

THE POWER OF IMAGES IN ENVIRONMENTAL GOVERNANCE

- LITERATURE REVIEW -

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MEG2010

As Part of Module "Student Organized Event 2010"
April 2009

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INTRODUCTION

Image is a reflection of reality. Photography has long been developed, starting from complicated analog technique used only by professionals in the past to wide-spreading user-friendly digital mean nowadays. Nonetheless, ideas behind the scene do not differ. They are to capture the moment of real life. History of our life time has been kept in visual format in addition to words of mouth and script.

Combining with modern information technology, image plays an important role in communication. The use of images to convey a directive message has been well aware. The power of images is beyond our imagination. A study of Joffe (2008) in *The Power of Visual Material: Persuasion, Emotion and Identification* shows that visuals are used not only to illustrate news and feature genres but also in advertising and campaigns that attempt to persuade their target audiences to change attitudes and behaviors.

Not only used as a tool for mass mobilization, Thornes (2008) attempted to show that visual culture has potential importance to solve technical difficulties, such as in the field of cultural climatology. He finds that images and visualization help social and physical scientists to understand and communicate nature debates, as well as share their visual methodologies.

In connection to the subject of environmental governance, images are related to and influences different stakeholders. It has been used as a tool to raise awareness, alter public opinion, aid decision making process, and promote desirable environmental policy. There are a lot of successful stories and it would not be easy to present all the cases in one go. Examples from Myers (2006) in his article *The Psychology of Photographic Imagery in Communicating Conservation* demonstrates showcases of several American conservation victories (e.g. designation of Yellow Stone National

Park, Kings Canyon National Park, preservation of Bryce Canyon and so on), success in stopping a dam in Tasmania (Australia), and a win in Gabon to save the forest from logging industry.

This paper aims to review literatures relating to topic of "The Power of Images in Environmental Governance". The first part will give the impression of various literatures relating to studies on the power of images and demonstrates some empirical cases of influential images being used in different contexts around the world. The second part gives us more specific examination of how society communicates messages through images and their implications on environmental governance in various angles.

As there is limitation on availability of English materials at libraries of Freiburg University as well as my limited skills in German language, all of the literatures are obtained from the internet and in digital format. Some online articles and books are not fully accessible, therefore only abstracts are referred.

Studies on the Power of Images

Even though people are most likely to accept instantly that influential photographs have impact on our view, the questions of how it happens and to what extent those photographs affect human's mind are still awaiting answers.

According to Maxwell (2004), there are two broad theories on visual communication: sensual and perceptual. The sensual theories focus more on the physical response to and interpretation of visual stimuli. Perceptual theories focus on the deeper or complex meaning assigned to objects after all the sensual information has been incorporated. Sensual theories include gestalt theory, constructivism, and ecological theory, while perceptual theories include semiotics (study of signs) and cognitive theories (Maxwell, 2004).

Conveying message through an image claims to be successful and effective basically due to its ability to simplify the intended message into symbolic or iconic form (Leach, 1996; Lopes, 2005; Sun, 2006; Maxwell, 2004; Boholm, 1998), reduce complex set of issues (DeLuca, 1999) and make them easy to remember (Nicholson-Cole, no date). The pictorial images are also less prone to dualistic interpretation than scientific and theoretical argument (Cosgrove, 2008). Iconic photographs are easily bound into our mind as, according to a quote of Rick Williams in Maxwell (2004), they 'have the power to communicate instantaneously and profoundly to both the conscious and the unconscious, the Rational and Intuitive Intelligences. Thus, they leave lasting impressions that shape our lives on levels and to depths of which we are not always consciously aware'.

In spite of this, images and the real world sometimes are not associated in our mind. In Ivakhiv (2008)'s study on Green Film claims that, 'like photography, film represents features of the world to

us in ways that become independent from those features'. Lopes (2005) explains that, because image's operation is characterized by the ability to bring on the real without unraveling its representational structure, image is somehow able to remain outside reality.

Visual Interpretation

Each of us perceives and interprets the meaning of image differently. The effectiveness of visual representations as a stimulus for behavioral change depends on how people interpret them and respond (Nicholson-Cole, no date). Main argument is that, cognitions: a person's thoughts, knowledge of objects and contexts, beliefs, concepts, expectations, attitudes, goals, values, and so on, have strong influences on perception because they define meaning and they direct attention toward behaviorally relevant stimuli (Myers, 2006).

One empirical study on poster reading conducted by Sun (2006) clearly shows that people with relevant background knowledge can interpret correctly messages conveyed by presentational and metaphorical expression in the posters. Jasanoff (2001) adds that images become persuasive only when ways of looking at them have been carefully prepared in advance and their meanings are inseparable from the context that supplies the idioms of interpretation. The importance of this point will be shown and discussed in relation to the use of image as communication tool in later assigned topic.

Image or word?

Discussion on the power of images will not be completed if we ignore the power of other communication modes in combination and in comparison. The power of words to compel action has been a subject for philosophical and political analysis for a long time. In this mass visual communication era, the power of images may be no less profound, yet widely accepted by social

science experts (Jasanoff ,2001). Maxwell (2004) suggests that in combination with words, images may be most effective as they compliment and reinforce each other. To drive public sentiment, Dunaways (2005) noticed that activists paired images with texts to lead viewers to particular interpretation, and that Brooks (2007) decided to use photo captions in her research as to make sure that viewers are correctly perceive the intended message.

Study of Jenner (2005) gives us distinguished effects of using text and image. He indicates that text can influence opinions directly and indirectly, whereas photographic does only directly. Text drives public concern and on an individual level guides preferences for specific policy choices. Photographs, on the other hand, influence policymakers (Jenner, 2005).

In *Ecosee: Image, Rhetoric, Nature*, Dobrin (2009) notices powerful impacts of visual rhetoric, yet more verbal expression has been used in environmental communication. He discusses 'ecospeak' and 'ecosee' and focus his book in visual rhetoric involved in photographs, paintings, television and filmic images, video game, and other forms of image-based media. This newly released book focusing on the power of images signifies the increasing importance of the visual communication.

Nonetheless, a photograph also has its limitation to represent real world as it is static and two-dimensional. Mayer (2006) states that 'the [visual] experience, unless augmented, lacks other senses, time, action, and sequence. [I]n comparison to a concrete experience, or to a moving picture with replayed sound, or to a theatrical enactment, an animation or a virtual-reality set, a photograph seems less full and compelling'.

Cases of Powerful Images

There are countless examples of successful use of images in order to induce opinion and policy changes. Two example cases below show effectiveness of images used in national and international scopes. More cases regarding environmental conservation, environmentalism and environmental governance will be discussed in the part that related to images implications in environmental governance.

Fulwider et al. (2007) demonstrates the effect of shockingly abusive photographs released from Iraq's Abu Ghraib famous prison. The images have changed public opinion of Americans on Iraq war and raised questions towards U.S. government regarding the practice of tortures in that prison and elsewhere. After viewing those images, he interviewed student viewers for their opinion on treatment to prisoners in general. Preliminary result (as the study is still on going) shows that images of explicit cruelty have driven their opinions towards disagreement of all kind of tortures, including the 'soft' ones.

In Canada, graphic warning label on cigarette packs has elicited strong emotional reaction, according to Slovic (2005). Consistent with the affect heuristic, stronger reactions were associated with more attempts to quit or decrease smoking. Affectively salient anti-tobacco advertisements and warning labels also may discourage initiation. This analysis suggests the need to ban pro-tobacco advertising and promotion.

Environmental Communication

According to OECD (1999), Environmental Communication is 'the planned and strategic use of communication processes and media products to support effective policy-making, public participation and project implementation geared towards environmental sustainability'. The working paper guides how to effectively communicate environmental issues by applying the right tools. It suggests appropriate selections and mixes of media to reach cost-efficiency, as well as recommending that different media and channels actually compliment each other and no single tool that fits all.

The statement is reinforced by FAO (2003) to the point that no uniform formula exists in natural resources management. Instead, successes are usually reached as a result of active participation of stakeholders. However, communication tools of modern society provide us better channels of communicating. The paper discusses the role of new media and recognizes that they can offer cheaper and more accessible communications, as well as provide increased opportunities for horizontal forms of dialogue and information sharing.

Meanwhile, Santi and Grenna (2003) have pointed out the importance of environmental communications analysis framework to address environmental governance issues and how to collect the preliminary information towards the development of a communication strategy. The key for accomplishment of governance is participation of state agencies and society groups due to their interdependency. Santi and Grenna (2003) also demonstrate the most effective channels of communications to reach the various groups. It suggests media products that support effective policy making, public participation and project implementation geared towards environmental sustainability.

The details in persuasive tactics and appeals in environmental discourse can be found in the book of Muir and Venendal (1996) which focuses on communication ways to contribute to political mobilization and empowerment of citizen to act on environmental issues.

Image as Communication and Educational Tools

Environmental problems are relatively complex and sometimes difficult to communicate to public. It is argued that visual images in the media, particularly photos, convey forceful symbolical messages. Visual images as a tool for communicating complex environmental issues have been somehow used effectively. For example, Al Gore has used a lot of pictures in his documentary film in order to visualize the effects of climate change before millions of audiences and, in my opinion, it splendidly works.

In UK, Nicholson-Cole (no date) believes that there are still a lot of people who do not understand climate change. She tried to develop the use of image for visual communication as it simplified the science and found that visual communication has potential to encapsulate abstract ideas and may carry great affective resonance. Consequently, visualizations of climate change have potential as a medium for communicating messages that aim to influence people's behavioral intentions. Another study on visualizing climate change, Sheppard (2005) gives an insight that the persuasive use of visualizations on sustainability issues, together with other tools and approaches, could be effective, is justified, and may indeed be vital in helping to communicate the issue effectively.

Lopes (2005) noticed that environmental effects with multiple ecological implications produce too little resonance if they are not coded televisually and because we have no intuitive experience of the effects of environmental problems, we are dependent upon *schemata* that metaphorically correlate ecological effects to recognizable actions. Boholm (1998), in his research *Visual Images and Risk*

Messages: Commemorating Chernobyl, also claims that the potential of visual images to communicate emotive and intuitive knowledge, imbuing it with veracity and permitting projection of identification, makes them an effective medium for social constructions of messages about risks.

In relation to educational tool, Ewing and Douguet (2007) shows the importance of cognitivist learning approach and appropriate learning environments which is the belief in 'systems'. He explained that current understanding of systems as a part of human learning interprets that a learner has a structure of concepts, beliefs and understandings which collectively function as a framework to permit the exploration of new ideas and difficult concepts. Various terms have been suggested to help the visualization and organization of these systems, such as 'concept maps', 'mental maps', and 'conceptual neighborhoods'.

In case of television usage as educational medium, Doris (1990) indicates that viewers gain greater information when unusual sights are presented and there are pictures of people that provide viewers with information they can use to develop reactions to the people in the picture.

An interesting point is that, there is a tendency in journalism to use negative and dramatic images in news in general in order to generate crisis with respect to environmental issues (Leach, 1996). Environmental communications have often employed shocking, fear-provoking or other disturbing imagery in an attempt to spark concern (Myers, 2006). There are four kinds of psychological arousal effected attached to images used in directive environmental communication, explained by Myers (2006), namely shock-value arousal, threatening imagery, disturbing imagery, and empathy or scope of justice.

Kellen (2005) mentioned that story telling may have a role to play in information visualization and decision making. Technology can combine film, television, radio, the internet and vast quantities of data transformed into easily understood images to a mass commercial audience. If human visualization processing is a foundation for higher-order cognitive processes, according to Kellen (2005), it could follow that representing problems visually would engage different cognitive mechanisms and thereby lead to different decision processes and decision outcomes.

With the aim to maximize image usage to successful communication, it relies on several factors, not just image selection. One important matter is that context in which images are to be used must be carefully studied (Myers, 2006). Myers analyzes that, for any given issue, an empirical analysis of the social and political forces involved is necessary in order to determine which audiences can play which influential roles in the outcome. With his focus on conservation communication, he emphasizes that campaign should be based on a critical analysis of its historical and social-political context, as well as of individual factors. This analysis is in harmony with theories on visual communication in the work of Maxwell (2004) which already mentioned in the first part of this paper.

Environmental Implications of Image Use

Picture of the blue planet taken from *Apollo 17* has retained a connection with the theme of environmental stewardship, which the concept has been transforming into the perspective of global common protection (Jasanoff, 2001). Lopes (2005) overly claims that the global environmental agreement Agenda 21 created in Rio was the outcome of the power of that Earth image.

Campaigns of Greenpeace, Earth First!, Kentuckians for the Commonwealth (KFTC) and Allegany County Non-Violence Action Group (ACNag) using tactic of image events as primary rhetorical

activities, exposing dramatic photographs of their confrontational direct actions have pioneered environmental movement to popularity (DeLuca, 1999).

The study of Kawashima (2005) on the imagined whale shows that the use of images has discoured people's perception over time. In the past, whale was perceived as monster that people killed for oil and meat. Since 1970s, the stunning images of Greenpeace actions against whaling, more photos of peaceful whales in mass media, and the film *Flipper* and *Free Willy* help shaping public opinion to adoring this gigantic mammal in the present (Kawashima, 2005).

The motivation message sending behind the images are usually noticed. People might have good intention to make our world a better place to live but their actions are still missing. Nicholson-Cole (no date) notices that her interviewees expressed themselves good will but don't actually do anything. However, she argues that 'in fact this is a reason to pursue this avenue of research because by learning to modify people's attitudinal dispositions toward climate change, people might become more receptive and willing to accept policy changes that induce individual-level behavioral change. Secondly, if this approach does stimulate gradual attitude change, it may enhance the perceived legitimacy of climate change policy measures and increase the likelihood that behavioral change will result'.

According to the interview of Gerd Leipold, Greenpeace International's executive director, by Hornby (2008), he said that the world's awareness is improving. 'But consciousness doesn't necessarily mean change. We have the awareness, but it doesn't mean we behave more as green, sustainable societies'. He added that environmental groups still have a lot of work to do to turn concerns and words into action.

As demonstrated in the earlier part that image does not show or represent the whole story. It capture only a moment in real life. An important issue that I want to point out here is the ethic of image use. As a result of Maxwell (2004)'s study, he has concluded that journalists have a great deal to gain by the ethical use of photography to advocate for the conservation of the natural environment. He adds that 'as journalists we are ethically bound not only to present photographs honestly, but to help others understand the impact images have upon them'.

I have noticed that the environmental implications of image use play roles on changing public opinion, aiding decision making, and guiding environmental policy. There are also other implications worth noticing in relation to environmental governance. For example, images can be used in education as it helps forming environmental concept (Bergmann, 1997).

Leach (1996) mentioned the use of aerial and satellite photographs as historical data for the use of detecting and analyzing environmental changes in the future. Along the same line of learning from the past, but in different aspect, Brooks (2007) states that photographs can be used to represent and preserve national history and identity. She mentioned that photographic documentation of our natural environment is important. Photographs preserve images of natural phenomena which many may not otherwise have the opportunity to see.

CONCLUSION

From selected literatures demonstrated above, it is hard to refuse that image has a lot of persuasive power. Those are just small examples of the powerful images that play roles in environmental governance. Its implications depend very much on the way we utilized them. The selection of communication mediums and channels in governing the environment depends very much on the objectives, characteristics of stakeholders, availability of options and situation.

From my observation, the use of image has impacts mainly on the society in term of public opinion and changing in environmental policy. I do not find a study or literature on its impact on business sector. However, this does not mean that the power of images has no roles in this particular sector. They actually do, as I reckon, in form of corporate social responsibility or green initiatives for instance.

There are still many aspects for future research in relation to the power of images in environmental governance. I hope that people will only use images for good will and help create pleasant environment as in the end it is us and our future generations who still have to depend on our surrounding nature.

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