La comunicación en tiempos de riesgos y de cambio climático.

E-mail: abadia@fcom.uh.cu
Communication in disaster risks and adaptation to climate change.

Dra. C. Ana Teresa Badía Valdés.

1. Introduction.

Communication gives value to risk management\(^1\) by dynamizing, promoting, influencing, persuading, facilitating understanding, as well as modifying behaviors and attitudes. Then, Risk Communication is a comprehensive and planned communication strategy that accompanies the management before a certain emergency or disaster threat. It also promotes the participation of all the actors involved, encourages knowledge and understanding of both known and unknown risks. At the same time, it informs, sensitizes audiences and contributes to their integration.

This vision ponders the interactive exchange of information and opinions during the management process, facilitates the dialogue of all the involved parties - population, public and private organizations in charge of risk management, health teams, the scientific community and the media - , it affects the concepts management and contributes to the appropriation of the topic. This generates a culture of prevention in the face of disasters.

To that end, it is also necessary to design strategies, plans and programs that establish actions in short, medium and long term, both in periods of community preparation, as well as in the prevention, mitigation and assistance to emergencies and disasters. To understand this framework, it is necessary to understand the Organizational Communication\(^2\) (Chiavenato, 2007) as a management tool that must harmonize internal and external communication effectively to create a favorable base in relations with the public. In this way, results are achieved in terms of efficiency, message positioning, and also profitability. (Van Riel, 1997).

Since 2015, the Audit & Risk Magazine (Quoted by Frett, 2015) warned of the top ten risks in organizations for the coming years:

1. **Information security** - At an international level, 93% of employees admit violating the security policies of their company.

2. **Strategic change management** - poorly planned change processes, mergers and acquisitions or the lack of resources can reduce the probability for these plans to succeed.

\(^1\) Risk is a two-variable function: threat and vulnerability. It can be conceptualized as the probability of having loss, in a defined geographic area and within a specific time. Despite natural events are not always controlled, vulnerability is.

\(^2\) Organizational communication is a group of messages that are exchanged among the members of an organization and between this one and its surrounding environment.
3. Climate change - In 2013, the main weather phenomena caused losses of more than 120 billion dollars worldwide, which affected the operating costs of companies, performance and ability to do business. Meteorological phenomena continue to be a major cause of future losses. In addition, customers and regulators are becoming increasingly aware of how companies behave in relation to sustainability. The cost of adapting to climate change in developing countries could increase between 280 and 500 billion dollars per year by 2050, figure that is four or five times higher than previous estimates. (UNO Bulletin, 2016).

4. Geopolitical instability - Affects business confidence and access to raw materials and markets, and disrupts supplies.

5. Data protection - More and more companies are capturing data and personal information of its customers and employees, so it is increasingly difficult to guarantee compliance with regulations in this regard.

6. Use of third parties - Although they are fundamental for almost all organizations, third parties expose companies to a wide range of risks. This is especially true when it comes to accessing information and key corporate data.

7. Compliance management - The risk can be multiplied by the need to guarantee that newly acquired companies comply with the established requirements.

8. Corporate culture risk - Setting an appropriate tone at the summit is vital.

9. Strategic planning of the workforce - This is aggravated, because every day there is greater competition for the recruitment of the best available talent and for poor succession planning.

10. Digital Marketing - New digital marketing efforts can make the marketing activity be more agile, sensitive and dispersed. However, it can also make it much more difficult to maintain an adequate communications monitoring process. Damage to the reputation of the organization, the security of information and the privacy of the data can manifest.

Note that the risks generated by climate change are listed along with others that are more familiar to organizations.

In this framework, it is good to specify that for the risk to become a disaster, it is required, on the one hand, that it has not been effectively reduced previously; and, in addition, that a potentially hazardous physical phenomenon occurs acting as a trigger, either suddenly, gradually or progressively. "Since disasters are unmanaged risks, it is understood that the impact is essentially defined by the preexisting risk conditions that were not timely reduced, and what is evidenced as the effect of a disaster or its direct and indirect consequences, is constituted in a new scenario where the risk has been transformed ". (Narváez, Lavell, Pérez, 2009: 10).

2. Development.
2.1. Managing risk
Addressed from a comprehensive conception, risk management covers identification and analysis; the conception and application of prevention and mitigation measures; financial protection through the transfer or retention of risk; and the preparations and actions for the subsequent phases of assistance, rehabilitation and reconstruction. In addition to other post disaster activities, such as rehabilitation or recovery. Several authors (Salazar, 2009 and Ulloa, 2011) agree that three types of management can be evidenced to reduce the risks:

- Corrective management.
- Prospective management.
- Reactive management.

**Corrective management** acts to reduce the existing risk conditions. It focuses on the promotion of prevention and mitigation measures and actions that contribute to reducing vulnerability and existing risks, as well as increasing and strengthening community capacities and resilience. Territorial planning and planning strategies can be designed to promote, for example, the relocation of human settlements and critical facilities such as schools and hospitals located in high-risk areas, community organization and preparation in disasters, and the execution of mitigation works, among other aspects.

**Prospective management** implies adopting measures and actions in development planning for the prevention of risks. Here Communication is fundamental because it allows people to have access to information and knowledge about future risks that could arise in the territory when it is transformed by the action of the human being or by the natural dynamics of nature. Communication can also help to strengthen the culture of prevention in the population through specific messages and campaigns and help promote actions to increase community resilience in the face of disasters, promoting active participation of different sectors so that they become protagonists in the community.

In the case of **reactive management**, it mainly focuses on emergency preparedness and response. In this type of management, media coverage can focus on institutional and community preparedness to respond in the most appropriate manner to the disaster. It is fundamental that the communicator emits reliable information about the magnitude of the aroused event, the possibility of manifestation of other related events. It is essential that the population at greatest risk receive instructions, figures, data and relevant information that contributes to the generation of a calm state and guarantees their survival. For example, it may include publicizing the contingency plans promoted by the authorities, reporting on how early warning systems work, as well as supporting the public, scientists and technical bodies when the response is activated and during the rehabilitation processes as the reconstruction after the emergency or disaster.

2.2. Hazards....
A review of some recent news alerts us.

The hazards of climate change are evident. According to a study carried out by *Nature Climate Change*, if global warming does not diminish, the maximum temperatures can finish cities like Abu Dhabi, Dubai, Doha and Dharhan. It happens that temperatures will be so high that humans will not be able to stand them. Scientists such as Jeremy S. Pal and Elfatih AB Eltahir from *Massachusetts Institute of Technology (MIT)* claim that very high heat figures will be reached in the Persian Gulf by the end of the 21st century, a situation that could be reversed if polluting gas emissions are limited in the future. (La Vanguardia, 2015).

Recently in the Netherlands, a group of scientists used satellite images to determine how water has changed on the surface of the Earth. Some 173,000 square kilometers of water are now land, lakes have decreased in size, large rivers are diverting their course and coastal areas are changing rapidly.

In the case of Latin America and the Caribbean, the rise in sea level and the erosion of the coasts are serious problems. In Central America, climate change is drastically affecting the health of crops such as coffee, while pests and droughts are a reality. Lake Poopó, which was the second largest in Bolivia, completely disappeared. And in the Caribbean, increasingly strong storms endanger the lives of millions.

Given these certainties and others, an adequate Communication contributes to changing landscapes and realities.

**2.3. The design of the risk communication strategy**

A strategy can include: plan and action plans, preventive campaigns, community and organizational organization, professional team in charge, coordination between institutions, personnel training, training of spokespersons, journalists and communicators. It should consider:

The *approach*: how will the subject be dealt with, the conceptual framework, the social groups that will be involved, and advocacy actions, among other elements?

- **The purpose and objectives**: it is the essence of the campaign, what is to be achieved through measurable, achievable, targeted, reasonable and specific objectives.
- **The public or target population**: it makes it possible to establish the content and select the channels and means to be used.
- **The content**: the topics of greatest interest to the public, the recommendations that are issued have to match the real possibilities of the population.
- **Communication channels**: printed and electronic media, radio (educational spots, radio soap-operas), television (educational spots, soap-operas,
documentaries), Internet (Internet conferences, blogs, social networks), alternative channels (talks in churches, paging in the streets, networks of communicators, youth groups, etc.)

- Evaluation mechanisms: was the message received? did the perception and behavior of the target group change? Methodology: surveys, polls, participatory evaluation workshops, etc.

A risk strategy involves implementation stages:

1. **Preparation Stage.** In this phase, the Communication team is formed to carry out a situational diagnosis and the definition of a communication risk management strategy that covers the before, during and after of an emergency or disaster scenario. For that purpose, you should:

   - Identify the phenomenon that represents itself as a threat, its characteristics in the local reality, as well as its repercussions on public health and other areas.
   - Determine the key actors and organizations for the coordination of actions to face the declaration of an emergency due to this phenomenon.
   - Determine the human and technical resources available in the agency's response team.
   - Identify perceptions regarding the risk, the related community meeting sites, public spaces, and local activities, as well as the media most used by the population.
   - Identify relevant journalists and opinion leaders who are renown by the population.

2. **Start stage of the emergency or disaster.** The part of the strategy designed to respond to the emergency is activated. The main goal is to achieve a communication that creates, maintains or re-establishes the trust of the public. Actions are coordinated, information is collected, systematized and circulated with the different actors. The information needs of affected publics and health personnel in direct care are identified, key messages for the population are adapted, the spokesperson is prepared with clear and concise information, and the media plan is activated: press actions and attention to the mass media.

3. **Control stage of the emergency or disaster.** In this phase, it is important to constantly update and expand the information in the media. Likewise, it is essential to provide communication support to the health team in the territory in order to improve the attention of those most affected.

4. **Recovery stage:** The messages and actions in this stage should focus on the adoption of hygiene and cleaning measures. In addition, messages about the health risks associated to the emergency situation should be reinforced, and also strengthen
community ties to support the affected people. Subsequently, awareness and education actions must be continued.

5. **Evaluation Stage**: It is important to evaluate the effectiveness of the executed plan, to audit the type of link that was achieved with the population, to analyze the performance of the communication team, to measure the efficiency in the coordination of actions, to document and systematize the lessons learned to determine what should be improved in the future.

2.4. **The means to communicate the risk.**

At the international level, knowledge of the media on disaster management issues is still insufficient. "The institutions in charge of disaster management have the responsibility of finding mechanisms and strategies that allow the mass media to be trained on the different stages and processes that characterize a disaster, from preventive actions to the reconstruction stages." (PAHO, 2016).

From the communication perspective of disaster management, the media has functions such as training and information. In the first one, they can become important agents for the dissemination of educational content and contribute effectively to create a culture of prevention in the public. For this, it is necessary to previously train communication professionals through different actions. It cannot be ignored that the institutional webs should always be updated with clear and complete information, to facilitate access to the information of anyone who wants to look for it. In the latter one, the clear, prudent, timely and appropriate disclosure of correct data on the incidence of development and the effects caused by a disaster facilitates public understanding of the magnitude of an event, and helps decision makers.

The media also have the responsibility to educate in a culture of prevention, an integral part of social development and the promotion of values such as self-protection, solidarity, participation and respect for oneself and others. At present, it is pertinent to strategically apply the communication tools for a better emission of messages, the generation of knowledge, the adaptation of preventive plans, the availability of accurate information, as well as all kinds of preparation for a potential disaster situation. When working with and in the media it is necessary to identify which are the main sources of information related to risk management. Spectacularization of the catastrophe must be avoided, and respect for privacy and human integrity must be promoted. It is recommended not to show images of corpses or close-ups of victims and injured people, because they expose intimacies and violate rights. It is important to consider the evaluation of journalistic coverage, to seek reflection and the recording of possible procedural errors, of the difficulties that arose, of the interaction functioning with the actors of other assistance areas and of the good practices carried out. It also requires the installation of the subject in the mediatic agenda and post-emergency research, which suggests the production of interdisciplinary and in-depth reports that address the issues of disasters.
and catastrophes outside the emergency, the contextualization of data and the analysis of the origin of the tragedy to contribute to a comprehensive look at the problem with a view to prevention. (Ottaviano, 2013).

The new technologies have influenced the verification of an unexpected turn for Communication.

An international scientific study (Kryvasheyeu, Chen, Obradovich, Moro, Van Hentenryck, Fowler, and Cebrian, 2016) weighs the importance in the use of social networks as tools for monitoring, evaluation and even the prediction of the damages caused by natural disasters. The research published in the latest volume of the journal Science Advances together with scientists from the NICTA (National Information Communications Technology Australia) and the University of California at San Diego (United States), concludes that it is possible to determine the damages caused by a natural disaster in a few hours using the data provided by social networks. To carry out the research, the Twitter activity before, during and after Hurricane Sandy was analyzed in detail in 2012, one of the most damaging in the United States. For this, hundreds of millions of geo-located tweets were collected making reference to this topic. "We found a strong relationship between the route followed by the hurricane and the activity on social networks, since citizens use these platforms for communication and information related to the disaster," the experts explain.

In addition, the spatial-temporal distribution of messages related to the event can also help the authorities in the monitoring and evaluation of emergencies to improve the response to natural disasters.

Another study (Llorente and Cuenca, 2016) shows that after the earthquake in Ecuador on April 2016 tools such as Twitter and Skype "proved their usefulness" by enabling the dissemination of information "in a few minutes" about what was happening, including the transmission of photos and videos.

Twitter served citizens to disseminate photos of missing relatives, organize solidarity campaigns and activate trends that were consolidated with the passing of days "and that generated millions of impressions," says the survey.

The report also mentions Skype, the real-time chat and chat platform, as "the ideal way to say we're safe", as well as tools such as "Google Crisis Response"; "Twitter Alerts"; "Family Links", of the Red Cross and the search for the disappeared of that humanitarian organization. In addition, it mentions Facebook's "Safety Check" tool, which lets the contacts of the social network know that someone is safe.

The work also makes general recommendations in the case of emergencies, including seeking help in the places established for it; not saturating communications with voice calls, videoconferences, videos or photos; get communicated by SMS, Twitter or Facebook, if possible, and be informed on the radio and not to share false information on social networks.
3. Conclusions

Communication gives value to risk management, which dynamizes, promotes and facilitates understanding.
Risk Communication is a comprehensive and planned communication strategy that accompanies the management of a specific emergency or disaster threat. The articulated participation of all the actors involved promotes knowledge and understanding of both known and unknown risks. Through the design of strategies, plans and programs, actions are established in short, medium and long term, both in periods of community preparation as well as in the prevention, mitigation and attention of emergencies and disasters. A strategy can include: plan and action plans, preventive campaigns, community and organizational organization, professional team in charge, coordination between institutions, personnel training, training of spokespersons, journalists and communicators. Organizations must align with public civil protection policies and help spread messages of aid and solidarity. New technologies represent an opportunity for different social actors and for Communication.

Bibliography.


