge production in the face of the challenges in a changing world.

To organize these thoughts within the confines of a paper, we structure our analysis around the three core components of Walker's (2012) framework for "claim-making" in environmental justice. Walker (2012: 40) points out that the notion of "claim-making" brings attention to the nature of knowledge and reasoning that is intrinsic to working with environmental justice. Walker introduces and exemplifies a framework for analyzing the constituent elements of environmental justice claim-making and how they interrelate. The framework has three elements. First, claim-making concerned with notions of justice; normative judgements about "how things ought to be". Second, claim-making about forms of empirical evidence; descriptions of inequalities in "how things are". Third, claim-making about process; explanations for "why things are how they are", or how patterns of injustice are produced and sustained. According to Walker, concepts of distributive justice are central to environmental justice claim-making in these multidimensional, layered, and interacting ways. Other dimensions of distribution interact with these distribution of the direct environmental burdens or benefits, which include vulnerability, need, and responsibility. Indeed, Walker notes that environmental justice claim-making also involves procedural justice and issues of recognition. In the *Breaking Down the Nature of Claims-Making Around the FHS Incident* section, we therefore evaluate the FHS case through these three dimensions of claims-making and use this to draw out wider insights for transnational environmental justice in a potentially challenging context such as Vietnam.

Vietnam and the FHS plant

Vietnam is a one-party socialist state officially espousing communism. In 1986, the Vietnamese government initiated a series of economic and political reforms, known as *Doi Moi*, which began Vietnam's path toward integration into the world economy. Since

2000, Vietnam's economic growth rate has been among the highest in the world. Yet there have been claims to injustice around restricting basic rights, including freedom of speech, opinion, association, and assembly; removing farmers' land to development projects without adequate compensation; and preventing workers from forming independent unions (Human Rights Watch, 2017).

The Formosa Plastics Group initially planned to construct a steel plant in an offshore industry area of Yunlin County, Taiwan, in 2004. Although the plant was proposed as a major priority investment project within Taiwan, the Environmental Impact Assessment Committee believed that the project might significantly negatively impact on the environment and suggested the need for a second-stage reviewing procedure. With Formosa Plastics Group concerned about the length of the second-stage review and the potential for public opposition, and also noting favorable construction and labor costs outside of Taiwan, the company decided to take the investment project overseas instead.

Accordingly, the FHS plant was set up in 2008 and located in Ha Tinh Industrial Park, making it one of the largest foreign direct investments in Vietnam as well as one of the largest steel plants in Southeast Asia. The plant is located in the Vung Ang Economic Zone in Ha Tinh Province, thereby taking advantage of associated infrastructure, local tax policies, and preferences in tariffs with countries belonging to the ASEAN Free Trade Area.

In April 2016, an estimated 100 tons of dead fish appeared in Ha Tinh Province, near to the steel plant, and in three other provinces, Quang Binh, Quang Tri, and Thua Thien Hue, along a 200 km (125 miles) stretch of coast. The incident sparked rare protests in Vietnam. Local residents expressed their anger that the Vietnam government's preliminary investigation found no link between the plant and the mysterious fish deaths, arguing that the government and FHS had attempted to cover up the truth. Since April 2016, there have been thousands of anti-Formosa protests in Hanoi, Ho Chi Minh City, and Ha Tinh Province, although these have been swiftly broken up by authorities and many protesters briefly detained. A group of protesters, including Vietnamese migrant workers in Taiwan, and environmental groups also rallied outside a venue in Taipei City where the company held its meeting. In July 2016, a Vietnamese government minister, Mai Tien Dung, told reporters that wastewater containing toxins such as cyanide and carbolic acids was released into the sea during a test run at the plant. FHS admitted it had caused the environmental disaster and pledged US$ 500 million to clean up the environment and compensate the affected people, including helping fishers to find new jobs (Reuters, 2016).

About 44,000 families were affected by the FHS pollution. In the neighboring villages around the FHS plant, the majority of residents live on fishing and farming. Operations of almost 2600 fishing boats were halted, creating unemployment for around 3000 laborers. Many people have been indirectly affected by the disaster, such as the tourism industry and seafood farming. By November 2016, the local unemployment rate soared 15 times and 83% of residents' income had fallen in the four affected provinces (Viet Nam News, 2016).

Understanding an environmental controversy in an authoritarian context

The overall aim of the paper is to understand the nature of claims-making around environmental justice in an internationalizing yet authoritarian country context and to evaluate how transnational alliances can support purported victims of environmental justice in the absence of state-led democratic participation instances. To achieve this, we draws on data from two techniques: documentary research and in-depth interviews.

Documentary research

First, due to potential ethical and logistical challenges associated with accessing participants given the country context, documentary research was undertaken to understand the claims to environmental injustice (and the counter-arguments) presented by key actors in the debate. Material was selected to reflect the breadth of forms and spaces in which claims to environmental injustice around the FHS plant were made—in Vietnam itself, online, and in Taiwan.

The documentary analysis involved examining relevant Vietnamese and Taiwanese local news reports and international news reports, film and documentary materials, reports and campaign materials from environmental groups; and websites of the Formosa Plastics Group and non-governmental organizations for press releases and petition statements. The material was used interpretatively—that is, using the contents of documents and media reports as a tool to help understand the contours of the debate and assess the nature of the claims to environmental injustice made by different actors, rather than considering the broader influence or the audience of the articles. Documentary material was utilized to access both "official" narratives around the incident and also claims to environmental injustice, and to give insight into the types of arguments made by different people involved in the controversy.

Accordingly, a breadth of materials reporting on the FHS events were selected. Internationally, The Guardian, Reuters, Radio Free Asia,[1] and Viet Nam News were reviewed. Taiwanese media assessed were The News Lens, China Times, and Focus Taiwan; as well as a special program on the FHS pollution case, made by Taiwan Public Television Service and interviewing local residents, victims, and activists.

For greater insight into the nature of claims to environmental injustice being made, Taiwanese citizen and alternative media were reviewed, namely Taiwan Environment Information Center; Civilmedia@Taiwan[2] (report on protest and social movement); and the websites of the Environmental Jurists Association (an association of lawyers, experts, and scholars who assisted Vietnamese plaintiffs to file a lawsuit against FHS in Taiwan District Court) and the Taiwan Association for Human Rights (who appealed to both the Vietnamese and Taiwanese governments in relation to the pollution incident). A report published by Green Trees (a non-profit, civil society organization working in the field of environmental protection in Vietnam) providing an independent investigation into the FHS event by local scientists, scholars, and NGOs was also reviewed. A full inventory of sampled content is included as Supplementary Data.

Material was sampled from April 2016 to August 2017, covering the full span of time from when the FHS incident first came to light in international media through to the formation and actions of the transnational alliance. Covering this time span also allowed assessment of how the focus of media reporting shifted as the FHS incident developed. In April 2016, local and international media focused on factual reporting of the FHS incident and controversy over the pollution source. During June 2016, media reports focused on the development of the incident, fishers losing their jobs, and the Vietnamese government demanding FHS to pay US$ 500 million in compensation. From October 2016 to June 2017, Taiwanese media reports focused on a faith leader coming to Taiwan to seek assistance; reviewing the Taiwanese government's "New Southbound Policy"; and disclosing possible corruption within the Vietnamese government.

Within the news sources sampled, relevant articles and media reports were identified by searching for specific keywords, including "Formosa Ha Tinh steel incident", "Vietnam pollution", "dead fish", "water pollution", "toxic waste spill", and "marine life disaster".

This breadth of keywords was selected to (a) understand the incident itself; (b) assess how media outlets reported issues around the incident; and (c) identify the sources of information used by news reporters and journalists within their reporting. Articles were screened by cross-verification to check whether the same event or keywords appeared in more than two different news outlets. It was found that journalists' sources of information included NGOs, a faith leader, FHS itself, and Vietnamese government. Accordingly, the contents of the news reports were then further followed up via interviews.

Interview research

The documentary analysis was supplemented with four interviews (two extended and two shorter) in autumn 2017, following purposive sampling. The two longer interviews were undertaken with a faith leader involved in making links with Taiwan to raise awareness of the case, and a representative of an NGO supporting Vietnamese victims from within Taiwan. Shorter interviews were conducted with a Taiwanese businessman who works in Vietnam, and with a Taiwanese public health scholar who has conducted long-term research on health risk assessment of pollution in Taiwan. These shorter interviews were intended to provide context to how the FHS plant and Formosa Plastics Corporation were viewed in Vietnam and the historical context of their operations. Interviews were semi-structured, covering how the interviewees felt about the pollution controversy and citizen actions; how they viewed the ways the Vietnamese government and FHS dealt with the event; and how the Vietnamese groups came to Taiwan to seek assistance.

Analysis and ethics

We use interpretive analysis, which views social reality as being embedded within a social setting and focuses on language and meanings from the perspective of activists and participants involved in the social phenomenon. Bhatacharjee (2012) explains that interpretative analysis involves (a) viewing the phenomenon from the subjective perspectives of the participants and (b) understanding the meaning of participants' experiences within a rich narrative story. Accordingly, insights from documentary analysis and interviews are integrated into a narrative of different components of environmental injustice claims, which forms the basis of the *Breaking Down the Nature of Claims-Making Around the FHS Incident* section.

Related to the above, it is also important to clarify at this juncture the grounds on which we frame our research in terms of a "disaster". Perry (2007: 2) argues that "in reality anyone has the right to propose a definition of disaster, and the definition proposed depends on the purposes or interests of the definer". In keeping with the interpretative analysis framework and bearing in mind our interest in *claims* to environmental injustice, we do not seek to impose an "official" definition of whether or not the FHS incident ought to be considered a disaster. Rather, the term "disaster" is used in this paper to reflect situations in which actors have themselves viewed the FHS incident as a disaster.

The research follows the informed consent principle. Interviewees were provided with sufficient information on the research so that they could make an informed and voluntary decision to participate. Interviewees were emailed the interview questions in advance, and the interviews were audio recorded for further analysis. Given the sensitivities of the topic, extra caution has been taken not to present any interview extracts or information in a way that may make participants' true identities obvious or apparent. Material from documentary analysis is cited in the text as appropriate and is based on publicly available material.

Breaking down the nature of claims-making around the FHS incident

Empirical evidence and descriptions of inequalities

We first address claim-making about forms of empirical evidence. Walker (2012: 53) explains this element of claims-making relates to "evidence of how things are, in particular, what is unequal and how this inequality is patterned and experienced by different social groups".

Vietnamese activists, local residents, and environmental groups in Taiwan have narrated the great negative impact that they believe the FHS incident has had on the environment, marine ecology, health of local residents, and their work and living. Indeed, the visible nature of changes in the sea and fish form the basis for fishers' claims:

> The sea has three colors – black, red, and purple. When I pulled out the fishing net, it had sticky toxins, yellow toxins, and muddy toxins. My hands touched those toxins and became cankered and itched when I came back home. It has been one month since the fish death accident happened, and we still cannot go fishing. (Local fisher, Taiwan Public Television Service, 2016)

Notable here is that the fisher's claims to pollution—and subsequent effects on his livelihood—is based on how he sees change in the color of the sea and feels something different on his body. Elsewhere, too, embodied and/or anecdotal evidence forms the basis for locals' claims to ill health from the incident. An accident whereby one diver working for the steel factory died suddenly without clear reasons caused villagers' anxiety near Ha Tinh Province. According to one local resident and the dead diver's friend who is an employee of FHS, the diver felt a suffocating sensation and itchiness after diving. On the second day, the diver felt stomach aches and again a suffocating sensation. He then mentioned back pain and subsequently died. One local woman also mentioned an illness caused by the pollution:

> I did not feel uncomfortable after I had eaten the fish I caught during the first week of the accident. Then I got abdominal pain, and my body felt pain, too. Since I found dead fish in the sea, I stopped eating the fish and did not feel pain, but I do feel dull and slack. (Taiwan Public Television Service, 2016)

The main way communities and fishers evidence their claims to environmental injustice arising from the FHS plant is thus through descriptive evidence of changes in the coastal and marine environment and especially intuitions about the effects on their own bodies. Such embodied and personal accounts are placed in contrast to explanations for the environmental changes grounded in "scientific expertise" or "official" observation. For instance, a small number of Taiwanese skeptics argue that it may be natural red tide processes that caused the fish to die. A Taiwanese marine ecology expert mentioned that red tide might be caused by copper ions, which cause oxygen to be reduced in seawater, and hence that it was necessary to figure out where the copper ions came from (The News Lens, 2016a).

Similarly, in April and May 2016, the Vietnamese government invited experts from Germany, Japan, the United States, and Israel to inspect the FHS site in an attempt to find the cause. A joint force between local authorities and the Institute of Environmental Technology announced their testing results and affirmed that the reddish streak did not start from FHS's sullage pit. The institute's inspector said his taskforce team had arrived at the site to monitor the discharge of FHS and took samples for testing three times in a month and at different times in the day, but no link between the streak and FHS waste water was

discovered. Vietnamese authorities claimed from the first and second investigation results that the water quality near the steel factory and the sullage pit fulfills Vietnamese regulatory standards, and that the doses of detected toxic compound were lower than the standard values (Radio Free Asia, 2016). Moreover, from mid-May 2016, the authorities expanded the testing sphere from water quality testing to an overall review of the steel factory, including records of total wastewater discharge, records of downstream contractors pickling wastewater, and the environmental safety of the factory (The News Lens, 2016a).

Evidence to counter claims of environmental injustice from the FHS plant is hence legitimized by "expert" observation and "systematic" monitoring. However, as noted by Walker (2012) and others (e.g. Fan and Chiu, 2019; Morris-Suzuki, 2014), techno-scientific evidence based on monitoring results is neither objective nor value-neutral. Another core component of claims-making is NGOs' and communities' arguments that they have been actively prevented from producing "scientific" evidence of their own. The director of one Vietnamese environmental organization mentioned that when his research team collected the local fish sample and sent it to the national-level laboratory for testing, no laboratories dared to take the case. Similarly, while local residents' claim their livelihoods have not yet improved and cannot find reasons for why their health conditions have gotten worse, NGOs argue the authorities do not allow civic groups to initiate any independent survey (Taiwan Environment Information Center, 2017a, 2017b). According to the interviewed faith leader, anyone who tried to investigate the pollution event will be regarded as exhibiting conduct against the government, and one person has even been jailed for 11 years.

The FHS controversy hence shows the use of different types of evidence to support and counter claims to environmental injustice. On one hand, community members and fishers draw largely on experiential and embodied evidence to narrate a story of sudden environmental change and the effects it has had on them; whereas "official" narratives from more empowered actors use appeals to expertise and systematization to legitimize their evidence. Furthermore, civil society organizations claim they are actively prohibited from the process of creating their own observation-driven evidence to assess communities' claims. This issue of process forms the next section of analysis.

Processes and claims to how patterns of injustice are created and sustained

We now turn our attention to a second element of claims-making, specifically claims about process. Walker (2012: 64) explains this area of claims seeks to "explain the causes of environmental inequality and injustice, how patterns of inequality are produced and reproduced, and why some in society suffer the downside and injustice [. . .] whilst others do not". Reflecting the imperative in the transnational environmental justice literature to understand how patterns of uneven development may lead to differing health and ecological effects over space (Iles, 2004; Pulido, 1994; Walker, 2009), we understand "process" in this sense to refer to systemic mechanisms leading to claims to injustice. These may manifest themselves in national-level development imperatives promoting economic development, slacker regulatory regimes, or transnational and multinational companies operating outside of regulatory oversight.

A first contestation in this regard relates to the whole process of developing FHS, and whose interest the plant serves. In "official" narratives from FHS and the Vietnamese authorities, the FHS plant is portrayed as vital to alleviating socio-economic challenges in Ha Tinh Province, by creating up to 100,000 jobs and facilitating wider trade in the Vung Ang economic zone. The Green Trees NGO too takes a pragmatic stance, maintaining that Vietnam as a middle-income country still needs foreign factories to bring about job

opportunities and economic growth and thus improve infrastructure and people's living quality. Green Trees hence called for the Vietnamese government to evaluate losses, provide people with assistance, undertake environmental monitoring, and let fishers know when they could go fishing again, rather than simply asking all foreign factories to be closed (Green Trees, 2016). This line of argumentation seems to (albeit reluctantly) view processes of transnational technology and material flows, and globalized labor and production markets, as necessary to Vietnam attaining its economic reform and socio-economic development goals.

By contrast, communities, fishers, local activists, and civil society organizations have questioned whether the process of "development" associated with FHS does benefit them, or whether it reinforces or even exacerbates existing inequalities. This reflects research elsewhere (e.g. Bruun, 2020; Giuliani et al., 2019) around Vietnam's *Doi Moi* economic reforms, questioning whether national-level socio-economic development imperatives and associated processes of globalization in Vietnam are actually in the interests of the less advantaged members of society. Aside from the pollution incidents and claims to loss of livelihood, one local resident mentioned that the government wants to pull down houses for the site of the second-phase construction project, but that the compensation paid is at too low a level to be able to build a new house (local resident, Taiwan Public Television Service, 2016). One man expressed this difficult position:

> Children used to go to the school here, but the school has been pulled down. The government asked us to go to a school 20 miles far away from here and will not allow children to go to another school near here. The government forced the children to study at a school in arranged areas for those who have to relocate in order to make us feel anxiety and to actually relocate ourselves. (Local resident, Taiwan Public Television Service, 2016)

Furthermore, during a public speech, a representative of FHS caused public outrage by asking citizens to "choose" between a steel factory and shrimp farming (China Times, 2016). In response, many people indicated their positions, saying "I choose fish" and used social media to mobilize the concerned public to protest (The News Lens, 2016b). A key faultline within the FHS debate concerns the extent to which the project as a whole—and not just the pollution incident—enhances quality of livelihood for those most proximate to the plant and suffering the greatest economic disadvantage.

A second area in which issues of process have come to the fore concerns who is responsible for the events at FHS. This again reflects the core ideas of transnational environmental justice thought with regard to how process (Pulido, 1994), responsibility (Walker, 2009), and burdens of proof (Ureta et al., 2020) play out across national boundaries and over scales. On one hand, in a report called "An Overview of the Marine Life Disaster in Vietnam", Vietnamese environmental NGO Green Trees (2016) indicated that even if FHS followed the governmental regulation and the treated wastewater was lower than standard values, it still might cause fish to die, because the amount of wastewater emissions was very high and the sea was unable to dilute all the pollutant compounds. Green Trees emphasized that if the wastewater was higher than regulatory standard values, then FHS needed to take responsibility. However, if FHS obeyed Vietnam's regulatory standards, but still caused fish to die, then Green Trees argues it is the government's responsibility, as the NGO doubts that Vietnam's environmental regulations are stricter than the government's license for the plant's emission regulatory standards and questions the government taking favor with the firm's environmental management.

Reflecting local activists' concerns about the complicity of the Vietnamese government in suppressing claims to environmental injustice associated with FHS, Green Trees too have a complex explanation for the processes through which injustices associated with FHS are created and sustained, one in which both the operator and the authorities are potentially responsible. On the other hand, statements by the authorities in the press appear to move toward a simpler explanation for any harms caused, one where FHS is solely responsible and where the issue is contained within Vietnam and indeed the steel plant grounds. Vietnamese officials were argued to have rejected FHS' proposal for a third set of tests to confirm the relationship between their plant and the discharges, pointing out that FHS' Korean contractor, POSCO, subcontracted one Vietnamese pickling wastewater factory for cleaning lines, and that another subcontractor Unico has admitted pouring wastewater into a ditch (The News Lens, 2016a). Vietnamese officials believed that the wastewater contained copper ions that caused red tide and large amounts of dead fish and asked FHS to take responsibility for the compensation, emphasizing (in spite of FHS' claims that the Korean contractor ought to take responsibility) that "it happened in the factory area and the Formosa Steel Corporation should take responsibility".

The "process" element of claims-making around the plant thus rests on the question of whether Vietnam's engagement with transnational corporations as part of economic reform aids the socio-economic development of peripheral areas in the country, or whether it in fact enhances existing inequalities and creates new environmental injustices. Within this, similar to the different types of evidence used for claims-making, there are multiple interpretations of process and responsibility around the FHS incident. On one hand, the "official" narrative views the plant as bringing social and economic uplift to a peripheral area of Vietnam. By placing responsibility for the pollution incident with one organization's operations in a single bounded location, Vietnamese authorities are placed as passive recipients of the actions of a transnational corporation operating within their boundaries. On the other, claims to injustice in process around the FHS pollution incident argue that the processes of economic reform and globalization disproportionately burden rural host communities and position the Vietnamese authorities as somehow complicit in causing the pollution incident to happen and obscuring its consequences.

Normative judgements about how things "ought" to be

We finally assess the third component of the Walker (2012) framework, which concerns the role in claims-making of normative judgements about how things "ought" to be. As set out earlier, what is noteworthy in the FHS case are restrictions in state-led democratic participation instances that allow discussion of how things "ought" to be, and the creative and networked transnational responses (Schlosberg, 2013) which have emerged in response to support claims to injustice. As reported in *The Guardian* newspaper in 2017, a blogger commenting on the disaster claimed: "At the beginning, the government neglected the disaster despite the evidence. Now, it uses all possible means to stop affected villagers from complaining. Five people have been arrested. They are stopping citizens from seeking justice" (The Guardian, 2017).

An interviewed faith leader similarly alleged:

> Anyone who talks about the FHS pollution event will face governmental pressure or even be jailed. The Vietnam government has sheltered FHS, because at the beginning the government said it has no link to FHS. So far, no one knows whether the seawater is safe, because the

> government does not declare what toxins the FHS wastewater contains, how to remediate the sewage, and whether the water is safe or not. (Interview with faith leader)

Likewise, local residents noticed plainclothes police surveilling their whereabouts and alleged the government were hiring informants as a patrol force in order to prevent protesters entering FHS to cause damage (Taiwan Public Television Service, 2016). In this context, non-state organizations (especially those located outside of Vietnam) and transnational alliances have come to have a pivotal role in working with communities and local activists to find a platform from which to make claims about how things "ought" to be.

A key institution in this regard has been Catholic Churches in Vietnam, who have made efforts to make nature safer and healthier within the country (Ngo, 2017). Similar to the United Church of Christ fighting against toxic pollution in America through their Commission on Racial Justice who uncovered racial biases in exposure to toxic wastes (United Church of Christ, 1987), Catholic churches have been concerned about pollution issues in Vietnam for a long time. A bishop of the local parish sent messages to priests and church members in many other places. Bishops and church members came to Taiwan to form an alliance with Taiwan's environmental protection groups through international alliances. They held a press conference in the Legislative Yuan (Taiwan's Parliament) in attempt to force the Vietnamese government to respond to residents' claims-making. One Vietnamese faith leader pointed out that he joined the alliance to seek equity and justice and to protect victims, emphasizing religious grounds for environmental protection:

> The Earth is created by God and for us all, but people use it selfishly for individual or corporates' interests. Anyone who exploits the Earth is committing a crime. FHS does not care about the environment and people's lives. I want to do things to help those victims who lose their jobs and have no choice but to seek jobs in Taiwan; they have been exploited. I want to protect the Earth and seek equity and justice. (Interview with Vietnamese faith leader)

Given the headquarters of Formosa Plastics Corporation ultimately lie in Taiwan, the links the church has forged with Taiwanese organizations have been critical in advancing claims-making. Indeed, Vietnamese activists and priests have made efforts to appeal to international support and put pressure on the head company of FHS in Taipei. Vietnamese environmental organizations and priests contacted Taiwanese non-governmental organizations that are concerned about environmental protection and human rights to join the actions to assist the victims and protect the environment. The Taiwanese group Environmental Jurists Association formed an alliance with Vietnamese activists to support claims to environmental injustice against Formosa Plastics Group and the Vietnamese government. The chairman of Environmental Jurists Association maintained that the pollution incidents provoked forms of policy mistake and injustice by (a) bringing a high-polluting industry to Vietnam which is not compatible with a coastal area reliant on fisheries and (b) forcing displaced citizens to look for jobs elsewhere, including Taiwan, the very country that has caused their misery (Taiwan Environment Informational Center, 2017a).

Accordingly, Vietnamese and Taiwanese civil society organizations held a press conference at the headquarters of Formosa Plastics Corporation in August 2016, calling on the firm to release its investigative report on the mass fish dieoff and to commit to a full cleanup of Vietnam's environment. The press conference was co-organized by civic organizations from both Taiwan and Vietnam. Vietnamese activists from Australia, United States, Canada, and Vietnam met with members of the Legislative Yuan and Taiwanese

environmental and human rights NGOs (Viet Tan, 2016; interviewed Vietnamese faith leader). Recently, with the assistance of churches and environmental and human rights organizations in Taiwan and Vietnam, Taiwanese lawyers representing nearly 8000 Vietnamese plaintiffs filed a lawsuit against FHS in June 2019. However, the Taipei District Office dismissed the lawsuit and said that it had no jurisdiction over the pollution case in Vietnam. Justice for Formosa Victims started an online petition to ask the Taiwanese court to proceed with the lawsuit, with more than 3000 people signing the petition (The News Lens, 2019).

More widely, the alliance of victims asked for international institutions, environmental activists, and organizations to speak up and support in resolving the FHS disaster. The alliance sent letters to the United Nations, EU, World Bank, Asian Development Bank, and international environmental organizations to urge the Vietnamese government to take responsibility to rehabilitate the environment and the lives of the victims. The alliance also asked the Taiwanese government to "call Formosa to act responsibly in our country, respect the environmental and livelihoods of Vietnamese and come up with tangible actions and programs to resolve the disaster, return the environment to its clean state and compensate affected victims" (Thảm Họa Formosa, 2017).

While the actual effectiveness of these transnational organizations in terms of bringing compensation to those alleged to have suffered harm from the FHS incident is open to question, it is clear that the engagement of non-state actors with transnational links has been an effective vehicle for enabling normative statements to be made about how things "ought" to be in the absence of formal state channels for claims-making within Vietnam. With the Vietnamese authorities seemingly aiming to "close down" responsibility to a single location in a single country (as per the *Processes and Claims to How Patterns of Injustice are Created and Sustained* section), alliances with Taiwanese NGOs and with the Catholic Church have given a pathway for communities' claims to harm and injustice from the FHS plant to be brought closer to Formosa Plastics Corporation and—ultimately—the Taiwanese government that oversees the company's international activities.

Knowledge politics and alliance-building: challenges and possibilities for articulating claims to environmental injustice

The FHS pollution incident shows the impact that a major pollution event can have on the livelihoods of people in remote and rural areas reliant on farming and fisheries, and how environmental activists and local residents face the threat of environmental injustice and human rights in authoritarian regimes. We draw out two points for further discussion.

First is understanding the politics of knowledge and disputes over evidence and science, as they play out in a transnational environmental justice dispute spanning one authoritarian state (Vietnam) and one relatively new democracy (Taiwan). Vietnam's authoritarian political system may not in itself increase the likelihood of claims to environmental injustice, but it does make it challenging for non-state actors to collate and present evidence to support their claims to environmental injustice. The FHS incident as narrated in the *Breaking Down the Nature of Claims-Making Around the FHS Incident* section demonstrates the links between pollution issues and outcomes in people's lives as the basis for environmental justice claims. Pollution was argued to have negative effects on fishers and local residents, undermining individual wellbeing, community functions, and human dignity. However, as per Ureta et al. (2020), providing evidence considered acceptable to support these claims is more difficult. As Ottinger et al. (2017) observe, depending on larger social and political

structures, the role and meaning of science and expertise vary greatly, as does whose knowledge counts in determining pollution. Yet as outlined in the *Empirical Evidence and Descriptions of Inequalities* section and *Processes and Claims to How Patterns of Injustice are Created and Sustained* section, citizens' own embodied experiences of pollution and knowledges of their local environments are not only overlooked in favor of "official" and "expert" accounts of pollution, but claimants argue the very act of attempting to collate independent evidence is outlawed. Such misrecognition of local knowledges may constitute a harm in itself. According to Honneth (1992, 1995), the harms created through misrecognition are primarily psychological and intersubjective, including various forms of insults, cultural domination, invisibility, and disrespect, even leading to fear. This becomes a matter of cultural survival when activists see their identities and communities are devalued and recognition is denied, as with the FHS representative calling the community to choose steel over fish.

The idea that local or non-official accounts of the experience of environmental pollution may be afforded less credibility than "expert" or "official" accounts is of course not new (Ottinger et al., 2017; Wynne, 1992). But the FHS case shows that in an authoritarian context, even the act of creating techno-scientific evidence to support claims to negative effects on livelihood and wellbeing can put claimants at further risk of harm. Furthermore, the FHS incident also shows how national-level processes of economic reform (Morello-Frosch, 2002) and desire to engage with transnational flows of money and materials (Iles, 2004) may bring authorities to discredit non-expert localized accounts of environmental pollution, especially if these challenge a dominant narrative of national socio-economic development by pointing toward injustice and harms in peripheral areas.

Second and related, our findings show the value and significance of transnational alliances, especially non-state actors working across country contexts, in supporting claims to injustice and collation of evidence in contexts where the state may not provide instances of democratic participation. As shown in the *Breaking Down the Nature of Claims-Making Around the FHS Incident* section, the Catholic Church has played an important role in supporting the environmental justice movement around FHS and providing local residents and victims with material and spiritual assistance. Religious leaders have engaged in networking and building alliances with Taiwanese NGOs. Yet to make this alliance-building effective, social media has been critical. Smith (2004) long ago identified the phenomenon of "scale jumping", whereby localized civil society organizations can bypass the state and engage directly at the international level. Recent environmental justice-focused research has started to engage with the question of how communities and civil society organizations can utilize social media to "scale jump" in this way and share alternative understandings of environmental issues with a broad audience (e.g. Espiritu (2017) on indigenous issues in the Philippines; Mabon and Kawabe (2017) on the Fukushima nuclear disaster in Japan). In the FHS case too, environmental activists and priests were able to link together environmental groups in Taiwan and other places in the world through the Internet and social media, thus developing transnational networks to fight against authoritarian political power. Vietnamese activism has tried to link Vietnamese citizens concerned about environmental justice and human rights in other places through various means, such as lobbying, online campaigning, and providing immediate information through social media and litigation.

Furthermore, our findings illustrate that thinking about transnational claims to environmental justice in terms of where (and in which spaces) claims get the most traction can offer greater analytical purchase on an environmental justice issue. In the FHS case, for instance, it is clear that activists have difficulties exploiting more traditional media to gain access to the public arena, and that attempts to access communities directly are likely to be met with

resistance from the authorities. Looking to other participation instances in which the debate is contested, such as online and social media spaces, Taiwanese media, and even Taiwanese civil society and legislative spaces, helps to bring a fuller understanding of the nature of claims to environmental injustice around the FHS incident than may be possible by looking at community-level participation alone. Thinking about the spaces within transnational environmental justice debate in which claims get the most traction can thus bring fuller conceptual insights and provide a pathway to understanding the contours of environmental justice debates in an authoritarian setting.

Environmental justice in authoritarian settings and the importance of transnational alliances

To conclude, we return to the linking of human rights with environmental justice observed by Adeola (2000), and the view of Bucchi and Neresunu (2008) that science and technology have become tools and resources for new environmental justice movements. The claims to effects on citizens' and fishers' wellbeing and livelihood outcomes as a result of the FHS incident reflect the observations of Adeola (2000), Taylor (2000), and others that human rights and environmental justice are closely entwined. In our case, approaching the FHS pollution incident through a transnational environmental justice framing has allowed us to pay explicit attention to how harms to both people and the environment are distributed unevenly across space, and to illuminate the processes of economic reform at national and international level that ultimately lead to claims to environmental injustice from already disempowered groups. When it comes to the manner in which these claims are made, as per Bucchi and Neresunu (2008) it is indeed the case that science and technology become tools to allow claims to be made, most notably through online and social media platforms that facilitate alliance-building claims-making in the absence of participation instances provided by the state. Equally, however, in an authoritarian context, access to this science and technology cannot be taken for granted and may itself be restricted or controlled. In such settings, new transnational spaces become vital sites for environmental justice struggles.

Highlights

- Evaluation of the dynamics and complexity of environmental justice in an authoritarian context.
- Challenges around producing and accessing "evidence" within controversies over the cause of and responsibility for pollution.
- Formosa Ha Tinh Steel incident builds on existing literature on transnational environmental justice.
- Importance of cross-scale and trans-border dialogs and transnational networks of activism in supporting EJ claims.

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1. Radio Free Asia's mission is to provide accurate and timely news and information to Asian countries whose governments prohibit access to a free press. RFA is funded through an annual grant from the United States Agency for Global Media, an independent U.S. agency; RFA has a legislative firewall that bars interference by U.S. government officials in the execution of RFA's mission of providing reliable journalism to audiences otherwise deprived of uncensored, accurate press.
2. An independent and alternative media, which aims to report social movements which are ignored by mass media to highlight citizen values and claims of the movements and call for human rights, environment, culture, migrant workers, social welfare, gender, indigenous people, and so on. See https://www.civilmedia.tw/archives/85460.

Supplemental material

Supplemental material for this article is available online.

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