

COMMUNICATION ON CLIMATE CHANGE IN VIETNAM

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Abstract

In the context that the impacts of climate change tends to increase in Vietnam and Mekong Delta. International cooperation and response efforts from the center to local government, have many positive changes, communication on climate change are diversify forms of transmission and content of information. Change the community's awareness and behavior towards proactively adapting to the anomalies of nature, reducing emissions and protecting environmental resources are increasing. It is the continuous efforts of all levels, departments and communities. The media has indeed made an important contribution to the response to anthropogenic climate change by providing the public with a basic understanding of this complex issue.

Keywords: Communication, climate change, Mekong Delta, Vietnam.

Introduction

For nearly a century, humanity has been experiencing unusual fluctuations in global weather and climate. Climate change is not a problem of any one country, but a common problem of mankind. The impacts of climate change along with sea level rise have been happening all over the world, a series of extreme weather events in recent years are just the initial impacts of climate change. In the future, the trend of global warming will lead to the rise of sea level, the fluctuations of weather will continue to increase if people do not take timely preventive measures. Vietnam is a developing country with increasing speed. Climate change affects all regions, natural conditions, natural resources, environment and socio-economic, seriously affecting the process of sustainable development in order to realize national strategic goals. On the other hand, the development of many fields such as energy, industry, transportation, agriculture, forestry and daily life increases the concentration of greenhouse gases (N₂O, CH₄, and especially CO₂) in the environment atmosphere, which also contributes to global climate change. To effectively implement the national strategic tasks on climate change, it is very important to raise awareness about climate change and change the behavior of the community to respond to climate change. Communication on climate change also requires diversifying forms of information transmission and content. This is also the main content of the article.

Definition of Communication; Climate change; and Climate change communication

Communication is a Latin word which means ‘to share’. It is the sharing of information between different individuals. It includes the sharing of ideas, concepts, imaginations, behaviours and written content. Communication is simply defined as the transfer of

information from one place to another. This transfer of information can be conducted in different ways (Entrepreneur Handbook, 2014).

Climate change (aka global warming) is a term used for the observed century-scale rise in the average temperature of the Earth's climate system and its related effects (Bharat Raj Singh and Onkar Singh, 2011). Scientists are more than 95% certain that nearly all of global warming is caused by increasing concentrations of greenhouse gases (GHGs) and other human-caused emissions (IPCC, 2021). Within the earth's atmosphere, accumulating greenhouse gases like water vapor, carbon dioxide, methane, nitrous oxide, and ozone are the gases within the atmosphere that absorb and emit heat radiation. Increasing or decreasing amounts of greenhouse gases within the atmosphere act to either hold in or release more of the heat from the sun. Global warming is gauged by the increase in the average global temperature of the Earth (Jobone, 2022).. Along with our currently increasing average global temperature, some parts of the Earth may actually get colder while other parts get warmer—hence the idea of average global temperature. Greenhouse gas-caused atmospheric heating and agitation also increase the unpredictability of the weather and climate and dramatically increase the severity, scale, and frequency of storms, droughts, wildfires, and extreme temperatures (Jobone, 2022). Climate change is affecting every country on every continent. It is disrupting national economies and affecting lives. Weather patterns are changing, sea levels are rising, and weather events are becoming more extreme (Sustainabledevelopment, goals 2021).

Climate change education and climate change communication share similar goals and desired outcomes, and their definitions reflect these similarities. Climate change education, or climate change environmental education, encompasses a range of “interdisciplinary learning opportunities that people of all ages need to develop the competencies, dispositions and knowledge to address climate change.” It approaches climate change with an “understanding of the socio-political and economic considerations; the scientific basis; and the communication, collaborative problem-solving and analytical skills needed to generate and implement feasible solutions.” (Laura Downey, 2013). According to the Yale Program on Climate Change Communication, climate change communication is “about educating, informing, warning, persuading, mobilizing and solving this critical problem. At a deeper level, climate change communication is shaped by our different experiences, mental and cultural models, and underlying values and worldviews.” (Yale Program on Climate Change Communication, 2017).

Researches related to climate change communication

Americans ‘climate change concern still ranks lower than their concern for other environmental problems like water supply and pollution, as well as lower than their concern for health care and the economy. Climate change concern has, however, increased significantly since 2015 (Peter Howe, 2015). Understanding climate change attitudes is one of the challenges educators face when teaching about climate change. Attitudes are cognitive representations that summarize people’s evaluation of an action, event, idea, or thing, or what social scientists call an “attitude object.” In this case, the attitude object is climate change

(Lydia Saad, 2016). The relationship between attitudes and behavior is not always straightforward. One might think positive environmental attitudes would engender pro-environmental behavior that minimizes environmental impacts and has positive environmental outcomes (Peter Howe, 2017). But in reality, attitudes are often a weaker predictor of behavior than we might expect (Marianne, 2015). In the case of climate change, although people who hold more positive attitudes toward renewable energy may be more likely to install solar panels on their home, there are many reasons why people who feel positive about renewable energy may not do so—for example, lack of knowledge, structural barriers such as cost, or how they feel others may view them. Generally speaking, attitudes are a better predictor of behaviors when the attitudes are more specific—for instance, if we want to predict who will install solar panels, attitudes toward renewable energy, specifically, are likely to be a better predictor than general environmental attitudes (Marna Hauk, 2016). The predictive strength of attitudes also depends on whether behavioral intentions or actual behaviors are the intended outcome. In general, there is a strong relationship between believing in anthropogenic climate change and intentions to participate in pro-environmental behavior; however, the relationship between climate change belief and actual behavior is weaker.

In a study published in 2014, researchers estimated that 60 percent of adults worldwide were aware of climate change, whereas 40 percent had never heard of it. (Martha, 2014). Survey data demonstrate that high-emitting countries like the United States and China are among the least concerned about climate change, whereas lower-emitting countries in South America and Africa are most concerned (Janet, 2017). Within countries, awareness and risk perceptions also vary markedly. A study in Cebu, Philippines, published in 2012 found that only 18 percent of fishermen in the region were aware of climate change, compared to 71 percent of laborers. This difference underlines the challenges confronting this archipelagic nation as it faces significant risks from sea level rise and ocean warming (Monroe, 2016).

Social scientists examining U.S. climate change attitudes over the past decade have found that those attitudes have remained remarkably stable, although acknowledgment that climate change is happening has increased steadily since 2015 (Victoria Wibeck, 2014). As of 2017, the majority—71 percent—of the country thought the climate is changing (Anne Armstrong, 2017). According to survey data published in 2011, 54 percent of Americans also believe that climate change is anthropogenic; but the population differs markedly in its policy preferences and behaviors (Laura Downey, 2013). A study analyzed climate change awareness of German young generation. The results of the latent profile analysis show that, half of the sample is highly aware of climate change, while 13.9% of the samples deny climate change exists. A group of 29.4% lies in between. They recognize climate change, but assess its risks as relatively low (KristinJürkenbeck, 2021). In Norway, only 4% of the populations deny climate change exists (Metag et al., 2017; Steentjes et al., 2016). A research clearly a show that diets containing less meat are climate-friendly, meat reduction is crucial for diminishing greenhouse gas emissions caused by diet. Therefore, it is necessary to examine consumer opinion on this topic. In consumers mind, beef and pork (86%), milk (70%), and carrots (12%) are seen as very/somewhat climate-damaging (Nestlé Deutschland

AG, 2021). Consumers are willing to reduce their meat consumption for environmental reasons (Cheah et al., 2020; Kemper, 2020) such as climate change. The majority of consumers (two thirds) in Germany state that they would change their diet for environmental reasons (Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB) and Umweltbundesamt UBA, 2014). Nearly 10% of participants go one step further and mention they believe a change from a meat-based to a plant-based diet is an effective personal action to combat climate change (Bose et al., 2020).

Climate change in Vietnam, Mekong Delta and Consequences

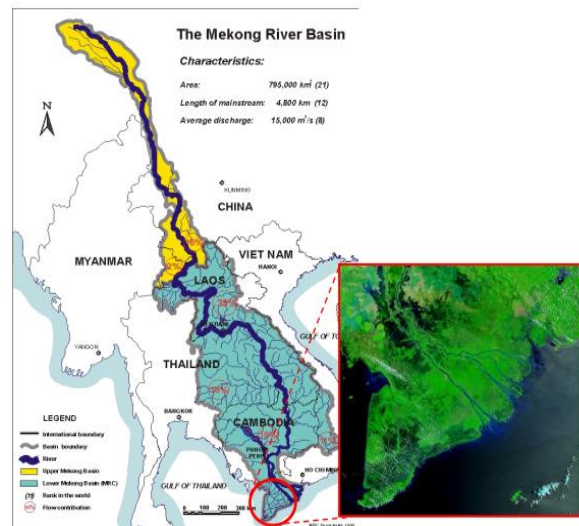
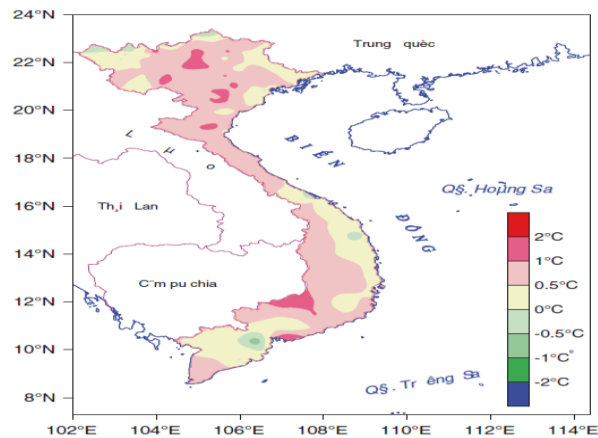
Viet Nam is among the countries that have been severely impacted by climate change (MoNRE, 2016). In recent years, the Ministry of Natural Resources and Environment has published several reports on climate change and sea level rise scenarios for Viet Nam (MoNRE, 2009; 2012; 2016; IMHEN, 2021). These reports provide the latest information on observed and projected trends for climate and sea level rise in Viet Nam; they offer an important scientific basis for ministries, sectors and localities in assessing impacts, vulnerability and risks due to climate change, enabling them to develop and update their action plans as necessary. The following are some summary of climate change trends in Vietnam and the Mekong Delta:

Annual temperatures increased over the whole country with the nationwide average increase of 0.89°C between 1958 and 2018 ($\sim 0.15^{\circ}\text{C}/\text{decade}$). The highest increase was experienced in the last decade. Over the same period, the annual rainfall slightly increased by 5.5% on average, but with contrasting trends depending on regions. In addition, sea level is rising, with an average trend of 3.6 mm/year over 1993–2018 (Espagne, 2021).

Future climate change depends on the collective capacity of nations to radically reduce their respective greenhouse gases (GHG) emissions, in line with the Paris Agreement. In Viet Nam, the average temperature increase projected in the middle of the XXIst century (compared to 1986–2005) is $1.13\pm 0.87^{\circ}\text{C}$ under a scenario of strong reduction of global emissions, in agreement with the Paris Agreement (RCP2.6). If strong GHG emissions continue (scenario RCP8.5), the increase could reach $1.9\pm 0.81^{\circ}\text{C}$. Temperature projections by the end of the century highly depend on the GHG scenario, with an increase limited to $1.34\pm 1.14^{\circ}\text{C}$ under RCP2.6 but as high as $4.18\pm 1.57^{\circ}\text{C}$ under RCP8.5 (MoNRE, 2016). In any scenario, temperature is expected to increase faster in the North of Viet Nam than in the South, while annual rainfall is projected to increase in most parts of the country, but with a different seasonal distribution. Projections of the likely average sea level rise along the Viet Nam's coastlines range from 0.13 m to 0.36 m by mid-century and from 0.27 m to 1.03 m by the end of the century, depending on the GHG scenario (Espagne, 2021).

The Mekong Delta is the key economic region of Vietnam with a total natural area of 4 million hectares, accounting for 12% of the country's area, is the leading grower of rice, seafood and fruit producer and exporter in the country (Ngoc Thao, 2020). In the past years, many studies and surveys on the effects of climate change on the Mekong Delta have been carried out with interesting results for the perspective of this delta, although the forecast

scenarios are not certain high. According to a study published at the forum by the Institute of Meteorology, Hydrology and Environment, Ministry of Natural Resources and Environment, measurements from monitoring stations located all the way from the North to the South and satellite data over the past 50 years show that, an average of 3mm sea level rise per year. It is one of two manifestations of climate change, besides global warming (Ministry of Natural Resources and Environment, 2009). This study proposes a scenario that in the middle of the 21st century, sea level could rise by about 30cm and by the end of the 21st century, it could increase by 75cm compared to the period 1980-1999. At that time, the temperature in our country could increase by 2.3 degrees Celsius. Under this scenario, the Mekong Delta could be flooded 7,580 km² (Duc Tuan, 2009).



(a)

(b)

Figure 1: Change in annual average temperature (°C) during the last 52 years in Vietnam (a) Source MONRE (2012) and Layout of Mekong River Basin and Mekong Delta (b)

Currently, the Mekong River Delta is facing many serious challenges from the impacts of climate change which can lead to a rise in the sea levels, this cause saline water intrusion into the interior (Nguyen Minh Dong, 2019). In 2019-2020 is considered as a low flow year compared to period 2015-2016. Typically, the average water level since the early dry season at Kratie station (in Cambodia) is only 6.67 m which is 1.43 m lower than the yearly average, 0.5m lower over to the same period in 2016; the water storage volume the Tonle Sap Lake (Cambodia) by 10 February 2019 is estimated only at 1.9 billion m³, i.e. means a storage deficit of nearly 35.7 billion m³ compared to the highest volume (measured on 1st, October 2019) and 3.6 billion m³, lower than the yearly average and a decrease of 30 billion m³ compared to 2018 over the same period (The Ministry of Agriculture and Rural Development, 2020). This is the main cause to the early onset, deeper and prolonger saltwater intrusion during dry season 2019-2020. In fact, saltwater intrusion already very high since December 2020 (during 12–15 December 2019); the salinity limit of 4g/liter in estuaries of Mekong river approached as deep as 57km inland (in Ham Luong River) and deeper than the yearly average for 24 km and then the salinity limit in 2015 for 17km. In January, the salinity limit of 4g/liter increased during 6-13 January 2020 which is measured in the basins of 2 Vam Co rivers (Vam Co Dong, Vam Co Tay), i.e. intruding as far as 82-85km inland, 18-20km deeper than in 2016; the saltwater intrusion depth in Mekong estuary is 45-66km; 6-17 km deeper than in 2016; 48km deep in land in the coast of West Sea and 6 km deeper than in 2016 (The Ministry of Agriculture and Rural Development, 2020). The total damage caused by the saline drought in the Mekong Delta region rose to about 39,000 hectares during 2019–2020. Coastal provinces had thousands of hectares of late winter-spring rice which had been slowed by farmers but severely lacked water, huge losses. Many provinces and cities also face a scarcity of fresh water for domestic use (The Ministry of Agriculture and Rural Development, 2020). Annual flooding covers between 1.6 and 2 million hectares (Le Sam, 2005). The issue of subsidence and riverbank erosion in the Mekong Delta also needs to be solved. The research findings from the Rise and fall project, collaboration between Can Tho University and Utrecht University in the Netherlands, showed that the average ground elevation in the Mekong Delta is descending by about two centimeters per year, mostly in Cà Mau Peninsula. This reduces the total area in which rice cultivation is possible and increases production costs by necessitating upgrades to the dyke system and sluice gates to ensure flood and salinity control (Dragon–Mekong Institute, 2020). As sea levels continue to rise, coastal erosion is becoming a bigger and bigger problem for the region (Nguyen Minh Dong, 2019). Mekong Delta had 621 eroded sites with a total length of 610 kilometres along rivers and coasts by the end of last year (Vietnamplus, 2022). Of them, 147 sites with a length of 127 kilometres have been identified as extremely dangerous, and are mostly in An Giang, Dong Thap and Vinh Long provinces and Can Tho City (Vietnamplus, 2022). Ca Mau has a 154km coast in its west and 100km in the east, and around 80 per cent of the two is eroded (Vietnam New, 2021).

Communication on climate change in Vietnam

Climate change has become a global concern because of its threat to human well-being. Understanding climate change is crucial to the proper planning of adaptation measures to

cope with future risks. Over the years, the media activities related to education, training, capacity building and awareness rising on climate change in Vietnam have witnessed a number of positive changes. Capacity building, awareness raising on climate change have been implemented through training courses, seminars, forums, events, etc. Public information and mobilization activities responding to climate change have been implemented through mass media. Many universities and research institutes already provide doctoral, master and bachelor programs relating to climate change. A typical example is the PhD program of Viet Nam Institute of Meteorology, Hydrology and Climate Change; Master program of Hanoi National University, Viet Nam Japan University; Bachelor program of Hanoi and Ho Chi Minh University of Natural Resources and Environment. Some universities and colleges have introduced climate change courses. Many secondary schools and elementary schools have organized seminars, and organized contests to learn about climate change and the ozone layer protection.

Training courses on capacity-building and awareness-raising on climate change for different target groups have been implemented nationwide and at all levels, with major contributions by non-governmental organizations (NGOs). In Viet Nam, NGOs have been actively participating in capacity-building and awareness raising activities on climate change for local communities. To date, the network of NGOs in Viet Nam has 136 members, including 49 in the North; 35 in the Central; 52 in the South. Some key achievements of the NGO Network on Climate Change include: Development of training materials on climate change media; Training the trainers on climate change; Training members of organizations working on climate change issues (research assessment, media, integration, development of climate change response plans); Development models for responding to climate change. In addition, with support from other countries and international organizations, many officials from ministries, sectors and localities have been trained in short-term and long-term training courses on climate change in foreign countries.

✓ **Information sharing**

In recent years, many specialized websites on climate change have been set up to share updated information and data on national and international activities responding to climate change.

The UNFCCC focal point in Viet Nam has established a website providing updated information on climate change policies and responses, negotiation activities at national and international conferences.

The database on climate change is also integrated in the website including data on national and international policies; climate trends; climate change and sea level rise scenarios for Viet Nam; programs, projects; results of greenhouse gas inventory for base years. The results of scientific researches and projects on climate change have been widely published on the websites of many universities and research institutes, and scientific organizations.

In addition, many websites of different agencies and organizations have set up a category on climate change. Social networks are also used as an effective channel for public information.

In addition to disseminating information on the website, the UNFCCC focal point in Viet Nam has published a biennial newsletter on climate change response; this is distributed to related agencies, organizations, scientists, and experts.

✓ **Participation in and contribution to networks**

Viet Nam has actively participated in activities of international climate change networks such as the NDC Partnership - a group of countries and organizations established to support the implementation of the climate targets in the NDCs; The Climate Technology Center and Network (CTCN), which connects the world's public and private climate technology stakeholders, provides technology solutions, enhances capacity and provides consultancy to implement measures to respond to climate change for developing countries.

Viet Nam is an active founding member of the Global Partnership on Low Emission Development Strategy (LEDS GP) and the Asia Forum on Low-Emission Development Strategy (Asia LEDS) with the participation of more than 200 members from the donor community, development organizations and businesses. Since 2017, Viet Nam has been participating in the Partnering for Green Growth and the Global Goals 2030 (P4G), which aims to create favorable conditions for participating countries to implement the SDGs and PA. Some cities in Viet Nam have also joined the networks of cities responding to climate change in the world: The cities of Hanoi and Ho Chi Minh City have joined the Cities Climate Leadership Group (C40) focusing on addressing climate change and promoting urban action to mitigate GHG emissions and climate risks. It also promotes health, well-being and economic opportunities for urban citizens. The cities of Da Nang, Can Tho and Quy Nhon have joined the Asian Cities Climate Change Resilience Network (ACCCRN). Many NGOs in Viet Nam have also joined the Climate Change Action Network South East Asia (CANSEA) to support the Government's actions and encourage the private sector to contribute to climate change response and sustainable development. Viet Nam Climate Innovation Center (VCIC), established in 2015, is a member of the Global CIC network, which is dedicated to supporting innovative businesses responding to climate change from incubation to commercialization and in accessing international markets, transforming climate change challenges into opportunities for sustainable development and green growth. In addition, many agencies, organizations and individuals have participated in many networks for sharing information and experience in specialized activities on climate change response.

✓ **Government program on climate change**

Viet Nam has considered that the integration of climate change into socio-economic development strategies and plans is an important task for all levels and sectors in order to respond to climate change and ensure sustainable development. The integration of climate change must be based on proactive principles and ensure harmony with socio-economic development strategies, and plans with priorities, in line with the basic principles of sustainable development. The task of integrating climate change into strategies, and plans has been specified in the documents of the Party, the National Assembly and the Government. Resolution No. 24-NQ/TW on actively responding to climate change, enhancing resource

management and environmental protection has identified this as one of the key tasks. This issue has also been stipulated in the Law on Environmental Protection in 2014, the Law on Meteorology and Hydrology in 2015 as well as the key tasks of the Target Program to Respond to Climate Change, and National Strategy on Climate Change.

The Government of Vietnam has also implemented many Programs to respond to climate change such as directing the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) which was established with 18 members from Ministries. The Vietnamese government has also issued many legal documents and implemented many programs to respond to climate change. Typically, Decision No. 158/2008/QDTTg dated December 2, in 2008 approving the National Target Program to Respond to Climate Change and the Law on Natural Disaster Prevention and Control was introduced in 2013. Accounted for 51% population, women actively participate in disaster prevention and mitigation and response to climate change, especially in community activities. In Decision No. 1002 dated July 13 in 2009 of the Prime Minister on approval of the Project "Community awareness raising and community-based disaster management", it is clearly stated that each community needs to build a disaster response plan. Only the full participation of both women and men can ensure the feasibility and practical effectiveness of such response plans. The Vietnam Women's Union is also one of the organizations with a network to mobilize the active participation of women in disaster prevention and response to climate change. To help the propaganda team of the Association do well in communication, education, and mobilizing women to actively participate in activities to reduce disaster risks, respond to climate change, within the project framework. "Enhancing the capacity of women to respond to climate change" with technical and financial support from the United Nations Agency for Gender Equality and Empowerment (UN Women), the United Nations Women's Union Vietnamese women compiled the book "Handbook of propagandists on disaster risk reduction and climate change response". With the content of providing necessary knowledge and skills in communication activities to respond to climate change in the community.

School communication on climate change has spread widely across the country. This is a very necessary activity, to help students have a comprehensive view of the phenomenon of climate change and its negative effects on the existence and sustainable development of the country. From there, helping them take practical actions to protect the environment and at the same time become the nucleus of extensive propaganda in schools, families and society in order to improve the effectiveness of the National Target Program to with climate change.

✓ **Promoting the role of the press**

The press still plays a key role, the official and regular channel of information to propagate to the public about climate change. All four types: print, radio, television, and online newspapers need to promote their own strengths but still have consistency and continuity in communication content, impact to change perceptions and actions of community.

In the context that Vietnam has joined the Paris Agreement on climate change, the Government will focus on promoting the implementation of guidelines and policies on

climate change in order to contribute together with other countries to fulfill global commitments. About preventing global warming. Therefore, the focus of communication will also be on the effective implementation of the National Strategy on Climate Change, the Plan for the Implementation of the Paris Agreement, and the Master Plan of Action for the Implementation of Resolution No. 120/ Government's NQ-CP on Sustainable Development of the Mekong Delta Adapting to Climate Change; Target Program to Respond to Climate Change and Green Growth.

In the current conditions, it is necessary to propagate a lot about good models, good practices, specific examples of proactively adapting to climate change; about options, ways to change production-business practices, and organization of people's life to adapt to climate change conditions, from scientific bases to practical experience, implementation plans on a large scale...For example, designing and constructing houses and civil works (electricity, roads, schools,...) that are resistant to natural disasters; planning the production of crops and livestock suitable for conditions of drought, saltwater intrusion... Especially efforts to reduce greenhouse gas emissions in all sectors and fields because from 2020 on, Vietnam will start to required to reduce emissions as required by the Paris Agreement. The media needs to help the community realize that climate change not only brings risks but also many opportunities for economic transformation, breakthrough production development, and competitive advantage.

Conclusion

To effectively implement the national strategic tasks on climate change, it is very important to raise awareness about climate change and change the behavior of the community to respond to climate change. It can be said that communication is always an important task in changing the awareness, behavior and attitude of each person and the whole society in the direction of being environmentally friendly. However, It is well recognized that climate change is an immensely complex phenomenon, and skeptics and advocates of vested interest can exploit this situation by making claims that have an appealing simplicity, but which tend to distort the issues in the public mind. Therefore, we need to convey accurate information to ensure correct and effective communication. In the coming time, the press will also have to "renew" its own way of transmitting information, increasing its attractiveness and vibrancy, and taking advantage of social networks to reach more readers. These will create a strong "impulse" to lead to changing awareness and actions of the community and changing policies and management measures from the management agencies.

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