

Article

Improvement of Government Leadership for Climate Crisis Response - Focusing on New Media Communication

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Abstract: In the era of new media, we can get climate information quickly and easily, which brings new opportunities and challenges for the government to deal with the climate crisis. All the world realizes that in climate crisis response leadership is a basic ability that must be possessed and attach increasing importance to the cultivation of government leadership. There are many deficiencies in the government's new media services in response to the climate crisis. The content and ways of communication are relatively simple, and the ability to interact with the public is insufficient; failure to establish cooperation mechanisms with multiple organizations; the ability and quality of the government to make use of new media to publicize the climate crisis should be improved; government needs to improve its level of political inquiry and handling through new media. Therefore, the following suggestions are put forward: the government should make reasonable use of new media to increase the publicity of climate crisis; diversify our response to the climate crisis by leveraging external forces; establish new media public communication platform; enhance the government personnel's cognition and application ability of new media.

Keywords: new media, climate crisis, government leadership, communication, response

1. Introduction

As climate disasters and extreme weather become more frequent around the world, the rapid development of green economy propositions, carbon neutral and zero-carbon technologies have promoted the transformation and upgrading of the economies of various countries [65]. Climate change has become the consensus of the international community, and countries have adopted energy-saving and emission-reduction actions to cope with the common challenges of the world [2, 43]. At present, the climate governance system is characterized by the decentralization of power, the fragmentation of institutions, the parallelism of multiple governance centers and frequent conflicts, and climate governance is even more difficult to deal with [26, 66].

In recent years, in the context of globalization, new media has become a new and important role in society [52]. New media build more convenient interactive platforms and more efficient interactive channels for the public. The rapid development of new media promotes the reform of leadership, transforming the communication of leadership from one-way communication to interactive communication [33]. Leslie Gaines-Ross [24] in his speech pointed out that new media is not only an effective way to convey information, but also a powerful tool to become a more outstanding leader. Therefore, enjoying new media not only becomes a way of life for people, but also influences political life. It brings new opportunities and challenges to the leadership of governments of various

countries [72]. New media have been shown to play a key role in framing climate change, and its effects are complex and dynamic [8, 47], the use of new media to disseminate information not only enriched people's cultural life, but also affected the public's cognition of this issue and their willingness to participate in the practice of addressing climate change [1, 69].

How we should respond to the anomalies caused by the climate crisis is the key [39]. Wang [55] study pointed out that if countries do not accelerate their actions to deal with climate change now, the new generation of leaders will not only face the environmental crisis caused by the continuous global warming, but also may include a series of more complicated uncertainties and intractable challenges such as resource conflicts, economic turmoil, and social unrest. Laurie is currently leading a social advocacy project called Cohort2040, which aims to bring together academics, the public sector, and NGOs to help prepare a young generation of emerging leaders to identify risks and understand complex climate and environmental crises earlier, mediate conflict and adapt to change. Disaster reduction is an important approach to sustainable development, and the climate crisis management has become a hot issue in recent years. Governments on the frontline of disaster relief should think more about how to improve their leadership for crisis management.

With the rapid development of globalization, various climate crises occur frequently all over the world. The network platform brought by new media naturally becomes a powerful weapon to publicize meteorological work and popularize meteorological knowledge [36]. As the manager of social public affairs, the new media environment puts forward higher requirements for the government's information disclosure and requires the government to have stronger crisis management ability [72]. At present, the international climate governance mechanism faces various challenges, such as lack of action momentum, lack of fairness and lack of momentum [31, 48]. Therefore, how to improve leadership in climate crisis response, prevent and reduce climate crisis events and their damage to the greatest extent, and maintain national security and social stability has attracted wide attention [7, 29].

Strong leadership is more needed in the era of crisis survival [15]. In recent years, crisis management studies have paid more attention to the competency and behavioral performance of crisis leaders [73], but few current crisis management studies take leadership as an important object of investigation [45]. This article briefly introduces new media, climate crisis and leadership; discuss government leadership in climate crisis response; by studying the current situation of new media services to deal with climate crisis, it is expected to explore how the government can use new media to deal with climate crisis more efficiently in the future and improve government leadership. A mechanism of disaster prevention and reduction "led by the government, coordinated by various departments and involving the public" should be implemented to effectively expand the coverage of climate crisis information, to efficiently and rapidly transmit meteorological disaster information to the public, to reduce the loss of life and property caused by climate crisis.

2. Study Background

2.1 Climate Crisis Response

The UN Climate Action Summit, which opened in New York in September 2019, highlighted the importance of tackling the climate crisis based on the latest trends of climate governance. UN Secretary-General Antonio Guterres pointed out at the summit that what was once "climate change" has now become "climate crisis".

Climate crisis may occur in different seasons, with the rapid development of global economy, the losses caused by climate crisis are on the rise, which directly affects the social and economic development of all countries [13, 50, 67].

Climate crisis response cannot be achieved overnight but needs to be based on the "worst-case scenario" of multiple climate crisis risk warning, resource mobilization, crisis response, crisis recovery and other crisis management processes to adjust flexibly. Countries must incorporate climate risk and resilience analysis into day-to-day working decisions based on long-term scenarios of future climate risks so that they are ultimately resilient to climate change risks [27, 30, 39].

2.2 Government Leadership

Leadership refers to a person's ability to influence others to achieve one or a group of goals [3, 16]. Leadership is a fundamental, strategic category. In Research on the Five Forces Model of Leadership, the research group of Science and Technology Leadership of Chinese Academy of Sciences defines leadership as follows: "Leadership is the ability of a leader to attract and influence the led and stakeholders in a specific context and to continuously achieve group or organizational goals. Leadership focuses on the level of leadership, mainly studying the leader's ability and ability structure. It's a general term for the kinds of leadership that underpin leadership behavior."

Leadership refers to the ability to influence others or guide others to voluntarily complete the set goals [46]. Government leadership can refer to the ability of the government to influence the public or lead the public to complete the common social goals, or the ability of the government to manage social affairs, including the leadership ability of the government to its subordinates, it also includes the ability of public servants to lead the public and manage public affairs [65, 72]. From a deeper level, government leadership is a kind of leadership effect, including the influence and appeal of the government, the decision-making ability of the government, and the executive power [4, 16].

Leaders of governments and administrative departments at all levels are the dominant force in public crisis leadership [34]. With the acceleration of economic globalization and information technology, various crisis events will inevitably occur. As the leader of crisis management, the authority and overall ability of the government appear to be very important. Therefore, how to deal with public crisis and improve crisis management ability is gradually becoming a realistic challenge for the government [45].

2.3 New Media Communication

New media refers to a technical form supported by network technology and information technology, which presents information content through web pages, clients, and digital terminals, breaking through the original form of media communication [9]. The forms of communication of new media are diversified, and information can be transmitted by means of graphics, audio, video, etc. Therefore, the forms of information communication of new media are more dynamic, graphic, and other development advantages [42, 47].

In the process of information transmission, compared with traditional media, new media has more diversified and flexible forms of communication and more distinctive content. New media can not only realize the online interaction between communicators and audiences with the help of the Internet, but also strengthen the communication between different audiences, accelerate the efficiency of information transmission, realize multi-channel interaction, and make information content more able to attract the attention of the public [15, 49, 69]. New media make use of advanced network technology to spread information, and the communication channels and terminal equipment are convenient and fast, making the communication become mobile, personalized, targeted, two-way, and global network communication [37, 70]. At present, under the background of rapid development of science and technology, new media is widely used in daily life by virtue of its characteristics of high communication frequency and rich bearing problems, and the whole society is in the era of new media [25].

3. Previous Research

3.1 Climate Crisis Response and Government Leadership

Leadership is one of the key forces in crisis management, in the crisis response, the lag of adaptive transformation of leadership makes crisis leadership no longer the key to successfully resolving crisis events, instead, it may have become the problem itself [29, 34]. "Leadership becomes the problem itself" means that the success or failure of crisis governance is not entirely dependent on the severity of the crisis event itself but is deeply influenced by the effectiveness of leaders' response to the crisis and organizational mobilization process [15]. For the government to play an effective role in public crisis management, it is not only for the government to play its role

well, but also for the leaders of government departments to enhance their leadership and accelerate the normal and effective operation of government departments [45].

Labour Party leader Ed Miliband recently pointed out that “climate is not about fads, it's about leadership”, so leadership is needed for climate crisis response [58]. In recent years, climate change mitigation has become a priority for all countries, low-carbon transition and green development are the general trend, and climate governance leadership has become a key area of competition among major countries [14]. Exploring and improving the leadership construction of climate crisis management can strengthen the scientific nature and effectiveness of crisis management, which has important theoretical and practical significance for reducing the losses caused by public crises [34].

Young [64] pointed out that leadership is an essential condition for promoting climate governance. The suddenness of climate crisis objectively determines the shortage of information resources, technical means, material security and other aspects, which makes it difficult for leading cadres to make correct decisions and respond effectively to the crisis in a short time [16]. The government, as the main body dealing with the crisis, should not only attach great importance to the management of the climate crisis ideologically, but also clarify its own rights and responsibilities to constantly improve its own level of crisis management. So how to further enhance leadership in the field of climate is the key to realizing low-carbon and sustainable development of cities in the world [14].

3.2 New Media and Government Leadership

With the continuous progress and development of science, technology and information and communication technology, governments all over the world give strong support to new media. Nowadays, many countries and local governments are constantly promoting the construction and development of new media industry. The rise of new media has changed the life and production mode of the whole world and connected the world. It is also affecting the political ecological environment of global governments and the way of government governance [12, 35, 52].

Pan [40] pointed out in his article that by 2011, 7 G8 leaders, 15 G20 leaders and 19 European heads of state had their own Twitter accounts. Political leaders from all over the world fully realize the great power of new media in shaping leadership image and have taken the initiative to open micro-blogs and “win fans” [3, 71].

In the era of traditional media dominated by radio, television, newspapers and periodicals, the government holds the dominant right of information dissemination, and it is easy to exclude information that is not conducive to the image building of leaders through multi-level checks, however, in the new media era, the extensive use of communication tools such as the Internet and mobile phones makes information dissemination with great freedom, concealment, and randomness [17, 19]. Due to technical and other reasons, it is difficult to manage and supervise the dissemination of new media information, in addition, the dissemination speed of new media information can reach the whole world in real time, exceeding the original geographical restrictions and achieving global coverage [20, 52, 61]. In the new media era of diversified development and high popularization of information technology, it is necessary to focus on cultivating the leadership of the government and improving the comprehensive quality.

3.3 New Media and Climate Crisis Response

Global media attention to climate change has increased significantly [21]. In recent years, climate change has gained unprecedented attention in media networks, and climate change has become a very important topic [54]. IPCC [18] has pointed out that the issue of climate crisis response will undoubtedly become an important agenda of climate governance.

In the future society, in addition to the traditional crisis, there will be unprecedented and more complex crisis situations. The effective management method will be advanced smart disaster management [63]. New media communication has fast transmission speed to ensure the timeliness of information; the wide range of broadcasting can break through the spatial and regional limits of transmission; strong connectivity can integrate various types of information and other advantages, can play an important role in major climate crisis response. Through media coverage, we can witness an ongoing series of extraordinary weather events around the world, adding to the growing sense of alarm and crisis. New media is especially suitable for highly spreading timeliness disaster weather information through the quick delivery function of the Internet [40, 68]. For example, during the pre-flood season in 2012, Guangdong Meteorological Bureau of China actively tried to cooperate with Tencent to carry out typhoon emergency linkage service. Through QQ tips, “Vicente” typhoon warning information is quickly sent to users in disaster-hit areas, which is the first step of new media service for major disaster weather process and effectively makes up for the shortage of the meteorological department's own communication channels.

By using new media, meteorological departments have changed their solemn and rigid image in the past, presented themselves in front of the public with a relaxed and fresh image under the premise of rigor, presented the real situation of meteorological work in front of the public, timely communicated with the public, answered questions, and solved doubts, and fundamentally inhibited the generation of rumors [30, 36]. The progress and severity of climate change far exceed prediction and assessment. In the era of new media communication, the response to climate crisis needs to change the current response methods as soon as possible and find new appropriate response methods.

4. Use New Media Communication to Improve Government Leadership in Climate Crisis Response

In the era of "Internet + We media + post-epidemic", organizational crisis has evolved from an occasional event with "low probability and high impact" to a normal event with "high probability and wide impact", crisis management is becoming more complex, transparent, and abrupt [25, 40, 57]. The external environment and high uncertainty of the crisis also put forward higher requirements for leaders to improve their own crisis leadership and make effective decisions to deal with the crisis [28]. Failure to make effective use of information technology and optimize organizational structure and workflow in government governance activities will weaken government leadership [41]. Especially in the field of climate governance, providing the public with scientific assessment and prediction results of climate change trends requires leaders to communicate their will rationally and truthfully to other actors [26, 74].

Crisis communication is the core link of risk governance, including communication among various social subjects and communication among various links of crisis response [42]. For most people, the news media is the central source of information on climate change [5]. Therefore, the use of new media to cope with the climate crisis can enhance the popularization of meteorological knowledge, break the Internet rumors, moderately eliminate public panic, and contribute to the development of the civilization of the whole society [11, 32].

At present, there are still many deficiencies in the government's new media services in response to climate crisis: 1) The quality and mode of popular science content carried out by traditional media are relatively simple, and the coverage is relatively limited, which leads to the lack of interaction between the government and the public and the difficulty in accurately grasping the needs of the public [56]. 2) The government and several new media platforms and Internet giants have not established a systematic cooperation mechanism for climate crisis rapid response [54, 61]. In the face of sudden climate crisis, the temporary process cannot guarantee efficient and long-term quality services. 3) The technical capability of new meteorological media is low, and it is difficult to perform intelligent interaction and personalized refined services, and the ability and quality of the release of catastrophic weather needs to be improved [10, 49]. 4) Now, governments of all countries do not pay enough attention to new media in response to the climate crisis, the daily operation and maintenance of new media still need to be strengthened, and the level of online political inquiry and management needs to be improved [21, 67].

The use of new media technology to deliver climate information in a timely and effective manner can improve the relationship between the government and the public, eliminate public misunderstandings about government work, gain understanding and support, create a harmonious social environment, and contribute to the development of climate crisis management and leadership. Boosting matters [27, 38, 44]. Therefore, in the context of the new media era, the government's leadership in climate crisis management can be improved from the following aspects by virtue of the effectiveness and wide dissemination of new media:

1. Increase the publicity of climate crisis, raise citizens' awareness of climate crisis, and mobilize citizens' enthusiasm to participate in climate governance.

The public crisis awareness of a country's citizens is an important factor in determining the country's crisis management ability, a sense of crisis can predict a crisis before it hits, and the cultivation of the public crisis awareness is an important part of the government's crisis management strategy [29]. Climate crisis is characterized by suddenness and great harm, and the destruction brought by it cannot be restored and rebuilt only by the state and government, which requires extensive participation of society and citizens [8, 27].

The government should make it clear that the cultivation of risk and crisis awareness is not a one-time activity but should be carried out frequently and dynamically to cope with the ever-changing situation of the climate crisis. In the transmission of information on new media, government should strengthen the control of information, guide and fully mobilize the enthusiasm of citizens to participate in climate crisis governance. Utilize various media and means to strengthen the public welfare publicity of meteorological disaster prevention and mitigation science and enhance citizens'

awareness of actively obtaining disaster weather information through various channels and the ability of disaster prevention and avoidance, self-rescue, and mutual rescue.

2. Improve the concept of governance, make good use of external forces, and achieve a diversified response to the climate crisis.

Government is not only the undertaker of information disclosure, but also the builder of a complete information communication and management mechanism, Lee [23] emphasized the importance of multi-organization cooperation in the plan to strengthen the government's role in disaster management. Therefore, leaders must learn to use external forces, grasp the Internet thinking, and optimize and improve the governance concept. Leaders must learn to borrow external forces [16], grasp the Internet thinking, and optimize and improve the governance concept. Leadership in crisis management refers to the organizational leadership of governments at all levels and the joint efforts of leaders, the led and corresponding organizations reflected in the whole process of public crisis management with the extensive participation of NGOs, enterprises, and the public [10, 34]. Social power is a very important resource element in disaster management [60]. Therefore, addressing the climate crisis not only requires the joint participation of all climate change risk governance entities such as governments, enterprises, social organizations, experts, and the public, but also changes the governance model from the unipolar governance dominated by the government bureaucracy to the networked multi-subject joint governance model across departmental boundaries [18].

In the era of new media, everyone is an information disseminator. With the strengthening of the power of civil society, the government should actively seek civil society organizations to undertake public management and cooperate with government departments to conduct public management activities through non-governmental organizations. We should also learn to use the power of experts to make crisis decisions more scientific and effective. The government has made good use of its leadership to connect social new media forces with meteorological departments on a regular basis, actively and timely participate in the information dissemination of major meteorological disasters and realized the disaster prevention and reduction mechanism of "government-led, departmental linkage and social participation", to accelerate the coverage and minimize the loss of life and property caused by meteorological disasters.

3. Diversify the ways of coping with climate crisis, establish a public communication platform, and enhance the dissemination of information.

When the climate crisis comes, it will pose a threat to the social operation system and the safety of life and property. It is difficult for the public to make a comprehensive analysis of the crisis. Disasters often bring high uncertainty to people, which makes the public have a stronger demand for information collection and acquisition [6, 12]. The timeliness of information is highly required in climate crisis governance, and the immediacy, universality, and multi-subjectivity of information transmission on new media platforms have made them the most important sources for people to continuously obtain necessary disaster information in disaster crises, therefore, the high speed of information transmission by new media can improve the timeliness of public crisis management [12, 17, 53]. Therefore, the civil affairs communication platform can be built with the help of new media, so that the public can obtain timely and real information and make effective response to the crisis.

While retaining traditional meteorological information release channels, meteorological departments develop influential new media platforms, integrate new media communication channels, broaden information coverage, enhance information dissemination, and strive to create a new meteorological information dissemination pattern. Through the "new media" platform, the "image" of the government can be actively disseminated to the society, from control to communication and guidance. In this way, on the one hand, a good image of the people can be established, and at the same time, the operation characteristics and communication rules of new media can be mastered, to accumulate experience for actively coping with the "new media events" in the climate crisis.

4. Enhance government personnel's cognition and application of new media.

Sha [45] points out that whether the government can effectively play its role in public crisis management depends on the leaders of government departments to enhance their leadership. As far as government departments are concerned, learning to make full use of the functions of new media to improve the effectiveness of social governance is a problem to be solved at present [22]. Some leading cadres, especially those at the grassroots level, may panic about their abilities due to lack of literacy reserve, and cannot effectively adapt to new development and changes, and reject and fear new media, leading to low governance efficiency [19].

Public crisis management needs to improve leaders' awareness and ability of crisis management, improve the organizational system of crisis management, and integrate crisis risk management into the daily management of the government and society. Speed up the transformation of the government's concept of using new media, actively make good use of all kinds of new media tools,

give full play to the expression, communication, and guidance functions of new media, improve the authority and impartiality of information, and gain public recognition.

5. Conclusion

The risk and climate change caused by major meteorological disasters in modern society is a complex problem. The risk of climate disasters often exceeds people's perception and early warning capabilities, and the social system is also a network structure composed of complex systems, therefore, the superposition of climate crisis and the complexity of human society will make the government crisis management of climate disasters response face extremely extensive, diverse, and intertwined problems [51, 60].

The development of new media technology and social progress are gradually changing people's habits of obtaining information. Meanwhile, meteorological departments and meteorologists should also take the initiative to adapt to new changes, needs and situations, constantly learn and familiarize themselves with new online media platforms, constantly explore and improve working methods, constantly enrich the content of meteorological service information, and broaden the channels of meteorological information release, research and develop as much as possible meteorological information suitable for network new media platform communication and easy to understand and try our best to meet the needs of the public and all sectors of society for meteorological information [1, 57, 59].

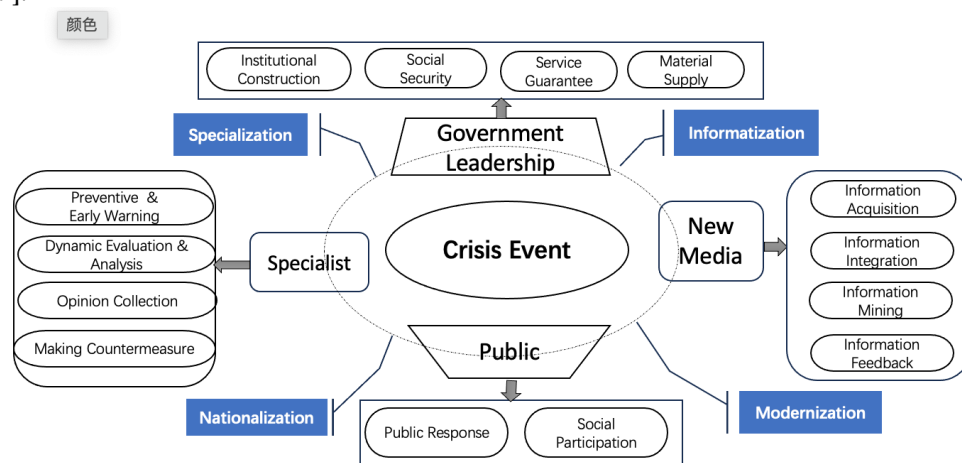


Figure 1. Government Leadership in response to the Climate Crisis by "New Media"

The government is the organizer, implementor and responsible person of emergency management, so government leaders must pay enough attention to crisis management, make full use of the media and its power of communication and communication to reduce the harm of the event and improve the emergency level [62]. After browsing and searching the literature, government leadership in response to the climate crisis by new media are sorted out as shown in the <Figure 1>. In response to climate crisis, based on the traditional specialist guidance, through the participation of new media, the government can use its leadership to improve laws and other institutional construction, ensure the security of the society, supply emergency management materials in a more timely and effective manner, and provide service guarantee for citizens. The addition of new media makes government leadership in crisis response more informatization; more modernization public participation in crisis management; increased communication between specialist and the public has also made crisis response more nationalization; the government's crisis-response leadership is more specialization.

At present, the climate communication of new media is generally about reporting major news events based on the facts, and there are few actions on how to guide the public to form positive low-carbon attitudes and behaviors [59]. Therefore, in the era of new media, it is necessary to build a public decision-making system and mechanism that adapt to

the modernization of government governance. New media should be used to build a unified and transparent government information sharing platform to facilitate government public communication and lead the public to participate in climate crisis response in accordance with law and order, to form a government climate crisis response mechanism oriented to the era of new media, to enhance government leadership in addressing the climate crisis response.

In the rapidly developing network era, new media technologies and communication methods are constantly innovated and improved, and accelerating the integration of government and new media has become the mainstream trend [9, 17]. Under such a background, information transmission by new media can reconnect complex and scattered meteorological disasters with social problems and social resources. When major catastrophic weather occurs, it can form a normal cooperation network with the power of Internet and other new media, effectively expand the coverage of disaster information, grasp the public needs, organize social participation, and improve cognition, self-rescue, and mutual rescue ability. Is the necessary requirement and development direction of modernization of climate crisis response [8, 19]. Therefore, government departments must actively adapt to the development of the new media era, break through their own limitations in climate crisis governance, timely adjust their ideas and methods, reasonably introduce new media communication concepts and new media technologies, accelerate the pace of reform and innovation, further enrich information communication channels and forms of information expression, and help improve government leadership in climate crisis management.

Frequent natural disasters bring great loss of life and property to people's production and life, among which meteorological disasters and their derivative disasters account for more than 70%. It is almost impossible to change or prevent the occurrence of meteorological disasters. The only way to improve government leadership on climate crisis response is through increased awareness, increased vigilance, and innovative management methods.

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