

ECOLOGICAL CITIZENSHIP IN CHINA AND THE ROLE OF SOCIAL MEDIA

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The severity and urgency of the environmental crisis have brought about a number of measures and policies that seek to provide a comprehensive and effective response. There has been a consistent concern, however, that many of these measures concern only managing people's behavior yet do not engage public commitment at a fundamental level. Some scholars have argued that there need to be additional ways of engaging citizens at a concrete level that bring out a deeper sense of commitment. One approach that has been proposed is the cultivation of "ecological citizenship." In this paper, we argue that social media should have a key role in the cultivation of ecological citizenship. To help frame and focus our discussion, we refer to the role of ecological citizenship and the use of social media in East Asia, particularly in China. We begin, then, by briefly explaining "ecological citizenship," noting its distinctive elaboration in China. Next, we indicate some of the ways in which social media have enabled the development of good environmental practice but take note of a number of the challenges that have been encountered. Finally, we suggest a response to these challenges that reflects the situation in China but that can nevertheless be expanded beyond China and can be instructive in promoting ecological citizenship.

Keywords: China, Ecological Citizenship, Ecological Civilization, Social Media

INTRODUCTION

The severity of the environmental crisis has brought about an urgent call for climate action and concerted actions and policies that aim not just at mitigating damage to the environment but also at providing comprehensive and effective ways to promote sustainability.¹

There have, however, been obstacles to these efforts to respond to the crisis. In several countries, one notes low levels of ecological knowledge, still modest levels of ecological concern and commitment, and persistently inadequate levels of participation in ecological practices (see Zeng and Sweet, 2024). It is also increasingly recognized that there is what has been called a "value/action gap" – i.e. when one's values simply do not correlate with one's

actions – reflected in a number of efforts to respond to the crisis (Howell 2013, 282, quoting Gifford 2011). Given such obstacles and challenges, many have argued that there must be not simply a modification of behavior but a change in motivation, values, and commitment (Howell 2013, 285) for a response to the climate crisis to be effective. To accomplish this, some scholars have proposed the promotion of what has been called “ecological citizenship.”

In this paper, we argue that the social media can and should play an important role in developing such a sense of “ecological citizenship” in the population. While, in a number of countries, social media have already had a role in supporting ecological initiatives, the results have been varied. Moreover, some have pointed out that there are risks and challenges in the use of social media. To focus and frame our discussion of whether and how social media can and should help in promoting ecological citizenship, we look at how ecological citizenship has been understood in East Asia – specifically, China. Next, we discuss how the use of social media – again, in China – is a ‘double-edged sword,’ i.e., that there are both positive and negative consequences. Still, we argue, by looking at the example of China, it is plausible to hold that the challenges and risks in the use of social media can be met, and that, although it will take concerted effort involving citizens, ecological movements, environmental NGOs (ENGOs), and so on, social media can and ought to be used to cultivate a sense of ecological citizenship in China and, arguably, beyond.

THE CONCEPT OF ECOLOGICAL CITIZENSHIP

For some scholars and activists today, a valuable way to respond to the current environmental crisis is to promote the development of ‘ecological citizenship.’ While (as we indicate below) there is no established definition of the term ‘ecological citizenship,’ it generally means that human beings are members or ‘citizens’ of a global community, and that this ‘citizenship’ requires a respect for, and the flourishing of, the natural environment in a way that leads to ecological sustainability (Zeng and Sweet 2024). Ecological citizenship may be understood as what Charles Taylor calls a ‘social imaginary’ – a way of making sense of and, thereby, enabling, certain practices in a society (Taylor 2004, 2) – here, those focused on building and supporting an ecological and sustainable community, in both urban and natural areas.

The notion of ecological citizenship has been employed in recent philosophical work by scholars such as Mark Smith (1998), Deane Curtin (2002), Andrew Dobson (2003), A.V. Sáiz (2005), Carme Melo-Escrihuela (2008, 2015), C.E. Dedeoglu (2020), Holmes Rolston III (2020), and Nicole Hall and Emily Brady (2023), to name just a few. What we find, however, is that the character of this ‘citizenship’ and its foundation varies, sometimes significantly, and the precise sense of the term remains undetermined.

Interestingly, this concept of ecological citizenship has also appeared in Asia, at times almost independently, and for about a decade, the scholarly literature on ecological citizenship has gradually increased in East Asia, particularly in China. One major motivation is, arguably, the commitment of the government of China since 2007 to what it calls “ecological civilization” (生态文明 / *shēng tài wén míng*).² In any event, given the distinctiveness of the Chinese discussion of ecological citizenship and the importance of the Asian context for discussing it, looking closely at the Chinese case may provide us not only with new insights into the notion, but with a model for seeing how ecological citizenship might be promoted in general. We have

discussed the concept of ecological citizenship in China in earlier work (Zeng and Sweet 2024), and we repeat it here to highlight two key features.

First, drawing on Chinese traditional values, such as “going ‘back to nature’” (重返自然 / *chóng fǎn zì rán*) and “nature and mankind combined as one” (i.e., 天人合一 / *tiān rén hé yì*) (what we could call ‘environmental holism’; see Zeng and Sweet 2016), ecological citizenship involves both a general respect for life and nature (Du & Li 2010; see also Xu 2014) and a personal commitment to ecology and ecological values. To be an ecological citizen in China, then, involves seeing the world and humanity’s place in it in a comprehensive way, and it requires active participation in the construction of ecological civilization (see Yan & Bocharnikov 2022).

Second, although ecological citizenship in China is rooted in tradition, many Chinese scholars have argued that the notion is also congenial with contemporary secular views, such as Marxism (see Wang 2012; Li, Xue, & Wang 2008).³ They argue that, like Marxism, the aim of ecological citizenship is to “integrate ecological consciousness into the concept of the existence of human beings” (Du and Li 2010) and to develop corresponding expectations of people in their role as ‘citizens.’

We mention these two features here, first, because they bear on our broader claim that ecological citizenship can and should be employed practically in China, and second, because they can help to remind one of some of the resources available in articulating ecological citizenship in China. These features also suggest that finding similar traditional values in other cultures and traditions, as well as related secular values, can be used to promote ecological citizenship in general.

Discussion of ecological citizenship, however, often took place at a general or abstract level (pacē Zhan 2024). Thus, as Carme Melo-Escrihuela recognizes: “Ecological citizens will not emerge spontaneously; they have to be created” (2008, 128), and this is certainly true in China. To discuss this ‘creation’ of ecological citizens, then, we first look at the current role and the potential of social media.

THE ROLE AND POTENTIAL OF SOCIAL MEDIA IN ECOLOGICAL AWARENESS

It is, perhaps, a truism that the Internet and, especially, social media have become a part of everyday life throughout much of the world. This is clearly the case in China. Social media increasingly function as the primary means for people to communicate with each other, to maintain friendships, to get the news, to exchange gossip, to get advice about products and services, but also to get feedback on new ideas (Wu & Pan 2022). In China, even with its rather special restrictions, social media has had a significant impact. Due to the possibility of anonymity on social media, people are more willing to discuss issues that promote social progress, including controversial issues or hot topics such as education, politics, and legal decisions. With an internet user population of well over 900 million in 2020, social media have penetrated deeply into daily life (Wu & Pan 2022).

Social media are already being used to increase awareness and engagement on ethical issues, as can be seen from the many ethics-related accounts already present on China’s social media platforms. Take Sina Weibo (now often called ‘Weibo’; a Twitter-like social media microblogging platform) as an example. On Sina Weibo, there are official accounts such as the

Zhongwu Moral Network [中吴道德网], Moral Qingxian City of Love [道德青县爱心之城] (see Li 2012), Beijing Moral Model Weibo group [北京道德模范] (see Huang 2014), Moral Story Exchange [道德故事汇], etc., as well as personal registration microblog accounts such as the Ethics Research Association. These Weibo groups are dedicated to encouraging the public to focus on ethical issues.

Current use of social media in the promotion of ecological awareness

While ecological issues are rarely found at the top of search lists on sites such as Sina Weibo,⁴ nevertheless online discussions of environmental and ecological issues are still present. These online discussions tend to occur when there is an obvious and striking environmental issue. This tends to occur when there is an obvious and striking environmental issue. For example, one of the most serious environmental problems in China is the long-lasting large-scale smog that occurs in the north every autumn and winter. This is one of the occasions when people discuss environmental and ecological issues at length on social media, such as QQ space (QQ空间) and Weibo (see, for example, the mention in Kay, Zhao, Sui 2015, 351-2). Social media users chat and complain about the smog and its detrimental impact on the ecological environment. They likewise offer ways on how to respond to this environmental problem.

Discussion of environmental and ecological questions occurs on social media in a number of other ways. Non-governmental organizations (NGOs), such as environmental protection organizations, have come to use social media more and more to promote environmental awareness. Take, for example, the first and most influential non-governmental environmental protection organization in China, the Alashan Society of Entrepreneurs and Ecology (SEE). SEE is a non-profit organization initiated and sponsored by some 100 well-known entrepreneurs. It has a mobile App on a WeChat platform so that people can follow its activities and news. For example, in April 2015, SEE used social media to raise donations for finding ways to prevent and respond to sand storms, protect China's environment, study the relation between human beings and other living things and the environment, and promote harmonious relationships between human beings and nature (referring explicitly to the principle *tiān rén hé yì*), between humanity and society, and among individual members of the human race.⁵ SEE staff also developed a convenient WeChat client. In this way, people did not need to go to banks or log in to e-banks to donate money. Other businesses and industrial organizations in China⁶ have promoted environmental protection using social media as well, such as the Alibaba Group, which cooperated with the China Green Foundation in addressing desertification (see Tsai and Wang 2019; China Daily 2017), and the China Mengniu Dairy Company Limited, which has pursued the goals of sustainable development by examining each step in the industrial chain by following the 'green' motto, "originating from nature, sharing nature, and giving back to nature" (Gong, Sheng, et al 2020; See also CMDC 2019).

As noted above, the Chinese government has also come to use social media in building and promoting "ecological civilization."⁷ In 2013, China's President Xi Jinping indicated that China was "determined to curb pollution and improve the ecological environment in order to promote ecological civilization and create a better environment," (Xi 2013, 1), and he noted specifically, in 2016, that it was important to take "advantage of the new media communication." (Li & Huo 2016) Since then, Chinese government departments and institutions at all levels have developed a presence on social media so that, for example, by

December 2020, the number of approved Sina microblog accounts registered to government offices or departments had reached 177,437 (People's Daily 2021).

Early examples of how social media have been used to promote citizen action on environment and ecological matters may be seen in protests held in Xiamen in 2007 (Baidu, n.d.) and Dalian in 2011 (Watts 2011, see also Li Yanwei 2018). In Xiamen, for example, Sina Weibo and Renren (what was then considered “the Facebook of China” [Shen 2018]) were used to organize a ‘group stroll’ (散步 *sanbu*) – a euphemism for ‘protest,’ which is not permitted by the authorities – against the PX Project (i.e., the construction and operation of a number of paraxylene (PX) chemical factories). At the start, a few QQ and Sina microblog accounts sent messages relating to the ‘group stroll’ to other accounts. Then, these accounts forwarded these messages to accounts on other social media platforms, leading to large-scale spread – what has been called ‘fission-type information dissemination.’ This gained nation-wide attention and support for the protest. On June 1, 2007, some 8,000-10,000 citizens participated in the stroll, and the Fujian Provincial Government and Xiamen Municipal Government responded by relocating the project. When the PX Project was moved to Dalian, this led to another anti-PX project demonstration, with estimates of from 10,000 to 70,000 people gathering in People's Square in Dalian (Watts 2011),⁸ and which prompted the Dalian Municipal Party Committee to decide to suspend production and, again, relocate the plant.

Here, we see that even in the early years of social media, and within a context of government efforts to restrict possible spread of putative disinformation⁹, information about environmental and ecological issues, events, etc., was able to be shared on social media and made available instantly, rather than – as with traditional media – waiting to be reported on, and then going through editorial review before possible publication.

Features and consequences of social media use concerning environmental and ecological issues

Social media, then, have allowed for new possibilities for spreading knowledge about environmental and ecological issues. Unlike traditional media, such as newspapers, television, and radio, where information is provided in a relatively siloed way and which are limited by time and space, social media have offered more diverse and efficient forms of dissemination of information. Social media also change the direction of information flow. In traditional media, the dissemination of information is top-down, i.e., from the creator to the audience, where those who control the information dissemination channels are also often the ultimate beneficiaries of the information being disseminated – and there is relatively little interaction between the audience and the initiator. This is entirely different in social media. The spread of information in social media has the form of a loop. Communication is not one-way, top-down. As long as the information interests and engages people, and its form and content meet the needs or interests of the audience, it spreads indefinitely. Finally, social media brings communicators and audience closer. The relationship between the communicator and the audience is relatively distant in traditional media. (See our discussion in the next section.) But, in social media, the relationship between the communicator and the audience becomes quite close. In social media, people ‘follow’ each other based on a common ‘topic’ or ‘interest.’ The audience can ‘follow’ not only the person who sent the initial message, but also other members of the online audience, and the initiator can follow the audience as well. Organizations and institutions can follow each other, too. This mutual attention increases the relationship between the communicator and the

audience and narrows the psychological distance between the various parties or groups. It may also reinforce values and beliefs and promote a collective identity.

A further consequence and benefit of the use of social media is that it increases transparency and accountability. With social media, information can come from a number of sources. Various individuals can post information, and once disseminated, this information not only becomes more widely known, but can be used by others to ask for greater accountability. In recent years, the availability of financial information through social media and the sharing of that information has not only increased citizen awareness but has also created momentum for accountability in general (Zhang & Chan 2013) – and, by extension, this can apply in the spheres of ecology and the environment.

It is no surprise, then, that social media are becoming more trusted on issues related to ecology and the environment. Many people in China, particularly the youth, now use social media as their primary source of news, and people trust social media reports because “those sites reflect the views of the common people,” whereas mainstream media are viewed as “standing on the side of the” status quo (Brunner 2017, 674).

In short, as we see in the example of China, social media have had some effectiveness in sharing information on environmental and ecological matters, in encouraging personal participation, and in mobilizing action. They have also served somewhat to increase environmental and ecological knowledge. Yet they can offer as well, we will argue, significant opportunities for promoting the cultivation of ecological *citizens* – increasing, in individuals, a sensitivity to nature and embracing ecological holism; supporting and developing a recognition that ecological matters are not just national, but global matters; and building a recognition of the duties and rights of ecological citizens. Still, there are challenges.

CHALLENGES IN USING SOCIAL MEDIA

To date, interest groups, NGOs, businesses, and government have tended to advocate improving environmental quality, and their use of social media has been primarily towards that end. They focus on behavior and ‘repairing’ the environment but, it has been argued, do not focus on seeking ways of enhancing people’s ecological consciousness. It may be for this reason that both general knowledge of environmental issues and commitment to addressing them remain somewhat low. As we have described in an earlier study (Zeng and Sweet 2024),¹⁰ this is particularly obvious in China’s vast rural areas. Promoting ecological *citizenship* as described above – which has, as its aim to reestablish the citizenry’s relation to nature, to seek ecological balance, to see one’s place as a member of a wider community (rather than of a particular country), and to develop a spirit of personal commitment and engagement – requires reviving and reinforcing traditional cultural/ecological values of humanity in relation to nature, but also having access to accurate and coherent information.

There is another concern. Discussion of ecological citizenship has frequently been a theoretical enterprise, taking place largely in academic circles. How is a transition from academic debate to engaging the population as a whole, possible? For example, in *An Outline of Ecological Man* [生态人论纲], Du Jize and Li Weixiang of the Shandong University of Technology have argued that “social men” must evolve into “ecological men” (Du & Li, 2010, 287) – that it is only the ‘ecological human being’ who, by integrating “ecological consciousness and behavior into his own life,” can “think and act ecologically” (Huang 2016,

13). To develop this notion of the ecological citizen, then, it is important to go beyond the academy.

Moreover, while one can see the benefit that social media have brought and can bring for promoting ecological awareness (and, in the Chinese context, for promoting “ecological civilization”), there have been challenges in doing this. Such challenges apply all the more to the promotion and cultivation of ecological *citizenship*. There are reasons why some may be reluctant to turn to social media in developing ecological citizenship. Some of these reasons are characteristic of the use of social media in general, and some are characteristic specifically of its use in China.

Conflicting values and false information

Social media allow for the dissemination of not just facts and opinions, but a wide range of values – and, indeed, of conflicting values – and, arguably, may lead to an undermining of values. In China, for example, since the time of Deng Xiaoping (1904-97) – who advocated “Socialism with Chinese Characteristics,” a policy of combining socialist thought with an openness to market economy – different values (e.g., market capitalism, consumerism, socialism, loyalty to the Party, traditional Confucian values, and, in the present context, environmental values) have come to share the same ‘public space.’¹¹ The result of this is “value pluralism.” China has attempted to embrace a number of these economic and social values, but these values have periodically come into conflict, particularly with public authority and government (Zhao and Zhao 2014, 21).

The increase in the number of people who use social media to express their views and opinions on a variety of topics is indicative not only of a plurality of *personal opinions* but also a plurality of *values*. As there is no quick or easy way of determining the reliability or authority of the source, this plurality of values has, arguably, led either to confusion or to apathy and indifference – that there can be “confusion of value choice, clutter of value orientation, anomie of value assessment and disorientation of value ideal” (Wang and Zhang 2008). As a result, there has been a concern that very basic social and ecological values may come to be questioned or even rejected (Xia, He, & Li 2016, 63).

Related to this is the problem of the introduction and proliferation of false information and ‘fake news,’ via social media. The Chinese government has long had a serious concern with ‘rumors’ – the spread of false information on the internet (Repnikova 2018). (This is, of course, by no means a uniquely Chinese phenomenon [see Chadwick 2018].) In many countries today, there is little or no ‘information auditing’ of what is disseminated on social media. In the past, in traditional media, reporters were generally expected to investigate, analyse, and verify before writing or producing a story; editors, on the other hand, were expected to review or audit the information before it was published. This process sought to ensure the reliability and the cogency of the information. Social media platforms, however, generally lack such ‘gate-keepers.’ Users of social media platforms can directly ‘publish’ information without any audit or review. Information is released on social media platforms and disseminated widely as soon as the ‘send’ icon is clicked, and it is easily forwarded.

Moreover, some people take advantage of the anonymity of social media and the lack of supervision of networks to deliberately make up and spread false information. One early but notable example of this in China was the spreading of false information on the internet that affected stock and securities trading. In 2011, following the Fukushima Daiichi nuclear disaster

in Japan, a number of messages appeared on the social media platform QQ “about the magic power of salt in protecting against radiation and a possible salt shortage,” leading many people to empty shops of the mineral and to hoard it, which had a severe impact on the markets (Repnikova 2018; see Burkitt 2011).¹² In general, then, given that the reliability or unreliability of information on social media clearly has an effect on public behavior and practice, there have been concerns about the use of social media altogether. So far as one may not know the source of the information, or so far as the information may not be known to be reliable, this has a bearing on not only whether and how to use social media to encourage ecological consciousness, but also on how to build genuine ecological citizenship.

Allowing the spread of irrational discourse and promoting extremism

A further problem with social media is that it is prone to allowing, or descending into, irrational discourse, which interferes with people’s appreciation of important social issues, including ecological ones. Given that many people use a nickname or avatar or pseudonym, particularly on blogging sites, they are more free to express unsubstantiated or extreme views, and what they post may be unreliable, if not extremist (Jia 2016, 127) – and this can quickly accelerate as such remarks are forwarded and spread by one’s followers on social media (Jia 2016). Rapid diffusion of opinion through social media has also been called ‘the butterfly effect’ (Kuang 2018). We see this clearly in the Chinese context. As Fan Kui of Hangzhou Normal University has argued, “in cyberspace, the conflict between reason and value is not only *not* eliminated, but becomes more prominent and serious. The public’s irrationality and the manipulation of public sentiment in this process is a departure from the reason and critical spirit required by democracy” (Fan 2008, 124; see Fan 2011, Jia 2016; Wang, Zhao & Li 2011). Just as there have been (allegations of) youth violence (Alava, et al 2017; Xia, He & Li 2016) and extremism (Li & Zhao 2015; Page & Levin 2014) being spread on the internet in China, so it is easy to see how this might extend to discussions of ecology, environmental issues, eco-civilization, and the like – and it arguably has been so through the creation of “wild public networks” (Brunner 2017). Here, for example, social media users seek to find ways to engage in what the government regards as unsanctioned and “wild” discussion and debate, and ways to avoid efforts by authorities to close them down (see DeLuca, Brunner, et al 2016, DeLuca & Brunner 2017).¹³ Conversation and discussion of issues become polarized (Le & Boxu 2010). Thus, such consequences may lead one to ask how prudent and practical it is to use social media to promote or cultivate ecological civilization and ecological citizenship (i.e., given the possibility of extremist elements being introduced into the discussion).

Fragmentation of information and information overload

For one to achieve the ecological awareness and sensitivity that is necessary to cultivate ecological citizenship, one must have a coherent knowledge base concerning ecology and the environment. One of the major problems of many social media platforms, however, is that while people do get a massive amount of information from them, that information is not organized, or it may be fragmented and incomplete. Although information being readily available from a variety of sources does narrow the distance between knowledge and audience in information communication, it also sometimes breaks the association among knowledge systems and becomes the intellectual equivalent of ‘fast food.’ (Xia, He & Li, 2016). Examples in China

suggest that, to the extent that information, or even access to information, is fragmented, what one learns from it can be superficial or misleading when what is needed, particularly on issues related to the environment and ecology, is more comprehensive and ‘holistic’ analyses of relevant information. So, while more ‘knowledge’ obtained from social media platforms can expand the amount of people’s information, there is concern that greater use of social media may still not be conducive to the cultivation of a more coherent and comprehensive understanding of environmental concerns.

Without depth and the coherence of information, or without preexisting expertise that enables one to contextualize and ‘sift through’ the data that one gets, one’s level of understanding may become rather shallow. Alternately, it may lead to a scepticism – or, at least, what one might call an ‘ecological hesitancy’ – about what is ‘true’ about the environmental situation, what is necessary for addressing it, and how humanity and nature ought to relate. Unless that information is organized and reliable, it does not serve the cultivation of ecological citizenship.

We, then, see that the presence of social media offers important opportunities for sharing and disseminating information, for building networks or a critical mass of adherents, for initiating or supporting ecological action, and most notably, for enhancing people’s understanding and appreciation of the ecosystem and humanity’s place in it. This is clearly relevant to promoting ecological awareness. But building ecological *citizenship* has, to date, not gained much from these and related activities. While there is increasing use of social media, the effect has been mainly in influencing episodic behavior but not in instilling or revitalizing underlying values and commitments. Certainly, this is the present situation in China. Moreover, some would say that there are risks in using social media, particularly in using them as a central or primary information source, with the result that there may be some hesitancy or scepticism about what one should trust. So, not surprisingly, some may wonder how far the public’s widespread use of social media, as it stands, is conducive to encouraging and building ecological citizenship. In fact, these risks may warrant increasing control of social media. This response is increasingly apparent in several Western countries and in South Asia today.¹⁴

Still, we would argue that a case can be made for continuing to use and increasing the use of social media in order to extend the principles of ecological citizenship beyond academic circles, and to make the notion of ecological citizenship more popular (as it can become key to the construction of an ecological civilization). We suggest in the next section that the problems and concerns raised above can be addressed through a creative use of social media, even within the limitations of countries such as China today.

ADDRESSING CHALLENGES TO SOCIAL MEDIA IN DEVELOPING ECOLOGICAL CITIZENSHIP

In the preceding sections, we have pointed out that social media have had some role in China in increasing ecological consciousness and in promoting ‘ecological civilization,’ but that there have also been challenges in doing this effectively. If China is to move towards promoting ecological *citizenship*, the challenges noted above need to be met. This will take concerted effort involving not just individuals, but environmental organizations and movements, and the central and local governments. Recall Carme Melo-Escrihuela’s remark, cited earlier: “Ecological citizens will not emerge spontaneously; they have to be created” (Melo-Escrihuela 2008, 128).

The question is, how can the use of social media help to influence the required change in motivation – to being a ‘responsible *ecological* citizen – and how is this possible in a context where social media is a ‘double edged sword’?

The advantage of social media is that they allow ‘ecological citizens’ to take charge directly, to shape their own solution to a problem, to build momentum, and to act, without the need of going through all the processes of government. At the same time, it must be acknowledged that some of the ways that social media can or has been used to increase awareness and engagement may not always be possible in a particular context – for example, present-day China – and that some approaches used elsewhere may not work. Nonetheless, there are distinctive features of the Chinese context that may allow social media to be effective and, given the government commitment to ecological civilization and increasing ecological consciousness, might be even more effective in China than elsewhere.

We suggest three ways in which those committed to ecological citizenship in China might now use social media, within the current restrictions on social media use, not just to provide additional information and develop ecologically-friendly habits, but to develop and reinforce an explicit consciousness of the traditions and values that inform ecological civilization, to encourage change in behavior and motivation, and to enhance commitment – and, thus, help to develop ecological citizens. These ways may also serve as models for promoting ecological citizenship elsewhere.

Social media and the reintroduction of traditional environmental values

As noted earlier, one of the key features of ecological citizenship in China is the (re)recognition of traditional values. One such value is represented, for example, in the dictum “*tiān rén hé yì*” - ‘nature and mankind combined as one’ or ‘living in harmony with nature’ – that human beings are only a part of nature, and that human interests should not ignore the unity of humanity and nature. Another such value, noted earlier, is that human beings should reestablish their relationship with, or go ‘back to,’ nature (i.e., *chóng fān zì rán*).

There is evidence that appeals to basic, traditional values are key to environmental and ecological awareness and action.

In Sweden, for example, Jagers and Matti (2010) have noted that there is good evidence for a “connection between systems of beliefs and pro-environmental behaviors.” They refer to evidence that “value-orientations lie at the core of people’s political behavior and choice on a wide range of issues,” and note that environmental psychology has established that “a person’s basic value-priorities and general environmental beliefs form the core elements of a causal value-belief-norm (VBN) chain, leading up to ... private sphere behaviors and to pro-environmental policy support” (Jagers and Matti 2010, 1061).

Now, as we have noted above and in earlier work (Zeng and Sweet, 2024), there is still a recognition of and a general commitment to these traditional ecological values in China (see also Chan 2001). Admittedly, in China in recent years, these values may not seem to have the effect that they once did, but it may be because they have not been consistently reinforced or supported. Indeed, at times, efforts have been made to eliminate these values (Xu, Ma, et al 2005,7). Nevertheless, there is evidence that traditional values still have an influence on ecological ‘affect’, even if not as much on knowledge or understanding (see Chan and Lau 2000), and this suggests that this is a factor in Chinese culture on which one might draw.

Moreover, there is also evidence from within a business setting that what has been called the “*tiān rén hé yì* strategy” – which is a “holistic mindset” – may have a stronger impact on ecological action and be “preferable for negotiating complex social interaction” than purely “economically-oriented or environmentally-oriented strategies” (Peng, et al. 2015, 700; see also Brunner 2019).

As such, an important motivator in building ecological civilization is to draw on existing belief systems, and many core belief systems in China have strong views on the value of nature. Social media can then be used to engage these ‘spiritual’ traditions and shared normative beliefs about ‘the proper order of things’ (see Zeng, Sweet, et al 2016) which are essential to ecological citizenship. We believe that this is not unduly optimistic because, in many respects, not only are more businesses pursuing such an approach, in China, the government has been interested in reviving traditional values for some time. Since the 1990s in China, the recovery of such values – sometimes referred to as “the craze for traditional learning” (国学热 / *guó xué rè*), particularly for “Confucian values” (儒学复兴 / *rú xué fù xīng*) – has been evident in public discourse (Zlotea 2015; see also Deng and Smith 2018, Chen 2017). This practice accelerated significantly under former President Hu Jintao (2002-12), and has since become part of a movement to increase public consciousness about the value of being a responsible citizen. Given the residual presence and power of these ecological values in Chinese traditions, social media can and should be used to ‘reactivate’ and revitalize them, so that the core values that are part of tradition may be able to help to build genuine ecological citizenship and not simply ecological practice.

Social media and combatting ‘fake news’

Social media can also assist in the cultivation of ecological citizenship by providing timely and accurate information on problems and on what individuals and groups can do to respond.

In response to concerns of ‘fake news’ about ecological issues, ‘ecological hesitancy,’ and potential extremism, one method that has been proposed is the construction of ‘ecological citizenship cultivation teams.’ This involves, first, the use of social media to bring together scientists, professionals, scholars, and practitioners in the fields of ecology and environmental science from universities and colleges, enterprises and ENGOs, government departments, and others. These teams not only draw on their collective expertise, but build on it to meet the needs of cultivating ecological citizenship. This proposal seems to be similar to that of Groffman, et al. (2010), who suggest ways that scientists and scholars can participate in promoting ecological consciousness without being gathered in one place. A recent example of this is the collaborative work of researchers of the World Health Organization concerning Covid-19. Thus, for example, building on existing professional networks and on ENGOs – the number of ENGOs in China has dramatically increased in recent years – one can use the expertise coordinated through social media to respond to the demands of collecting, filtering, and assessing data, thereby, serving the ideal of ecological citizenship.

Second, these ‘experts’ can then use social media, not only to organize activities for the cultivation of ecological citizens, but also to enlist the support of people in the wider community and broaden professional networks. With this involvement of experts, people can likely become involved in initiatives more quickly (see Bonney, Cooper, et al 2009). China’s most influential social media platform Sina Weibo microblog provides a useful example of this. Since October

2015, Sina Weibo microblog commentator teams have recruited professionals in various fields and industries (Fu 2016, 32), and they have made valuable comments on issues in their respective fields. So, similarly, leaders in different ecological subfields and industries could be recruited to work together to set up ‘commentator teams’ for the cultivation of ecological citizens.

One of the other tasks of such a group could be ensuring that there is reliable, comprehensive and coherent information on social media, and to address the spread of false information – “fake news” – on environmental and ecological matters. This could help to provide a counter to the irrational and false information that sometimes occur in social media. Members of these teams, for example, could follow discussion on social media, post news and information items on ecological matters in general, but also in relation to current events (e.g., reports of incidents of environmental damage), and provide data-driven posts or recommend the more useful popular posts. This could reduce malicious ecological misinformation and encourage more positive debate. In this way, people may be able to approach the topic from a more informed point of view, and have greater trust in the information provided.

Of course, these teams must be proficient in using social media. In China, for example, they would have to have a solid understanding of social media laws, particularly in understanding what kind of information is available and what can be posted. But they also would need to have a solid knowledge of the medium itself, in order to make full use of it, and to do so in a way that is appealing so that it can attract ‘followers’ on social media. Thus, they need to adopt the idiom and method of social media, integrating text, picture, audio and video. “It should be education object-oriented and attach importance to user experience so that users want to read, can read, and obtain satisfaction after reading” (Fu 2016, 32).

The aim of these teams, then, is that they provide a reliable resource and a guide that enables people to understand better the duties and rights of ecological citizenship, participate in building eco-civilization, help others in becoming active participants in ecological practice, and becoming better ecological citizens themselves.

Using social media to provide support and encourage participation

A further way to use social media is to continue and extend their use to promote public activities to enhance ecology-mindedness, both by keeping abreast of environmental issues, and by positive messaging through using positive language and constructive ideas.

The use of social media is not just for the distribution of data; it allows bringing to attention “the passionate pleas of fellow residents” (Brunner 2017, 668), so that citizens are engaged at an *affective* level, and can draw more substantively on basic values and commitments. Social media, then, can be used to build ecological citizenship by finding ways of getting people to enjoy participating and, ideally, developing good habits and a commitment. We have mentioned above the use of social media in what we might call ‘environmental activism’ (Martindale, 2019; see Geall, 2013; Riley et al., 2016). For example, a recent study reports that between 90,000 and 185,000 ‘protests’ happen each year in China (Brunner 2017, 666). They are largely decentralized, and generally utilize online platforms to mobilize people; recall the initiative using social media concerning the PX projects and concerning air quality in Beijing.

More broadly, however, social media can be used in developing and reinforcing commitments through what are called “ecological social welfare activities” [生态公益活动能 /

shēng tài gōng yì huó dòng néng]. For example, in order to promote garbage sorting, a program of “sort household waste, and be the ecological star” was organized on social media. People shot a video of themselves sorting household waste and posted it on the media for voting. The person whose video received most votes was elected ‘the ecological star’ and received an award (Sohu.com 2018; see Gu 2016). Using social media to organize and promote ecological social welfare activities and publicly recognizing participants can help to enhance the enthusiasm, initiative and creativity of citizens in ecological practice, and can promote active participation of members of the public in contributing to identifying and responding to local environmental issues, as well as in becoming more committed to the building of ecological civilization. This, together with the reminders of traditional and secular ecological values can serve to develop ecological citizenship.

Should government have a role?

What place is there, if any, for *government* in using social media for the promotion of ecological citizenship? This is a ‘Janus’ question or two-edged sword; while there arguably are advantages, there are also disadvantages. Still, that government have a role is inevitable because, directly or indirectly, social media platforms fall under government jurisdiction over communications and, more broadly, national legislation. This role, as we have noted above¹⁵, is to be found in Europe, Australia, South Asia, and recently, Canada. This is, for perhaps obvious reasons, also the case in China.

The Chinese government has already committed itself to building ecological *civilization* – and, as we have argued, should identify ecological *citizenship* as a means to achieving it. The government should, therefore, also develop its use of social media in promoting them both. In the process, we suggest, it can still allow active online discussion of environmental and ecological issues. It is in this way that, a number of scholars have argued, there can be a real commitment by citizens to the constituent values of ecological citizenship. As indicated earlier, in China, these values reflect traditional values but also secular values, and are not inconsistent with Marxism.

Precisely how far the government would need to be involved is difficult to say in advance, although the development of ‘ecological citizenship cultivation teams,’ discussed earlier, may help to mitigate the extent of direct government involvement and censorship.¹⁶ We recognize that the involvement of government is a sensitive matter for some, but it is simply a fact in China, as in an increasing number of countries, that government is involved in social media. Government agencies are increasingly using social media, government is involved in the operation of social media, and it is inevitable that any effort to engage citizens to become ecological citizens through social media will involve government. Our point is that this involvement is not necessarily problematic.

First, there is government support for the movement of ‘back to nature’ (*chóng fān zì rán*) that is a key value in ecological citizenship. For example, in the *Qiushi Journal*, an official organ of the Chinese Communist Party, there have been strong defences of the “need to take care of nature and give back to nature whilst we take what we need to survive and develop. We need to repay old debts, avoid accruing new ones, and work to prevent the occurrence of ecological deficits and irreversible ecological damage as a result of human activities” (Kai 2013).

There is also evidence, as noted earlier, that the government sometimes finds “unfettered” discussion of environmental and ecological issues useful such as in dealing with

matters related to air pollution. For example, in 2008, the United States Embassy in Beijing began to publish data on the city's air quality on its then-Twitter (now X) feed. Chinese microbloggers reported and commented on these numbers. This led to the adoption of new national pollution standards, and an openness by the municipal government to discussion of the issue of air quality, despite the initial consternation of the authorities (Kay, Zhao, Sui 2015, 351-2). There is some evidence, then, that the government will allow discussions of matters such as this, provided that they do not spill into the political arena (Kay, Zhao, Sui 2015, 352; see also Li 2019 on how government in China has been flexible on such matters and has arguably made compromises).

Government may, of course, have a more active role. First, government departments and institutions can cooperate with social media platforms, inviting professionals and scholars to discuss ecological issues and disseminating their comments on social media. Second, government is in a position to step in and fill in gaps in available information, but also in encouraging and supporting initiatives that promote ecological awareness.

Admittedly, some people may have some concerns about the effectiveness of government participation (see Repnikova 2018). First, in the early years of social media use, some managers of social media accounts in a number of government departments were not especially adept (see Gierow, Luc & Shi-Kupfer 2016); they did not understand the characteristics and rules of timely dissemination of information on social media, and the information they produced often used in bureaucratic language and, therefore, did not spread widely (see Liao et al 2020). For example, some social media accounts of county-level governments and institutions had relatively few followers. Their posts were rarely read or forwarded. Gradually, these accounts stopped posting messages (see Repnikova 2018). Second, messages posted by accounts for government affairs are mainly related to official activities or policy notices. Up until recently, few of them mentioned ecological or environmental matters (see the examples in Gierow et al, 2016), and so they missed opportunities for contributing to the construction of ecological civilization and, therefore, the cultivation of ecological citizenship.

But, given that the Chinese government is committed to ecological civilization, and given that it is using social media already, it has come to recognize the value of using social media more effectively (Lin 2024). Thus, managers of social media accounts in government departments should not be selected casually. They require professional training so that they can fully understand how best to set up and disseminate information – for example, concerning the contributions of their departments on matters related to ecology and environment, and to reinforce the value of building an ecological civilization. As government departments come to use social media better, this will be a major asset in promoting the cultivation of ecological citizenship.

One of the problems noted earlier is the reliability of information on the internet. To develop ecological awareness and, further, ecological citizenship, access to information is essential. But, as noted earlier, one significant problem is that social media can – indeed, frequently does – contain incomplete, misleading, or false information that might mislead people, or make them hesitant or skeptical about engaging the problems. Here, too, however, government might have a role. So far as, in China, the government has authority over licensing social media platforms, which can be used to address some of the pitfalls of false information. As noted above, China is not alone in this exercise of control.¹⁷ Interestingly, there have been efforts outside of China by governments and by private corporations to exercise some control over the spread of fake news. Consequently, the Chinese government may have to be called on

to consider strengthening network supervision and to provide support for networks – for example, like the suggested Sina Weibo commentator team described above – but also to be more open in order to show that the independent activities of ecological citizens can still serve to promote ecological citizenship.

Some may believe that working with government on these issues is a Faustian bargain, but it is not only necessary in many contexts, such as in China, but it is also practical in view of the objective to be achieved – addressing environmental issues and promoting ecological citizenship. Our suggestion – or, better, acknowledgement – is to use the current system as far as possible to address the concerns about fake news and disruptive values, in order to establish and promote not only ecological values but a personal commitment to those values that characterize ecological citizenship.

As such, there are ways in which social media can and should be used for the promotion of ecological citizenship, even in circumstances where there are problems with, and limitations on, social media. Social media have been and can continue to be used to promote not just better ecological behavior and practice, but to improve citizens' ecological moral commitment and, thereby, the underlying values of ecological citizenship. Not to do so, or not to find ways of developing ecological citizens, runs the risk of relying purely on external incentives – incentives which have not been shown to be particularly effective.

CONCLUSION

In this paper, we have provided a sketch of a way in which there could and should be a strong and effective social response to the contemporary environmental crisis. Many governments and various NGOs and educational institutions throughout the world have asserted that they are committed to building a sustainable society and to address current environmental problems. Given this context, we have noted, first, a growing view that this end can be achieved by developing and cultivating “ecological citizenship.” Ecological citizenship theory is a relatively new theory which aims to encourage people to develop a sense of citizenship that has, at its core, a commitment to underlying basic values whereby they can become active and creative participants in ecological practice. To illustrate this, we have focused on the example of contemporary China. In China, ecological citizenship has developed in a way that draws on traditional values and that avoids the anthropocentric approach of some Western accounts of ecological citizenship.

Second, we have noted that the social media era has created many opportunities for the cultivation of ecological citizenship, not only through increasing participation in ecological activities, but, more importantly, through promoting and developing the values that can motivate and sustain such practices – in reactivating core traditional and spiritual values, and in coordinating expertise that can serve in building citizen commitment.

Third, we have noted that there are many challenges in using social media to carry this out, such as those we find today in China. We have argued that these challenges can be met, and that social media continues to offer opportunities for building ecological citizenship. Our view has been that if one looks at the example and the context of contemporary China, the governmental and the ENGO sectors as well as the general public should make greater use of the advantages of social media – not just to provide guidance to the public on ecological matters,

but to encourage the development of an ecological citizenship that can support and serve in the construction of a sustainable society.

Evidently, contexts vary. But, we would suggest, the example of China suggests that drawing on traditional or local ecological values and traditions and using social media creatively provide an approach that can be used elsewhere to promote not just ecologically-informed practice, but ecological citizenship and commitment at a global level.¹⁸

NOTES

1. The discussion of this is extensive. We find this issue examined today in a range of venues, for example, in the 2015 encyclical of Pope Francis, *Laudato si'* and in his recent (2023) Apostolic Exhortation *Laudate Deum*, and, of course, in the agreements and protocols of the (to date, 29) United Nations Climate Change Conferences – the so-called COP (Conference of the Parties) conferences. The roots of contemporary environmental movements in ethics are to be found in the 1967 seminal paper by the American Lynn White, Jr., “The Historical Roots of Our Ecological Crisis,” and in the 1976 volume, *Økologi, samfunn, og livsstil [Ecology, society, and lifestyle]*, by the Norwegian “deep ecologist” Arne Naess.

2. See the report on the 17th National Congress of the Communist Party of China (2007) in *China Daily* (2007), and also Goron (2018: 39). Concerning the 18th National Congress (2012), see Deng (2012). On the 19th Congress, see, for example, *China Daily* (2017) and *Lexis China* (2018). On the 20th Congress see *Xinhua/China Daily* (2022). Since 2018, the concept of ‘ecological civilization’ has appeared in the Constitution of the People’s Republic of China (Preamble and article 89(6)).

3. See also Du and Li (2010) for an example, where the authors describe “the concept, characteristics, generation conditions, and generation process of the ecological person.”

4. The ‘Top search’ list on Weibo of microblogs indicates which events and topics are most searched for. This provides an indication of which topics are of most interest to those on the internet. Topics of popular microblogs can be classified into 48 types including video, international news, technology, digital news, finance, celebrity and so on. These lists are available at <http://s.weibo.com/top/summary>

5. Another of the SEE’s projects is “Conserving the Sanjiangyuan Region,” whose aim is, in part, to protect the freshwater sources in the Tibetan Plateau, which provides water for 700 million Chinese people. See Society of Entrepreneurs & Ecology (2019).

6. For example, The China Energy Conservation and Environmental Protection Group Corporation, which has existed since 1988, is a state-owned enterprise that invests in projects and technologies that promote environmental protection. Similarly, the China Association of Environmental Protection Industry (CAEPI), founded in 1984, “connects over 10,000 environmental” companies “through provincial and municipal associations in China.” Its website is regarded as one of the major sources for news about environmental protection in China. See Eco Expo Asia 2013.

7. Sina Weibo and, increasingly, WeChat are being used by government agencies. See Shao, Cuan, et al (2022); Zhang, Zhang, & Shao (2023).

8. For details on the Dalian PX project and protest, see Tang 2011.

9. Through measures undertaken by the State Internet Information Office, together with technology, media, and social media companies, government has sought to vet or control what

is sometimes regarded as disinformation or fake news (see Zhang, Gearhart, & Perlmutter 2022). Some social media users have sometimes found ways of avoiding such restriction. Later in this paper, we discuss possible ways of vetting or streamlining online information.

10. Du & Li (2010) also note that, until recently, there had been a “dislocation of people's understanding of the relationship between man and nature.”

11. The existence of the plurality of values and their possible conflict has been a matter of serious discussion in China in recent times. See Zhao & Wang 2011, and Ma, Zhao, et al. 2015: 76.

12. This led to new laws on internet security in China. As a result, Article 2 of the Decision of the NPC Standing Committee on Safeguarding Internet Security states that “whoever uses the Internet to fabricate and spread false information that influences the exchange of *securities and futures* or other information that disrupts the financial order will be investigated for criminal liability.” See Shao (2012: 95).

13. These are ‘networks’ that connect or mix “scientists with real estate agents, students with environmental non-government organizations (ENGOS), ... polluting factories with cancer patients, ... and the fishing industry with the oil industry.” (Brunner 2017: 669).

14. For example, the “European Union Digital Services and Digital Markets Acts” came into effect in August 2023. While this initially covered only large online platforms and search engines, since Feb. 17, 2024, it extends to other platforms and search engines. Since 2015, the Australian government has had an “eSafety Commissioner” to deal with online content determined to be illegal, and their authority was extended in 2021 to include the regulation of illegal and restricted content. At the present time, the Canadian government has proposed similar legislation (e.g., Bill C-63 “An Act to enact the Online Harms Act”). In India, The Ministry of Information Technology under the Indian Information Technology Act (section 69A) and the “Procedure and Safeguards for Blocking of Access of Information by Public” has blocked a number of online news services and apps.

15. See note 14, above.

16. Indeed, some scholars note, “in the domain of environmental policy, the government of China has been trying to enhance the role of public participation in its decision-making” (Boas, Chen et al 2020).

17. Again, see note 14 above.

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