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Environmental Reporting: Climate Change and Global Warming

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# 1.0 Abstract

The purpose of this term paper is to investigate the extent and nature of global warming and climate change through environmental communications and to shed light on a few of the current delusions about climate change, the natural communication problems inherent to climatic change, to list some challenges ahead, describe the barriers one encounters in communicating the crisis of climate change and global warming and express a number of actions that can be taken to improve and more broadly communicate them.

Although, the matter has an important scientific relevance and has gained a lot of attention, still there are communication difficulties and misconceptions among the industries, media, government and the public in general.

The findings of this report suggest that it is the world’s priority to find feasible, cost effective and realistic solutions to climate change and global warming concerns. It is precisely this that connects the non-government and government organizations in a way never witnessed before. To bring about the predictable outcomes, present initiatives should be supported by reasonable communication and education methods.

# 2.0 Introduction

The compelling scientific accord on the origins, sources and threat of climate change and global warming is in strong contrast to the general contentment and confusion among the public. (John D. Sterman, October 2008). Even though these concerns are not new to us, much has come to pass in the past twenty years. First of all, the International Panel on Climate Change (IPCC) was founded in 1988 which was a joint venture of the United Nations Environment Programme and the World Meteorological Organization. It is a world body that prints periodical reports about the climate and assesses the hazards of climate change brought by mankind. It has, since its establishment, gained global approval and recognition. Secondly, the Intergovernmental Negotiating Committee established for negotiating this purpose, affirmed the UN Framework Convention on Climate Change (UNFCCC) on May 9, 1992 which consists of more than 200 parties and observer nations (Walter Lee Filho, July 2008).

 In the start of June 1992, the UNFCCC was officially signed and was effective on the 21st of March 1994. This agreement is one of the most high-ranking and prominent bilateral environmental agreement which is globally supported (Walter Lee Filho, July 2008).

Downing and Dow have pointed out the areas that they think need attention and action and the several factors related to the worldwide debate on climate change which when impartially investigated, this set of four natural causes have been seen interrelated to it: 1) volcanic activity, 2) solar radiation, 3) earth’s tilt and 4) continental drifts (Walter Lee Filho, July 2008).

In the last decade, a great amount of increase in the attention towards the climate change and a principal increase in the forcefulness to highlight the climate issues as a whole had been noticed. On December 11, 1997, the Kyoto Protocol had presented an additional impulse to the intercontinental discussions on climate change. This protocol had been adopted at the third Conference of the Parties to the UNFCCC (COP 3) in Kyoto, Japan and was effective since February 16, 2005 and more than 180 parties have approved of the agreement till present. The December 2007 convention of the parties in UNFCCC (COP 13) in Bali, Indonesia had more than 10,000 people present. It is evident from such developments that climate change is now of global concern and significance. While the natural unpredictability of the weather is consistently playing its role, the climatic transformation has changed the odds and altered the natural weather boundaries and the weather around the world is now largely influenced by global warming because it now builds up in a different atmosphere than before creating a particular kind of intense weather more regular and extreme. These types and some other forms of extreme climatic events that have been anticipated to occur frequently are indeed on the rise and have become more intense in the past few decades as the Earth is warming up. In a large sway between extremes, intense precipitation, drought, heat intensity has increased, heat waves are getting hotter and their span increasing, heavy rains, flooding, all such events are becoming frequent. Drought too now has become more severe and prevalent. A clear example of the warming climate and a signature of its influence on intense weather is that 6 decades ago the figure of the new record high temperatures observed around the continental USA was approximately equivalent to the new recorded lows whereas, now, the ratio of records highs to record lows every year has been doubled in amount. Same ratio difference in the record lows and record high temperatures has been recently recorded in Australia. This shows that the problem extends outside the USA boundaries. Among those countries who record the weather stats, not even one country observed a new all time record low while 19 countries recorded all-time high temperatures in 2010 and in the past 10 years, 75 nations recorded all-time record highs whereas only 15 nations recorded low.

# 4.0 Communicating Climate Change

Efficient communication of risks is hampered by an understanding of the mental models of the public and policy writers. To comprehend the climate change in a better way, it is imperative to have knowledge about how people in different areas of the planet view it (Walter Lee Filho, July 2008) and what are the fundamental mental models that form people’s thoughts about the weather change? Studies demonstrate an obvious disagreement. The mass population in the USA and other countries have heard of global warming and said they are in the favor of the actions taken against it. Yet, this issue is positioned way behind warfare and terrorism, combat, economy which are the public’s supreme matters and a greater majority is against the policy of increasing the fossil fuel costs to cut the GHG emissions (John D. Sterman, October 2008).However, if the weather change begins affecting the economy, mitigation policies can be employed.

 A survey conducted in 2007 that 54% of the people in USA had a “wait-and-see” or “go slow” approach towards reducing the GHG emissions and a huge majority had the same vies in China, Russia and India. Vagueness about the risk of climatic change, for most of the public, means a delay in the costly measures to the decrease the emissions. Nonetheless, long deferrals in the climate’s actions to anthropogenic forcing means such interpretations are incorrect (John D. Sterman, October 2008).

A research done by Leal Filho (2000) consisted of the examination of mistaken beliefs about what the course of sustainable growth is and what sustainability signifies for an organization which has assisted in understanding the common incorrect beliefs associated with them. It also showed that these misconceptions are then transformed into negative assumptions about sustainable growth (Walter Lee Filho, July 2008). The foremost barrier to climate change communication is the general misconception about it. A few of the most common misinterpretations of climate change are as follows:

1. Climate change is a very broad subject matter.
2. There are no professional people to handle the climate change issue in an acceptable way.
3. It is too abstract an issue to discuss.
4. The quantity of supplies needed for the communication of climate change do not rationalize it.
5. It is much of a technical issue where computations and forecasts are required.
6. Climate change has an extensive scientific base (Walter Lee Filho, July 2008).

It is vital to recognize that there are some obstructions faced when one attempts to communicate climate change and at the same time there are a few elements that affect the feelings towards climate change. If these are not concentrated on, they may cause a negative perception or a mistaken supposition about the climate change. Due the intricacy of issues connected to climate change and its closeness to the complexity of sustainable growth, some similarities can be seen.

# 5.0 Challenges of Climate Change Communication

The key to the progress of human understanding of the environmental issues is communication, both public and interpersonal (Keith R. Stamm, Fiona Clark, and Paula Reynolds Eblacas, 2000). However, studies in the past often held mass media responsible for the people’s misconceptions and content analysts usually find defects in media reports due to the periodic coverage of dramatic events and because they ignore the systematic concerns and focus ostensibly on economic influences and public interests. Such findings help us realize that the people’s understanding reflects the incapability of the media, a conclusion that has been favored by researches that have attempted to describe the effects of media more openly. In spite of these shortcomings, the mass media coverage of the environmental problems is, still to an extent, effective as proved by agenda- setting studies that media is partially accountable for directing public’s attention towards the climate change issue.

# 6.0 Global Climate Change Communication

In democratic nations, not only the beliefs of the specialist and professional but the citizens too influence government and public agreement policies. Important citizen policy matters involve the innate and physical systems more and they should made with the help of the best obtainable scientific knowledge because if the broadly held mental models of these complicated systems are defective, the public may involuntarily support policies that result in something they neither wanted nor desired for. Climate change is exactly such a matter (John D. Sterman*·* Linda Booth Sweeney, January, 2007).

There are a number of reasons to choose the topic of climate change, many a times known as the ‘greenhouse effect’ or the ‘global climate change’, as a case study. Primarily, because in the existing international environment agenda, it is the most broadly discussed and recognized matter. Secondly, majority rely on the mass media as the foremost source of knowledge about the issue since many of them don’t have a direct contact with the climate change. Thirdly, it is a reason for a great political and scientific controversy these days Keith R. Stamm, Fiona Clark, and Paula Reynolds Eblacas, 2000). Even though the degree, scope and the time span of its implications are vague, it is contemplated to affect areas such as energy production and its utilization, health, food, water provisions, ecology and the living species continued existence and public and political constancy. It has been scientifically proved that global warming is one the major problem occurring in this world. The causes its and implications are not exactly known till this time. The uncertainty about the strategies to reduce negative aspects and the unchecked global warming is the cause of the public unawareness. A margin of confusion is witnessed within the public for the causes, consequences and the solutions that could be used to improve health, social and political strength. There is a constant difference of views among the political and scientific forum, making this topic controversial (Keith R. Stamm, Fiona Clark, and Paula Reynolds Eblacas, 2000).

One of the major problem is the incapability of public to acquire relevant information, their main source is the mass media providing them with awareness. This is because they do not have a direct contact with global warming. Leal Filho (2006) researched the link between climate issues and communication on development and education, (Leal Filho et al., 2007) specifically looked at examples of projects and initiatives on the ground across Europe. This is the European perspective of Communication and Education of Climate Change and bulk information. Before coming to the actions that government and society could take to diminish the effects, Houghton (2004) explained the impacts of climate on human life and the scientific aspects of global warming. The education about climate changes and its implications on human life need to be addressed. A plan of action needs to be taken to improve the deficiencies and the current systems and trends. Four significant points are given to highlight the importance of promoting education and creating awareness on changing climate, then effectively communicating it to the masses. The elements include: (1) A survey by the consultancy company Accenture (2008) has identified the people of Brazil, China and India are more concerned about the climatic changes than the people of Europe and North America. Developing personal accountability in rich and poor nations is needed in this matter. The countries taking effect of the climate changes are more likely to take part in global efforts to reduce negative impacts, taking in account the willingness of industrialized countries. Personal accountability within industrialized countries is of much importance to motivate people in developing countries and becoming a part of it. (2) The combination of technical expertise with communication issues should be taken into account. For the entire understanding of problems related to climate changes, it is complemented by its economic and social dimensions. They need to understand that there comes a halt in technical expertise in handling climatic changes. (3) Climatic changes are not a matter of concern for the scientists only. From politicians to teachers, economists' health officials and other stakeholders need to be involved in this matter as it does affect their lives too. There is a need to evolve all the concerned stakeholders. Just a simple study on the technical and possible effects of climate changes do not feel impactful unless they are linked with the effects that these changes leave to the health,agriculture,fauna,environment and flora. Current studies show that topics which involve a variety of stakeholders and – in particular – the general public – tend to be much better understood if their specific information needs are taken into account. This helps making this issue sound serious and important. (4) An approach to solve these problems is needed. There is a need to involve each and every individual who has been a victim to this sort, so that they can contribute in the problem solving procedure. There is an apparent need to amalgamate the climatic change with practical lives and individuals. Involving people in these kinds of activities can become a source of motivation for them, they would feel it to be a part of their regular lives, be it in respect of sustainable transport use, in the purchase of products or simply by having energy savings at home. (Walter Lee Filho, July 2008) People would feel it to be an unnecessary effort if they are not linked with it. People feel frustrated when they realize that climate change as a whole and phenomena such as global warming in particular, are matters distant from their day-to-day lives. This needs to be managed well.

# 7.0 Public Communication and Media Perception of Climate Change

Confusion among the public in this respect is accelerated by many factors. There is a major link between economic factors and science. Acceptance of the science of climate changes trail with the strength of economy. In difficult times, people seem more likely to reject the science. Probably they think that investing in the projected solutions regarding this problem would have adverse effects on the economy. Another factor is the way the media handles the topic. The major problem is the incompetency of the media journalists. They often portray climate change as a controversy, presenting the opposing sides as equally convincing. The lack of experience of the journalists results in report that can be misleading and useless. It does not go with the scientist’s perspective (Somerville, R. J., &Hassol, S., 2011).

A second major factor is the well-organized and well-funded disinformation campaign that has been waged against climate science for decades. This campaign has played the major in creating controversies and doubt about science among people. Some fear that policies to address climate change will limit individual freedoms and the free market (Somerville, R. J., &Hassol, S. 2011).The short-term profits are the main concern of the oil and coal industries. The success of this campaign lies in the uncertainty for science among people. The public-relations master spread this simple message repeatedly among the masses. For most of human history, people have seen weather as the province of God, and some simply cannot accept the idea that humans could affect it. We still call weather disasters "acts of God."People trust their leaders who advocate the idea of global warming being a deception. The mainstream scientific result that climate change is occurring and is mostly human-induced has been certified by professional societies and science academies worldwide. Scientific illiteracy and unawareness is one of the factors as well. People are not ready for innovations and are going with the same old school of thought.

People trust and believe those with whom they share cultural values and worldviews (Somerville, R. J., &Hassol, S., 2011).The campaign has a belief that a small number of climate scientists disagree with the widely accepted central findings of the field. They are projecting hurdles in the way of science. Not letting people to understand the global warming aspect and letting them help to incorporate the concerned solutions. Causes of failure constitutes what is spoken about and how is it spoken by the scientists. Even though there have been a number of researches on hazards of climate change, people are yet to be concerned about it or do not believe what climate scientists have found out (Somerville, R. J., & Hassol, S., 2011).

People are usually less concerned with basic sciences than about how changes in climate will bring a change in their lives and what steps could be taken for it. The problem of climate change should be more suitably brought up as an issue that could endanger basic needs of people; such as water, food, safety and security, as it endangers the economy, than as an environmental problem. Effective communication is a conversation with discussion on what people are concerned about and not a lecture to just listen to. Usage of narrative skills aids in talking to people.

## 8.0 Climate Change and Politics

Communication of climate change is an increasing field of study. This includes online communication, the internet and social media, since the use of the two has increased a lot. Stakeholders such as NGOs, scientists, companies, and politicians are using this medium to give information to people and gather their support on the issue of climate change and climate politics. However, the kind of communication that is carried out online, shows that even though many stakeholders are involved, it does not lead to improved debates or formidable scientific information(Schafer, M. (n.d). Communication is relevant but use of this medium is done tactically which gives implications that the scientists and scientific institutions do not have a big role in those discussions.

# 9.0 Climate Change Education and Communication

There are hindrances faced when authors want to give information and educate societies about climate change. These include situational issues such as political support of a group that does not want to conserve resources, a dearth of money, time and material resources and deficiency of unity and cooperation within the society itself. Hindrances could be cognitive issues such as wrong ways of knowing about the problem, barely any knowledge or understanding, low level of mathematical and scientific literacy, and barely any problem solving or decision making strength. Limitations on providing knowledge also occurs when people don’t want to change their behavior, don’t have much love for nature, don’t have much information on the truth about climate change and its effect, attitude towards nature is not very positive towards the environment or even the thought that they done have the power to change. There are social, psychological or behavioral obstacles.(Diane Pruneau, Abdellatif Khattabi, Mélanie Demers, 2010).

Climate change concept is usually misinterpreted by people, which makes it a difficult task to educate and communicate it to people. Some people do not recognize the slow on-going changes in environment, some feel that climate change will not bring any change in their life, some have no attachment or link with nature; overconsumption also symbolizes recognition and power, and even the fact that there are people who make emotional and quick decisions to resolve issues in the environment. Through studies, certain climate change communication and education strategies are given below. Strategies in mitigation education such as reflective, socio-constructivist approaches, the community of change, future education, and experiential, can help in changing people’s perception if worked on in a combination, could lead to some effort by people. Adaptive education involves analysis by scientists and citizens together, concerning one certain problem of climate change, then finding solution and applying it. If messages on environmental issues are properly designed with illustrative findings and local cases of climate change, then it might influence people to diminish this environmental problem. This lessening of problems could be associated with positivity among people. Finally, use of pedagogical strategies which use cognitive sciences can help in improving decision making skills, finding and resolving issues, sustainable planning and scenario building (Diane Pruneau, Abdellatif Khattabi, Mélanie Demers, 2010).

There has been quite a misconception, dissatisfaction and rejection among the public, media and policymakers about the discovery, attribution and risks of climate change that most scientists agree to (John D. Sterman, June 2011). This has happened even though the Intergovernmental Panel on Climate Change (IPCC) has an outstanding group of the world’s best climate scientists that have led to huge increases in the information on climate change. An example is given by Sterman in his research (see Appendix A, Figure1) about how information on global warming and climate change has been prejudiced in the 2009 Gallup questionnaires.

# 10.0 Central Communicators of Climate Change

There are middlemen or the term middle communicators are used to help in communicating climate change information. This has arisen due to obstacles in communicating climate change knowledge to policy makers, such as rejection of climate change by some who also influence the decision of the policy makers. Another issue is in scientific researches which are uncertain and gives problem in giving projections on climate change. Even the IPCC has different degrees of confidence in researches; very low confidence (less than 1 out of 10), medium confidence (5 out of 10), very high confidence (a 9 out of 10 chance) etc. These “middle communicators” include quasiacademic, quasigovernmental organizations, for instance the eight regional Climate Science Centres made in 2009 by the US Department of the Interior. The centres are hosted by one or more universities and led by the US Ceological Survey (Powledge, F. (2012). They could also be government organizations, such as those who made www. hiosciencemag org January 20121 Vol. 62 No. I • BioScience 11Feature the state action plans, or federal executive-branch agencies such as the USGCRP and even state agencies such as Hedia Adelsman's in Washington.

There has been positivity in the transfer of information from middle communicators to those who need it such as policy makers needing it for decision making. There are also private foundations and nongovernmental organizations who communicate scientific information such as CAKE (for Climate Adaptation Knowledge Exchange), a mission of Island Press and EcoAdapt, states "shared knowledge base for managing natural systems in the face of rapid climate change." The database includes a number of case studies from around North America and has a big collection of suggestions on adaptation for societies. Another organization, Pew Centre on Global Climate Change has been working since 1998 to collect and convey knowledge on climate change. A Tucson-based Climate Assessment for the Southwest is part of a regional sciences program run by the National Oceanic and Atmospheric Administration. Over there, the program director Daniel Ferguson mentioned that "we are more commonly working with decision makers much closer to the ground in terms of decisions that may be able to utilize scientific insights for something more akin to real-time decision making. We certainly find people who are actively seeking out scientific information to make decisions that help them deal with climate." Most of the decisions were important to policymakers who were handling water availability as the decisions were mainly associated with the drought that was caused in the area for many years (Powledge, F. (2012).

# 11.0 Conclusion

A number of reasons stress on the requirement of important changes in the whole concept of what exactly to do for climate risk communication. This is because even though scientists agree about anthropogenic reasons of climate change, there are few changes in the increasing risk assessment in policies. For instance, help in decision making for climate adaptation. Climate change has increased prominent interdisciplinary concerns of risk and uncertainty assessment and communication. It is quite pertinent to develop communication on climate change and risk perceptions for climate policy and decision making in the forthcoming years (Pidgeon, N., 2012).

Climate scientists are working on passing clear, distinct and persuasive knowledge on climate change and give practical answers to reduce political effect and help in decision making concerning climate change (Powledge, F. (2012). Climate scientists are concerned because even though there is a huge amount of study on the effect of anthropogenic climate change, the power of people who doubt this study and worry of alteration in economy has led to no effort on these problems.

According to scientific studies, there were threats of large and severe changes in climate (Boykoff, J., n.d). While in Cancum, Mexico, at the 2010 United Nations climate change conference, there were some challenges. China and USA, being the largest greenhouse gas emitters, had issues with The United Nations Framework Convention on Climate Change as previously a year ago in Copenhagen they had been given a questionable secretive deal.

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