



# Testing Mass Media Communicative Efficiency In Environmental Motivation Development (The Case Study Of Bangkok, Thailand)

## Evaluación de la eficiencia comunicativa de los medios de comunicación en el desarrollo de la motivación ambiental (estudio de caso de Bangkok, Tailandia)

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#### ABSTRACT:

In this paper we evaluate the efficiency of mass media means of information transmission in the process of environmental awareness and environmental motivation formation among the youth (the sample here is represented by the students of Suan Sunandha Rajabat University, Bangkok, Thailand). Conclusions are made regarding the requirements which are to supposed to be put forward as to contents, structure and the process of video information distribution, aiming at development of environmental awareness among the youth.

**Keywords:** environmental motivation; environmental awareness; mass media; empathy; communications

#### RESUMEN:

En este documento evaluamos la eficiencia de los medios de comunicación de los medios de comunicación de masas en el proceso de sensibilización ambiental y formación de motivación ambiental entre los jóvenes (la muestra aquí está representada por los estudiantes de la Universidad Suan Sunandha Rajabat, Bangkok, Tailandia). Se hacen conclusiones sobre los requisitos que se deben presentar en cuanto a los contenidos, la estructura y el proceso de distribución de la información de video, con el objetivo de desarrollar la conciencia ambiental entre los jóvenes.

**Palabras clave:** motivación ambiental; advertencia ambiental; medios de comunicación; empatía; comunicaciones

## 1. Introduction

On the background of escalating environmental problems worldwide it is becoming more and more obvious that simply informing population about the current environmental situation (in

a region, country and/or worldwide) is not enough anymore. All related specialists admit there is an urgent necessity to use all possible means and methods within the national systems of education as well as all possible channels of mass communications so that to change the mass consciousness and form a brand new paradigm of societies' relations with the environment. The key result from this process must be harmonic and sustainable relations with the Nature for all social institutes and absolute dominance of environmental motivation over the economic one (Probst , 1980).

Nowadays understanding social progress without the environmental component is simply impossible. All further evolution of societies on this planet is impossible without gradual "environmentalization" of social consciousness. Y.N. Pakhomov (2002) used to describe and evaluate this process in the following way: "radical reorganization of consciousness and all activities of people, formation of truly environmental culture in relation to all natural process and preconditions in social development – these are the most important preconditions for maintaining the integrity of the biosphere and its capacity for self-regulation" (translated from Russian). Clearly, concrete environmental guidelines in mass consciousness are yet to be developed. Social attitudes regulating the relations with the environment must become the basis for the development of motivation in all further practical actions aimed at changing the current situation.

As of today cinema and television are the most efficient information channels to disseminate comprehensively environmental knowledge, this why studying their roles in this process becomes a **topical research issue**.

The **research aim** here is to evaluate the efficiency the motion pictures on environmental issues as an instrument used in the process of environmental motivation formation among the youth. Author's recommendations concerning further use of mass media tools and methods in the process of environmental awareness formation are provided.

Reaching this aim can be achieved through solving several smaller-scale **research tasks**:

- To analyze the current state of environmental consciousness and motivation among Thai youth;
- To outline the criteria for further evaluation and to test the methods which can be used in efficiency evaluation of mass communication means in the process of environmental consciousness and environmental motivation formation in young people;
- To analyze the efficiency and the level of impact of mass media communications (on the example of motion pictures) on the environmentalization of young people behavior;
- To formulate the conclusions stemming from this empirical research and to provide author's recommendations concerning the central principles of efficient communications aimed at boosting the environmental motivation among young people.

Taking into account our research aim and tasks, we put forward the following research hypotheses:

- The factor of environmental problems' localization (seeing the obvious logical connection between the traditional for a viewer way of life and the probability of arising environmental problems) has more influence on the youth than the alarmism of the message or empirical determination of the global environmental catastrophe prospects.
- The most meaningful and efficient way of transmitting the environment-related information to the youth today is interactivity, that is, engaging the youth directly into the communication process as a co-author of content and its co-translator.
- Emotional atmosphere is an important component of environment-related communications and also a factor of environmental motivation formation in the youth. In the process of this emotional atmosphere formation for all further communications it is vital to take into account the priority of attention refocusing (the so-called reload) and also empathy (personal emotional co-experience).

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## 2. Literature overview

In its widest sense "environmental consciousness... is one of the spheres in social and

individual consciousness connected with reflecting the natural processes as part of existence. Formation of the specific perception of the natural world and specific attitude to this world leads gradually to the development of environmental consciousness. In its turn, the formed environmental consciousness has its significant influence on further perception of natural objects and phenomena and also on the attitude to them”(Pakhomov, 2002).

V.A. Skerebets (1988) has determined the structural & time aspects in the connection between the cognitive process, emotional reactions and environmental motivation as elements of environmental consciousness.

Environmental motivation assumes that a human as a social being in constant interaction with the environment is always ruled by specific attitude to this environment. This attitude is always based on certain knowledge concerning laws and regularities of the Nature’s development and the structure of its interaction with the society (Arkes et al, 1982; Samarina, 2018).

Several aspects are usually outlined while studying environmental motivation in a wider cultural context: people’s attitude to the environment based on ration and knowledge; economic and utilitarian sides of this issue; creation of the most acceptable conditions for the existence and activity of human beings within the Nature; issues of ethical, cultural and esthetical nature; spiritual aspect which assumes the presence of both intuition and rational side, logic and emotions; understanding the influence of all environmental processes on the health condition of people (Kalandarov, 1999).

Gradual degradation of the biosphere can be perceived and understood not as the future collapse of all civilizations on this planet but more as some sort of critical point. Once this point/threshold is achieved, evolutionary mechanisms would be triggered so that to re-orient and transform mass consciousness. This reorganization of consciousness in favor of environmentalization is supposed to change the vector in Human civilization – Nature interaction. From a more philosophical viewpoint, crisis is always an efficient trigger activating the internal potential energy of a human for a next qualitative breakthrough. In other words, crisis is even necessary for the humankind for its further qualitative development. And in our times the key aim of such qualitative changes would be formation of a brand new way of thinking and motivation, based on environmental consciousness (Pavlenko, 2002).

According to a wide range of theoretical studies on environmental motivation, crisis has become the logical consequence of environmental aggression escalation. The latter, in turn, was also a logical consequence – of the general aggressiveness growth rate in contemporary societies. Moreover, today’s environmental motivation is also having such an interesting feature as “ecophobic stereotypes” (Kalandarov, 1999; Onyusheva, 2018).

Attitudes to environmental situation may vary depending upon particular individual features, for example, gender. Females in this regard are more sensitive because they tend to have stronger self-preservation instinct, they also tend to see new solutions to many problems in the spiritual field. Males, on the contrary, are prone to see the causes of crisis in the technological development of civilization and in the same field they also try to find new solutions – in the shape of discoveries and inventions in science which potentially may change the environmental situation for better (Gor, 1993).

Therefore, the core task of sciences today is formation of environmental competences among general population. However, knowledge alone is unable to originate radical changes in the current situation. Truly serious changes require smart combination of scientific information, attitudes and beliefs. And only at this, deeper level, environmentalization of mass consciousness and behavior would be possible.

The central element of the complex notion “environmental motivation” is acquisition of certain relevant knowledge, obtaining meaningful information concerning the current environmental situation (Romashov, 1989; Ushakov, 2018). E.P. Ozhegov and E.V. Nikonorova (1990) described the fundamentals of environmental motivation, and in their opinion, these fundamentals are predetermined by the opinions and attitudes concerning the causes and roots of environmental problems. People’s views on what has caused the current

environmental situation make them be more (or less) inclined to believe various theories, each offering own ways and means to change the situation.

With yet another attempt to determine the essence of the notion "environmental consciousness" T.S. Smirnov (1984) stated the following: "Revealing the essence of the notion "environmental consciousness" it is important to note that it includes both conscious and non-conscious elements, both organized and spontaneous changes in the usual style of thinking, in knowledge, traditional views, ideas, goals, norms, assessments".

Describing the state of environmental consciousness on the global scale would definitely require a separate and much more detailed discussion due to overcomplicated nature of the phenomenon in question. However, within the frameworks of our, much narrower study, we can at least mention wide international representativeness of studies concerning environmental consciousness and environmental motivation of the representatives of certain nations and/or certain social groups.

Changes in environmental consciousness may happen under the influence of motion pictures on the related topic. In this regard, we should mention the experiment once carried out by the psychologist from the University of Innsbruck – Tobias Greitmeyer. According to his hypothesis, motion pictures describing the situation around global changes in climate and their possible consequences, tend to increase the level of anxiety about environmental problems among students. While pictures with the opposing viewpoint and rather skeptical attitude to the theory of global climate change, on the opposite, reduce this anxiety.

The experiment of T. Greitmeyer (2013) has been carried out in two stages to show that after watching a film describing the potential environmental threats the overall level of students' anxiety concerning future environmental problems did not change much. At the same time, after watching a movie with more skeptical view on the environmental crisis the students demonstrated an obvious decrease in the related anxiety level.

The research further is based on the concept of multilevel environmental motivation and variation of instruments to be used in shaping the eco-friendly values among the youth through the impact of mass media means (namely – fiction and non-fiction motion pictures).

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### **3. Methodology**

#### **Theoretical frameworks of the research**

Mass communications can be determined as a systemic process of information transmission from a source of a message to mass recipient. In order to perform this process various tangible/physical channels can be exploited, those are mostly known under a general notion "mass communication means". To them belong, inter alia: 1) printing sources in all its manifestations (books, journals, magazines etc.); 2) TV and FM channels; 3) motion pictures shown in specialized institutions – cinemas; 4) sound and video records (Greitemeyer , 2013).

For our further research we have chosen non-fiction motion pictures, strictly on the environmental topics, as one of the possible channels of mass communications. Analyzing their contents as well as ways they present those contents in detail, following certain criteria in our assessment, would enable us revealing how efficient this type of communication is in relation to this highly important task – formation of environmental consciousness.

#### **Research design and empirical results**

Empirical material for our research has been represented by the non-fiction movies from various countries worldwide, produced since 2000 and till now. Overall, we have considered 17 pictures (the full list in the Appendix). All of them have been broadcasted on Discovery channel or National Geographic, some of them are also available on Youtube.

The sample of our research is represented by 120 students from the Suan Sunandha Rajabat University (Bangkok, Thailand). Details on the sample (gender distribution and faculties involved) are provided in Table 1.

**Table 1**  
Structure of the sample (made by the author)

Gender	Male	37		Age groups	18-19 y.o.	71
	Female	83			20-21 y.o.	29
					More than 21 y.o.	20
Faculty of Humanities studies		63	Engineering	24	Medicine	33
Key psychological features of the respondents (adapted shorten variant)						
Explicit extravert	32	Typical choleric	14	Emotions-dominated		39
Explicit intravert	39	Typical phlegmatic	39	Rational mind		46
		Typical sanguine	28	Bright leader		26
		Typical melancholic	25			
Visual memory	69	Sound memory	27	Motor memory		19

The research has been carried out in three stages, the total duration being from February till April 2017.

At the first stage the students have been shown short clips from the motion pictures on the environment-related topics. All these clips contained certain instruments of impact on the process of environment consciousness formation in a viewer (compilation of these clips has been made in advance by the author of this research). The run-through has been organized at the premises of the university, the total duration of clips was 2 hours and 16 minutes.

At the second stage of our research we have carried out the students' survey, straight after the run-through. The survey has been aimed at evaluating the efficiency of certain elements' impact on the formation of environmental values and environmental motivation among young people. The questionnaire contained 70 questions, including open questions and also questions which were supposed to reveal how well the students remembered certain factors and facts (thus, we can measure the overall impact from these clips shown).

The questionnaires also contained express-questions so that to determine the personality type of a respondent (temperament, type of memory, introvert/extravert, how easily a person can be influenced, leadership qualities, lifestyle preferences etc.)

## 4. Results

### Research results

Efficiency of mass media impact on the students has been evaluated by the following criteria (Table 2).

**Table 2**  
Parameters of mass media impact on the environmental consciousness of young people (made by the author)

Instruments of impact	Examples from the clips used
<ul style="list-style-type: none"> <li><b>Formation of the eco-friendly value guidelines</b></li> </ul>	
1A – voiceover	Using the lexical unit "home" which has rather wide semantics. By means of visualization the authors add meanings so that to create a specific image: "Earth is our common home" (clip from "Home")
1B - interviews with experts and characters	The screen shows a photo taken back in 1990 by Voyager-1. The photo shows how the Earth looked like from the space, on the distance of 6 bln kilometers. The visual

	is supposed by the comment of world famous Al Gore: This is us, and it's our only home (clip from "An Inconvenient Truth")
1C - Translators of a certain mood	The monologue by DiCaprio in combination with the waters of the ocean on his background set the mood of the whole scene and thus also set the vector of perception mostly through visual channel (clip from "The 11th Hour")
1D - Specific examples	Behavior of the photographer (the main character) or of the activists protecting animals (clip from "The Ghosts in Our Machine")
1E - Parallels/comparison with everyday life	Stories about small towns in France and Great Britain located in close vicinity to huge waste deposits or places of toxic waste storage (clip from "Trashed")

## 2 – Transmission of scientific knowledge on environmental situation

2A- Opinions of the researchers	Researchers are the key source of scientific information. Occasionally speeches of experts are supplemented, for better visualization, by graphical materials and schemes (clip from "The 11th hour")
2B – Demonstration of the experiments	Absolutely real places on the planet are chosen (New York, London, Paris), places which the viewer can relate to and can identify in his/her mind. Then, by means of "upbuilding" virtual reality on the top of it, in real time mode, these locations become subject to change which may be caused, for example, by temperature rise ("Six Degrees Could Change the World")
2C - Lecture	Thanks to great work of cameramen and film cutters a speech by one person in front of an audience turned out to be quite dynamic. The moments when the members of audience are in shot lead to the effect of more presence ("An Inconvenient Truth")
2D – Immersion effect	Live interviews when the central character is talking to an expert in his working environment or just in motion ("Trashed")
2E – Clip effect	Presentation of facts is accompanied by computer modelling and photos from polar expeditions engaged in drilling and studying the ice ("Racing Extinction")

## 3 – Emotional impact on the audience

3A – Language and verbal means	Fonts are designed very similar to the Rorschach inkblot test ("Bill Nye's Global Meltdown")
	Frequent close-ups of a document or a newspaper clipping with the relevant for the ongoing context information ("Trashed")
	Concluding remarks on the screen look like a list of practical recommendations for the audience. Voiceover additionally reads the same aloud, thus, strengthening the visual perception of the text with the sound one ("Bill Nye's Global Meltdown"; "An Inconvenient Truth")
	Two adverbs are on the screen: Unavoidable and Irreversible. Then, graphical effects are applied to both – trembling and blurring ("The Tipping Point" series)
3B – Humor and comic moments	Throughout his lecture Al Gore is using several times short jokes or is telling short comic stories ("An Inconvenient Truth")

	Despite all the complexity and seriousness of the discussed issues, producers of these movies are still trying to add comic elements and/or make it more entertaining. Bill Nye along with the invited Arnold Schwarzenegger are acting in a scene describing a therapist and a patient who is deeply concerned with the issue of global warming ("Bill Nye's Global Meltdown")
3C – Natural esthetics	Strong emotional impact on the audience has the demonstration of underwater world and life in it ("Planet Ocean").
	Beauty of rare representatives of the fauna, free and in safety, is contrasted to the urgent problem of the same animals' extermination by the humans ("Racing Extinction")
	Numerous shorts throughout the film are showing various types of human activity which are damaging for the environment ("Home")
3D – Personalization of information	Journalist and traveler Bernice Notenboom accompanies the viewer in his/her travel to various parts of the world ("The Tipping Point" series)
	The role of Jeremy Irons is manifold: he serves as an intermediary between the characters and the viewers; he is also a guide for the viewer in his/her travel between various parts of the planet ("Trashed")
3E – Formation of empathy	The authors concentrate their attention on several characters, which are to this or that extent related to the creation of the fiction movie "The Revenant" ("The Revenant. The world unseen")
	In each new episode of the series the journalist Bernice Notenboom visits a particular location suffering from the consequences of some environmental problem ("The Tipping Point" series)
	In one of the episodes the author introduces the audience/viewers to a small town in France, near which a garbage furnace is located. The viewers are then told that the local people renamed one of the streets into Cancer Street since there reside the majority of people having cancer in this town ("Trashed")
3F – Personal example	The central character of the picture is the most persuasive example of participation in environmental change – Albert Gore. His activity includes education and awareness campaigns for general public, and also revealing various violations which have damaging effect on the ecological condition of the planet ("The Inconvenient Truth")
	There is a short but very bright episode in which environmental activists are trying to stop oil drillings in Canada ("Bill Nye's Global Meltdown")

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**Table 3**  
Results of efficiency evaluation for various instruments used  
(made by the author)

Formation of eco-friendly values	Transmission of scientific	Emotional impact on the audience
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and guidelines			knowledge on environmental situation					
#	Tools used		#	Tools used		#	Tools used	
1A	Voiceover	8	2A	Opinions of the researchers	19	3A	Language and verbal means	9
1B	Interviews with experts and characters	11	2B	Demonstration of the experiments	29	3B	Humor and comic elements	32
1C	Translators of a certain mood	26	2C	Lecture	18	3C-	Natural esthetics	5
1D	Specific examples	31	2D	Immersion effect	16	3D	Personalization of information	14
1E-	Parallels with everyday life	44	2E	Clip	38	3E	Formation of empathy	36
						3F	Personal example	22

As data in Table 3 shows formation of eco-friendly values is taking place with the highest efficiency once there are obvious parallels with everyday life of the viewers. 34% of the students in the sample were deeply impressed when seeing the environmental impacts on the examples of specific family and/or town. At the same time, the overall picture, when environmental catastrophe is presented globally, referring mostly to the limited nature of resources and commonness of the planet, has very weak impact: only 8% for the voiceover and 11% for the interviews with experts and characters of the pictures. This confirms our hypothesis #1: the most efficient instrument to impact on the environmental consciousness of the youth is not information spread as such (including visual one) and not motivation by a personal example – but demonstration of the facts confirming that environmental problems are very close to us and that every human being on our planet risks facing them, if not today, than tomorrow.

Interestingly, the following correlations have been determined when analyzing the responses of our respondents for the first group of questions:

- High efficiency and persuasiveness of examples from real/everyday life as an instrument of eco-friendly values' formation was confirmed mostly by males, younger than 21, and also by the respondents with significant leadership potential and extraverts;
- Interviews with professionals in the field have the most impact on the students of the first and second years of studies, and also on the respondents with low leadership potential (both positions are quite obvious, if not to say predictable as such).

The second category of questions concerned the efficiency of various channels in transmission of environment-related information. Here, the results are also very much predictable and self-explanatory. The absolute majority of the students voted for clips (38%) and also for 3D models (29%). This confirms the importance of visual information and also of various combinations of visual and audio information in the dynamics. Important feature in this regard is short duration of the visual and the clipping nature of impact. Thai students easily concentrate their attention on the issues they find to be important, but – same easily they tend to lose interest after 10-15 minutes, though not demonstrating (or demonstrating not obviously) lack of interest externally: they may keep pretending to be interested and demonstrate all the signs of active listening though, in fact, they are already fully distracted



and not interested. Therefore, episodes which were shorter, more dynamics and more colorful seemed to them to be much more important and meaningful from the standpoint of information transmission. Overall, the students preferred these short clips to lecture episodes and/or expert assessments.

It is also important to note here that the original methodology of immersion into a problem, which is based on so popular today game theory, at the end turned out to be not more efficient than standard traditional lecturing. Most probably, that happened because our students did not have special knowledge, thus they failed to realized what they were actually "doing" while "immersing" into the reality. Thus, they also failed to determine what are their functions and what are their own responsibilities in this context. Consequently, hypothesis #2 is not confirmed.

Clipping effect turned out to be important and relevant for nearly all age, gender and psychological groups of the respondents. We fail to track any obvious correlation between personal features of the students and the efficiency of various communication technologies.

Finally, the third part of our survey was aimed to evaluate the efficiency of various communication technologies in terms of their emotional impact in the course of environment-related information transmission. Curiously, the students failed to define an obvious, absolute leader among such technologies. According to our results and calculations, empathy and presence of comic elements are seen as the most efficient instruments. These results overall correspond to the typical features of Thai culture and Thai national stereotypes (being emotional, femininity etc.). At this, even the respondents with strong leadership potential, introvert features and rationality also note the importance of empathy and comic elements.

Therefore, our hypothesis #3 is confirmed only partially.

Additionally, we need to mention that despite all the femininity and emotionality of the Thais, the beauties of the Nature, its seas and mountain landscapes left nearly zero impression on the students in the sample, same applies to the personal examples of the central characters and/or the authors of the demonstrated motion pictures. We can make an assumption that these "postcard" views (both local, Thai and foreign too) are overused by contemporary mass media, therefore, they are quickly losing their persuasiveness as an instrument of emotional impact on the viewer. Personal example turned to be not that efficient either, most probably, due to the fact that most of the presented Western characters were unknown or little known to Thai students due to cultural differences and popularity of other heroes in Thai society.

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## **5. Conclusions and Recommendations**

Stemming from the overall results of our research here, we can now formulate several recommendations aimed at increasing the efficiency of using mass media means in the process of environmental consciousness formation among Thai youth.

First of all, information delivered through mass media channels must be aimed at formation of eco-friendly values, but not by means of alarmism, artificial pressure and hysterical mood which are all emphasizing on the inevitable tragic consequences and so quickly approaching global environmental catastrophe. All these instruments seem to have extremely low efficiency when it comes to Thai youth, since the fear of the inevitable blocks the brain from further perception of information and thus provokes a rather inadequate feedback reaction: the students do not attribute eco-friendly values, on the opposite, they become motivated to live "as this is your last day on this planet", "taking everything what is available today until it is available" etc.

As our research results clearly show, students are much more perceptive and have much more adequate reaction when seeing a parallel with their own lives and their place of residence (a small town, street with neighbors that you know and like etc.), when they see the familiarity with their own lifestyle (family values, work, way of life etc.). In this case, information is being "run through oneself" and the viewer sees the described situation through the prism of own values. And this can be really helpful in the process of new values

and future behavior formation.

The clipping nature of consciousness leads to lack of desire (and capacity) to see the longer term, to analyze complex phenomena in their development. And this clipping way of thinking (and living) is, sadly, one of the key features of younger generations. Therefore, formation of environmental consciousness must necessarily take this specificity into account. Thus, the very process of environmental consciousness formation must be also based on clipping technologies. A short clip (maximum 10 minutes) must contain the environmental information of maximum efficiency and persuasiveness. For this, the latest achievements in visualization, modelling, sound or even neuro-linguistic programming must be used for the sake of more efficiency perception of the presented information with the higher aim of environmental motivation formation (advertisement experience can be, most probably, used in this regard due to its already established efficiency in mass persuasiveness). The core specific feature of clips is that those may be repeated manifold (fully or in part) even within the same motion picture or TV programme. Moreover, these shorter clips can be easily transmitted via mobile devices. Even more, they are easily adaptable under specific linguistic or demographic requirements of a particular audience (for example, the dynamics of presentation may be changed, background music may be changed etc.).

Instruments of full immersion into environmental problems did not impress our respondents very much. Most probably, that happened due to lack of knowledge necessary for rather independent analysis of the described phenomena and processes (as required by the method itself). Technologies of immersion still can be used for environmental consciousness formation, but in case of younger generation – only in a very simplified manner (for example, when explaining, on very explicit examples, the interconnectedness of the processes in the Nature). Or on the opposite, immersion can be used by professionals only, provided there is preliminary detailed explanation or even a lecture so that to prepare the participants.

Emotional background is also an important element increasing the efficiency of environmental information perception. The carried out research demonstrated an interesting fact: natural beauties are losing their efficiency as an emotional background. This can be partially explained by the popularity of “postcard views” in mass media worldwide and also – by the fact that technologies similar to Photoshop are used too frequently today (thus, younger generations simply do not “buy” the natural beauty anymore).

Much more efficient emotional background for perceiving environmental information by the youth would lead to more engagement of the viewer into the problems “inside the motion picture” by means of empathy. Also, ironical/comic content can be helpful since it usually clears the air a bit and refocuses the attention, thus re-activating the thinking processes in viewers. Therefore, clips oriented on the formation of environmental consciousness must “localize” the environmental problems described, emphasizing the high probability of environmental problems happening tomorrow “at your own backyard”. In such a way, viewers’ empathy will be easily switched on. But – at the same time, comic elements and personal examples should not be fully forgotten, since those are helpful too. However, when using personal examples one should keep in mind that popularity in one country/region does not automatically mean recognizability in other countries (as it happened in our cases, actually). Thus, if a clip is referring to a personal example, the producer needs to make sure in advance that the celebrity is easily recognizable by a target audience.

Finally, we need to mention the key limitation of our research. All our conclusions and recommendations have been carried out on the basis of Thai students’ survey. Therefore, in order to get more universal conclusions and recommendations, this sample has to be indeed expanded – geographically, professionally and also in terms of demographic characteristics, such as age, income etc.

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