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# Greenpeace cyberadvocacy: message strategies and the framing of the "say no to genetic engineering" campaign

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**Greenpeace cyberadvocacy: Message strategies and the framing of the “say no to genetic engineering” campaign**

by

**Avril Adrienne B. de Guzman**

A thesis submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of  
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2008

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## TABLE OF CONTENTS

LIST OF FIGURES	iv
LIST OF TABLES	v
ABSTRACT	vi
CHAPTER 1. INTRODUCTION AND STATEMENT OF THE PROBLEM	1
Problem Statement	2
Study Purpose	5
CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK	7
Public Communication Campaigns	7
Campaign Objectives	8
Types of Arguments Used	9
Message Appeals	11
Proportion of Text to Visuals in the Coverage	12
The Campaign Source and the Channel	13
The Source	13
The Channel	15
Framing Theory	18
Framing the “Say No to Genetic Engineering” Messages	19
Developed and Developing Country Websites: A Comparison	21
Research Questions	24
CHAPTER 3. METHODOLOGY	25
The Study Design	25
Examining Message Characteristics: Analyzing the Campaign Homepage	26
Examining Frames: Analyzing Developed and Developing Country Webpages	30
Intercoder Reliability	34
Data Analysis	35

CHAPTER 4. RESULTS AND DISCUSSION	36
Message Characteristics	36
Objectives	38
Arguments	40
Appeals Used	41
Proportion of Text to Visuals	43
Message Frames	44
Patterns of News Coverage	44
The Frames	46
The Sources	52
CHAPTER 5. IMPLICATIONS AND CONCLUSIONS	56
Limitations and Suggestions for Future Study	62
REFERENCES	64
APPENDIX A. CODING INSTRUCTIONS FOR MESSAGE CHARACTERISTICS	69
APPENDIX B. CODE SHEET FOR MESSAGE CHARACTERISTICS	73
APPENDIX C. CODING INSTRUCTIONS FOR FRAMES	75
APPENDIX D. CODE SHEET FOR FRAMES	81
ACKNOWLEDGEMENTS	85
VITA	86

## LIST OF FIGURES

Figure 1	Basic layout of the Greenpeace main website	27
Figure 2	Basic layout of Greenpeace International's "Say no to genetic engineering" website	38
Figure 3	Percentage of argument types used in Greenpeace International's GE site	41
Figure 4	Percentage of appeal types used in Greenpeace International's GE site	42
Figure 5	Percentage of news stories and press releases by country	45
Figure 6	GE news and press release coverage in the Australian and Philippine websites	45
Figure 7	Number of frames used in the Australian and Philippine GE coverage	47
Figure 8	Dominant frames identified in the GE coverage in both countries	48
Figure 9	Incidence of dominant frames identified in Australian GE coverage	49
Figure 10	Incidence of dominant frames identified in Philippine GE coverage	50
Figure 11	Frames applied in the Australian and Philippine GE coverage	50
Figure 12	Percentage of types of sources cited in the Australian and Philippine articles	54

## LIST OF TABLES

Table 1	Message characteristics and Greenpeace GE publics	13
Table 2	Summary of the intercoder reliability tests	35
Table 3	Hierarchy of Greenpeace anti-GE webpages	37
Table 4	Greenpeace GE message characteristics and target publics	44
Table 5	Independent samples t-test showing significant difference in number of frames used in the websites of the two countries	48
Table 6	Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the dominant frame applied in a story	51
Table 7	Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the use of individual frames	52
Table 8	Independent samples t-test showing significant difference between Australian and Philippine coverage in terms of the number of sources used	53
Table 9	Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the first source cited	54

**ABSTRACT**

This study focuses on Greenpeace International's cyberadvocacy against genetic engineering (GE), an issue that threatens to remain contentious for a long time to come. How GE was framed by Greenpeace in two countries with different policy stances toward GE – Australia (which is precautionary) and Philippines (which is generally permissive) – was also compared. Content analysis was used to examine four message characteristics (objectives, arguments, appeals and proportion of text to visuals) of Greenpeace's anti-GE website and the framing of genetic engineering in news articles and press releases published in websites dedicated to the two countries.

It was found that most of Greenpeace's website pages were meant to create awareness and encourage information seeking among its identified target audiences. Logos argumentation was employed by citing statistics and using logical reasoning. For the most part, the pages highlighted the risks of genetic engineering by means of negative appeals. Nearly all pages allocated one visual per article. Considering these message characteristics, it can be inferred that Greenpeace International targets its GE messages toward latent and aware publics, and applied message strategies pertinent to these audience segments.

A content analysis of websites dedicated to Australia and the Philippines showed spikes in news items published that preceded the approval of the commercial release of genetically modified crops: GE canola in Australia (2003), Bt corn (2002) and Bayer rice (2007) in the Philippines. In both countries, biotechnology policy was the most dominant frame that structured the articles, however, a closer examination of the frames showed the use of specific generic frames culled from GE literature, suggesting that Greenpeace does not blindly employ a hodgepodge of frames. It latches on to a few and exploits these frames to explain its advocated position. The Philippines also used significantly more frames and sources in longer articles with Greenpeace representatives or spokespersons cited first.



## CHAPTER 1

### INTRODUCTION AND

### STATEMENT OF THE PROBLEM

Greenpeace, an international non-profit environmental organization with a presence in 40 countries across Europe, the Americas, Asia and the Pacific, is known worldwide for its advocacy work of which communication campaigns are an integral component. Indeed, it has demonstrated the power of its advocacy for environmental protection issues in the local and international arena. In many instances, it has shown its ability to use the media to overcome corporate and government resistance. For example, during the Brent Spar controversy in 1995, it launched a campaign that forced the giant energy company Shell to postpone a planned deep-water disposal of its oil storage tanks (Bakir, 2006).

Anderson (1997), who analyzed Greenpeace's sophisticated media strategy during the Brent Spar affair, observes that the communication campaign "was based around dramatic news footage, beamed via satellite to television stations around Europe" (p.11). "During the Brent Spar battle, Greenpeace supplied video news releases to organizations in a form that accorded with their tight time scales and demands for newsworthy material" (p.12). Along with the use of global communication technology, Greenpeace also succeeded in defining the Brent Spar issue on its terms by selectively gathering and disseminating facts to the media, and through testimonies at hearings, conferences and international meetings (Eyerman and Jamison, 1991).

Increasingly, "cyberadvocacy" or online activism is becoming an important aspect of the Greenpeace communication strategy aside from the organization's deft use of newspapers, television and other channels to reach numerous audience segments. The new

electronic media, seemingly free from geographic constraints in terms of scope and reach, and independent of media ownership interests, are able to open to vast audiences topics that may otherwise have been sanctioned by traditional media gatekeepers.

For example, when president George W. Bush withdrew the United States from the Kyoto Protocol discussions, Greenpeace launched a campaign to pressure the 100 largest US companies to support the protocols (Greenpeace USA website, n.d.). Greenpeace scored such a success through a large-scale and ambitious campaign it launched through the Internet.

Many non-government organizations (NGOs) are skilled in “manipulating symbols and grabbing media attention” thereby “moving issues up on the official policy agendas and tilting public opinion in favor of precautionary environmental action” (Jasanoff, 1997, p. 583). This study examines how a well-established advocacy group campaigns for its causes online and in so doing captures newspaper headlines and front pages.

### **Problem Statement**

Campaigning is not a new phenomenon; it has been around for centuries. An unstated objective of campaigns is for a group to claim legitimacy for its cause and deny this legitimacy to the prevailing powers or to groups with opposing positions. In the area of environmental advocacy, Greenpeace is one of the best known in modern times. Leipold (2000) says that a good campaign organization must be interactive, able to create an agenda, and also to jump onto one. It also spends a major proportion of its resources on communication as a core activity and not just as a supporting tool. Because campaigning is a dialectical process, campaign organizations tend to be confrontational and thus attract confrontational people. Campaign organizations have to be opportunistic, not in terms of their beliefs and values, but in terms of reaching audiences. They derive their legitimacy

from the popular support they enjoy and from the quality of information they provide. In a campaign—especially if it is directed at the general public—tactics are as important as strategy, a characteristic which campaigning shares with politics (Leipold, 2000). It is therefore worth examining how successful organizations go about designing and implementing such campaigns.

Giant agricultural firms, such as Monsanto and Syngenta and the non-profit Council on Biotechnology Information have hailed the use of agricultural biotechnology to lower food costs worldwide and improve environmental quality while decreasing pesticide requirements (Hoban, 2004). Their claims, however, were met with strong resistance particularly from international environmental NGOs such as Greenpeace that have voiced their opposition through websites, press releases, and public demonstrations. Genetically engineered (GE) crops, according to those who oppose them, pose risks to human health, the environment, and biodiversity. They champion product labeling, arguing that consumers have the right to know whether the products they buy have genetically modified ingredients. They also warn that the new technology benefits only large multinational corporations that stand more to gain by holding monopolies on GE crop patents (Greenpeace International, 2006). Clearly, in the genetic engineering issue, Greenpeace has found another niche in which to showcase its flair for attention-grabbing campaigns.

Greenpeace International is worth studying because the organization has become a force to contend with in public debates about controversial environmental issues other than genetic engineering. It calls itself the “world’s best-known environmental organization,” earning both praise and criticism from the media and the public. In fact, the organization as a “brand” has been “more successful than the corporations and the products it attacks” (Jordan,

2001, p.16). In 1995, brand experts placed Greenpeace in the league of Coca-Cola, Shell and IBM in terms of consumer brand awareness (Upsall & Worcester as cited in Jordan, 2001). “As a trademark, Greenpeace is right up there with Levi’s and Coca-Cola.” (Beder, 2002, p. 14)

This study focuses on the Greenpeace campaign against genetic engineering because the debate concerning this issue still rages and threatens to remain contentious for a long time to come. Various actors, from the political to the religious, have joined the fray. In a 2001 European Molecular Biology Organization report, the House of Lords Select Committee on European Communities asked Greenpeace:

Is your opposition to the release of genetically modified organisms (GMOs) an absolute and definite opposition? Is it not one that is dependent on further scientific research or improved procedures being developed or any satisfaction you might get with regard to safety or otherwise in future?

Lord Melchett, head of Greenpeace, UK, answered:

It is a permanent and definite and complete opposition based on a view that there will always be major uncertainties. It is the nature of the technology, indeed the nature of science, that there will not be any absolute proof. No scientists would sit before your Lordships and claim that if they were scientists at all (Trewavas and Leaver, 2001, p. 455).

Such statements succinctly demonstrate Greenpeace’s stand on the issue of genetic modification. Based on this, the organization went to battle to define the issue to the public. One of the modes in which this battle is currently being fought is through the Internet

because advocacy websites have become unique and powerful venues wherein interest groups can implement campaigns that transcend limits of geography and time.

### **Study Purpose**

This study examines the message strategies and tactics Greenpeace uses in its worldwide online campaign called “Say no to genetic engineering” launched in April 2005. The website for this campaign is illustrative of the online campaigns the organization has conducted ever since the Internet became an arena for public debate. To get a comprehensive sense of how global the organization’s strategies are, the campaign strategies, tactics and the frames it used in websites targeting the developing world and those intended for developed countries will be compared. To communication campaigners, *strategy* refers to the “big picture look” at a problem; it may be a plan, method, or series of maneuvers or stratagems for obtaining a specific goal or result. *Tactics*, on the other hand, refer to the specific means of implementing communication strategies. They vary with circumstances and, especially, with available technology. *Frames* refer to the overarching themes communicators apply in structuring news stories and reports and thus have the potential to influence how audiences understand and perceive a given issue.

Other organizations have launched campaigns that have had questionable, if not negligible, influence. Knowing the strategies a campaign employs will be helpful in designing other communication efforts with different objectives. For communication researchers, it is important to know how organizations effectively design and frame messages that are able to grab headlines and create pockets of interest all over the world. Information from this study will be helpful to stakeholder groups in the government and the scientific

community who might wish to discuss issues using the same strategies advocacy groups employ, or to counter any perceived negative impact from opposing campaigns.

This study sought to answer the following research questions:

1. What are the characteristics of the messages Greenpeace disseminates through the main site of its online “Say no to genetic engineering” campaign? *Message characteristics* is a concept that has the following dimensions: (1) message objectives, (2) types of arguments present, (3) types of appeals used, and (4) proportion of text to visuals in the coverage.

2. What frames were applied in news items posted on Greenpeace’s campaign websites intended for audiences in the developed (Australia) and the developing (Philippines) world? Is there a significant difference between the frames used in the sites targeted at Australia and the Philippines?

3. What sources are being cited in Greenpeace websites targeted toward Australia and the Philippines? Is there a significant difference between the sources used in the sites targeted at both countries?

## CHAPTER 2

### LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter discusses the characteristics of public communication campaigns that are successful, and how these characteristics are manifested in the objectives, processes and elements of Greenpeace activities. The focus will be on the organization's use of the online media in its efforts. Next, the underpinnings of framing theory, the theoretical framework of the study, are discussed. The chapter also elaborates on the current body of literature on advocacy groups and their interactions with the media to gain public acceptance and support for their causes in the developed and the developing world. The study's research questions are outlined in the final section.

#### **Public Communication Campaigns**

Public communication campaigns impart ideas for a strategic purpose. Rogers and Storey (as cited in Rogers, Backer & Sopory, 1992) define a public communication campaign as "an organized set of communication activities [intended] to generate specific outcomes in a large number of individuals in a specified period of time" (p. 420). According to them, a campaign has four essential attributes: (1) it is purposive and seeks to influence individuals; (2) it is aimed at a large audience; (3) it has a more or less specifically defined time limit; and (4) it involves an organized set of communication activities.

Rice and Atkin (2001) also emphasize similar qualities of a communication campaign. To them, public communication campaigns "may involve a conventional mix of brochures, posters, advertisements, and commercials or a different array of communication methods for the purpose of achieving certain objectives" (p. 5). Paisley (2001) says that

public communication campaigns can be defined in terms of their objectives (which may focus on a group's intentions to change others' beliefs or behavior), or in terms of their methods or strategies.

### **Campaign objectives**

Organizations with similar goals may rely on different strategies and tactics to advance their agendas. In this regard, environmental groups are no exception. Carmin & Balser (2002), studying Friends of the Earth and Greenpeace, found that experience, core values and beliefs, environmental philosophy, and political ideology work together to create distinct organizational interpretations of the political environment, efficacy of action, acceptability of tactics, significance of issues, and sources of the problem. These interpretations combine to shape these organizations' decisions on what types of action will be most appropriate and effective.

According to Atkin (2001), there are three basic campaign objectives: awareness, instruction and persuasion. *Awareness* messages are supposed to arouse audience interest or concern, and to motivate them to further explore a subject. He recommends that awareness messages should include elements designed to promote active information seeking from sources such as websites, hotline operators, books, and opinion leaders (p. 56). *Instructional* or how-to information aims to inculcate in-depth knowledge, help people acquire skills or to enhance personal efficacy. *Persuasive* messages must provide the rationale for the adoption of an advocated action or the avoidance of some prohibited behavior.

As with many of its other environmental protection objectives, Greenpeace works to find the appropriate mix of strategies to advance its goal of curbing crop genetic engineering. The three types of campaign objectives Atkin (2001) proposed will therefore be used as the



basis for analyzing the campaign message's strategies and the specific tactics the organization uses to implement these strategies.

### **Types of arguments used**

Campaigns can also be defined in terms of the strategies they employ to address a problem given a target public (Paisley, 2001). In this way, campaigns can be examined as a process. Each strategy employs a series of tactics. One of the most important steps in strategy implementation is message construction. This step involves identifying the types of argument to use, the kinds of appeal to be deployed, and other message style variables (McGuire, 2001).

The *types of arguments* used in campaigns hearken to Aristotle's (1991) three types of proof: logos, ethos and pathos. Logos applies persuasion through logic or reasoning and uses reality common to the source and the audience to do so. Messages that employ logos use inductive or deductive reasoning as well as references to the world or reality shared by the author and the audience to back up their claims. Ethos emphasizes the ethical and moral strength of the message. It relies heavily on the attractiveness of the character and the authority the source inspires among audiences. Pathos tries to persuade by appealing to the emotions (Kinneavy, 1996).

In crafting campaign messages against genetic engineering, Greenpeace may employ any or a combination of these three types of arguments. Logos arguments use logic and evidence to back up their assertions in an attempt to persuade. They are featured in messages that demonstrate logical reasons for agreeing with the position that genetic engineering must be stopped if not heavily regulated. Logos in argumentation is exemplified in the use of independent scientific studies and sources that a campaign commissions to provide rational

justifications for its assertions and to bolster its claims. Greenpeace International made use of this strategy when it played up the reports of three independent genetic engineering experts who substantiated the health concerns it raised regarding GE rice then under testing in China (para.1, Greenpeace International, 2006). Greenpeace also conducted its own survey of British wine retailers—the largest export market for California wine, representing 80 percent of the UK's wine sales—that showed their refusal to carry wine made from gene-altered grapes (para.1, Greenpeace USA, 2001).

Ethos is evident in Greenpeace's discourse that stresses the ethical justification for its cause as well as the trustworthiness of the experts it consults regarding genetic engineering. A particular example is when it played up the credentials of Dr. Peter Willis, a New Zealand theoretical biologist and associate professor of Physics at Auckland University who echoed the organization's call for a GE-free environment (para. 1, Greenpeace New Zealand, 2000). The article quoted him as saying that the processes of genetic engineering involve “very high inherent uncertainty” and that “the release of genetically engineered organisms into the environment has the potential to be even more destructive than the consequences of other human interference in biological processes” (para. 2, Greenpeace New Zealand, 2000).

The third type of argument, pathos, appeals to the reader's emotions. Arguments that target affect aim to intentionally evoke a desired emotion while limiting unintentional emotional states. When the president of Zambia rejected US food aid amid a full-blown famine in the country, Greenpeace lauded the decision in a news article, claiming that Zambia has the right to consider the donation as a disguised “ultimatum” from the United States, which, in effect says that Zambians should “eat our unwanted genetically engineered food or die” (para. 2, Greenpeace International, 2002). The article argues that “as long as

supplies of non-genetically engineered grain exist, nobody should be forced to eat GE grain against their will” (para. 2, Greenpeace International, 2002).

### **Message appeals**

Mass communication theory stresses that the nature of the persuasive appeal is one, if not the primary, determinant of campaign effectiveness (Winkel, 1984). Persuasive appeals or relevant incentives (promised rewards and threatened punishments as a motivation for accepting the recommendation) are key elements in any campaign, especially those that advocate for behavioral change.

McGuire (2001) identified 16 types of human needs to which messages can appeal which can be grouped into four broad categories: cognitive growth, cognitive stability, affective growth and affective stability. In health message design, a variety of appeals can be used (Atkin, 2001) to cater to these four broad categories of need. This study, however, limits its investigation on the impact of positive incentive appeals and negative incentive appeals (specifically fear appeal), or a combination of both.

Positive incentives emphasize the benefits and the positive outcomes of performing the recommended campaign behavior. In the physical health area, these positive incentives could be longer life spans, enhanced athletic performance or improved lifestyles. Specific to the Greenpeace anti-GE campaign, positive appeals stress the benefits consumers derive from not buying genetically engineered food or what farmers gain from cultivating traditional crops and engaging in organic farming.

Deploying the appropriate doses of fear appeals had been highly successful in motivating behavioral change especially for health campaigns (Atkin, 2001). It usually works by threatening the audience with harmful results if a certain behavior is not adopted or if an

unhealthy practice is continued. Stephenson and Witte (in Rice & Atkin, 2001) found that highly threatening messages that stress the severity of consequences are successful if audience members are given doable steps they can take to modify their behavior. Fear appeals are ubiquitous in Greenpeace messages about health risks associated with eating GE food or the adverse environmental effects of cultivating GE crops.

### **Proportion of text to visuals in the coverage**

Campaign strategies can also be analyzed in terms of the amount of information present in the message, a factor largely influenced by the kind of audiences or publics targeted by a campaign. Grunig and Hunt (1984) suggest that four kinds of publics evolve around a specific issue: the active public, the aware public, the latent public, and the non-public. They add that individuals may possess the qualities of one or more of these four publics depending on the image they have formed of the source of the message, the campaign issue, and the product or service a source organization offers.

Each of these types of public requires different quality and quantities of information to be moved by a campaign. Moffitt (1999) posits that *active* publics will require more information due to their high level of involvement with an issue or the organization behind it. Messages intended toward an active public should contain more “copy points” and visual supplements. In addition, these messages should be knowledge-based and opinion-based and should offer behavioral recommendations. The second type of public, the *aware* public, needs less copy points but more visuals. Here, according to Moffitt (1999), the message’s focus on suggested behaviors should be relaxed. For the *latent* public, Moffitt (1999) recommends emphasizing few knowledge-based information, and little opinion, but high doses of visuals even more so than messages targeting the active and the aware. Depending

on how important the *non-public* is to the issue, the campaigner can either ignore this segment or move its members to a latent position (Moffitt, 1999).

Table 1 below presents the expected message characteristics based on the type of public. By examining the message characteristics of the pages in the Greenpeace GE website, including the amount of information about genetic engineering these websites contain, it can thus be deduced how Greenpeace has categorized its target publics.

*Table 1. Message characteristics and Greenpeace GE publics*

<b>Type of Public</b>	<b>Message Characteristics</b>			
	<i>Objectives</i>	<i>Arguments</i>	<i>Appeals used</i>	<i>Proportion of text: visuals</i>
Active	Instructional	Ethos	-	More text, less visual
Aware	Persuasion	Logos	-	Visuals and text about equal
Latent	Awareness	Pathos	-	More visuals, less text
Non-public	n/a	n/a	n/a	n/a

### **The Campaign Source and the Channel**

#### **The source**

Greenpeace is a veteran in the public campaigning arena. It has been advocating for various environmental causes since a small group of ecologists decided to protest the Vietnam War and US nuclear testing in the North Pacific in 1971 (Weyler, 2004). The organization works to curb global climate change, protect ancient forests, save the oceans, stop whaling, eliminate nuclear threats, get rid of toxic chemicals, and encourage sustainable trade, among others.

Although Greenpeace is best known for its non-violent direct actions, public protests are one of the many strategies it employs. It also conducts research to assess the risks of existing and emergent technologies in its laboratories in the University of Exeter in the United Kingdom where scientists analyze soil, water and effluent samples. They then present their findings in courts of law to ensure nations' compliance with identified standards. Greenpeace and its network of international experts also conduct research into the causes and effects of environmental pollution. Their lobbyists and campaign strategists regularly meet with government and industry entities to guarantee that environmental considerations are factored into decision-making. Their strategic partnerships with other NGOs allow them to reach new areas and communities. They encourage volunteers—people from all walks of life—to get involved in their campaigns at every level. Online campaigns, peaceful protests, and petitions to governments are ways by which individuals can participate in Greenpeace efforts.

Like many environmental pressure groups, Greenpeace has become increasingly adept at providing the media with pre-packaged materials that fit journalists' assumptions about what constitutes "news." Nick Gallie, former publicity director for Greenpeace, once observed:

Greenpeace has always been inherently fascinating and newsworthy as far as the media were concerned. It presented them with totally pre-packaged, simplistic but very powerful images of confrontation that were very new and exciting. TV journalists saw it as fascinating and bizarre that people were willing to stand in front of whaling harpoons or under a barrel of nuclear waste being dumped at sea. These activities were seen as heroic and

they were an absolute gift to the media. Newspapers as well as TV could swallow them without having to chew (as cited in Porritt & Winner, 1988, p. 94).

### **The channel**

This study focuses on Greenpeace's online anti-genetic engineering campaign. Paisley (2001) predicts that future historians may regard the Internet as the most significant paradigm-shifting development of the 1990s. Numerous websites are devoted to campaign issues, including genetic engineering. A casual search of the search engine Google using "genetic engineering campaigns" as keywords yields more than a million "hits." To Paisley (2001), "it is clear that the Internet is now one of the venues of public debate; other competing points of view are only 'a click away'" (p. 7).

Bennie (1998) lauds Greenpeace for its brilliant use of the media to muster public support. Although direct action is an essential part of what it does, Greenpeace acknowledges the need to adopt new campaign methods. Chris Rose, deputy executive director of Greenpeace UK, once observed that alternative tactics such as meeting business people in private might be more effective than publishing a commentary in a newspaper (The Independent, 1994).

It is no small wonder that Greenpeace has set out to try its strategies online. Cyber-advocacy is defined as "a means by which advanced information and communication technologies (e.g., e-mail, list-serv, and the www or the Internet) are used by individuals and groups to communicate with large audiences, galvanizing individuals around a specific issue or set of issues in an attempt to build solidarity towards meaningful collective actions" (para.1, Networked Publics, 2005).

Without geographical constraints and independent of media interests, cyber-advocacy erodes the boundaries between local, national and global communities, bringing new and expanded political arenas to the public. Kevin Jardine, international new media campaigner and developer of Greenpeace's Cyber-center, sees cyber-advocacy as a strategy of building a global community of resistance to environmental destruction. "The centre provides a cyber-activist community where people representing over 170 countries and territories can share ideas and participate in environmental actions." (para. 4, Greenpeace, 2002)

For an organization that has always championed the power of individuals to effect change, Greenpeace considers cyber-advocacy a natural extension of its campaign work. In 1995, a year after it published its first website, Greenpeace distributed online an ostensibly secret nuclear shipment route from France to Japan. It plastered the fax number of the French Embassy and the newspaper *Le Monde* so that online visitors can send letters of protest. The French government reportedly received enough faxes to demand that Greenpeace remove the fax number from its page (para. 9, Greenpeace, 2003).

In June 2000, in the web pages of its anti-toxics campaign, Greenpeace installed a webcam at the end of an underwater radioactive discharge pipe operated by the French nuclear agency Cogema in La Hague, France to provide live documentation of nuclear waste discharges. It broadcast the images onto a large screen at the Convention for the Protection of the Marine Environment of the North-East Atlantic in Copenhagen, Denmark where delegates were discussing the future of nuclear reprocessing (para.12, Greenpeace, 2003).

During the biosafety protocol discussions at Montpellier, France on December 11-15, 2000, the Greenpeace Cyberactivist Community (GCC) site announced that people can



access its information booth, equipped with computers and Internet access, at the meeting. They asked website readers to send a message to their country's delegate, which they printed and delivered personally. Their February 25, 2001 entry in the GCC site urged members to petition the US Department of Agriculture (USDA) to support product labeling, a move that will alert the public about the potential genetically modified (GM) content of food products they buy.

This cyber-advocacy center is international in reach – exemplified by the July 26, 2003 call for supporters to send a letter to the Canadian and Argentinean governments demanding that they stop supporting a US-led case before the World Trade Organization to force the European Union to accept genetically engineered food. On September 15, 2004, Greenpeace called on its followers to ask Food and Agriculture Organization (FAO) to abandon GE rice, and to send e-cards to friends that depict the threats of genetically modified rice (para. 9, Greenpeace, n.d.).

Greenpeace argues that cyber-advocacy is not limited to those who have access to computers. In 1999, it assigned its first new media campaigner in India, a country with a billion people and a mere three million computers at that time. The first thing the campaigner did was to establish a cyber-cafe in front of the abandoned Union Carbide factory in Bhopal where about 16,000 people died in 1984 after a poisonous gas leak. Thousands of Bhopal residents visited the cyber-cafe where they sent e-mails to Union Carbide, Dow Chemicals and the Indian government demanding that the area be cleaned up as the factory continues to leak toxic chemicals into local groundwater. Inundated by about 3,000 letters, Union Carbide was forced to close its corporate mail center and began to screen e-mail messages (para. 26, Greenpeace, 2003).

Indeed, the organization has drawn upon the skills of its cyber-activists to marshal support for its protests. In its Austria Gene Detective website, supporters are asked to visit supermarkets and report back on the presence of GE food or products with genetically modified ingredients. Its Rainforest cyber-sleuth site asks people to visit lumberyards and help determine what companies were selling wood from ancient forests. This site was taken down since the British Columbian government in Canada finally agreed to protect its remaining coastal rainforest. Greenpeace's Corporate 100 Push (part of its climate campaign) is one of the most ambitious attempts to mobilize cyber-activists beyond the Internet (para. 33, Greenpeace, 2003).

### **Framing Theory**

Tankard (2001) defines a frame as “a central organizing idea for news content that supplies context and suggests what the issue is through the use of selection, emphasis, exclusion, and elaboration” (p. 99). To frame, according to Entman (1993), is “to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to define problems, diagnose causes, make moral judgments and suggest remedies or treatments” (p. 52).

Frames can be found in four locations: the communicator, the text, the receiver and the culture (Entman, 1993). This study focuses on text produced by a specific communicator as a frame location. Frames in [news] text, explains Entman (1993), can be examined and identified by “the presence or absence of certain keywords, stock phrases, stereotyped images, sources of information and sentences that provide thematically reinforcing clusters of facts or judgments” (p. 52). According to Gamson and Modigliani (1989), metaphors, exemplars, catch-phrases, depictions, and visual images can also be used as framing devices

and directed at specific audience segments with whom they can resonate. Davis (1995), for example, examined whether recycling messages were geared toward the present or future generations, and whether the messages framed recycling as “taking less” or “giving more.”

Within a news text, frames can be found in headlines, subheads, photos, photo captions, leads, sources cited, quotes, pull quotes, logos, statistics and charts, and general body text (Tankard, 2001, p.102). Writers and image makers apply devices with which stories or issues are framed. According to Fairhurst and Sarr (1996), these include metaphors (giving an idea or topic meaning by comparing it to something else), stories (framing a subject by anecdote in a vivid and memorable way), traditions (defining an organization at regular time increments to confirm and reproduce organizational values), slogans, jargon and catch phrases (framing a subject in a memorable and familiar fashion), and contrast (describing a subject in terms of what it is not).

Apart from text, Greenpeace also spreads its campaign messages through visuals. Images attract readers to stories, are better remembered than verbal information, and foster more cognitive elaboration or processing of issues (Coleman, 2004). Informational graphics, among other visuals, help readers understand a story and improve readers’ recall of the story. Thus, visual and verbal information are necessary to communicate and reinforce messages. Paivio (as cited in Coleman, 2004) submits that visuals add an affective or emotional component to the message.

### **Framing the “Say no to genetic engineering” messages**

Issues are framed in the media by different actors and stakeholders. This study focuses on Greenpeace as an advocacy group that is a major source and mediator of frames that can be gleaned from the media. Shoemaker and Reese (1996) note that different factors

influence how the media frame a given issue. These include pressures from interest groups, journalistic routines, and the ideological or political orientation of journalists. According to Edelman (1993), authorities and pressure groups categorize beliefs in a way that marshal support and opposition to their interests. Scheufele (1999) adds that interest groups use the mass media to construct opinions and reality; thus, they have the ability to establish certain frames of reference (p. 110). Analyzing texts directly attributable to an interest group reveals the frames it uses to articulate its position.

Miller and Riechert (2000) argue that it is appropriate to describe interest groups such as Greenpeace as a “claims maker.” These claims makers frame issues by consciously or unconsciously emphasizing certain aspects and ignoring others, and by excluding competing or contradictory viewpoints in their discussion. They attract media attention via dramatic or illegal activities, or by muting their positions so that they can be covered as routine news. Greenpeace promotes its interpretation of the issue on its websites through press releases, and reports and by direct action campaigns worldwide (Gitlin, as cited in Miller and Riechert, 2000).

The information sources cited in Greenpeace reports also dictate how issues are framed or defined (Trumbo, as cited in Miller and Riechert, 2000). In a study of US news coverage of global climate change, Trumbo found a strong association between the types of claims makers (i.e., scientists, politicians and interest groups) quoted and the type and prominence of different frames employed. Thus, this study also examines the sources Greenpeace cites to help frame its campaign messages.

### **Developed and developing country websites: A comparison**

Genetic engineering has been greeted with mixed reactions by nations the world over. In particular, developing countries are now being forced by international events to enunciate a policy stance toward biotechnology. The global GE debate, however, has largely featured the competing views of the largely promotional US policy and the highly averse disposition of the European Union. The topics engendered by this trans-Atlantic debate are seldom relevant to the needs of the developing world, experts say.

Over the last decade, empirical evidence has been building in support of this contention. For instance, Aerni (2001) notes that majority of his Mexican and Philippine policymaker-respondents consider biotechnology a powerful new tool to address problems in agriculture, nutrition and the environment. This view is not shared by Europeans who find the potential health risks in genetically modified foods highly unacceptable. While developing countries are more concerned about corporate control of the technology and the potential impact of genetically modified crops on their countries' biodiversity, Europeans generally view it as "not being useful, as morally unacceptable and as a risk to society" (Gaskell et. al., 2005, p. 4).

In 2000, Environics International conducted an extensive study of public perceptions of biotechnology through a survey of about 35,000 people in 34 countries in Africa, Asia, the Americas, Europe and Oceania (as cited in FAO, 2004). The findings reveal important differences in whether respondents agreed or disagreed with the statement "The benefits of using biotechnology to create genetically modified food crops that do not require chemical pesticides and herbicides are greater than the risk" (p. 77). The results showed that people in higher-income countries tend to be more doubtful of the benefits of biotechnology and more

concerned about potential risks, although there are exceptions to this pattern. On the other hand, the study found that in general, people in developing countries are more likely to support the application of genetic engineering in order to reduce the use of chemical pesticides and herbicides.

Even within Asia, people from developed countries such as Japan and the Republic of Korea are more concerned about the potential risks associated with biotechnology than people from developing countries such as the Philippines and Indonesia. Similarly, consumers in Argentina and Chile, countries that are relatively more developed in Latin America, were more skeptical of genetic engineering than the citizens of the Dominican Republic and Cuba. Higher-income countries such as Australia are generally less likely to agree that the benefits of using biotechnology to reduce chemical pesticide and herbicide use outweigh the risks than were other countries in the Oceania region. “These results imply that for people in poorer countries, the potential benefits of biotechnology tend to weigh more heavily than the perceived risks, whereas the opposite is true for wealthier countries.” (p. 80)

Given these differences in public attitudes in different countries toward the issue, does Greenpeace frame its messages accordingly? Does it apply the same message characteristics and tactics in its websites meant for the relatively GE-cautious developed countries as opposed to the relatively pro-GE developing world? This study compared the framing of genetic engineering on Greenpeace’s websites that target a developed and a developing country and anticipated a significant difference between the framing of GE in these two countries.

Each country offers its own context and peculiar circumstances under which the GE debate occurs. With respect to genetic engineering, countries differ in terms of the policy

towards agricultural biotechnology. Genetic engineering might also be perceived as a salient topic especially in countries for whom agriculture constitutes a significant proportion of the economy.

Paarlberg (2001) employed a method of classifying agricultural biotechnology policies in terms of their tendency to promote or prevent the spread of the technology in a given country. He used a gradient between promotion and prevention, which included permissiveness and precaution in between the two extremes. Paarlberg defined promotional policies as those that are “designed to accelerate the spread of GE crop and food technologies within the borders of a nation” (p. 9). Permissive policies “attempt to be neutral toward the new technology, intending neither to speed nor to slow its spread within the nation’s borders. Policies intended to slow the spread of GE crops and foods for various public reasons but without banning the technology entirely” are essentially precautionary in his typology. Lastly, preventive policies are those that “block or ban entirely the spread of the new technology within the borders of the country” (p. 9). These four policy postures were used to classify five important policy areas: intellectual property rights, biosafety, trade, food safety and consumer choice, and public research investment policy (p.10). Under this rubric, the Philippines can be considered as having adopted a permissive policy toward biotechnology while Australia can be categorized as being precautionary.

For both the Philippines and Australia, agriculture is a major economic driving force. According to the Central Intelligence Agency’s (CIA) latest statistical country profiles (Central Intelligence Agency, 2007), the sector contributes 14.2% to the Philippine economy and 3.8% to Australia’s.

### Research Questions

Considering the foregoing literature, this study aims to answer the following research questions:

1. What are the characteristics of the messages Greenpeace disseminates through the main site of its online “Say no to genetic engineering” campaign? *Message characteristics* is a concept that has the following dimensions: (1) message objectives, (2) types of arguments present, (3) types of appeals used, and (4) proportion of text to visuals in the coverage.

2. What frames were applied in news items posted on Greenpeace’s campaign websites intended for audiences in the developed (Australia) and the developing (Philippines) world? Is there a significant difference between the frames used in the sites targeted at Australia and the Philippines?

3. What sources are being cited in Greenpeace websites targeted toward Australia versus the Philippines? Is there a significant difference between the sources used in the sites targeted at Australia and the Philippines?



## CHAPTER 3

**METHODOLOGY**

A content analysis was conducted to address the research questions. Content analysis is used to study message content and meaning, examine antecedents of messages, and analyze message effects (Weare, 2000). McMillan (1999) observes that applying this method to the analysis of website content may be like using a microscope to examine a moving target. On the other hand, in her research that looked at 19 studies that applied content analysis techniques on websites, she found that this stable research technique can be applied to a continuously updated information environment such as the World Wide Web.

**The Study Design**

This study has two major objectives. The first is to identify the predominant characteristics of messages disseminated through Greenpeace's online "Say No to Genetic Engineering" campaign. To accomplish this objective, a content analysis of Greenpeace International's main GE campaign website or portal ([www.greenpeace.org/international/campaigns/genetic-engineering](http://www.greenpeace.org/international/campaigns/genetic-engineering)) was conducted.

The second objective is to examine how news items and reports in websites specifically aimed at a developing and developed country are framed. To enable this comparison between two types of target audiences, news items in Greenpeace's Australian and Philippine websites were examined. The websites dedicated exclusively to each of the two countries were chosen to represent communication efforts in a developed (Australia) and a developing country (the Philippines) that are presently attempting to solidify their national positions or stances on genetic engineering in the Pacific. As these two nations are in the midst of deliberations about their national policies concerning biotechnology, special

websites have been created in order to provide Greenpeace presence in legislative deliberations and national debates concerning the track each country will take. Both websites (Australia's and the Philippines') are published in English.

### **Examining Message Characteristics: Analyzing the Campaign Homepage**

An analysis of all the pages of Greenpeace's main campaign website was conducted to gather observation units for determining message characteristics as specified in the first study objective

#### ***Arriving at the sample***

"Drilling" through a website is done by starting at the main homepage of the GE campaign and selecting a content link from the main menu<sup>1</sup>, the section labeled two in Figure 1. This is known as the first-level drill. On the screen resulting from the first level drill, a sub-heading from the same menu was selected to arrive at another campaign screen that constituted the second-level drill, and then again for the third-level drill. This procedure was done for all the links in the main menu. Each screen that is hierarchically accessed was examined for message characteristics. For this part of the study, the unit of analysis was the webpage. Only the main article (text and its accompanying picture) was analyzed. Other elements in the page such as navigation tools, banners, videos and the like were ignored.

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<sup>1</sup> The Greenpeace anti-GE campaign has been under implementation for almost a decade although the website was launched only in April 2005. An examination of the general content of the campaign site in April 2005 and its latest update on July 2007 was done using the Wayback Machine (n.d). It was found that the pages are heavily templated (Figure 1). The center of the screen (which is controlled by the main menu) is occupied by permanent content mainly dealing with the principal messages on genetic engineering. Thus, this area is a logical place to look at campaign messages. On the other hand, the only areas that are updated regularly are the right-most column and the bottom center area that contain the news stories.

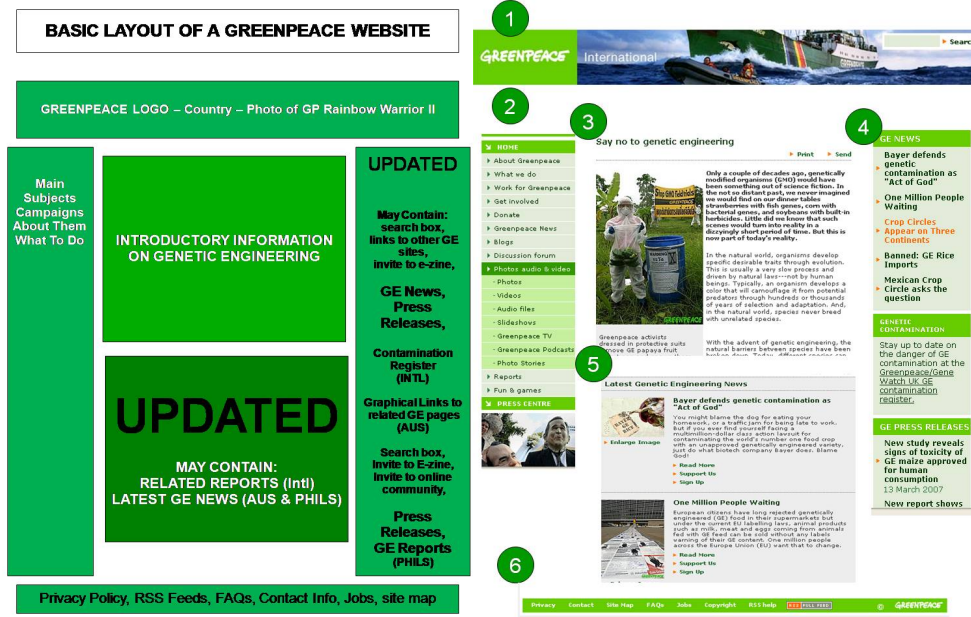


Figure 1. Basic layout of the Greenpeace main website  
(<http://greenpeace.org/international/campaigns/genetic-engineering>)

### Operational Definition of Variables

**Message characteristics** in this study is a concept that encompasses four dimensions: (1) message objectives, (2) types of arguments present, (3) types of appeals used, and (4) proportion of text to visuals in the coverage.

There are three general *message objectives*: awareness, persuasion and instruction. The type of message objective in a webpage should be apparent by looking at the first and last paragraphs. Awareness messages arouse audience members' interest or concern, and aims to motivate them to further explore a subject. They promote active information seeking from mediated and interpersonal sources. An example is "when consumers began to realize they were eating genetically engineered (GE) food without their knowledge or consent, there were immediate calls for mandatory segregation and labeling. Surveys have found that most people want to know if their food is GE for both ethical and environmental reasons." Here

the text encourages the reader to learn more about the issue since he/she has been made aware that he/she has been ostensibly denied her right to information. Persuasion messages provide the rationale for the adoption of an advocated action or the avoidance of some proscribed behavior. These messages are intended to move audiences to action based on appeals to their intellect or emotions. An example of this is Greenpeace's statement that the release of GMOs "is 'genetic pollution' and is a major threat because GMOs cannot be recalled once released into the environment. Because of commercial interests, the public is being denied the right to know about GE ingredients in the food chain, and therefore losing the right to avoid them despite the presence of labeling laws in certain countries."

Instructional messages encourage people to learn more about a topic or issue in order to enhance personal efficacy. Examples of these are "how-to" information that helps people acquire skills to cope with a given problem or undesirable situation. This is exemplified in this statement: "Go to the Food section (of the website) to find out about: labeling legislation for GE products in your country, how GE crops are used in animal feed, and the corporate giants who are trying to control what you eat."

The types of argument that were measured in this study are ethos, pathos and logos. Ethos emphasizes the attractiveness of the source and focuses on the authority the source inspires. It is evident in Greenpeace's discourse that stresses the ethical justification for its cause as well as the trustworthiness of the experts it consults regarding genetic engineering. Pathos tries to persuade by appealing to the emotions (affect) using strong, colorful words. Logos applies persuasion through logic or reasoning and uses reality common to the source and the audience to substantiate its claims. Messages that employ logos use inductive or deductive reasoning. Logos in argumentation is exemplified in the use of independent

scientific studies and sources that a campaign commissions to provide rational justifications for its assertions and to bolster its claims.

The website content was also analyzed in terms of the *types of appeal* employed. These are positive incentives, negative incentives (specifically fear), or a combination of the two.

Positive incentive messages present positive outcomes resulting from the non-support of genetic engineering. An example is a press release stating that Philippine agriculture experts have endorsed sustainable agriculture, which Greenpeace defines as “GE-free” (para. 5, Greenpeace Southeast Asia, 2006).

Negative incentive messages or the use of fear appeals motivate behavior change by threatening audiences with the negative consequences of planting, selling or using GE crops for food, feed or fuel. These negative messages include threats such as penalties for violating laws or policies regarding GE, and the harmful effects of GE crops on the environment and biodiversity. In a classic use of fear appeal, Greenpeace invited Hawaiian papaya growers to Thailand to warn Thai farmers how the GE-averse European market firmly rejected their GE papaya and depressed the price of the fruit in the international market, causing them tremendous revenue losses (para. 3, Greenpeace International, 2003).

If two or more of these appeals were found, the message was said to contain a combination of appeals.

*Proportion of text to visuals* refers to the amount of text (in terms of number of words) and the number of visuals and graphic devices present in the coverage of the topic in the main website. The coder counted the number of articles in the webpage as well as the

number of graphics in each article. The proportion was determined by dividing the number of articles by the number of accompanying visuals on the page.

### **Examining Frames: Analyzing Developed and Developing Country Webpages**

The second objective of the study was to determine if there were differences in how Greenpeace framed the news stories and press releases it periodically issues concerning this topic considering two types of audiences: those from developed countries and those from developing nations. To accomplish this objective, a content analysis of the websites it now operates in Australia and the Philippines was done.

Greenpeace country websites also contain standard principal messages found in permanent screen areas. The rest of the screens feature GE News, GE Press Releases and GE Reports. The first two content categories, GE News and GE Press Releases, deal with Greenpeace's regularly issued news items and releases exclusively discussing its efforts to curb genetic engineering. GE Reports differ substantially from the previous two in that they are primarily highly technical reports regarding GE-related scientific efforts. Because this study deals with how the organization framed its messages, only GE News and GE Press Releases were content analyzed.

#### *Arriving at the sample*

To come up with the articles to be examined, a search was done using the advanced search menu of each website with targets fulfilling the following criteria: articles should contain the words "genetic engineering" + "Australia" or "Philippines" in press releases and news stories going as far back as the archive will allow. This search yielded 268 articles from November 2000 to February 2008 for the two websites (Australia=209, Philippines= 59).

This study analyzed all collected articles to determine the overarching themes Greenpeace used to frame the genetic engineering issue. To analyze the frames, the unit of analysis was the complete story, including its accompanying visual and graphic devices and their captions. Only the main article's text and its accompanying picture were analyzed. Other elements in the page such as navigation tools, banners, videos and the like were ignored.

### *Operational Definition of Variables*

This study measured the extent to which ten *frames* or themes, culled from previous studies, were employed by Greenpeace in constructing its anti-GE messages. These frames are as follow:

1. The *industry* frame focuses on the actions of or information about companies that lead GE research and development efforts. This frame may talk about Bayer's or Monsanto's latest genetically modified products or initiatives in the local or international markets.
2. The *call-to-action* frame emphasizes what can be done to stop, postpone or delay the spread of GE. Articles that exhibit this frame discuss what governments, activists, farmers, and consumers must do to achieve this goal.
3. Messages that use the *economic consequences* theme focus on the economic consequences (benefits or losses) of GE on a global, regional, national, local or individual scale.
4. *Environmental risk* emphasizes the adverse impacts of GE on the environment. Articles using this theme might focus on the loss of biodiversity and genetic pollution, among others.
5. The *ethical or moral* frame stresses negative moral judgments about genetic engineering. Articles employing this frame deal with the ethical and moral

dimensions of the issue and allude to the religious objection that practicing GE is just like “playing God.”

6. The *human health risk* frame emphasizes the dangers or risks posed by GE to people. Articles that demonstrate this frame talk about the alleged unknown health effects of GE food on people and the lack of testing for health impacts.
7. The *labeling* frame emphasizes the need for people to know if the food products they purchase have been genetically altered or contain genetically modified ingredients. Emphasis is placed on the availability of such information and the people's right to know. Articles illustrating this frame may talk about how Greenpeace tag GE labels on grocery store items or its *True Food Guide*, a pamphlet that lists companies that manufacture products that are GE-free.
8. The *policy* frame focuses on the rules and regulations governing the production and selling of GE foods and food products. Articles employing this theme may talk about consumer complaints, and legal disputes or court battles related to GE products.
9. Stories that show the *patenting/property rights* frame focus on the ownership of intellectual property rights related to crop germplasm, and farmers’ access to seeds and other planting materials. Articles that use this theme may discuss patent laws that prohibit the saving, selling, or exchange of GE seeds.
10. The *technical* frame focuses on the specific methods or procedures of genetic engineering or explains how genetic engineering works. Articles that use this theme may deal, for example, with how Roundup Ready soybean or Bt corn was created and the crop attributes that have been enhanced. Articles that show this frame may also talk about the technical aspects of field testing, verification, and evaluation of GE crops.

Once the frames were identified, the dominant type of frame used in each country website was also identified and the total number of frames applied was counted.



The *sources* of information are persons, agencies, institutions or groups quoted by writers in their news stories and press releases. The selection of news sources not only divulges the organization's biases but also reflects particular slants for or against issues, personalities or events (Herman, 1988). Attributions were categorized as coming from the following sources based on the typology of sources proposed by Abbott and Lucht (2001):

1. Scientists from universities and university-based research institutions (e.g., scientists from the University of Canterbury, New Zealand);
2. Government scientists (e.g., scientists from the government ministries or departments of agriculture such as Food Standards Australia-New Zealand and the Philippine Rice Research Institute);
3. Other scientists (scientists from institutions other than those mentioned above such as independent scientific organizations like the International Food Policy Research Institute and the British Medical Association);
4. Scientific journals and journal editors such as the *Archives of Environmental Contamination and Toxicology* and *Nature*;
5. Industry, industry associates, wholesalers (e.g., Bayer, Monsanto, Ingham Chicken, Novartis International or the Australian Wheat Board);
6. Ordinary citizens and consumers, but not farmers (e.g. chefs, restaurant owners, local consumer leaders and volunteers);
7. Advocacy groups (e.g., Greenpeace, SEARICE and the Gene Ethics Network);
8. International not-for-profit groups (e.g., the United Nations and its affiliate agencies), but not Greenpeace and the like;
9. Politicians and government employees, but not government scientists (e.g., the Philippine Bureau of Plant Industry, the Australian Office of Gene Technology Regulator, the Newcastle City Council and the Quezon City Regional Trial Court;

10. Farmers and farmers' associations (e.g., Network of Concerned Farmers, the Biological Farmers of Australia; and MASIPAG)
11. Others (including religious leaders, websites, surveys or public opinion polls)

### **Intercoder Reliability**

“Given that a goal of content analysis is to identify and record objective characteristics of messages, reliability is paramount” (Neuendorf, 2002, p. 141). Without establishing reliability, a measure cannot be considered valid. Intercoder reliability is defined by the level of agreement among independent coders who code the same content using the same coding instrument (Wimmer and Dominick, 2006).

Two graduate students, including the author, coded the variables. To compute inter-coder reliability, both students coded articles that constitute 10% of the entire sample. To arrive at this sample with which to pre-test the coding protocols, the articles from each country website were numbered. A number was selected from a table of random numbers. Starting from the article that corresponds to that number, every fifth article was chosen. This roughly translates to 25 news and press release articles from the Philippine and Australian sites combined, and three pages from Greenpeace's major campaign portal. Inter-coder reliability was assessed by computing for Cohen's kappa in which

$$Kappa = \frac{\% \text{ observed agreement} - \% \text{ expected agreement}}{N \times (\text{number of coders}) - \% \text{ expected agreement}}$$

Based on the results of the inter-coder reliability test (Table 2), adjustments to the codebook were made and additional training was conducted until the acceptable level of reliability was achieved. Three out of the 19 variables of interest achieved a Cohen's kappa of 0.80 or greater; all of them were greater than 0.75.

*Table 2. Summary of the intercoder reliability tests*

Variables	Intercoder Reliability	
	Test 1	Test 2
Message characteristics		
Objectives	0.70	1.00
Arguments	0.50	0.91
Appeals	0.80	1.00
Articles	1.00	1.00
Visuals	1.00	1.00
Message frames		
Biotechnology industry	0.83	0.88
Call to action	0.67	0.78
Economic consequences	0.83	0.87
Environmental risks	0.83	0.88
Ethical/Morality	1.00	0.77
Human health risk	0.83	0.84
Labeling	0.76	0.78
Policy	0.83	0.88
Patent/Property rights	1.00	1.00
Technical	0.72	0.78
Dominant frame	1.00	0.95
Number of frames	0.65	0.78
Number of Sources	0.65	0.78
Source category	1.00	1.00

### Data Analysis

Frequency distribution data and descriptive statistics were used to determine message characteristics.

A Pearson chi-square test was used to ascertain if there were significant differences in (1) frames applied in the Australian and Philippine websites and (2) the types of sources cited in the two websites. To ascertain if there is a significant difference in terms of (1) total number of frames applied and the (2) total number of sources used in the two websites, independent samples t-tests were conducted.

## CHAPTER 4

### RESULTS AND DISCUSSION

This study examines (1) the characteristics of messages Greenpeace disseminates through the main site of its online “Say no to genetic engineering” campaign in terms of (a) message objectives, (b) types of arguments present, (c) types of appeals used, and (d) proportion of text to visuals in the coverage. In addition, (2) the frames applied and (3) the sources cited in the news items or reports posted on Greenpeace’s campaign websites intended for audiences in the developed and the developing world were identified. The study tested whether (4) there was a significant difference between the frames used in these two sites and (5) the sources cited in the site news reports.

#### Message Characteristics

Greenpeace International’s “Say no to GE” website is composed of 29 pages categorized into five main topics: 1) food, 2) feeding the world—fact versus fiction, 3) GE agriculture and genetic pollution, 4) biosafety protocol and 5) failings of GE (Table 3). Almost half (45%) of the pages fell under the GE agriculture and genetic pollution category, which focused on genetically engineered crops (such as canola, corn, rice and papaya) as well as germplasm patenting and genetic pollution. Almost a fourth (21%) of the pages were devoted to food issues that emphasized labeling and consumers’ right to know, the conflict between consumer and corporate control of the food system, and the presence of GE crops as ingredients in animal feeds.

Web pages that discussed biosafety protocols (17%), the “myths” about GE’s ability to solve world hunger (10%), and what the organization considers as the failings of GE (3%) make up the rest.

Table 3. Hierarchy of Greenpeace anti-GE webpages

First-level	Second-level	Third-level
Food	Labeling	What is happening to your country?
	Consumer VS Corporate control	WTO and the GE giants
Feeding the world – fact VS fiction	Risks	
	Solutions	
GE agriculture and genetic pollution	GE crops, fish and trees	Canola/oilseed rape Maize Papaya Rice Seed contamination Soya Wheat Fish Trees
	Genetic pollution Patents on life	
Biosafety Protocol	Key provisions of the biosafety protocol	
	The Miami group – the bad guys Biosafety Protocol 2006 documents Cartagena Protocol – biosafety	
Failings of GE		

Figure 2 shows the homepage of the campaign website. Like all the other pages on the site, it has a three-column layout with the main navigation buttons located on the first column from the left. The third column lists the links to other Greenpeace sites and GE news. For this study, only the contents of the second column, containing the main article and pertinent graphics and links, were examined. To determine message characteristics, all 29 pages found on the “Say no to GE” website were examined for message objectives,

arguments and appeals employed. In addition, the length of the articles was ascertained and the number of visual devices and hyperlinks found on the page was counted.



Figure 2. Basic layout of Greenpeace International's "Say no to genetic engineering" website (<http://greenpeace.org/international/campaigns/genetic-engineering>)

The first research question asks: What are the characteristics (message objectives, types of arguments present, types of appeals used, and proportion of text to visuals in the coverage) of messages Greenpeace disseminates through the main site of its online "Say no to genetic engineering" campaign?

### Objectives

The content analysis shows that most of the pages (76%) were intended to create awareness among audiences while almost a fourth (24%) was meant to persuade. None of the pages offered instructions about what people ought to do about genetic engineering.

The pages aimed at increasing the audience's awareness of GE focused on presenting information about the risks that GE pose to the environment and people's health, as well as the disadvantages it is likely to produce for different stakeholders. Because the international website caters to a wide range of readers, it is logical that most of the messages about GE published within it are those that encourage more information-seeking among readers with the intent to sensitize people to the threat the organization considers to be inherent to genetic engineering. By stimulating interest and concern, Greenpeace is able to present evidence and instructions from specialized sources through the use of external links. Those links also encourage readers to further explore the subject. The deployment of this technique demonstrates that the organization is very much cognizant of the fact that awareness is the first step in the behavior change process their public communication campaign wants to take place.

Persuasion, the second step in the behavior change process, was the objective of almost a fourth of the pages. Persuasive messages were dominant in pages that outlined the "fallacies" behind the widespread claim that GE would be able to feed a hungry world. Scientific data and evidence were often cited to disprove the claim that, for example, golden rice would cure vitamin A deficiency among the children of the developing world. Data on the extent of genetic pollution were highlighted to emphasize the risks posed by GE to biodiversity and general environmental health.

Based on these findings, it can be said that Greenpeace treats its audiences as "latent" and "aware" publics by employing awareness and persuasion messages to address the information needs of these two types of audience segments. According to theory, members of the non-public audience do not recognize GE as a problem. The active public, on the other

hand, is already doing something about it. In between these two are the latent and the aware publics—those who have yet to make up their minds about the issue. Because the latitude for issue elaboration is high for these two audience groups, campaigners have a greater chance of persuading them to take their side in the debate. In other words, because these two groups can be classified as still “uncommitted” about the GE issue, they become more worthy targets of campaign efforts. The way that Greenpeace has identified its target audiences, therefore, is highly feasible and theoretically sound.

### **Arguments**

The results also show that most of the arguments presented on the webpages drew on logic (35%), emotions (28%) or a combination of both (21%) (Figure 3). In doing so, Greenpeace suggests that its position against genetic engineering is logical and based on sound evidence. This is exemplified by their frequent use of statistics, derived from polls and other survey results that aim to measure consumers’ opinions related to, for example, labeling to back up claims.

Another important way that *logos* is applied is by referencing ostensibly independent scientific studies on environmental and health risks associated with GE, and by posting links to resources within or outside their website. A clear example of this is their use of information obtained from scientific reports and briefing documents, as well as external links to more information about the Cartagena Protocol on Biosafety.

*Pathos* is used mainly in pages where the risks attributed to GE are explained. Here, the text often uses strong and colorful adjectives to bring home the point that GE crops are risky. A case in point is the first sentence in the page devoted to genetic pollution: “The introduction of genetically engineered organisms into the complex ecosystems of our



environment is a dangerous global experiment with nature and evolution. Genetic scientists are altering life itself.” Using pathos allows the organization to appeal to the audience’s sense of identity, describing GE as a threat to people’s self-interest.

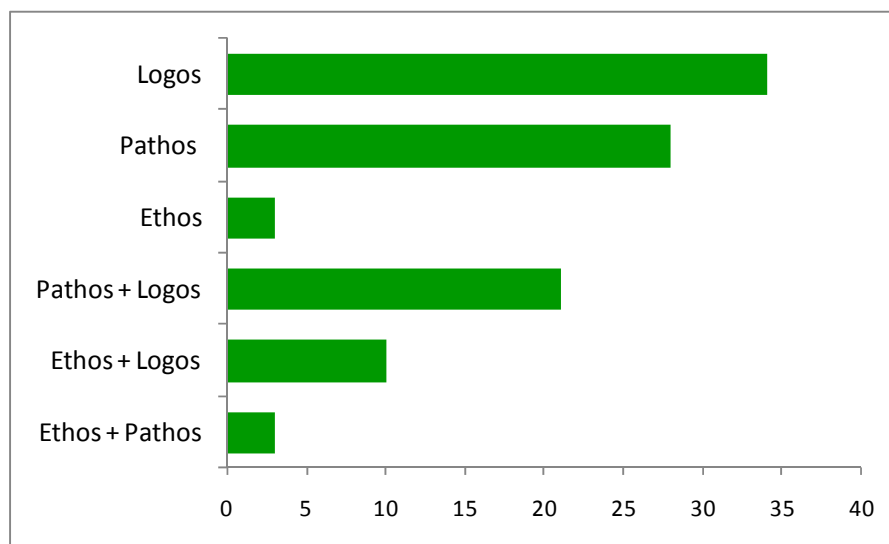
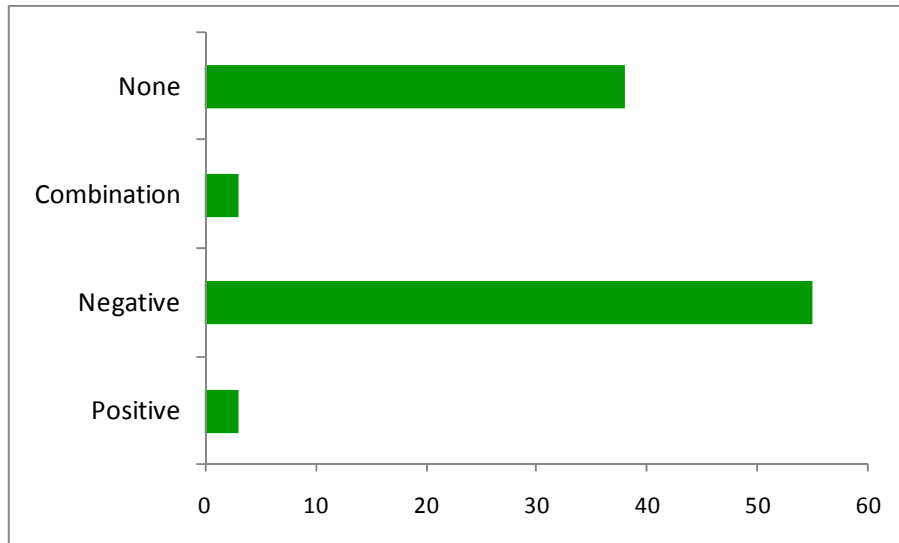


Figure 3. Percentage of argument types used in Greenpeace International’s GE site

There were only two instances in which ethos was applied. Both of these discussed the organization’s experience and authority in environmental campaigning. Greenpeace, it claims, is a veteran in safeguarding the environment and is therefore trustworthy. Based on the focus given to logos and pathos argument types, one can say that Greenpeace categorizes its GE target audiences as latent and aware publics, respectively.

### Appeals used

In terms of appeals, more than half (55%) of the pages emphasized the risks and disadvantages of adopting GE although almost two-fifths (38%) neither emphasized risks nor the advantages or benefits of not adopting GE (Figure 4). Only one page used a positive appeal. This finding comes as no surprise considering that fear appeals have been a pervasive strategy in public communication campaigns especially in the health sector (Witte and Stephenson, 2001, Witte & Allen, 2000).



*Figure 4. Percentage of appeal types used in Greenpeace International's GE site*

The results indicate that Greenpeace continuously warns its audiences about the harmful results of GE crops to farmers' livelihoods, consumers' health, and the environment. Except for two, all of the 15 pages that employed negative or fear appeal were those under the GE agriculture and gene pollution subject headings where individual crops and their disadvantages were thoroughly discussed. The pages that used neither positive nor negative appeals were mainly those that laid out the main issues related to GE, such as product labeling, GE ingredients in animal feeds, and the Cartagena Protocol for Biosafety. The lone page that contained positive appeals talked about solutions to GE, emphasizing how farmers can get premium prices on organic crops in the export market, and equating organic farming to sustainable agriculture that is compatible with sound environmental management.

### Proportion of text to visuals

The pages examined mostly featured only one article (90%); only three (10%) had six articles or more. The average length of these articles was 87 words ( $M=86.6$ ,  $SD=1.0$ ). Almost all of the pages (83%) had at least one visual, three pages (10%) had two, and a couple (7%) had none. The proportion of text to visuals was calculated by dividing the number of articles in the page by the number of accompanying visuals. The findings show that a large majority of the pages (83%) had a 1:1 correspondence between text and visual, a couple (6%) had a ratio of 2:1, and one page had three articles to one visual.

The links to other pages were also counted. The number of links per page ranged from zero to 16, with most (48%) having one to four links, seven (24%) had five to eight links, and seven (24%) had more than 12 links. All but one of the pages contained internal links that led to other Greenpeace pages.

According to Moffitt (1999), when designing messages for the four types of audiences as proposed by Grunig (1984), the amount of text and visuals on the page have to be taken into consideration. Messages meant for *active* publics, for example, should contain more “copy points” and visual supplements; the *aware* public needs less copy but more visuals. For the *latent* public, few knowledge-based information, little opinion, and more visuals than usual would be best. Based on the results, it can be inferred that Greenpeace International’s online messages against GE are targeted to a latent and an aware public.

The message characteristics of the Greenpeace anti-GE site intended for their pre-defined target publics are presented in Table 4. In summary, the results indicate the Greenpeace presents its messages in ways that cater to the information demands of its identified audiences. The methods of presenting these messages—whether in terms of

appeals used and the proportion of visuals employed—demonstrate an awareness of appropriate presentation forms that are not only clear but also theoretically sound.

*Table 4. Greenpeace GE message characteristics and target publics*

<b>Message characteristics</b>	<b>Main technique used</b>	<b>Assumed type of public</b>
Objectives	Awareness	Latent
	Persuasion	Aware
Arguments	Logos	Aware
	Pathos	Latent
Appeals used	Negative	-
	None	-
Text : Visuals	1:1	Aware

### **Message Frames**

The second research question asks: What frames were applied in news items or reports posted on Greenpeace’s campaign websites intended for audiences in the developed and the developing world? Is there a significant difference between the frames used in the sites targeted at a developed and a developing country?

#### **Patterns of news coverage**

There were a total of 268 news stories and press releases examined for frames. Of these, 209 were published by Greenpeace Australia and 59 by Greenpeace Philippines. Of the 209 articles in the Australian site, more than half (65%) were press releases; the rest were news items (35%). In the Philippine site, sixty-eight percent were news items; the rest (32%) were press releases (Figure 5). The articles ranged from 103 to 1260 words in length, with a mean of 469 words (SD=207). The Australian articles were shorter (M= 390, SD=132) than the Philippine articles (M=749, SD=180).

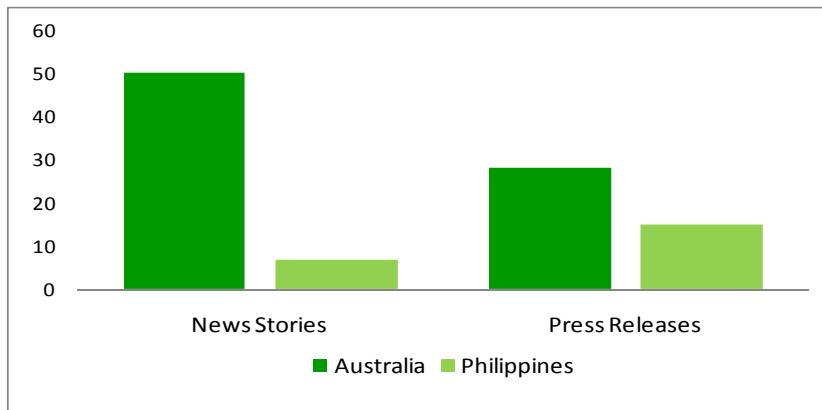


Figure 5. Percentage of news stories and press releases by country

As Figure 6 shows, in the Australian coverage, almost a third of the articles (30%) were published in 2003; a fifth saw publication in 2004. A spike in coverage, however, occurred in 2003, a year that produced more than twice the average number of articles (30) released annually. In 2003, Australia's Office of Gene Technology Regulator (OGTR) approved the release of herbicide-tolerant GE canola crops, prompting a spate of articles that opposed the measure. Thus, in 2004, most state governments placed a moratorium on growing GE canola in response to consumer concerns. The year 2004 also saw Greenpeace pressuring Ingham, Australia's largest chicken and turkey meat producer, to feed their poultry with GE-free rations. Dramatic rises in coverage accompanied these events.

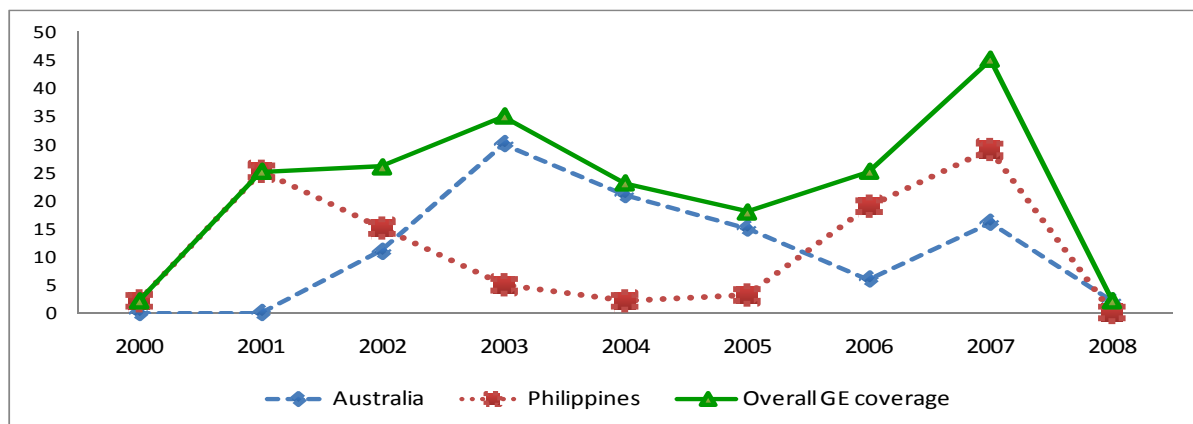


Figure 6. GE news and press release coverage in the Australian and Philippine websites

In the Philippine coverage, on the other hand, more than one-fourth of the articles were published in 2001 (25%) and 2007 (29%). Coverage here started with twice the average number of articles per year (7) in 2001; another spike (almost two and a half times the average number of articles) is seen in 2007. These spikes in coverage went in tandem with definite “triggering events.” In 2001, Greenpeace focused on GE content in popular Philippine food products marketed by multinational companies such as Novartis, Nestle and Gerber. Such articles questioned the double standards these corporations apply regarding the GE content of their products marketed in developed and developing countries, implying that Third World nations are being used as “dumping grounds” for GE-contaminated products. In 2002, there were also a good number of articles (15%) that underscored the need for Filipinos to halt the approval of Monsanto’s Bt corn, which was eventually approved in December 2002, making the Philippines the first country in Asia to officially approve a GE food crop.

The second spike in Philippine coverage in 2007 is related to the Department of Agriculture’s (DA) review process of Bayer’s application for the commercialization of its LL62 (liberty link variety) GE rice. In its campaign, Greenpeace Philippines underscored the threat this poses to the national staple crop, filing a temporary restraining order to stop the DA from approving it. In September 2007, the Quezon City regional trial court issued a preliminary injunction stopping the approval of Bayer’s GE rice.

### **The frames**

The articles were examined for 10 GE frames identified through literature review and the specific slants employed, as follow:

1. Biotechnology industry = giant biotech companies are evil;
2. Call to action = you must do something about GE;

3. Economic consequences = small farmers and consumers always lose, big business always wins;
4. Environmental risk = superweeds and fugitive pollen will take over farmers' fields;
5. Ethical = GE is morally wrong;
6. Human health risk = will we risk eating frankenfood?;
7. Labeling = we have the right to know what's in our food;
8. Policy = GE must be stopped or at least regulated;
9. Patent = why should we cede our right to seed?; and
10. Technical = GE technology explained.

An analysis of overall coverage shows that more than half (62%) of the articles used four of the 10 frames (M=4.14, SD=1.51) listed above. The Australian coverage mostly used four of the 10 frames (M=3.94, SD=1.56) whereas the Philippine coverage displayed five (M=4.85, SD=1.48) (Figure 7).

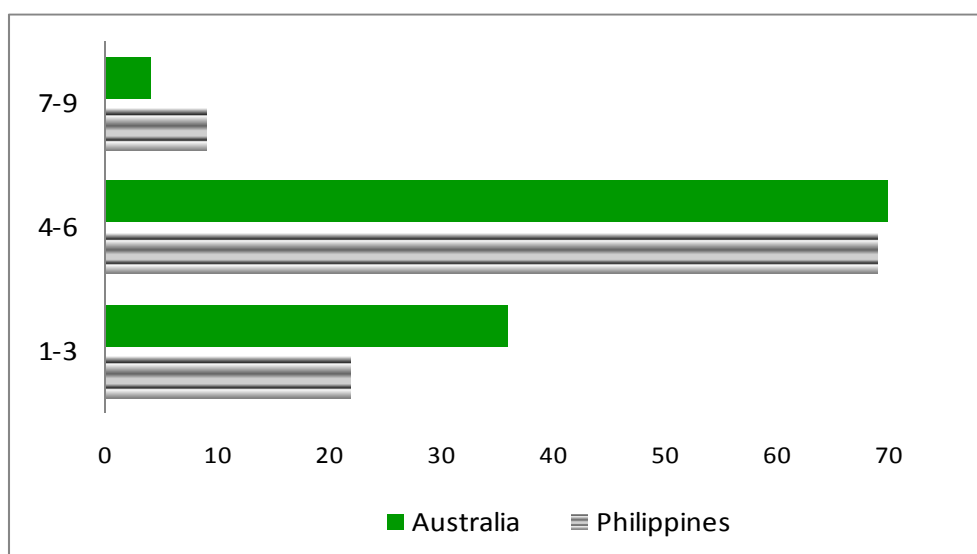


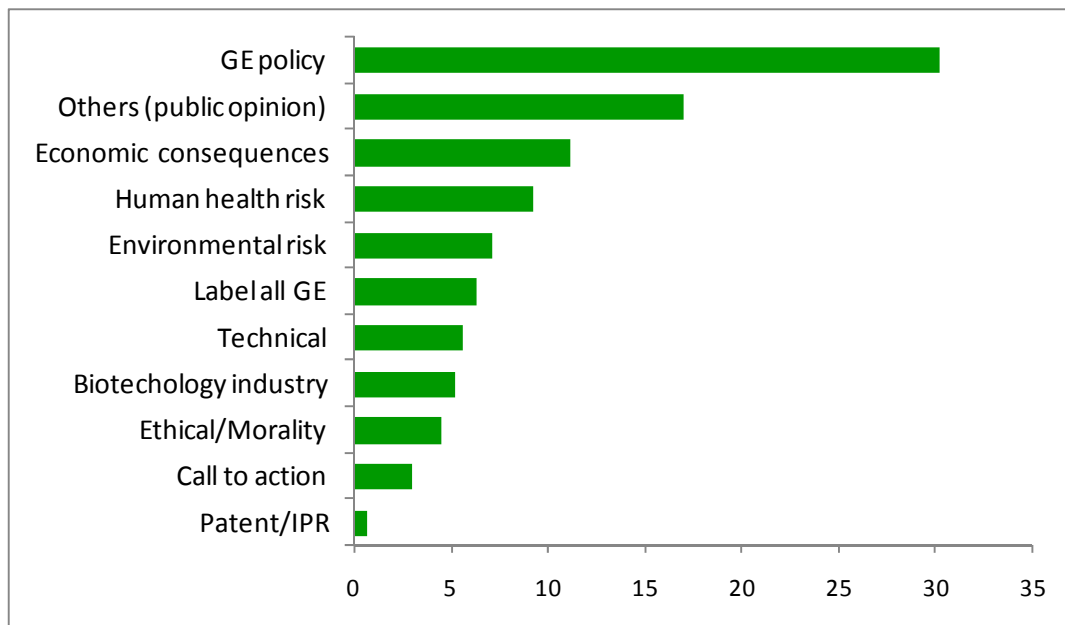
Figure 7. Number of frames used in the Australian and Philippine GE coverage

The results of an independent samples t-test show that the Australian coverage was significantly different from that of the Philippines in terms of the number of frames used [ $t(266) = 4.201, p < .001, df = 266$ ]. As Table 5 indicates, the Philippine coverage significantly employed more frames.

*Table 5. Independent samples t-test showing significant difference in number of frames used in the websites of the two countries*

Country	N	M	SD	SEM	F	t	df	Sig
Australia	209	3.94	1.47	.101	0.061	4.201	266	.000*
Philippines	59	4.85	1.48	.193				

In the content analysis, a distinction was made between the dominant frame that structured the entire story and the other frames present in an article. The results show that Greenpeace applied the policy frame to structure more than one-fourth (30%) of the articles it published (Figure 8).



*Figure 8. Dominant frames identified in the GE coverage in both countries*

In the early part of the coverage, the policy frame was used most often in the Australian articles (Figure 9). These articles focused on putting pressure on state legislators



to impose a moratorium or state crop bans on the OGTR-approved GE canola. Later, the policy focus shifted to the large meat producers' animal feeding practices. The most recent coverage highlighted the need to extend the five-year state moratoria most of which were set to end in February 2008.

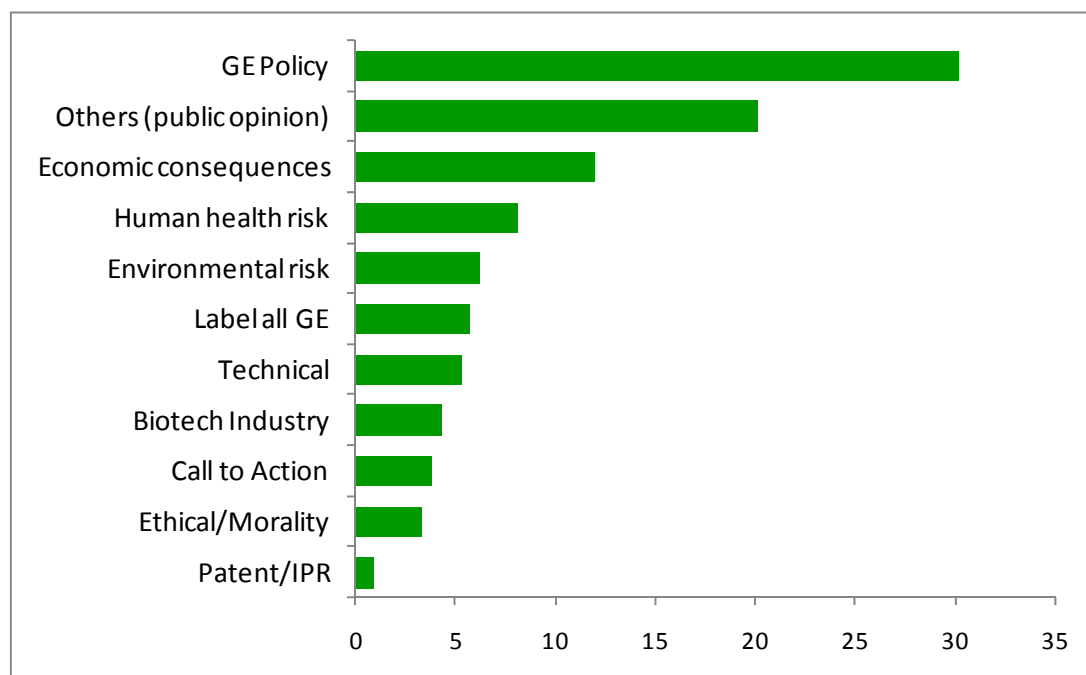


Figure 9. Incidence of dominant frames identified in Australian GE coverage

The policy frame in the Philippine coverage (Figure 10) questioned the government regulatory body's transparency in the GE crop approval process. In addition, policy-dominant articles drew attention to the need for a mandatory labeling law for GE food products, a legislation that is non-existent in the Philippine food system.

The top five frames Greenpeace used in its discourse about genetic engineering in both countries were policy (65%), environmental risks (51%), economic consequences (45%), the biotechnology industry (44%), and health risks (43%) (Figure 11).

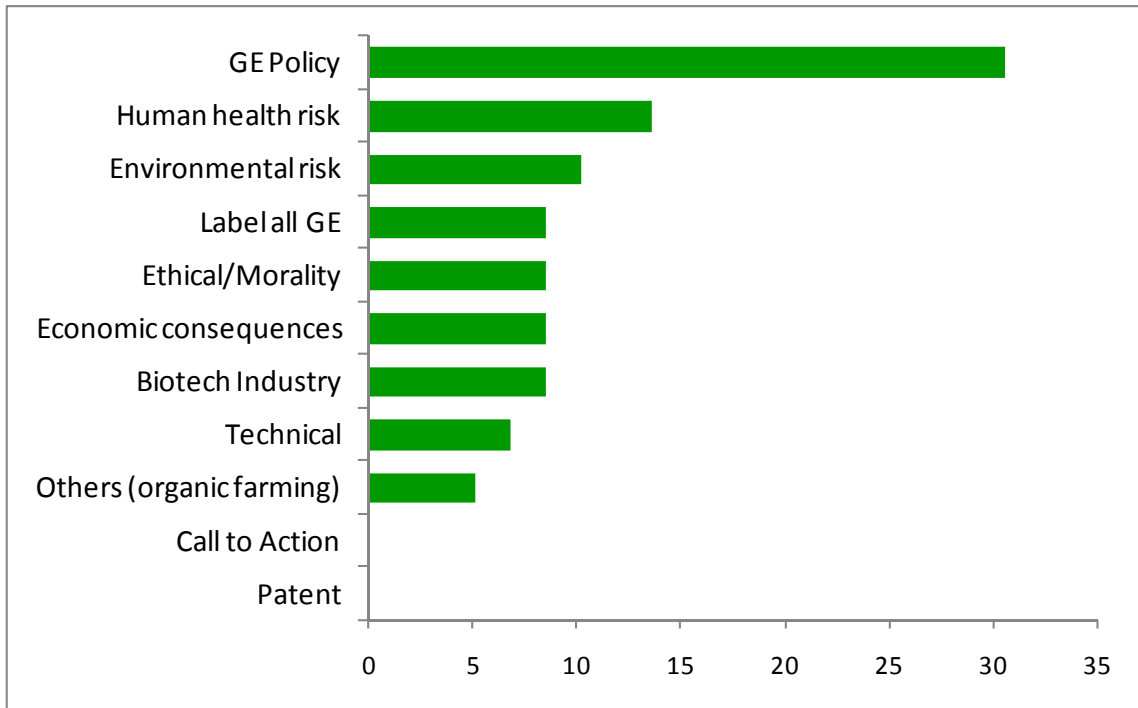


Figure 10. Incidence of dominant frames identified in Philippine GE coverage

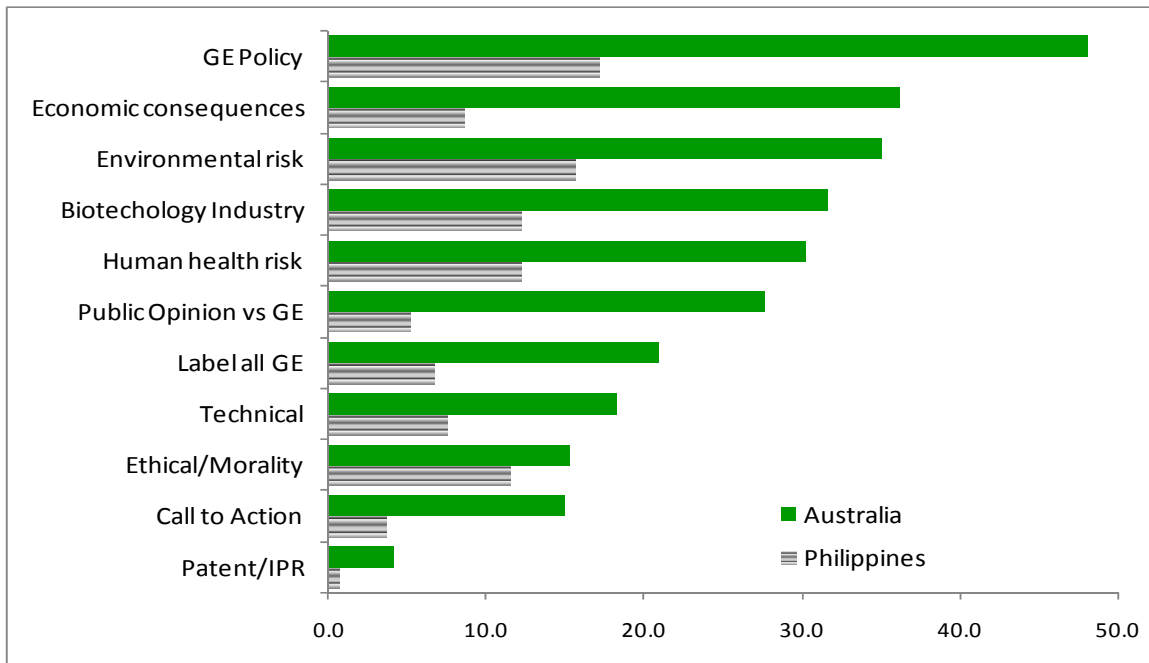


Figure 11. Frames applied in the Australian and Philippine GE coverage

The same trend in frame use is seen in the Philippine coverage although the Australian coverage slightly differs in its more slightly pronounced application of the economic consequences frame (36%) compared to the environmental risk frame (35%).

A chi-square test conducted to test the difference in GE coverage between the two countries in terms of the dominant frame applied did not show a significant result [ $X^2(11, N = 268) = 16.95, p > .05$ ] (Table 6).

*Table 6. Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the dominant frame applied in a story*

<b>Dominant Frame (N=268, df=1)</b>	<b>X<sup>2</sup></b>	<b>p</b>
Biotechnology industry	2.63	0.11
Call to action	2.63	0.11
Economic consequences	0.56	0.45
Environmental risks	1.09	0.29
Ethical/Morality	2.83	0.09
Human health risk	3.14	0.08
Labeling	0.56	0.45
Policy	0.00	0.96
Patent/Property rights	0.56	0.46
Technical	0.00	0.96
Other	3.34	0.07

Chi-square tests were conducted to determine whether coverage in the two countries differed in terms of the presence of the individual frames identified. The results suggest significant differences in the use of industry frames [ $X^2(1) = 4.35, p = 0.04$ ], environmental risks [ $X^2(1) = 12.65, p = 0.00$ ], ethical/morality [ $X^2(1) = 25.39, p = 0.00$ ], human health risk [ $X^2(1) = 5.55, p = 0.02$ ] and legal policy frames [ $X^2(1) = 5.36, p = 0.02$ ] (Table 7). In all of these frame comparisons, the Australian coverage outperformed the Philippine coverage in

frame use. The results, however, may have been affected by the large disparity in the number of articles. Australian articles far outnumber those from the Philippines.

*Table 7. Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the use of individual frames*

Frame (N=268, df=1)	$\chi^2$	<i>p</i>
Biotechnology industry	4.35	0.04
Environmental risk	12.65	0.00
Ethical/morality	25.39	0.00
Human health risk	5.55	0.02
Policy	5.36	0.02
Call to action	0.15	0.70
Economic consequences	1.03	0.31
Labeling	0.32	0.57
Patent or Intellectual property rights	0.35	0.55
Technical	2.63	0.11

### The Sources

The third research question asks: What sources were cited in Greenpeace websites targeted toward a developed versus a developing country? Is there a significant difference between the sources used in these two sites?

In the two countries' coverage combined, an average of three (M=2.99, SD=1.63) sources were cited in each article. The Australian coverage often featured two (M=2.5, SD=1.34) sources whereas the Philippine coverage used an average of four (M=4.49, SD=1.68). The results of an independent samples t-test show a significant difference between the two coverages in the number of sources used,  $t(266) = 9.18, p < .001, df = 266$ , with the Philippine coverage citing significantly more sources (Table 8).

*Table 8. Independent samples t-test showing significant difference between Australian and Philippine coverage in terms of the number of sources used*

<i>Country</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>	<i>F</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
Australia	209	2.56	1.35	0.09	0.84	9.18	266	.000*
Philippines	59	4.49	1.69	0.22				

The first three sources cited in each article were identified and their name, title, and agency affiliation were coded. Then, the sources were categorized into groups. Overall, advocacy groups, specifically Greenpeace campaigners (48%) and representatives from government offices, (17.5%) were most often cited first. The same is true for the second sources cited in which Greenpeace campaigners (35.8%), government officials (11.6%) and others (11.6%) such as polls, news articles and surveys (not clearly attributed to any organization) were mentioned most often. The third sources cited were still most often advocacy groups (17%) and government representatives (15.7%).

In citing its own people on the field first, Greenpeace operates much like a large international news organization. Furthermore, in doing so, Greenpeace legitimizes itself as an organization, suggesting that they are the best authorities to talk about the issue.

As expected, similar to generic media coverage, representatives from the government were among the most prominent sources quoted in Greenpeace GE articles. Perhaps more surprising is the low number of scientists or scientific articles quoted (6%) for an essentially scientific and technological issue such as genetic engineering. This indicates an absence of a more rational and scientific slant to the issue, making the debate largely partisan and highly political.

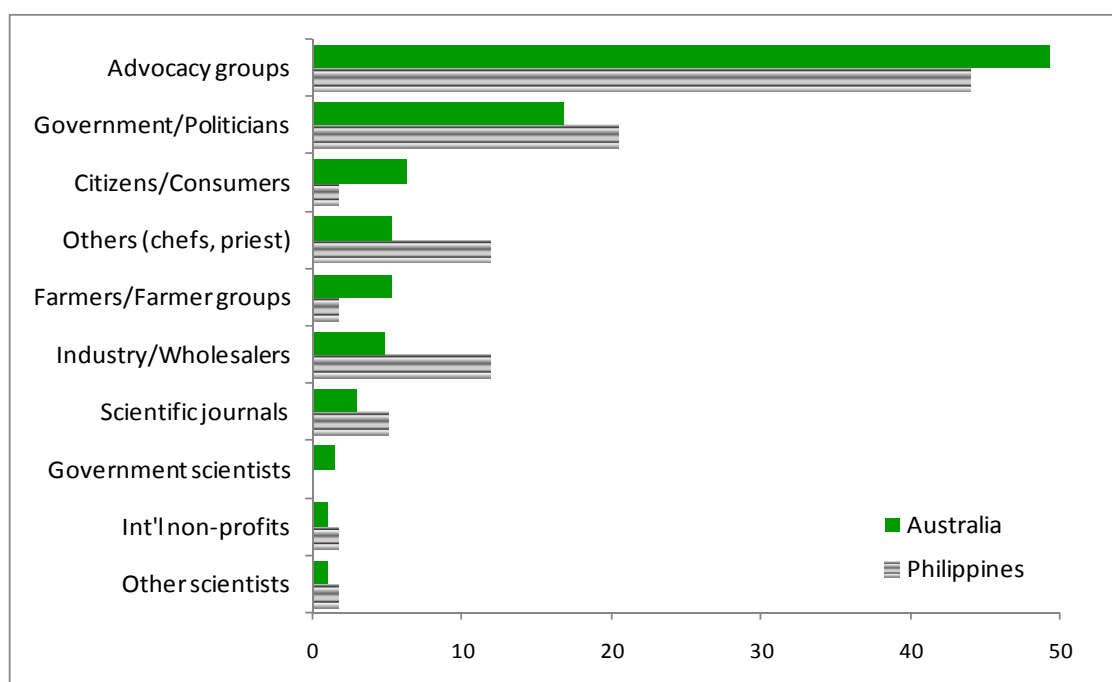


Figure 12. Percentage of types of sources cited in the Australian and Philippine articles

A chi-square test was performed to determine if the sources cited in the Australian coverage differed significantly from those in the Philippine coverage. The results showed no difference between the two groups [ $X^2(11, N = 268) = 15.97, p > .05$ ] with respect to the first sources mentioned (Table 9).

Table 9. Summary of chi-square results testing the difference between Australian and Philippine coverage in terms of the first source cited

First source cited (N=268, df=11)	$X^2$	$p$
Scientists from universities and university-based research institutions	0.29	0.59
Government scientists	0.87	0.35
Other scientists	0.22	0.64
Scientific journals and journal editors	0.04	0.85
Industry, industry associates, wholesalers	5.53	0.02
Ordinary citizens and consumers	4.53	0.03
Advocacy groups	0.60	0.44
International not-for-profit groups	0.22	0.64
Politicians and government employees	0.08	0.78
Farmers and farmers associations	0.17	0.68
Others	3.12	0.07

In summary, most of Greenpeace's webpages were meant to create awareness and encourage information seeking among its identified target audiences. Logos argumentation was employed by citing statistics and using logical reasoning. For the most part, the pages highlighted the risks of genetic engineering by means of negative appeals. Nearly all pages allocated one visual per article. Taking the message characteristics into consideration, it can be inferred that Greenpeace International targets its GE messages toward latent and aware publics and applied message strategies pertinent to the characteristics of these audience segments.

A content analysis of two separate websites exclusively dedicated to Australia and the Philippines showed spikes in news items published that preceded the approval of the commercial release of genetically modified crops: GE canola in Australia in 2003, and Bt corn and Bayer rice in the Philippines in 2002 and 2007, respectively. In both countries, biotechnology policy was the most dominant frame that structured the articles, with the Philippines using significantly more frames and sources in longer stories. The sources most often cited first were Greenpeace representatives or spokespersons.

## CHAPTER 5

### IMPLICATIONS AND CONCLUSIONS

This study examined the message characteristics of Greenpeace International's anti-GE website and the framing of genetic engineering in Greenpeace news articles and press releases in two countries, Australia and the Philippines. Content analysis was conducted to determine the objectives, arguments and appeals employed and the proportion of text to visuals in the webpages. The articles were also content analyzed for the specific frames used.

Greenpeace's anti-GE messages found on its international website were mostly aimed at two types of publics based on Grunig and Hunt's (1984) categorization—the latent and the aware. A majority of the webpages presented messages clearly meant to heighten awareness and stimulate interest about the risks the organization finds inherent in genetic engineering for a latent audience. Few were aimed at persuasion and none attempted to impart instructional messages. Because the international site caters to a more diverse and mixed audience, its content can be considered mainstream by Greenpeace standards. The main objectives of the international site were to capture attention, drum up concern, and promote active information-seeking. A clear indication of this is the finding that almost half of all pages had one to four links, encouraging the reader to learn more about a topic by showing a website architecture loaded with access to external pages related to the subject matter at hand. Another type of audience that the website accommodates are members of an aware audience, those defined as already familiar with the issue and need compelling messages to goad them to action.

By and large, the arguments the international site features appealed to logic first and emotions second. These appeals highlight the organization's reliance on rational audiences



that are seen as adroit decision makers without neglecting those who can be reached and swayed emotionally.

Negative or fear appeals were largely used to discuss GE, a finding consistent with the strategy of an aggressive advocacy group (source). At least one visual almost always accompanied an article on a webpage, which shows the organization's attention to audiences who need visual stimulation to bring the message home, especially in a medium in which graphics presentations offer minimal technical challenge.

All news stories and press releases published in the Australian and Philippine websites were examined to determine whether message frames differ by country. Considering two countries with radically different circumstances, will there be a difference in how Greenpeace shapes its messages?

An examination of the news and press release coverage in the two countries reveals that the ebb and flow of news coverage coincided with specific triggering events. The Australian site saw increased coverage (in terms of number of press releases and news items featured) right before and during the Australian government's decision to commercialize GE canola in 2003. The second trigger occurred in 2008 following the conclusion of a five-year moratorium on GE canola imposed by individual states in defiance of the national government's approval. In the Philippines, spikes in coverage happened following two important occasions—the commercialization of Bt corn in 2002 and Bayer's application for the commercialization of its GE rice variety, LL62. In both coverages, commercialization brought a dramatic spate of articles, demonstrating increased visibility of the issue and amplified Greenpeace action.

The findings suggest an important contribution to the coverage of biotechnology topics. Specifically for GE, commercialization of a crop may trigger increased coverage. That is, the impending commercialization of a GE crop is an important explanatory (if not mitigating) variable. Also, as coverage intensifies, more sources will be cited in each story and within the coverage as a whole, suggesting heightened controversy; at the same time, the probability of a more negative treatment of the biotechnology innovation also increases as controversy and more polarized viewpoints emerge. Finally, frame use at periods of peak coverage will decline as sources with competing views battle to define the issue based on few but sharper issue aspects. In short, fewer frames will resonate or will be used repeatedly to sharply define an objective. The same issue is thus likely to be discussed from fewer but highly contested angles that can be readily controlled by those who wish to influence coverage the most.

A closer examination of the frames applied by Greenpeace Australia and Philippines in their news stories and press releases showed the use of specific generic frames culled from GE literature. This suggests that Greenpeace does not blindly employ a hodgepodge of frames. It latches on to a few and exploits these frames to explain its advocated position. For example, the “industry” frame the organization uses focused on specific biotechnology companies and their “evil” agenda of taking over control of agriculture from farmers. Articles that used this frame discussed the potential of multinational corporations that produce genetically modified seeds to wrest freedom of choice away from consumers. To offset this, the sites alert consumers to these companies’ upcoming research agenda. The “call to action” frame repeatedly exhorted readers that they are able to do something against GE as ordinary consumers by signing petitions, joining a grocery labeling watch or enlisting

as volunteers, among other actions. The “GE menace” frame was stressed by using three but not so common main categories of risk—economic consequences, environmental and human health risk. “Small farmers always lose; giant multinational firms always win” was the recurring theme of the “economic consequences” frame. Articles applying this frame in news discourse described the financial losses small-scale farmers can incur with the loss of special or niche markets if they grow GE crops. Superweeds and fugitive pollen taking over local farmers’ fields was the specific slant employed when the “environmental risk” frame was deployed.

Articles using the “human health risk” frame challenge readers’ willingness to risk eating “ Frankenfoods,” referencing the ability of genetic engineering to inadvertently create “monsters.” The “labeling” frame extolled the consumers’ right to know exactly what is in their food. In the Philippines, the lack of a mandatory labeling law was interpreted as “force-feeding” people with unwanted GE food. The few instances when the “patent or intellectual property rights” frame was used revolved around the question of why farmers should give up their age-old right and tradition to save seeds for the next cropping seasons in favor of the “terminator technology.” The “ethical” frame stressed that GE is undesired, unneeded, and unnecessary. Thus, it is morally wrong. The “technical” frame usually explained the science involved behind individual GE crops, describing how Bt corn and herbicide-resistant canola work, for example. Lastly, the “policy” frame stressed that GE must be stopped or, at the very least, regulated.

The policy frame used in relation to an existing national policy varied between Australia and the Philippines. In Australia, emphasis was given to putting in place state-initiated moratoria, a policy to counter a nationally-implemented regulation of GE canola

approval. In the Philippines, the policy frame drew attention to flaws in the national GE regulatory process and the lack of transparency in the way the country's regulatory bodies conduct their business. The Philippine government also had to contend with accusations of pro-GE bias; an accusation brought to bear by the country's permissive policy stance toward GE.

Given the discrepancy between Australia and the Philippines in terms of current national policy regarding genetic engineering, possible differences in terms of the frames used and the sources cited in the coverage in both countries were anticipated. Although differences were found in how individual frames were used, the dominant frames were the same. The "policy" frame structured most of the articles in both countries although differences were found in how this specific frame was used.

The reason why no significant difference was found in the dominant frame used may lie on the agricultural biotechnology policy stance each country has taken. Although both nations have already articulated a policy stance, they are still open to a great degree of flexibility Greenpeace can exploit using a "foot-in-the-door" technique. For example, the organization has been successful in pushing for a moratorium on GE canola in a number of states in Australia. It also won a court injunction against the commercial distribution of Bayer's GE rice in the Philippines. Thus, cognizant that the implementation procedures in both places are still in flux; Greenpeace still pushes aggressively to effect policy change. Second, any interest group with a strong stance for or against a issue would like to be known for their major stance. Thus, it is in the best interest of this group to reduce the available frames, and focus public attention on what is considered as the most important frame (in the case of Greenpeace, the policy frame). In this way, Greenpeace provides greater support for

its objective of changing legislation or policy. Moreover, it is not unusual for a large organization that is international in scope to have staff members able to frame an issue at the country-level in a way that is consistent with the goals of the global campaign. In this way, Greenpeace projects a clear and coherent stance against GE at all levels of their operations.

This study found that Greenpeace utilizes narrow, fine-tuned issue-specific frames to structure its coverage of genetic engineering in Australia and the Philippines. For future framing researches that look at specific interest groups, it is suggested that past literature be thoroughly examined for the possible frames that may be encountered in the coverage and apply these to the text. Then, the frames found will be further examined to tease out the variations in how these are used and subtle differences in the frames may then become apparent. In the case of Greenpeace, they choose a specific frame that they want their audience to think about and focus on.

The finding that Greenpeace cites its own spokespersons and GE campaigners as the pre-eminent sources in their coverage was not surprising. By putting this practice in place, it resembles any large news organization with operations or bureaus in many countries. Also anticipated was the pervasive use of government representatives as sources. What is surprising, however, was the minimal use of scientific sources such as scientists and scientific journals to handle a highly technical topic. This is probably why Greenpeace has been decried as an organization that has forcibly relocated the GE debate from the appropriate scientific arena to the less precise and less logical realm of politics.

Nonetheless, the findings of this study indicate that Greenpeace's online "Say no to genetic engineering campaign employed message strategies that were theoretically sound and paid attention to what theory suggests. Thus, from a pro-GE interest group perspective,

Greenpeace can be considered as a legitimate threat, and should be taken seriously. Consequently, interest groups that seek to campaign for genetic engineering would benefit from knowing about the strategies of their competition and by surveying the tactics that Greenpeace employs would allow them to target their opponent better. Furthermore, the pro-GE campaign has to understand the ‘frame’ which Greenpeace draws attention to in relation to the issue if the pro-GE interest group were to counteract or at least neutralize the impact of the anti-GE campaign. The pro-GE interest group can then frame their campaign messages accordingly, thereby amplifying their impact by making sure that only frames that resonate with its audiences are employed.

### **Limitations and Suggestions for Future Study**

This study, which attempts to scrutinize the campaign strategies of an acknowledged environmental advocacy group, is limited in scope and its analysis of effects. It focused only on Greenpeace’s online efforts, and examined the techniques it applied only in two countries in the Asia-Pacific region.

Essentially a case study of how Greenpeace operates in Australia and the Philippines, this study ignores other major stakeholders in the GE issue. Research that takes into account the dynamics of the GE debate by examining multiple stakeholders would provide deeper insights.

By choosing to analyze the online component of the GE campaign, a large part of Greenpeace’s multi-faceted approach against GE was not included. A comprehensive examination of these diverse activities may yield richer data and a better understanding of the organization’s operations worldwide.

While there are other materials such as reports, images, videos, audio clips and games in Greenpeace's "Say no to GE" campaign, only the webpages, news stories and press releases were examined because of the large variation in the media and presentation formats used. News stories and press releases were more similar to the articles found in the mainstream media. These may serve as a good point of comparison in a future study. In addition, although several studies have already explored media coverage of genetic engineering in Australia and the Philippines, it would be worthwhile to find out just how much of these Greenpeace news stories and press releases actually find their way into the mainstream media.

Due to logistical and time limitations, only two countries with online campaigns published in English were analyzed. Looking at more countries in Asia and Latin America that are in different stages of GE adoption would provide a more complete picture of how countries other than those in North America and Europe grapple with this highly controversial topic.

A more incisive look at audience responses to these websites and other campaign efforts using survey techniques will provide a more thorough understanding of audience effects, which is a limitation of a content analysis method

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## APPENDIX A

### CODING INSTRUCTIONS FOR MESSAGE CHARACTERISTICS

Unit of analysis: Campaign homepage and all other related sites

URL:

---

1. What is the objective of the message? Check all that apply.

- a.  Awareness
- b.  Instruction
- c.  Persuasion

*Awareness* messages arouse audience interest or concern and motivate readers to further explore a subject. They are designed to promote active information seeking from different sources. Awareness messages are limited to definitions, descriptions and explanations of genetic engineering (What, How).

“Ever eat major brands of bread, crackers or cereal? Canned soups or frozen dinners? If so, there's a good chance you're ingesting genetically engineered soy, courtesy of chemical companies such as Monsanto. And if this is the first time you're hearing about it, it's because the U.S. government has allowed genetically modified organisms to be released into our food without adequate labeling or testing.”

*Instruction* or how-to information produce in-depth knowledge and helps people acquire skills to heighten their self-efficacy. Instructional messages are action-oriented and answer the question, what to do about GE?

“One way to avoid genetically engineered food is to buy organic. But buying Certified Organic produce and products at your local supermarket can be both expensive and limiting, especially when they don't carry what you want or need. Fortunately, options are available and they're closer to you than you think! Tap into Local Food Suppliers such as: CSAs (Community Supported Agriculture) and Local Farmers Markets”

*Persuasion* messages provide the rationale for the adoption of an advocated action or to avoid some proscribed behavior, answers the question why is GE dangerous, or risky? Why should the reader be concerned?

“While there are many environmental risks associated with GE food, the consequences for human health are still unknown. Even though GE food has been in grocery stores since 1996, there have been no long-term tests done on the impacts of GE food on human health. Some potential health risks associated with GE food include the development of antibiotic resistance, allergic reactions, nutritional changes and the creation of toxins. The Canadian regulatory system for food biotechnology is extremely weak and has been criticized as inadequate by many experts including the Royal Society of Canada. (Report from the Royal Society)”

2. What are the types of arguments present in the message?

- \_\_\_\_\_ Predominantly ethos
- \_\_\_\_\_ Predominantly pathos
- \_\_\_\_\_ Predominantly logos
- \_\_\_\_\_ Combination of ethos and pathos
- \_\_\_\_\_ Combination of ethos and logos
- \_\_\_\_\_ Combination of pathos and logos
- \_\_\_\_\_ Combination of ethos, logos and pathos

**GREENPEACE** Aotearoa New Zealand

HOME You Are Here: Home >What we work on >Genetic engineering >GE Free NZ

About Greenpeace

What we work on

- Climate change
- Oceans
- Ancient forests
- Toxic pollution
- Genetic engineering
- GE Free NZ
- Royal Commission
- People's Moratorium
- Food labelling in NZ

**Royal Commission of Inquiry into Genetic Modification**

The Royal Commission of Inquiry into Genetic Modification (RCIGM) occurred in New Zealand in 2000.

Greenpeace cross-examined government and industry witnesses, made extensive submissions and brought a strong list of its own expert witnesses from abroad as part of presenting the case for New Zealand remaining GE Free in food and the environment.

The five international experts called by Greenpeace were:

- o Anuradha Mittal - Co-Director of the US based Institute for Food and Development also known as Food First - website [www.foodfirst.org](http://www.foodfirst.org)
- o Bill Christison - Fourth generation US family farmer
- o Professor Terje Traavik - A joint witness with Friends of the Earth and ECO. Professor Traavik is the Scientific Director of the Norwegian Institute of Gene Ecology, and Professor of Virology, of the Department of Microbiology and Virology, School of Medicine, University of Tromso, Norway
- o Doreen Stabinsky - a scientific advisor for the genetic engineering campaign for Greenpeace US and Greenpeace International
- o John King - Professor of Biology Massachusetts Institute of Technology

Print Send

*Ethos* emphasizes the ethics and moral issues surrounding genetic engineering. It also focuses on the attractiveness and authority of the source of information. Ethos is evident in Greenpeace’s discourse that stresses the ethical justification for its cause as well as the trustworthiness of the experts it consults regarding genetic engineering.

“The Royal Commission of Inquiry into Genetic Modification occurred in New Zealand in 2000. Greenpeace cross-examined government and industry witnesses, made extensive submissions and brought a **strong list of its own expert witnesses from abroad** as part of presenting the case for New Zealand remaining GE Free in food and the environment.”

*Logos* applies persuasion through logic or reasoning; uses inductive or deductive reasoning to back up claims. *Logos* in argumentation is exemplified in the use of independent scientific studies and sources a campaign commissions to provide **rational justifications** for its assertions and to bolster its claims.

Ex. “Genetic engineering can have unexpected and unintended effects because the process is imprecise and random. Inserted genes may disrupt natural genes, be unstable in their new environment, or function differently than expected. GE crops do pose a health risk.

Scientific evidence has proven that GE plants involve possible health risks. The random insertion of a foreign gene may disrupt the tightly controlled network of DNA in an organism. The gene could, for example, alter chemical reactions within the cell or disturb cell functions. This could lead to instability, the creation of new toxins or allergens, and changes in nutritional value.”

*Pathos* appeals to the emotions (affect) using strong, colorful words.

Ex. “For thousands of years people have bred and grown crops for food. Seeds have been handed down from generation to generation until...A few decades ago big chemical companies like Monsanto started genetically engineering crops in the laboratory. They mainly did this to make crops resistant to weed killer (herbicide). this means more chemicals can be sprayed directly on the plants. ... GE crops are also patented this means the seeds are copyrighted so it is illegal to save seeds and pass them on. This puts at stake the world agriculture and it’s harmful for everybody except the companies who own and sell the seeds.”

3. Does the message contain any of the following specific appeals?

- a.  Negative incentive (Fear appeal)
- b.  Positive incentive
- c.  Combination of the two above
- d.  None detected

*Negative incentive or fear appeals* threaten people about what may happen if they plant, eat or sell GE crops.

*Positive incentive appeals* contain benefits, advantages and other positive outcomes for non-support of GE crops and products.

If two of these appeals are found, the message is said to contain a *combination* of appeals.

4. Number of articles found on the page: \_\_\_\_\_ articles

5. Length of the articles on the page (in number of words)

Article 1: \_\_\_\_\_ words

Article 2: \_\_\_\_\_ words

Article 3: \_\_\_\_\_ words

Article 4: \_\_\_\_\_ words

Article 5: \_\_\_\_\_ words

6. Number of visuals or graphic devices present. Count the number of photographs, illustrations, diagrams, maps, charts (i.e., line graphs, bar charts, pie charts) present on the page.

\_\_\_\_\_ visuals

7. Number of links to other Greenpeace pages or external websites.

\_\_\_\_\_ links



**APPENDIX B****CODE SHEET FOR MESSAGE CHARACTERISTICS**

<b>Variable number</b>	<b>Variable</b>	<b>Variable label</b>	<b>Values</b>
<b>1</b>	CODER	Coder's name	1=Avril 2=Shalom
<b>2</b>	URL	The address of the main site as shown in the URL locator. Enter as string variable	Ex: <a href="http://.greenpeace.org/international/campaigns/genetic-engineering">http://.greenpeace.org/international/campaigns/genetic-engineering</a>
<b>3</b>	OBJ	Objective of the message	1=Awareness 2=Instruction 3=Persuasion
<b>4</b>	ARGUE	Type of argument(s) present	1= Predominantly ethos 2= Predominantly logos 3= Predominantly pathos 4=Combination of ethos and logos 5=Combination of ethos and pathos 6=Combination of logos and pathos 7=Combination of the three (Ethos, Logos, Pathos)
<b>5</b>	APPEAL	Appeals used	1= Positive incentive 2= Negative incentive (fear appeal) 3= Combination of positive and negative incentive 9=None detected
<b>5</b>	ARTICLES	Number of articles or stories on the webpage	Actual number of articles
<b>6</b>	LENGTH1	Length of first article on page	Number of words

<b>7</b>	LENGTH2	Length of second article on page	Number of words
<b>8</b>	LENGTH3	Length of third article on page	Number of words
<b>9</b>	LENGTH4	Length of fourth article on page	Number of words
<b>10</b>	LENGTH5	Length of fifth article on page	Number of words
<b>11</b>	VISUALS	Number of visuals accompanying the articles in the website	Number of visuals/images
<b>12</b>	LINKS	Number of links to other Greenpeace pages or external websites	Number of links

## APPENDIX C

### CODING INSTRUCTIONS FOR FRAMES

Unit of analysis: Complete press releases and news reports posted in the Greenpeace Australia and Philippine websites

1. What is the country website where story was published?

\_\_\_\_\_ Australia  
 \_\_\_\_\_ Philippines

2. Please write down the complete story headline:
- 

3. Who is the author of the story? Please write down the name of the author and author's affiliation, if any: \_\_\_\_\_

4. How long is the story in terms of number of words? \_\_\_\_\_ words

5. What was the date of publication, if specified? MM-DD-YY

6. Identify if any of these frames are present in the article.

a. *Biotechnology industry* frame focuses on the actions of or information about the companies or institutions that lead GE research and development. Articles may talk about Bayer's or Monsanto's latest products or moves in the market. It will be helpful to look for direct mention of the companies in the text.

Examples:

- Bayer has pulled out of GE research in India after sustained pressure from Greenpeace; this is the biotech giant's third defeat this year proving just how unsustainable and unwanted GE agriculture is.
- Monsanto, the chemical giant responsible for more than 91 percent of all GE crops in the world, announces that it would suspend further development of its genetically engineered wheat.

b. *Call to action* frame emphasizes what can be done to stop, postpone or delay the spread of GE. Articles may talk about what governments, activists, farmers, and consumers must do. Emphasis here is on a future, normative action that MUST/SHOULD be done.

Examples:

- So this festive season, join with Greenpeace by telling Ingham that all you want is a GM-free Christmas. To send Ingham a free fax, contact Tina at truefood@truefood.org.au, ph: 02 - 9263 0306 to join in on this weekend's action.
- “There are practical solutions to ringspot virus that are friendly to the environment and better for farmers. This makes GE papaya totally unnecessary,” Biloon said. Biloon has developed an organic system to deal with ringspot virus and is organizing training workshops and helping other farmers to introduce ecologically sustainable methods for managing plant diseases like ringspot.

c. *Economic consequences* frame focuses on the economic consequences of GE to different levels of society (i.e., global, regional, national, local or individuals). Articles may talk about economic benefits or losses.

Examples:

- In a desperate attempt to protect their profit margins, the biotech industry is now shifting its sights to Asia where public understanding of the issue is still low. The industry hopes to cash in on this region's vast food market after having been rejected by Western and Japanese consumers.
- When it comes to profits, pigs are big. Monsanto notes that “the economic impact of the industry in rural America is immense. Annual farm sales typically exceed US\$ 11 billion, while the retail value of pork sold to consumers reaches US\$ 38 billion each year.”

d. *Environmental risk* emphasizes the adverse impacts of GE on the environment. Articles using this theme might focus on loss of biodiversity and genetic pollution, among others. Contamination of crop/seed uses the environmental risk frame because these terms usually mean genetic pollution in the literature.

Examples:

- Greenpeace today applauded the Thai government's decision to stop the release of all genetically engineered crops into the environment and no longer allow any GE field trials in Thailand. With this decision, Thailand takes the lead in Asia to protect its environment, biodiversity and farmers from genetic pollution.
- Genetically engineered crops are living organisms that can reproduce and spread.

This poses an ongoing threat to the environment. If something goes wrong, this GE pollution cannot simply be recalled or cleaned up.

e. *Ethical/Moral* frame stresses the wrongness of genetic engineering. Articles using this theme appeal to the ethical and moral sides of readers and might say that GE is just like playing God.

Examples:

- Martin Luther King said that, “the arc of the moral universe is long, but it bends toward justice.” In at least these two cases in Brazil, the universe is bending the right way.
- GE medical research should work on what can be created safely and ethically in the lab,” concluded Abel.

f. *Human health risk* emphasizes the dangers to human health posed by GE. Articles will talk about the unknown health effects of GE food and the lack of testing for health impacts before GE foods are introduced in the market. Keywords such as food, disease, human health effects, allergenic effects and other human health vocabulary must be present in this frame.

Examples:

- Whilst it is not clear which food companies GE soy is destined for, there is no doubt it will be fed to animals and thus end up in foods like chicken, pork and eggs. The ship may also contain whole GE soybeans used in the production of oils, margarines and processed foods.
- A recent poll by Taylor Nelson Sofres (April 2002) shows that 68% of Australians would be less likely to buy food if they knew it had been genetically engineered.

g. *Labeling* emphasizes the need for people to know if there are GE components in their food. Emphasis here is on the availability of information and the people's right to know what is in the food they eat. Articles may talk about Greenpeace going into supermarkets and tagging GE food with GE labels or they may talk about the *GE True Food Guide*, a pamphlet listing companies that say they are GE-free.

Examples:

- “When the highest health authority in the province suggests stronger safety standards

are needed, the BC government must act to label GE foods and provide consumers the information they need about the food they eat,” said Greenpeace GE campaigner Josh Brandon. “Canadians have the right to know what they are eating and it is only then that they will be able to make the right choice and say no to GE food.”

- Despite such high genetically modified percentage, this product is not required to be labeled under the current Thai labeling regulation, which has failed to protect and inform Thai consumers about GMOs in their food.

h. *Policy* frame focuses on the rules and policies being discussed and are in place to deal with the planting and marketing and regulation of GE in a society. Articles may also include legal disputes or court-battles except those about labeling and patent/property rights.

Examples:

- Last Sunday, people turned up at polling booths across Switzerland in a referendum to determine whether genetically engineered (GE) crops and animals can be grown in the alpine nation during the next five years. Their verdict in each and every one of the three main languages was the same, nein, non, no, to GE. All 26 cantons (administrative regions) that make up Switzerland voted unanimously against GE crops and animals being grown in the country. The national vote was 55.7 percent in favour of the ban but reached a high of 75.8 percent in the farming canton of Jura.
- When the tiny Pacific nation of Palau ratified the UN Cartagena Protocol on Biosafety last Friday, the way was cleared for the world's first legally binding agreement that reaffirms the sovereign right of countries to reject imports of GMOs.

i. *Patenting/property rights* focuses on the intellectual property rights to genetically modified crop that would affect farmers and their access to seeds and other planting materials. Articles that use this theme talk about how GE crops have to be bought each year and that patent laws prohibit the saving and selling or exchange of seeds among farmers.

Examples:

- In a 5-4 decision, the Canadian Supreme Court held that Mr. Schmeiser had violated Monsanto's patent by planting seed from GE canola that had been found on his farm the previous year.
- Monsanto holds extremely broad patents on seeds, most, but not all of them, related to genetically modified organisms. Monsanto has also claimed patent rights on such non-Monsanto inventions as traditionally bred wheat from India and soy plants from

China. Many of these patents apply not only to the use of seeds but all uses of the plants and harvest that result.

j. The *technical* frame focuses on the specific methods or procedures of genetic engineering or explains how genetic engineering works. Articles that use this theme may deal, for example, with how Roundup Ready soybean or Bt corn was created and the attributes that have been enhanced. Articles that show this frame may also talk about the technical aspects of field testing, verification, and evaluation of GE crops.

Examples:

- The Biotech industry has also managed to warp a technique that has been used for decades by organic farmers, using *Bacillus thuringiensis* (Bt), a soil bacterium that produces a toxin. Bt targets particular species of insects, such as caterpillars, and the sprays are especially valuable to organic farmers in instances where there is a serious pest infestation. But now crop plants are being genetically engineered with the Bt toxin gene to give them a built-in insecticide.
- Leaked results of field trials involving three genetically modified crops have shown them to be more harmful to the environment than conventional varieties. The trials involved maize, sugar beet and oilseed rape. The crops, developed by Monsanto and Bayer, are modified to resist herbicide produced by the same companies. This allows farmers to eradicate all weeds from fields of genetically modified crops.

7. Identify the most dominant frame used in the article.

- a. Biotechnology industry
- b. Call to action
- c. Economic consequences
- d. Environmental risks
- e. Ethical/Morality
- f. Human health risk
- g. Labeling
- h. Policy
- i. Patent/Property rights
- j. Technical
- k. Others (specify)

8. How many sources of information were cited in the article? Sources refer to individuals or groups who have been cited as sources of information within the story. The facts, opinions, suggestions or analysis they offer may or may not be in direct

quotes. It is important, however, that for information offered not directly quoted; there are tacit attributions to the source within the story. For each of the identified source, specify the name, title and organizational affiliation when available.

\_\_\_\_\_ sources

9. Who were the first three sources quoted in the article? \*\*If both Greenpeace (the organization) and a Greenpeace campaigner or spokesperson is quoted, count only as one.

Examples:

Adrian Bebb, GM campaigner for Friends of the Earth Europe said: genetically modified oilseed rape will harm the environment and contaminate non- genetically modified agriculture, whether it is grown in the EU or elsewhere in the world. (Here, Adrian Bebb is the source and is affiliated with Greenpeace with title of GM campaigner.)

“Farmers are being sued for having GMOs on their property that they did not buy, do not want, will not use and cannot sell.” Tom Wiley, farmer, North Dakota, US.

Source number	Source name	Title	Organization or agency affiliation	Category
1	Adrian Bebb,	GM campaigner	Friends of the Earth Europe	Advocacy groups
2	Tom Wiley	Farmer in North Dakota		Farmers

8. What is the source category? Categorize each of the sources identified in Number 10 into:
- Scientists from universities and university-based research institutions (e.g., scientists from the Chinese Academy of Sciences)
  - Government scientists (e.g., scientists from the ministries or departments of agriculture)
  - Other scientists (scientists from institutions other than those mentioned above)
  - Scientific journals, journal editors and reports/articles from universities or research centers
  - Industry, industry associates, wholesalers (e.g., Pioneer Hi-bred, Monsanto, Papaya Growers Association)
  - Ordinary citizens and consumers, but not farmers
  - Advocacy groups (e.g., Greenpeace, Union of Concerned Scientists, The Sierra Club)
  - International not-for-profit groups (e.g., the United Nations and its affiliate agencies) but not Greenpeace and the like
  - Politicians and government employees, but not government scientists
  - Farmers and farmers associations
  - Others, including religious leaders (chefs, celebrities, polls, study, reports)
  - Source's category not identified



## APPENDIX D

## CODE SHEET FOR FRAMES

Variable number	Variable name	Variable label	Values
1	Coder	Name of coder	
2	ID	Article ID number	
3	Country	Country website where article was published	1=Australia 2=Philippines
4	Headline	Headline of the story	Enter as a string variable
5	Author	Author of story	Enter as a string variable 9=no author cited
6	Length	Length of article in number of words	Enter as string variable
7	Date	Date of publication	MM-DD-YY
8	Frames	Total number of frames applied within the story	Enter as string variable
9	Biotechnology industry	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
10	Call to Action	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
11	Economic consequences	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
12	Environmental risks	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no

13	Ethical/morality	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
14	Human health risk	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
15	Labeling	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
16	Legal regulations	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
17	Patent/Property rights	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
18	Technical	Frame present or not	Indicate if frame is present in story or not 1=yes 0=no
19	Others	Frame present or not	Indicate if frame is present in story or not 1=yes, specify 0=no
20	DomFrame	Most dominant frame in the story	1= Biotechnology industry 2=Call to action 3=Economic consequences 4=Environmental risks 5=Ethical/Morality 6=Human health risk 7=Labeling 8=Legal regulations 9=Patent/Property rights

			10=Technical 11=Others (specify)
24	Sources	Total number of sources cited in the story	Enter as string variable
25	Source1	Name of first source cited	Enter as string variable
26	Title1	Title of first source cited	Enter as string variable
27	Agency1	Group, organizational or agency affiliation of first source cited	Enter as string variable
28	Cat1	General category of the first source	1=Scientists from universities and university-based research institutions 2=Government scientists 3=Other scientists 4=Scientific journals and journal editors 5=Industry, industry associates, wholesalers 6=Ordinary citizens and consumers 7=Advocacy groups 8=International not-for-profit groups 9=Politicians and government employees 10=Farmers and farmers associations 11=Others 12=Not identified
29	Source2	Name of second source cited	Enter as string variable
30	Title2	Title of second source cited	Enter as string variable
31	Agency2	Group, organizational or agency affiliation of second source cited	Enter as string variable
32	Cat2	General category of the second source	1=Scientists from universities and university-based research institutions

			2=Government scientists 3=Other scientists 4=Scientific journals and journal editors 5=Industry, industry associates, wholesalers 6=Ordinary citizens and consumers 7=Advocacy groups 8=International not-for-profit groups 9=Politicians and government employees 10=Farmers and farmers associations 11=Others 12=Not identified
<b>33</b>	Source3	Name of third source cited	Enter as string variable
<b>34</b>	Title3	Title of third source cited	Enter as string variable
<b>35</b>	Agency3	Group, organizational or agency affiliation of third source cited	Enter as string variable
<b>36</b>	Cat3	General category of the third source	1=Scientists from universities and university-based research institutions 2=Government scientists 3=Other scientists 4=Scientific journals and journal editors 5=Industry, industry associates, wholesalers 6=Ordinary citizens and consumers 7=Advocacy groups 8=International not-for-profit groups 9=Politicians and government employees 10=Farmers and farmers associations 11=Others 12=not identified

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*In a world where it takes hardly any effort to get lost, the Lord is my true North.*

*In a time marked by constant flux and change, the Lord is my anchor.*

*In a life characterized by uncertainty, waking up every morning knowing you are loved by no less than the God of the universe is assurance unparalleled!*

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