



## THE POWER OF IMAGES IN ENVIRONMENTAL GOVERNANCE

### *Communicating Through Photographs to Create Environmental Awareness and Influence Behavior Change*



Background Paper by

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## **Abstract**

Images and in this case photographs are powerful tools which can be used to raise awareness about the environment; the problems and the solutions. They can also be used to engage actively with the public through competitions and on online portals. Notably, it is crucial to understand how human beings interpret messages and in so doing, design effective communication campaigns. This literature review paper attempts to address these issues and to show that though useful, photographs can also be misused and manipulated towards different ends.

Resources about communication using images (photography) provided much information for this study as did resources about environmental governance. However, few addressed both subjects as one entity. During the literature review process I realised that photographs are used widely in communicating about the environment, this is especially so in websites, blogs, popular media and in different types of publications.

*Key words: images, photography, environment, interpretation, behaviour*

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## **Introduction**

### **The power of images**

The root of and the solution of environmental challenges is human behaviours. Ultimately it is behaviour that drives environmental action. The difference between environmental projects that work and those that do not, is knowing why people act the way they do, what factors cause them to do so and what changes can be made to enable people adapt more environmental friendly behaviours (Rice and Atkin 2000).

These issues can be addressed through a comprehensive communication strategy. The impact of a communication campaign is usually measured by the extent to which it produces change on the explicit attitudes and behaviour (Rice and Atkin 2000).

One of the key aspects of communication is images. Images may transcend cultural lines in ways that words cannot, thereby helping to create communities of meaning and shared responses or demands that cut across ordinary linguistic and governmental divides (Jasanoff, 2001).

There is a growing interest in the social sciences in the power of visual representation to sway both belief and action (Scott, 1998). The power of words to compel action has been a subject for philosophical and political analysis from Plato down to modern times. The power of images may be no less profound, especially in this era of mass visual communication, but it has yet to receive the same sustained scrutiny from social theorists (Jasanoff, 2001).

Sight moreover, like any sense, is now seen as something that has to be manipulated and disciplined in order for people in the aggregate to see things in the same ways (Jasanoff, 2001). The politics involved in constructing common vision has accordingly begun to draw attention.

### **Zeroing in on Photography**

The popular adage, 'a picture speaks a thousand words' was first used by Confucius back in 500 B.C. The quickly growing popularity of photography since its invention in 1839 helped to support this statement. As we approach the 21<sup>st</sup> century, Confucius's words ring truer than ever: one photograph can tell the story of an entire event (DeSimine, 1999, Ishii, 2007). Photographs were used to bring the world to the people soon after their invention (Mendelson, 1999).

In his chapter, *the Effects of Pictures on the Attribution of Homelessness*, Andrew Mendelson states that, pictures could be used to document social ills in order to bring about social change. He gives an example of Mary Ellen Mark's pictures of a homeless family which brought in ten thousand dollars (Goldberg, 1991). The purpose of such photography is to bring attention to these problems and hopefully bring about a change to these conditions at the social level (Min 1999, Wright 1999). This is based on the notion that pictures are powerful enough to influence human behaviour.

However, to tell the right story, the right photograph must be used in the right way. Notably while the right picture can enhance the impact of a message, the wrong photograph can lead to misinterpretation or confusion.

This notion is supported by Belt (2008) in her quote from the Icons of photography:

*'Like all art, photography creates its own reality. And the best photos are not those which succinctly record what has been seen, but those which understand how to structure this according to rules and are specific to the genre'*

Photographs provide visual representations without requiring structured syntactic language skills. They facilitate another means of communication in addition to the traditional oral and written communication approaches, especially for children and young people in the process of cognitive development (Ishii, 2007).

Since the photography field has matured, it is worthwhile to explore its potential as a communication tool; in terms of how environmental practitioners and policy makers can communicate visually using photographs.

## **Photography and the Environment**

### **Viewing Planet Earth - Formation of Environmental Discourse**

In her chapter on global environmental risks, framing risks globally, Jasanoff (2001) attempts to trace the complex pathways by which one image, that of planet earth, has come to inhabit our political consciousness as an icon of global environmentalism (Miller and Edwards, 2001).

That the earth image impels many observers to 'think globally' has been apparent ever since the early satellite launches (Jasanoff, 2001).

**Figure 1: Planet Earth -Apollo 17 crew and NASA**



The picture of the earth hanging in space not only renders visible and immediate the object of environmentalists concern, but it resonates with the themes of finiteness and fragility and of human dependence on the biosphere, that have provided growing impetus for environmental mobilisation since the 1960s (Jasanoff,

2001; Gardner and Stern,1996)

It is as well a deeply political image, subverting as it does the notional boundaries of sovereign power in favour of swirling cloud that do not respect the lens configured by human conquest or legislation (Jasanoff, 2001).

However, Jasanoff (2001) points out that global environmental consciousness did not coalesce all at once in response to a striking visual stimuli, but took shape gradually in diverse domains of social and political practice during the final decades of the 20<sup>th</sup> century. This is further exemplified by Steffen (2005) who states that, one of the major developments leading to the perceptions of the earth system is the view of the earth from a spaceship, a blue-green sphere floating in blackness, triggers emotional feelings of a home teeming with life set in a lifeless void, as well as more analytical perceptions of a materially limited and self contained entity.

Strands of increasing global awareness can be traced in the discourses of risks, politics, commerce and ethics. In each context, we observe a selective uptake of themes prevalent in older narratives of earthwatching but reinforced and given new persuasive power through association with the apollo photographs (Jasanoff, 2001).

Regarding the earth image, Gardner, T and Stern, P (1996) stated the following, from these and other photos taken from space it was clear as never before that our planet was a very small, beautiful island in a vast sea of stars. Our planet was our only home. It was alone in an otherwise lifeless solar system, or perhaps even lifeless universe. We came to understand more vividly than ever before our dependance on the earth's natural systems and the critical importance of protecting them.

Dunlop (cited in Gardner and Stern, 1996) points out that public concern about environmental problems measured in public opinion surveys, surged dramatically in the late 1960s and early 1970s. This sharp increase had several causes: Continuing reports by scientists about new pollution problems, extensive media coverage of these reports, and media publication of the space-based photos of Earth.

### **Using vivid and concrete images to heighten people's estimates of risks and to spur protective actions**

In his classical article on denial, Garret Hardin ( as cited in Gardner, T and Stern, P 1996) proposed the use of vivid and sensational images of environmental damage to overcome



any tendency people might have to deny environmental problems they haven't personally witnessed; in other words these images might unshackle the 'prisoner of experience.' Specifically, Hardin suggested that the public and policy makers be shown graphic scenes from other places or other times in history that depict the bad things that happen when humans damage the environment.

People who view these images would find environmental threats more 'available' and would be more likely to take the right protective actions. For example, people could be shown, using photos and drawings, that large areas in the Middle East were once thickly forested but were turned into deserts because inhabitants over harvested the trees.

As another example people could be shown the ruins of both Mayan and Mesopotamian civilisations along with graphic depictions of how these civilisations (probably) perished due to rapid population growth and the use of unsustainable agricultural practices.

Hardin's idea of using vivid images to 'unshackle the prisoner of experience' has a great deal of intuitive appeal. Unfortunately, considerable research evidence indicates that the method used on its own doesn't work (Gardner and Stern, 1996). The method presumes that there is scientific consensus about the severity and imminence of the environmental threats involved. It also assumes that there is valid evidence of significant public underreaction. In addition the method assumes an agreement by the public about the acceptability of educational or 'propaganda' campaigns by governments to boost people's concern and actions (Gardner and Stern, 1996).

This notwithstanding, images have and are being used to raise awareness about environmental issues and to garner support from the public. Pralle (2006) writes that,

environmental groups such as Friends of Clayoquot Sound (FOCS), Western Canada Wilderness Committee (WCWC) and Greenpeace provided the public with visual images of the rain forest through out the campaign to protect Clayoquot Sound. This is an indication of their belief in the power of visual images to shape the public's understanding of the conflict (Pralle 2006).

Valerie Langer of FOCS claimed that visual images of the rain forests were a key factor in garnering both domestic and international support. She and photographer Garth Lenz produced a slide show featuring Lenz's photographs of Clayoquot Sound; in 1993 and 1994 they toured Canada and Europe presenting the slides to interested audiences, key international environmental groups, and even the European parliament. According to Langer, "We really worked on our presentation to make it beautifully, visually stunning, and we had text that went along with the images that was emotional while incorporating key facts (Pralle 2006).

On choice of images, Langer pointed out that images of intact rainforests were more effective in gaining the attention and support of the Canadian public than were images of clear cuts, which made Canadians "shut down" and feel guilty. Images of clearcuts and associations with rain forest destruction were nevertheless effective in getting the attention of government and industry officials (Pralle 2006).

Presently, photographs have continued to gain momentum in the environmental sector and are being used in various ways. Examples include:

### **1. Community projects**

An example of such projects is titled Environmental awareness through photography ran by, a professional photographer known as Lise Winters, in conjunction with Arte Accion Copan Ruines in 2005. In this project, different groups of children learned the basics of photography and the role that their environment plays in their life (<http://www.lisewinters.com/community.htm>). They also learnt how to use photographs to pass on messages.

### **2. Environmental Photography Competitions and Awards**

In recognition of the global role that forests play in addressing climate change related issues, the Sony World Photography Awards in 2007 set up the Prince's Rainforests Project category. This category was set up by the HRH the Prince of Wales on the basis that there is increasing awareness of the need to protect the world's rainforests, its resources and the people who rely on the forests.

The winner of the award on 16<sup>th</sup> April 2009 was Daniel Beltra who currently does projects with Greenpeace His photographs have been used in advocacy and lobbying campaigns organised by Greenpeace to protect natural resources ([www.greenpeaceafrica.org](http://www.greenpeaceafrica.org))..

The aim of Environmental Photography competitions is to encourage participants to pay a closer look at their environment through the lens. The great thing about these

competitions is that they can be centered on different themes. For instance in Dubai, a competition centered on the energy sector was held early this year (<http://www.ameinfo.com/166691.html>).

The University of Queensland is currently running a competition on global awareness (<http://www.uq.edu.au/news/index.html?article=17538>)

### **3. Online Awareness Campaigns**

To mark the recent 20<sup>th</sup> anniversary of the Exxon Valdez disaster, Discover magazine's website has put together a heart rending gallery of photos, titled "Man's Greatest Crimes against the Earth" (<http://discovermagazine.com/photos/9-of-the-saddest-pictures-on-the-planet>).

**Figure 2: Bushmeat- slaughtered gorillas in Southeast Cameroon**



Figure 2 above by Karl Ammann shows a gorilla family in Southeast Cameroon slaughtered in their nests by a bushmeat hunter. The aim of this photograph is to show the bushmeat problem and is a call for action to protect gorillas.

#### **4. Publications and Reports**

For instance in *One Planet, Many people: Atlas of our changing environment*, a combination of ground photographs, current and historical, satellite images and narratives based on extensive scientific research evidence illustrate how humans have altered their surroundings and continue to make observable and measurable changes to the global environment.

#### **Visual Communication**

While discussing how people perceive and interpret images on the safety manual on aeroplanes, Gombrich (1999) had this to say, “in any case, few would doubt that the understanding of images, whether still or moving, is vastly facilitated by the addition of verbal explanations” (Gombrich, 1999). So even though pictures can tell a story, it is more effective to include a caption to support the image. It is important to combine images with text to tell ‘valid stories.’

Visual images demand verbal explanation (Schroeder 2002). Leppert (as cited in Schroeder 2002) proclaims that *‘despite our resistance and growing cynicism, we remain to one degree or another caught in the light of what we see- what we are shown. Images show us a world but not the world (.....) when we look at images, whether photographs, films or paintings, what we see is the product of human consciousness, itself part and parcel of culture and history.’*

People see images differently and people prefer different images. This is important to consider when using photographs to pass a message. Furthermore, people are different

and different people see the same image differently, even if their visual abilities are the same. Photographs, for example, may contain so many details that it is very unlikely that two persons notice the same details; and what you look at may determine what you really see, irrespective of what the image was intended to show

(<http://www.cs.tut.fi/~jkorpela/images.html>).

### **Photography and propaganda**

Strauss (2003), states that the medium of photography has had to struggle with the question of ‘objectivity.’ There is no objectivity in photography in political terms. There are only choices, based on one’s point of view. He adds that photographers are keener in the more dramatic symptoms of the problem rather than the cause of the problem.

As Brecht (in Strauss 2003:15) wrote:

*‘The tremendous development of photojournalism has contributed practically nothing to the revelation of the truth about the conditions of this world. On the contrary, photography, in the hands of the bourgeoisie, has become a terrible weapon against the truth.....the camera is just as capable of lying as the typewriter.’*

In theory, photographs are used to back up or ‘prove’ contentions made in the article. They are visual evidence, the facts in the matter. In actuality they needn’t perform that role. They only need to appear, to give the appearance of evidence. Beyond this they can do anything. Their factualness is never questioned (Strauss 2003).

John Berger says that ‘a photograph is a meeting place where the interests of the photographer, the photographed, the viewer and those who are using the photographs are

often contradictory. These contradictions both hide and increase the natural ambiguity of the photographic image.’ Sometimes a photograph doesn’t need to prove anything on its own; it corroborates and confirms what we already know.

### **Photography and Belief**

‘Seeing is believing.’ It’s been that way from the beginning, long before Messrs. Niepce and Daguerre changed the technology of seeing by inventing photography (Strauss, 2003). However, the technology of seeing is changing again, with rapid advances in electronic imaging technologies that allow one to alter or ‘make up’ photographs at will. Some say these new technologies are causing a tremendous crisis of believability in photography (Strauss, 2003).

In his book, *in our own image: the coming revolution in photography, how computer technology is changing our view of the world*, Fred Ritchin raises a cry of alarm. In the preface to his book, he states that ‘in appreciation of the important historical juncture at which we stand, just before the widespread adoption of electronic technology, out of a sense that we must try to take some responsibility for the future of the immensely popular and *still believable* medium of photography’ (Strauss, 2003).

People use photographs to construct identities, investing them with ‘believability.’ Of course advertisers and news picture editors do the same thing, mimicking the private use of photographs in order to manufacture desire for products and manufacture public consent. This has caused a great deal of confusion. The 1<sup>st</sup> question must always be: who

is using this photograph and to what end? (Strauss, 2003). Pictures are very important because people believe photographs, and the picture can be a lie, but that person will look at it and it's real (Adams, 2009). Lasica (1989) cited by Trihol points out that "people believe in news photography. They have more inherent trust in what they see than in what they read" (Trihol, 2000).

In the field of advertising, photographs can be manipulated in varied ways to create universally accessible visual counterpoint to messages of persuasion and seduction (Jasanoff, 2001)

### **Interpreting Visual Images: Process and Hypothesis**

Jones (2001), states that, in order for an individual to interpret the message from a photograph, the brain combines information from the eyes with data from other senses and draws on past experience in order to have a workable image of the world. This is part of information processing.

If people were completely rational, they would act on relevant information from the environment and incorporate it into their decisions in a seamless fashion. The human mind, however, will not allow the seamless translation of information into decision. Humans do not take action in direct proportion to incoming information. They distort it. This distortion stems from the manner in which the mind operates (Jones, 2001).

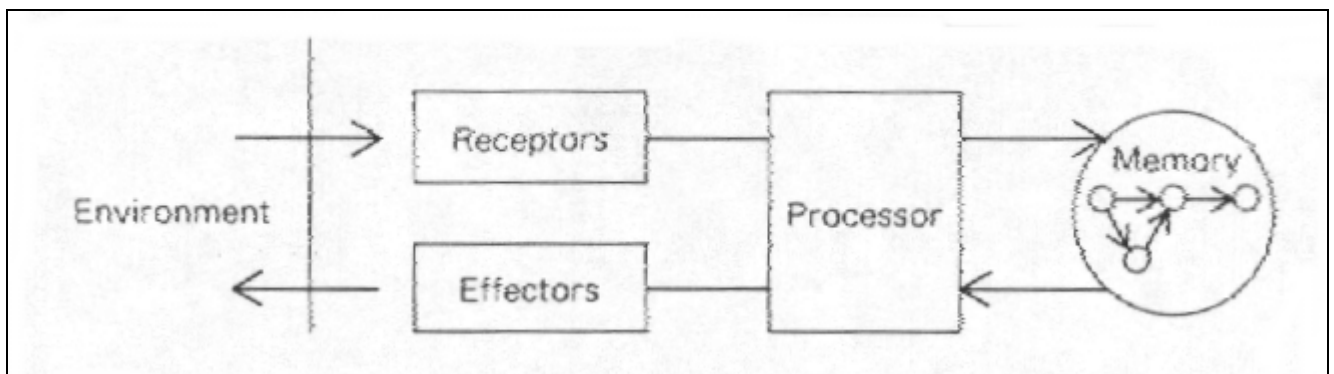
Our brains operate on stimuli coming from the environment. Both perceptual and cognitive processes are involved. Our sense processes transform stimuli from what we know, thanks to scientific theory, to be objective. A second order transformation occurs



when we think consciously about the (now transformed) stimuli that we receive from the environment.

Allen Newell and Herbert Simon (1972) brought the information processing approach into psychology in the 1960s, integrating their concerns with artificial intelligence and human problem solving. In their approach, information processing was critical to understanding human problem solving behavior. For them, information processing critically involved symbol manipulation, this was the key concept linking artificial and human thought patterns.

**Figure 3: the Newell-Simon Model of humans as information processors**



An Information Processing System (IPS) as illustrated above, consists of ‘receptors’ that receive inputs from the environment, a ‘symbol structure’ consisting of ‘tokens’ or symbols and relationships between the symbols, a ‘memory’ or storage capacity, a ‘processor’ with limited short term memory that manipulates the symbols and ‘effectors’ that act on the environment as a result of the symbol manipulation. Newells and Simon’s IPS models key human elements of human thought, and raise in particular the issues of interpretation or translation of inputs into symbols, and of serial processing.

## **The Biophilia Hypothesis**

Biologists Rene Dobus, Hugh Iltis, Orie Loucks and Peter Andrews (as cited in Gardner and Stern, 1996) have argued that humans have innate need to be near plants, animals and other natural stimuli. These scholars claim that if humans are deprived of these stimuli, their emotional health may be impaired. This has come to be known as the biophilia hypothesis. This hypothesis holds that humans have a genetic evolution-based need for deep and intimate association with the natural environment, particularly its living biota for maintainance of physical health and personal fulfillment (Gardner and Stern, 1996).

Laboratory studies of people's aesthetic preference for different environments in photos conclude that people have a strong preference for photographs of outdoor natural scenes over photos of urban scenes devoid of foliage and other natural features (Gardner and Stern, 1996). The authors further add that, this phenomenon is so strong that even mundane natural scenes are judged more beautiful than spectacular urban scenes (i.e scenes with striking architecture).

This hypothesis can also be linked with topophilia, the love of place. This is an aspect of cognitive imagery which is of special importance in modyfing people's behaviour: the sentimental and symbolic attributes ascribed to places. Through their daily lives and the cumulative affects of cultural influences and significant personal events, people build up effective bonds with places (Knox and Marston, 2004). These aspects of human nature can therefore be targeted when using photographs to create awareness.

## **Conclusion**

The literature reviewed clearly shows images are powerful in communicating to the public. However, there is great concern in the ability to manipulate images (photos) in order to tell a story. While it can be argued that the end justifies the means, this should not be an excuse to lie to the public. The messenger should try as much as possible to be credible at all times, this ensures the confidence of the public.

With the current developments in the field of technology, especially communication technology, there are now great opportunities for environmental managers and practitioners to explore to enhance public awareness and influence behaviour. There are also more possibilities to combine various tools to engage with the public. However, this also opens up new fields of research to fill the gap in literature on how photographs can be used to raise environmental awareness and influence human behaviour.

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The Newell- Simon Model of humans as information processors

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