THE GLOBAL SOCIAL MOVEMENT

OPPOSED TO GMOS

CHALLENGES AND OPPORTUNITIES FOR GLOBAL CIVIL SOCIETY: THE GLOBAL SOCIAL MOVEMENT OPPOSED TO GENETICALLY MODIFIED ORGANISMS

By

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A Thesis

Submitted to the School of Graduate Studies

in Partial Fulfillment of the Requirements

for the Degree

Master of Arts

McMaster University

MASTER OF ARTS (2006) McMaster University
(Political Science) Hamilton, Ontario

TITLE: Challenges and Opportunities for Global Civil Society: The Global Social Movement Opposed to Genetically Modified Organisms

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SUPERVISOR: Professor R. O'Brien

NUMBER OF PAGES: vi, 118

ABSTRACT

The primary goal of this thesis is to examine the relationship between global civil society and global governance using a case study of the global social movement opposed to genetically modified organisms in the European Union and the United States. This thesis argues that social movement actors will be most effective when they focus on a variety of targets including states, international institutions, and corporations. Chapter one of this thesis reviews the current scholarship on global civil society, focussing on the International Relations and social movement literatures. The remainder of this thesis consists of a case study of the global social movement opposed to GMOs and focuses on the EU and US. The case study outlines how the anti-GM movement became a fundamental agent in redefining public perceptions of agricultural biotechnology and pressuring governments and corporate actors to alter their stances towards this new technology. The case study outlines the emergence of the anti-GM movement and the impact of political and cultural factors on its effectiveness. It discusses national regulatory structures governing GMOs in the US and EU as well as the regulatory impact of international institutions, specifically the Cartagena Protocol on Biosafety and the World Trade Organization. The case study also examines the impact the anti-GM movement had on a variety of corporate actors including food processors and retailers and the biotechnology industry itself. The findings of this thesis suggest that while the anti-GM movement has been able to influence government regulators in the EU and to some extent the US, it has also achieved de facto policy change by directly targeting the biotechnology industry. Thus, when a political context is particularly unwelcoming to civil society groups, de facto policy change may still be possible without the primary involvement of states.

ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the help and support of many people along the way. In particular, I would like to express my sincere gratitude to my supervisor, Dr. Robert O'Brien, who was a constant source of guidance and encouragement throughout this two year process, and who has challenged and enriched my understanding of global civil society. The other members of my committee, Dr. William Coleman and Dr. Tony Porter, provided helpful advice and comments, for which I am also grateful. To the other graduate students in the department, thank you for helping to make Hamilton a home away from home over the last two years. To my friends and family, thank you for your support, laughter and encouragement over the course of this project. Finally, to Stefan, thank you for your support and feedback throughout this process.

CONTENTS

ABBREVIATIONS

BSE	Bovine Spongiform Encephalopathy
EPA	Environmental Protection Agency
EU	European Union
FDA	Food and Drug Administration
GM	Genetically Modified
GMO	Genetically Modified Organism
GRAIN	Genetic Resources Action International
NGO	Non-Governmental Organization
RAFI	Rural Advancement Foundation International
TSMO	Transnational Social Movement Organization
UN	United Nations
USDA	United States Department of Agriculture
WTO	World Trade Organization

INTRODUCTION

POLITICS AND PROTEST IN THE GROCERY STORE

On March 18, 1999 Iceland Foods, a food retailer in the United Kingdom, announced that it would no longer use ingredients containing genetically modified organisms (GMOs) in its store brand products in response to stringent consumer opposition. In the following months a number of other major food retailers and food processors including Mark's and Spencer, Unilever UK, Nestlé's and Cadbury-Schweppes announced that they would also ensure that some or all of their products would be free of genetically modified (GM) ingredients in response to consumer concerns (Phelps 2000, 21; Schurman 2004, 256).

These public announcements by food retailing and processing companies marked a significant turning point for agricultural biotechnology. Until the late 1990s, the agricultural biotechnology industry had been a darling of Wall Street investors and governments in both Europe and North America. The industry was believed to be revolutionizing food production with promises that in the future agriculture would be far less harmful to the environment and the food we eat would be much more nutritious.

However, a few short years after the introduction of the first GM crops, the agricultural biotechnology industry was in a tailspin. Vehement public opposition

towards GM food had undermined markets for GM products, while also sending the share prices of companies involved in agricultural biotechnology tumbling. The industry suddenly found itself in damage control mode; scaling back its agricultural investments and in many cases undergoing major restructuring in order to survive.

In response to public concern, the European Union (EU) enacted an unofficial moratorium on GM crops in 1998 as well as strict labelling requirements for products containing GMOs. In the United States, many farmers became hesitant to grow GM crops, fearing that there would be no markets for the crops come harvest time. On both continents, government regulators, food processors and retailers found themselves addressing questions regarding the ability of current regulatory structures to ensure the safety of these products.

Largely responsible for the declining fortunes of agricultural biotechnology was a group of activists opposed to GMOs. Motivated by social, environmental and health concerns, activists strategically employed a variety of tactics to bring greater attention to the issue of GMOs and undermine the power and influence of the biotechnology industry. The movement targeted states, international organizations, and a variety of corporate actors in order to influence policies regulating GMOs. While the success of the movement varied depending on the political context in which it operated, the overall influence of the movement was felt globally.

The anti-GM movement is an example of how civil society actors are responding to globalization, as many civil society groups now engage in both domestic and international politics simultaneously in response to the declining policy autonomy of

states. While the existence of a global civil society has often been noted in the international relations literature, only recently have scholars begun to view civil society actors as a principal agent in the international system. However, while scholars have begun to note the importance of international civil society, research has tended to focus on the relationship between civil society actors and states or international institutions. This raises the question of how civil society can be effective outside traditional channels of influence if a political opportunity structure is particularly unwelcoming.

This thesis argues that social movement actors will be most effective when they focus on a variety of targets including states, international institutions, and corporations. Civil society groups, such as the anti-GM movement, are strategically adjusting their tactics in response to the manner in which processes of globalization are reshaping power dynamics in the international system. In the case of the anti-GM movement in the EU and the United States, the movement targeted states and international institutions, but also chose to target food processors and retailers in an effort to undermine markets for GM food. While government regulators in the EU were highly susceptible to the tactics of the anti-GM movement, the political context was highly unwelcoming for the movement in the United States. However, because many corporate actors did choose to ban GM products, the movement was ultimately able to undermine global markets for GM products. Thus, this thesis will argue that civil society actors may be able to achieve de facto policy change by targeting corporate actors, even when some states may be largely unresponsive to their tactics.

This thesis begins by reviewing the current scholarship on global civil society, focusing on the international relations and social movement literatures. The remainder of the thesis consists of a case study of the anti-GM movement in the EU and US. The thesis will discuss the composition of the movement and the impact of political and cultural contexts on its effectiveness. This is followed by a discussion of regulatory frameworks for GMOs in the EU and US as well as discussions of the Cartagena Biosafety Protocol and the World Trade Organization (WTO) dispute over GMOs. Finally, this thesis will discuss how the anti-GM movement also targeted a variety of corporate actors in an attempt to stem the spread of GMOs. It concludes by arguing that in the issue area of GMOs the movement was successful because it targeted a variety of actors and framed its debates in terms that resonated with the general public.

CHAPTER ONE

THE THEORETICAL IMPLICATIONS OF GLOBAL CIVIL SOCIETY

The field of international relations has traditionally focussed on states as the primary actor in the international system. While attempts have been made to incorporate various types of non-state actors into international relations, such as the transnational relations research agenda of the 1970s (Keohane and Nye 1972), such explanations have tended to focus on the role of non-state actors in altering the preferences of states, rather than on the role of non-state actors as agents in their own right. Furthermore, the transnational research agenda has tended to group various types of non-state actors (i.e. transnational corporations, civil society, and international organizations) into a single monolithic category at the expense of ignoring the differing types of motivations and resources amongst the various forms of actors.

With the emergence of the second phase of the Cold War in the 1980s attention once again shifted away from transnational relations and towards security issues. However, the end of the Cold War called into question the dominant neorealist and neoliberal perspectives as concerns regarding the effects of globalization and the emergence of the constructivist perspective combined to create a more positive atmosphere for the study of non-state actors in international relations (Lipshutz 2001,

321-322; O'Brien 2005b, 168). This renewed focus on non-state actors brought with it a greater emphasis on norms, experts (through the epistemic communities approach), and civil society groups in particular.

Until the revival of the study of transnational relations in the 1990s, international relations had generally avoided examination of civil society and its impact on the international system, instead choosing to view civil society and other non-state actors as located primarily in the domestic sphere and acting as a type of interest group that attempts to alter the policy preferences of national governments (Milner 1997; Putnam 1988). Even the constructivist challenge in international relations has primarily focused on ideas and norms, and less so on the role of various types of non-state actors in shaping those ideas and norms (Ruggie 1998). As Eschle states, "Movements have traditionally been seen as located not in the international but in the domestic, and not in the political but in the social....they disrupt the usual categories of state-centric, pluralist or structuralist international relations and are difficult to assess through the dominant international relations methodologies of empiricist quantification, analysis of historical continuities or Marxist materialism" (2005, 17). Civil society falls outside of the rationalist focus of established international relations theories such as realism or liberalism. The discipline has been slow to recognize the significance of social movements and other civil society actors, because they are motivated both by altruistic values and material concerns and because their effects on the international system are difficult to trace.

However, globalization and the subsequent erosion of state sovereignty have called into question the supremacy of the state as a focal point in international relations. In recent years a body of scholarship has emerged which has focussed increased attention on the role that civil society groups play in the international system (Evangelista 1999; Keck and Sikkink 1998; Khagram, Riker and Sikkink 2002; O'Brien et al 2000). This scholarship views transnational forms of mobilization as a significant new force in international politics, which are transforming global norms and practices and reshaping global governance. It stresses the growth of civil society groups, their increasing role in international organizations such as the United Nations (UN) and the World Bank, and a blurring of the distinction between the domestic and international political spheres. The growth of global civil society "challenges the hegemonic pretensions of the chief theoretical contenders that privilege other agents or structures in world politics, such as the realist or neoliberal emphasis on the predominance of the state and the emphasis on the structural power of capitalism in an era of globalization" (Price 2003, 581).

Nevertheless, as the concept of civil society has received increasing attention in the field of international relations, its conceptual meaning has become imprecise and confused (Keane 2003; O'Brien 2005a). Keane defines global civil society as an ideal type as:

> ...a dynamic non-governmental system of interconnected socio-economic institutions that straddle the whole earth, and that have complex effects that are felt in its four corners. Global civil society is neither a static object nor a fait accompli. It is an unfinished project that consists of sometimes thick, sometimes thinly stretched networks, pyramids and hub-and-spoke clusters of socio-economic institutions and actors who organize themselves across borders, with the deliberate aim of drawing the world together in new ways. These non-governmental institutions and actors tend to pluralize power and to problematize

> violence; consequently, their peaceful or civil effects are felt everywhere, here and there, far and wide, to and from local areas, through wider regions, to the planetary level itself (2003, 8).

This thesis will define global civil society as an arena or space where civic actors attempt to influence issue areas and which is composed primarily of voluntary, non-profit organizations. Although there exists a wide variety of civil society groups with varying agendas, most civil society groups tend to conceptualize their goals in terms of equity or social justice. However, the arena of global civil society also includes business associations seeking to promote corporate interests as well as uncivil civil society groups such as organized crime and terrorist groups (O'Brien 2005a, 214-216). Throughout this thesis the term global civil society will be used to refer to those civil society groups which are primarily voluntary and non-profit in nature and whose goals are mainly altruistic.

This thesis draws on literature in both social movement theory and international relations. The international relations literature, particularly international political economy, has highlighted the impact that globalization has had on the state and collective mobilization, as well as the importance of norms, regimes and global governance. However, the international relations literature can also be criticised for at times overemphasizing the altruistic motivations of civil society groups and for underemphasizing the strategic nature of their actions.

Scholars of global civil society have also drawn on the established social movement literature in sociology and comparative politics (see Keck and Sikkink 1998; Khagram, Riker and Sikkink 2002). This literature has focussed on the conditions under

which social movements emerge, the forms they take, the types of impact they may have, and the manner in which political opportunity structures impact on their success. However, this body of literature has tended to focus on domestic movements at the expense of transnational forms of organization and international politics. While this body of literature is extremely helpful in explaining the strategies employed by social movement actors, much of the literature on social movements is less helpful in explaining their relationship to the international system and the role that norms and experts may play in influencing states and international institutions. As Schurman suggests, "scholars of social movements need to follow the course taken by many contemporary movements and activist groups, and 'decentre' the state" (2004, 247).

The primary concern of this thesis are the actions of an internationally oriented social movement opposed to the use of GMOs and the structures that impeded or enhanced the success of the movement. This thesis asks under what circumstances global civil society influences global governance. This chapter will outline the general changes in the global political economy that have shaped transnational organization in the twenty-first century and the various forms that such organization has taken. Drawing on the social movement literature it will also address structural conditions for transnational organization as well as movement tactics such as framing and agenda setting. The remainder of this thesis focuses on a case study of the anti-GM movement in the EU and the US.

Globalization and Transnational Forms of Organization

Globalization has been a facilitating force in the growth of transnational forms of organization. Over the past three decades, significant changes in the nature of national politics, in the structure of the global political economy, in information technology, and within social movements themselves (the emergence of new social movements) have meant that the context for the mobilization of civil society has evolved and the potential targets for transnational collective action have diversified (Schurman 2004, 247). Bleiker outlines how globalization "provides activists with a range of tools to organize and co-ordinate their actions...and perhaps more importantly has fundamentally changed the special dynamics of dissident practices [such that] an act of protest, as it took place in Seattle, now interacts in a much wider and more complex array of political spaces" (2005, 201; see also della Porta and Kriesi 1999). The declining cost of telecommunications and the growth of the internet have facilitated connections between civil society groups, making it easier for them to share tactics and information across national boundaries as well as coordinate strategies for action. Additionally, cheaper air travel and increased civil society access to international organizations and conferences have also increased personal contacts between and among activists as well as international bureaucrats (Keck and Sikkink 1998; Van Rooy 2004). For example, Friedman, Hochstetler and Clark (2005) outline the established role that non-governmental organizations (NGOs) came to play at the UN world conferences throughout the 1990s as agenda setters and information providers.

These changes have been accompanied by the changing nature of the state. States are no longer the primary actor in an international system where finance, production, and culture have become disengaged and are challenging entrenched principles of state sovereignty. O'Brien et al (2000) use the term complex multilateralism to argue that a transformation in global governance is occurring, in which there has been movement away from an international politics centred on the interests of states. Within this new type of multilateralism non-state actors such as business and civil society have come to play an increasingly important role, although this varies according to institutional venue and issue area. The increasing interconnections between international institutions and civil society organizations undermine the state's ability to be the sole representative of its citizens' interests (O'Brien et al 2000, 210). While international institutions such as the World Bank, International Monetary Fund, and WTO have strengthened their authority in the global system and have expanded or modified their policy mandates, they too have largely failed to address the social and environmental concerns voiced by civil society (O'Brien et al 2000, 7-11). The failure of both states and international institutions to provide for citizens and address their concerns has created a larger role for civil society groups in both domestic and international politics as a voice for issues often neglected by governmental bodies.

Many policy issues now have international implications as the increasing number and intensity of transnational issues is challenging the capacity of governments to cope with many problems. Thus, civil society groups are increasingly looking outside the state and towards international institutions that act as forums for debate and cooperation as

well as sites for the regulation of global governance (O'Brien 2005a, 220; Rucht 1999, 216; Smith 1999, 185). International institutions provide new arenas for the articulation of interests and create links to new reference publics such as the European public in the case of the EU or the global public in the case of some international institutions (della Porta and Kriesi 1999, 17). However, the extent to which civil society groups focus their efforts on international institutions is affected by the relative openness of those institutions and their linkages to an issue area (Van Der Heijden 2006).

Nonetheless, the recent reemphasis on transnational relations and the emergence of international civil society as an important area of study has not been without contention. Scholars such as Imig and Tarrow (1999) argue that national governments will continue to dominate as sites of political protest and that there exists very little truly transnational protest as most protest activities continue to be structured by domestic politics. However, research has shown an increasing number of linkages between national organizations in different countries and more substantially an exponential growth in the existence of civil society groups. While domestic politics may continue to dominate many issue areas and while many protests may continue to be domestically organized, globalization has increased the linkages between various protest movements such that domestic concerns now have a much greater tendency to spill over to other states and international institutions, and protest movements in different countries are much more likely to work together to increase their influence both domestically and internationally.

Smith outlines the dramatic growth in transnational organization using data from the annual Yearbook of International Associations. Data from the yearbook shows that

the number of transnationally organized citizens' groups grew from less than one thousand in the 1950s to nearly 20,000 in 1999. Within the category of transnational voluntary associations Smith highlights a subset of groups, transnational social movement organizations (TSMOs), which specifically aim to generate social or political change. The population of TSMOs has expanded from less than 100 organizations in the 1950s to more than 1000 today. The number of TSMOs has increased across all issue areas (i.e. human rights, peace, the environment, women's rights, international law, development), although to a varying degree in different issue areas. Additionally, in recent years there have been important changes in TSMO membership in that membership is no longer based principally in the countries of North America and Western Europe. Today the majority of TSMOs include participation from citizens of both the global North and the global South (see Sikkink and Smith 2002; Smith 2004; Smith and Wiest 2005, Wiest and Smith 2005).[1] However, while the number of citizens engaging in TSMOs from the global South may be increasing, there may be differences in the depth of that participation, or relative influence when compared to citizens in developed countries.

[1] However, Wiest and Smith (2005) also note that there is a growing tendency towards regionalization in the population of TSMOs, as a growing proportion are organized exclusively within the global North or South. The authors link this to the growing regionalization of governments, including those in the global South. As Smith and Wiest state, "[a]s regional institutions become more powerful in their ability to influence the substance of domestic policies in member states as well as to influence relations between states at the global level, the interactions between social movements and regional institutions will likely take on a greater significance" (2005, 18). This would support the contention of this thesis that the nature of the state is changing and civil society actors are finding that they must look to alternative venues in order to advance their claims.

Defining Transnational Collective Action

Transnational collective action has been defined by a number of different terms, each used to refer to slightly different, yet interrelated phenomena. Transnational collective action has been described by terms such as transnational social movement or global social movement, transnational social movement organization, transnational coalition, transnational advocacy network, international non-governmental organization, and global civil society. This thesis will utilize the term global social movement when discussing the anti-GM movement.

O'Brien et al refer to social movements as "a subset of numerous actors operating in the realm of civil society. They are groups of people with a common interest who band together to pursue a far reaching transformation of society. Their power lies in popular mobilization to influence the holders of political and economic power" (2000, 12). Global social movements differ from nationally oriented social movements in that global social movements tend to be less cohesive and various local components of the movement may clash with one another. However, what makes a social movement global are the connections between the different parts of the movement and common goals and identity, as well as a general recognition of the need for internationally coordinated action (O'Brien et al 2000, 13). However, it should be noted that while movements are held together by shared commitments, they may also differ with regards to the types of tactics and frames that should be used in advancing an issue. Rucht (1999) notes how transnational movements often differ with their domestic counterparts over the types of tactics employed. Transnational movements will often try to undermine their opponents

through pressure and persuasion, while local and national groups are more likely to employ militant types of tactics.

Global social movements are often linked to domestic movements in various countries but domestic movements may not necessarily be directly linked to one another. A cross-national diffusion of ideas can also occur between domestic social movements in different countries resulting in the use of similar ideas and tactics without closely coordinated action (della Porta and Kriesi 1999, 6; Khagram, Riker and Sikkink 2002, 8). Generally, global social movements embody characteristics of both elements. The movement will usually incorporate some internationally oriented NGOs, such as Greenpeace, that will act as diffusion points and spread tactics and frames to local components of the movement. Websites and international conferences can also encourage global connections between local components of the movement and can help create international alliances and facilitate the coordination of tactics between different geographic segments of the movement.

The term global social movement is valuable for the study of non-state actors and global civil society in that it offers some of the flexibility inherent in the term transnational advocacy network (it can consist of a variety of NGOs and activists who may differ somewhat on their approach to a specific issue but who share general goals and arguments) and recognizes both informal and formal connections between activists involved in the movement. However, unlike the term transnational advocacy network, which has a tendency to romanticise civil society actors as being motivated primarily by altruistic concerns and underplays their material concerns, the term global social

movement also encompasses the strategic as well as altruistic motivations behind the actions of civil society actors. The term social movement and the accompanying literature also offer a broader structural critique of inequalities in the international system. Additionally, the existing social movement literature is helpful in explaining some of the challenges facing transnational forms of organization.

Barriers to Success and Strategies for Mobilization

Political Opportunity Structures and Culture

The social movement literature is particularly helpful for highlighting the role that structural characteristics can have on social movement actors and their ability to influence global governance. Social movement scholars have long pointed to the impact that political opportunity structures have had in determining social movement success in the domestic realm. The concept of political opportunity structures argues that social movements develop in response to shifts in the broader political environment that effect the vulnerability of their opponents (both inside and outside government).

Kriesi characterizes political opportunity structures as composed of three broad sets of properties: "the formal institutional structure of a political system, its informal procedures and prevailing strategies with regard to challengers, and the configuration of power relevant for the confrontation with the challengers" (1996, 160). Similarly, Marks and McAdam offer a definition of political opportunity structures based on a synthesis of several definitions of the term. They list the following components of a political opportunity structure: the relative openness or closure of the institutionalized political

system; the stability or instability of the broad set of elite alignments; the presence or absence of elite allies; and the capacity and propensity of the state for repression (1999, 99).

Political opportunity structures provide social movements with resources for leverage and create spaces for access in a political system (Khagram, Riker and Sikkink 2002, 17). Scholars of global civil society highlight the important role that domestic political opportunity structures play in mediating the success of transnational campaigns operating within different national contexts. While activists may be increasingly looking across borders in order to generate social and political change, an understanding of particular domestic contexts is an important determinant of movement success (see Evangelista 1999; Ferree and Gamson 1999; Koopmans 1999).

When a domestic political opportunity structure is particularly unwelcoming to a movement or when an issue area can not be adequately addressed due to insufficient capacity on the part of the state or complexity that requires international coordination, a movement may look towards the international context. The existence of an international political opportunity structure does not displace the domestic, rather social movements will generally target both levels simultaneously in an effort to affect different levels of policy making (Khagram, Riker and Sikkink 2002, 18-19; Lahusen 1999, 190).[2] Activists may engage in venue shopping both nationally and globally for the most welcoming political opportunity structures in which to present their ideas and apply persuasion. The

[2] Van Der Heijden defines the international political opportunity structure as a composite of a number of international organizations such as the EU, the UN, the World Bank, the International Monetary Fund, and the WTO, as well as consisting of a number of formal treaties, international regimes, systems of global governance, and structures of norms and values (2006, 32).

greater the regulatory authority of an international institution over states in a given issue area, the more likely that issue area will become a target for successful transnational organization and the less likely that international institution will be constrained by a single state's domestic concerns (Risse-Kappen 1995, 31). Activists will generally engage with both domestic and international political opportunity structures in an effort to bring an issue to the attention of governments and international bureaucrats, while at the same time ensuring that significant grassroots mobilization exists within key domestic constituencies (Keck and Sikkink 1998, 200; see also Donnelly 2002).

However, the literature on political opportunity structures places too much emphasis on the rational and strategic nature of movements and too little on their altruistic values. This body of literature focuses on states and to a lesser extent international organizations and ignores other actors such as corporations that movements may choose to target. The literature neglects the fact that when a political opportunity structure is particularly unwelcoming to a movement, that movement may look beyond the state and towards a variety of private actors in order to create policy change. Alternatively, a movement may also focus on both domestic and international targets as well as corporate actors in an effort to ensure the greatest chance of success.

A second structural variable that impacts on the effectiveness of civil society actors is culture. As Johnson and Klandermans state "culture can be seen as a characteristic of a movement's environment that functions to channel or constrain its development and that defines what behaviours are legitimate or acceptable" (1995, 5). Risse-Kappen (1995) notes the role that political culture plays in defining the collective

identity of actors and providing them with a framework for interpretations of reality as well as types of appropriate behaviour. Oppositional subcultures within the broader culture can also function as sites from which opposing discourses can be generated by social movement organizations (Johnston and Klandermans 1995, 7).

Culture is constantly being processed through the construction of meaning. Rather than a totalizing influence on a movement it is constantly in transformation. In addition to arising from oppositional subcultures, movements can also attempt to reshape what is culturally given and produce transformations of the dominant discourse. While a movement's short term goals for altering policy may conflict with other dominant political actors, social movements may be able to produce deeper long term changes through the transformation of the broader culture and public perceptions of an issue. For example, the women's movement has been successful in changing cultural views regarding the role of women in society and the environmental movement has successfully changed perceptions of the environment. However, evidence of a deeper cultural shift is difficult to detect in most instances, and as such has received only limited attention within the social movement literature (Goodwin and Jasper 2003, 348-349).

Altering Perceptions: Norms, Framing, Discourse and Diffusion

Central to changing ideas and interests is the concept of norms. Khagram, Riker and Sikkink define international norms as "shared expectations or standards of appropriate behaviour accepted by states and intergovernmental organizations that can be applied to states, intergovernmental organizations, and/or non-state actors of various

kinds" (2002, 14). While many norms serve the interests of states, there also exist norms which do not promote the economic and political interests of states. These norms have been advanced by civil society actors who draw on certain norms in order to develop collective beliefs and who also frame their collective beliefs within the purview of existing norms (Khagram, Riker and Sikkink 2002, 14-15; see also Risse, Ropp and Sikkink 1999).[3]

The use of norms is critical for the success of many actors in international relations as norms not only express a belief but also create a need for behaviour that is consistent with that belief. As Risse and Sikkink state, "While ideas are usually individualistic, norms have an explicit intersubjective quality because they are collective expressions. The very idea of 'proper' behaviour presupposes a community able to pass judgements on appropriateness" (1999, 7). Norm entrepreneurs such as social movement organizations are integral to the adoption of new norms because "new norms never enter a normative vacuum but instead emerge in a highly contested normative space where they must compete with other norms and perceptions of interest" (Finnemore and Sikkink 1998, 898). Social movements can encourage the adoption of specific norms by pressuring national governments and diffusing international norms through grassroots organizations (Passy 1999, 165).

The use of strategic frames with which to create a broad acceptance for new norms is an essential component of social movement activity. Activists attempt to

[3] For example, information generated by the environmental movement and the international media helped to create new perceptions of international norms with regards to the regulation of toxic waste (see Smith 1999). Similarly, the human rights movement has been extremely successful at employing international norms to advance the cause of human rights (see Risse, Ropp and Sikkink 1999).

reframe problems so that they no longer appear to be solely domestic issues, but rather international problems requiring a cooperative solution. Activists will be most successful when issues resonate with existing ideologies and ideas. Frame resonance refers to the effectiveness of a movement's interpretative work and its ability to influence broader public understandings. To successfully frame an issue, activists will generally attempt to frame particular social issues as problematic, create a causal chain of blame, propose a solution, and provide a valid rationale for action or make new connections within accepted value frames. Activists will generally attempt to use both reliable information and also dramatic facts with individual testimony in order to bring attention and legitimacy to an issue (see Keck and Sikkink 1998).

Central to the creation of effective frames is the role of discourse and the influence a movement is able to exercise over it. Eschle and Maiguascha state that "discourses can constitute an effort to open up relationships between people, both within a movement and the wider audience, as well as to close communication down" (2005, 217). Because international civil society is relatively weak in comparison to other actors such as states or international business, their influence is generally based on the use of information, persuasion, and moral pressure. Activists are often successful in reshaping discourse because of the belief held by decision makers and citizens that activists are both providers of accurate information and also morally right in the manner in which they employ knowledge (Price 2003, 589)[4]. However, framing occurs not only through what

[4] However, discourses can also reflect and reproduce hierarchical power relations and limit the possibility of mutual understandings because they are not just used to contest structures and relations of power but also to reify and reproduce them (Eschle and Maiguashca 2005, 218).

movements say but also through a movement's choice of tactics and the connections between actions and rhetoric.

Both national and international media also play a role in mediating the influence of social movements and shaping discourse. Movements will often use both facts and testimonials from people adversely affected by an issue in order to frame an issue in such a way that it will play well within the media and thus reach a broad cross-section of the public (Keck and Sikkink 1998, 19). Tactics employed by social movements often encompass symbolic elements in an attempt to attract media attention and greater public support. As Bleiker explains, "Any protest action that draws sufficient media attention has the potential to engender a political process that transcends its immediate spatial environment. It competes for the attention of global television audiences and thus interferes with the struggle over values that ultimately shapes the world we live in" (2005, 202). Additionally, international media coverage can also affect the dynamics of intergovernmental negotiations by increasing the transparency of government actions and creating an impetus for greater accountability (Smith 1999, 183).

However, the media can also act as an impediment to social movement actors. For the media to pay attention to issues, activists must adapt long term campaigns to current events and agendas on which the media is focussed. Furthermore, the structure of the television news media and its propensity for sound bites means that activists often must reframe complex issues into simplistic frames where blame can be easily attributed. The media is also difficult to control and may choose to portray social movement actors as irrational and unreasonable. As Boykoff states; "Coverage frequently fails to focus on the

issues and ideas of social movements and actually deprecates the participants, thereby undermining social movement efforts" (2006, 203). As such, movements generally rely on a variety of tactics in addition to attracting media attention in order to maximize their chances of success.

Strategies for Change: Agenda Setting and Other Instrumental Tactics

Generating media attention is often part of a broader strategy employed by civil society actors attempting to alter the international agenda. Altering the political agenda is one of the most significant impacts that civil society can have on politics. Willetts (1996) argues that it is fundamental to the existence of social movement organizations that they should dominate agenda setting. As many issues become increasingly complex and technical, governments may suffer from "agenda overload" as they lack the resources to adequately deal with some issues. Thus, governments will often find themselves responding to an agenda rather than setting it. They will usually try to define the tone and language of political debate, but they are often unable to determine what issues are on or off an agenda.[5]

One manner in which movements are often able to influence the international agenda is through the provision of information and expertise to governments and international organizations. Nonstate actors, such as social movements, often engage in agenda setting by serving as alternative sources of information in new or technical issue areas; they bring new ideas, norms and discourses into policy debates and serve as

[5] However, the ability of a government to set the international agenda will also vary depending on its place in the international system and the nature of the issue and institutions involved.

sources of information and testimony. In addition, through the provision of information, movements can also provide governments and international institutions with two characteristics which they may be lacking; knowledge and legitimacy. In return, governments and international institutions may provide movements with both material resources and a more significant symbolic presence within a particular forum or issue area. The provision of expertise has been particularly important for the environmental movement, which has often used the work of scientists to attract the attention and concern of governments and international institutions (Keck and Sikkink 1998; Toke 1999).

Finally, civil society groups do not exclusively target governments and international institutions in an attempt to influence global governance. Activists have also responded to globalization and the declining policy autonomy of the state by diversifying their targets for mobilization to include states, international institutions, and corporate actors. For example, Greenpeace has recently begun shifting some of its efforts towards pressuring corporate actors rather than government actors, in the belief that this tactic is able to create policy change more quickly than conventional social movement tactics (Braithwaite and Drahos 2000, 290). While the sensitivity of corporate actors to social movement tactics varies considerably depending on the industry and an individual company's image, in many cases activists can achieve de facto policy change by targeting private actors when states are unable or unwilling to implement policy change themselves.

Activists can often wield substantial pressure through the use of tactics such as consumer boycotts. The success of boycotts depends on the structure of the industry targeted, the nature of the issue, and the amount of attention the movement is able to attract (Schurman 2004). Corporate actors may respond to pressure from civil society due to a sensitivity to costs as predicted by rational choice theory or a more internalized sensitivity to identity as highlighted by constructivist theories (Price 2003, 593). Often campaigns will target both private actors and governments in order to maximize chances of success. However, there is a lack of research regarding under what circumstances social movement actors will choose to target corporate actors and what circumstances will mediate the success of the movement when doing so.

Conclusion

Globalization and the increasingly porous nature of state sovereignty have created new spaces for civil society in the international system and have called into question traditional theories of international relations such as realism or liberalism. As such, global civil society has become an influential agent in the global governance. Civil society actors serve as providers of information, accountability, and legitimacy in the international system, bringing new issues and solutions to the attention of governments and international institutions. Additionally, they also pressure other non-state actors, such as multinational corporations, to change their behaviour. The effectiveness of civil society at both shaping new issues and influencing policy ensures that it has an important role to play in the international system and merits greater attention in the field of

international relations. The influence of civil society will be illustrated by a case study of the global social movement opposed to GMOs.

CHAPTER TWO

THE EMERGENCE OF THE ANTI-GM MOVEMENT

In the early 1990s, knowledge regarding agricultural biotechnology was minimal amongst the general public, and the biotechnology industry faced few regulatory hurdles in both the US and EU when developing GM products for the global agricultural market. However, by the late 1990s, knowledge of GMOs had increased considerably amongst the general public and the biotechnology industry had witnessed a steep decline in profitability. This chapter provides a history of the anti-GM movement in Europe and North America and outlines the various ways in which the movement framed the issue of GMOs, highlighting how the movement was the key agent in drawing public attention to this issue area. It also outlines the political and cultural contexts in the EU and the US and their impact on the strategies and effectiveness of the anti-GM movement.

The Early History of the Anti-GM Movement: Reconstructing Perceptions of GMOs

While the anti-GM movement only began to receive widespread attention in the late 1990s, the history of the movement dates back to the emergence of agricultural biotechnology in the mid to late 1970s (Schurman 2004, 252). The anti-GM movement initially developed in the US, where early anti-GM activists opposed the development of

agricultural biotechnology for social and ethical reasons. The movement stressed ethical concerns about the genetic manipulation of humans, plants and animals, as well as concerns regarding the negative socio-economic impacts the technology could hold for farmers and peasants due to further corporate concentration of the agricultural sector (Buttel 2005, 314).

The anti-GM movement also began to emerge in the global South during the early 1980s. While actors in the anti-GM movement in the North and South have always exhibited strong linkages, the history of the movement highlights how they have undertaken different discursive frames when approaching the issue of agricultural biotechnology. In the South, the predominant concern of the movement throughout the 1980s was that GM crops would primarily benefit rich peasants and agribusiness interests and would undermine and further destabilize small-scale farmers and peasants (Buttel 2005, 314).[6] In contrast, throughout the 1980s, the anti-GM movement in the North also placed considerable emphasis on ethical issues posed by this relatively new technology.

Until the 1990s, anti-GM activism took the form of individual experts setting up and working within a few NGOs and had two primary focuses, anti-biotechnology and seed saving. The originator of the anti-biotechnology component of the anti-GM movement was Jeremy Rifkin in the US, and extended to the UK in 1987 through Julie Hill in the Green Alliance and the formation of the Genetics Forum. Greenpeace was also an early actor in the movement, but remained fairly marginal until the mid-1990s. The

[6] While the component of the anti-GM movement based in the South has been an important actor in the broader movement this thesis focuses primarily on the actions of the anti-GM movement in the EU and North America.

instigator of the seed saving component of the movement was Pat Mooney with the International Coalition for Development Action seeds campaign in Europe in 1979, which later split into Genetic Resources Action International (GRAIN) and the Rural Advancement Foundation International (RAFI). This component of the movement was primarily concerned with the implications of corporations using intellectual property rights over GM seeds to legally prevent farmers who plant the new seeds from reusing and trading seeds collected from their own fields. The seed saving component of the network had strong connections to development actors and has been much more influential within the global South (Borowiak 2004, 512; Purdue 2000, 59-61).

Until the mid-1990s, the anti-GM movement in both the North and the South primarily consisted of a small group of counter-experts, such as natural and social scientists, policy analysts, and lawyers, who worked within a few NGOs. The early makeup of the anti-GM movement may be better characterized as a network than a movement due to its close linkages between movement actors, similar policy prescriptions, and a lack of support and acceptance from the general public. The movement focussed on questioning the adequacy of the science used to make regulatory decisions about the new technology, on using scientific and legal channels to pressure governments for better regulation, and on challenging the extension of intellectual property rights to life forms. The decision of the movement to focus on the provision of counter-expertise can be attributed to the skills of the actors primarily involved in the movement, who were better suited to lobbying than grassroots organizing, and to the

difficulty of generating widespread concern amongst the general public about GMOs when their threat was still largely hypothetical (Purdue 2000, 62-63).

By engaging in the policy process with either national governments or international institutions the anti-GM movement hoped to persuade regulatory bodies to adopt stricter regulations for GMOs. Through the use of counter-experts, the members of the movement became quite adept at engaging in expert debates; however, they were unable to effectively engage with the general public as they were more at ease communicating with their adversaries than their potential supporters (Purdue 2000, 95). While the tactics of the anti-GM movement may have signalled to government and industry that they were being monitored by a small group of activists, the movement lacked a broad base of support and there was a lack of awareness amongst the general public regarding agricultural biotechnology. Furthermore, substantial support for the biotechnology industry from government agencies in both the EU and the US meant that the influence of the movement was severely circumscribed. Thus, the early anti-GM movement had little impact on the actual development of policies governing agricultural biotechnology (Charles 2001).

The anti-GM movement was further hampered throughout the 1980s by the dominance of the neoliberal paradigm. As Buttel argues, in an era characterised by fiscal conservatism and government cutbacks, the social-justice type claims of the early anti-GM movement had minimal influence (2005, 315). To be effective activists must frame issues to resonate with some existing ideas and ideologies. The early anti-GM movement framed the issue of GMOs in such a way that it failed to resonate within the dominant

political discourse and as such the movement's arguments generally went unheard by political elites involved in the regulation of GMOs.

By the end of the 1980s, GM food was becoming a commercial reality as the first genetically engineered food products began to gain regulatory approval.
The first GM products approved by the US Food and Drug Administration (FDA) were chymosin, genetically engineered bacteria used to make cheese, followed by bovine somatotropin, a growth hormone to make cows produce more milk, and the Flavr Savr tomato. However, more significant was the development of BT and HT crops. BT crops have been genetically altered to contain a naturally occurring toxin that renders them insect resistant, while HT crops have been genetically altered to resist the toxic effects of a herbicide (generally Roundup or Liberty herbicides). By far the most successful GM crop has been Monsanto's herbicide resistant RoundUp Ready soybeans that were introduced onto the market in 1995 and have been adopted more rapidly than any other agricultural technology in the world (Buttel 2005, 310-311; Schurman 2003, 5; Schurman 2004, 252).

With the marketing of GM products, members of the anti-GM movement sensed the opportunity to move from a focus on the provision of counter-expertise to the generation of grassroots mobilization, as the threat of GMOs was no longer hypothetical (Purdue 2000, 93). Della Porta and Kriesi (1999) argue that the use of supranational arenas by movements and/or networks typically focuses on information gathering and report writing and various lobbying techniques at the expense of grassroots mobilization. They argue; "The 'transnationalization' of political mobilization poses...a problem for

the development of the *action repertoire* of social movements. If the constituency of social movements 'thinks globally', it is basically constrained to 'act locally'. Intervention in supranational arenas implies instead some (typically rather moderate) form of *vicarious activism*" (della Porta and Kriesi 1999, 20, emphasis in original).

However, as the more recent history of the movement suggests, grassroots involvement has greatly increased the relevance and political power of the anti-GM movement to the detriment of the biotechnology industry. The changing nature of the anti-GM movement would suggest that when there is significant collusion between government and industry interests, the counter-expertise of a small group of experts may be largely ineffective. However, grassroots mobilization can alter the policy preferences of government officials to the benefit of the movement and to the detriment of industry.

In the 1990s, environmental critiques of agricultural biotechnology and its potential impact on biodiversity increasingly shaped the anti-GM movement's framing, while frames associated with issues of social justice gradually lost their appeal. Environmentalism was relatively strong in the early to mid-1990s following the 1992 Rio Earth Summit, and environmental concerns held greater resonance than social justice claims in Europe and North America (Buttel 2005, 315). The movement utilized the environmental frame of biodiversity to argue for the importance of agricultural biodiversity in allowing for adaptation to changing growing conditions, such as growing season, weather, pests and weeds, as well as responding to changing human food needs and desires such as taste, texture and suitability for different cooking styles (Purdue 2000, 4).

Subsequently, the movement also linked the issue of GM food to concerns about the long-term health implications that such products might hold. The health frame had particular resonance for the movement in Western Europe where several food scares had recently occurred including Mad Cow disease, Creutzfeldt-Jakob disease, the discovery of dioxin in animal feed, and a rash of illnesses associated with Coca-Cola (Schurman 2004, 261). The use of health and environmental frames succeeded in attracting considerably more attention amongst the general public to the issue of GMOs and in bringing new participants into the movement.

Actors in the Anti-GM Movement

Since the 1990s, the anti-GM movement has grown to encompass a broad range of actors from several different social movements including the environmental movement, the organic farming movement, consumers' groups, and development actors. The actors, tactics, frames and discourses utilized by the anti-GM movement have considerable connections and overlap with both the global environmental movement and the anti-globalization movement. Like the anti-globalization movement, the anti-GM movement consists of a diverse group of actors who utilize a variety of tactics (ranging from the provision of counter-expertise to civil disobedience) and discourses (depending on if they are addressing the global South or North) to influence governments, international organizations and private actors. While the diversity within the movement has the potential to create divisions amongst actors, thus far the movement's diversity has been a source of strength. More conservative factions of the movement have been able to

successfully engage with policymakers, while the more radical factions of the movement have been successful at generating considerable publicity around the issue of GM food, at putting the issue on various political agendas, and at pressuring corporate actors through the use of highly symbolic tactics.

The largest group of actors within the anti-GM movement consists of members of the environmental movement (Reisner 2001, 1394). Throughout the 1990s, numerous environmental groups became increasingly involved in the anti-GM movement including globally oriented NGOs such as Greenpeace, Friends of the Earth and the World Wildlife Federation as well as regional and national organizations such as English Nature, the German Green Party, the UK Green Alliance, Sierra Club USA, the Earth Island Institute and various locally oriented organizations. The network includes both radical environmental organizations and mainstream environmental organizations, which have significant linkages to one another (Toke and Marsh 2003, 246).

The strengthening of linkages between the anti-GM movement and the environmental movement has been a significant source of strength for the movement because the environmental movement represented an existing structure with considerable resources that could be added to the anti-GM campaign. Members of the environmental movement, such as Greenpeace, had substantial experience in running international campaigns and in utilizing highly symbolic and visible tactics to attract media attention and generate the support of the general public. The environmental movement was also able to bring greater financial resources to the anti-GM movement with Greenpeace International alone dedicating fifteen full time campaigners and a highly dynamic

campaign coordinator, Benedict Harlin, to its new anti-GM food campaign in 1996. Finally, the large membership of many environmental organizations (Greenpeace alone has over 400,000 members) meant that the network was able to connect with large numbers of potential supporters who could be utilized for tactics such as letter writing campaigns and consumer boycotts (Schurman 2004, 252).

Another group of actors within the anti-GM movement are the various food and agricultural groups focussed on the promotion of organic agriculture and sustainable agriculture. Groups such as the Soil Association in the UK, the Organic Consumers Association in the US, and the French Farmers Confederation all have strong linkages to the global anti-GM movement. Food and agricultural groups generally argue that GM food contains unknown risks and that GM crops will undermine small family farms and make organic agriculture untenable due to cross pollination and contamination between non-GM and GM crops (Reisner 2001, 1392-1393; see also Bove and Dufour 2001). The involvement of food and agricultural groups has been beneficial to the anti-GM movement, because while the environmental movement has been able to offer health and environmental frames as effective critiques of agricultural biotechnology, the organic movement was able to offer an alternative solution to the dominant agricultural paradigm. A significant increase in organic food consumption has also increased the resources of organic organizations such as the UK Soil Association, allowing them to devote greater resources to the promotion of organic farming (Reed 2002, 492-493).

The anti-GM movement also consists of a variety of consumers' organizations, such as the Trans Atlantic Consumer Dialogue, a forum of US and EU consumer

organizations, and Ralph Nader's Public Citizen. The general public views consumers' organizations as both knowledgeable and reliable information providers whose primary concern is public welfare unlike commercial interests. Consumers' organizations within the anti-GM network are primarily concerned about the lack of regulations that govern GMOs and any health problems that might result as a consequence. They have a general distrust of large corporate interests, such as those that dominate the biotechnology sector, and argue that profit oriented actors cannot be expected to act in the interests of the general public (Reisner 2001, 1395). Their expertise in influencing business interests has proven helpful to the anti-GM movement, which has targeted corporate actors as one of its tactics.

In addition to the three major groups of actors listed above the anti-GM movement also incorporates various experts such as biologists, food scientists and geneticists who form an epistemic community opposed to or weary of the current regulatory structure governing GMOs. There are significant divisions within the scientific community over the benefits of GMOs, and these divisions have demonstrated to an already sceptical public the fallacy of scientific knowledge. These divisions within the scientific community have created a space in which the anti-GM movement has been able to question the reliance on expert knowledge for the regulation of GMOs, while at the same time marshalling the expertise of certain scientists in order to strengthen their own arguments when interacting with various regulatory agencies.

Strategic Frames Employed by the Anti-GM Movement

The diversity of the anti-GM movement has led to the use of several different frames throughout the movement's history. As Schurman outlines, the anti-GM movement "expended enormous energy constructing and communicating alternative frames through which people would interpret and apprehend these new biotechnologies" (2004, 254). The frames employed by the movement vary considerably depending on the audience (the general public, various experts, or fellow activists) and the context, in particular whether the setting is the Global South or North.

As the anti-GM movement gained prominence in both Europe and North America in the mid-1990s, it shifted its focus from ethical and socio-economic concerns to an emphasis on environmental and health issues. Activists found it strategically effective to focus primarily on environmental impacts and food safety rather than basing their opposition on concerns about the socio-economic impact of GMOs or a moral objection to the commodification of nature (Kleinman and Kinchy 2003, 380). Environmental concerns associated with GM crops include pollen drift and the contamination of non-GM crops, a further increase in monoculture, the emergence of weeds and insects resistant to pesticides, invasive species type effects, the absence of long-term testing for environmental and health risks, and the need to include the precautionary principle in policy making (Buttel 2005, 313).

However, it was the linkage between GM food and health issues that gave the anti-GM movement particular resonance amongst the general public. Interestingly, it was the health editors of tabloid newspapers in the UK that initially suggested the potential

risk GM food might hold for human health. Stories that GM food could be harmful resonated amongst a general public still concerned with recent food scares in the EU such as mad cow and beef hormones (Toke 2002, 70). GM food raised health concerns about potential increases in allergic reactions, cancer and other diseases, as well as a strong opposition to the lack of consumer choice regarding GM and non-GM food.

Thus, the linkage between health and GM food was a timely and strategic move for the anti-GM movement. The emergence of the health frame led to the interesting situation where it was food safety concerns that were dominant amongst the media, consumer organizations, and the general public, while environmental and socio-economic concerns continued to dominate amongst policy networks and environmental groups (Toke and Marsh 2003, 235). Rosendal (2005) argues the health frame was of increased resonance because of the declining salience of environmental issues in the latter half of the 1990s, and the increased prominence of health issues on political agendas in Europe and North America; however, the extent to which this is true is unclear. The scientific discourse that surrounds the environmental frame appears to have continued to be the dominant frame used in the anti-GM movement's interactions with policy networks and governmental bodies, due to its less sensationalist nature and the stronger scientific evidence of potential environmental problems related to GM crops.

The use of audience specific frames highlights the strategic nature of the movement. The more professionalized elements of the movement consisting of lobbyists, policy analysts, and various experts appear to have utilized the environmental threat posed by GM crops as their primary frame. The use of this internal frame may be

partially attributable to the relative openness of government environmental agencies to the issue and the strength of evidence regarding the potential harm that GM crops held for biodiversity. In contrast, the health frame may not be a natural fit for any particular government agency unlike the environmental frame, and scientific evidence regarding the health risks of GM food were considerably weaker than evidence regarding potential environmental risks. However, as an external frame the health frame had greater resonance as risks to human health were likely easier to comprehend and more salient than the risk that decreased biodiversity would pose to humans. Thus, the anti-GM movement utilized both internal and external frames depending on the audience they wished to influence.

The dominance of terms such as 'Frankenfoods', 'genetically modified', and 'genetic pollution' in the public discourse over more neutral terms such as agricultural biotechnology, dramatized the issue of GMOs and put pro-GM advocates at a distinct disadvantage when attempting to highlight the positive aspects of GM food. Activists will attempt to call attention to issues, or create new issues by using language that dramatizes and calls attention to their concerns (Keck and Sikkink 1998, 20). In an especially strategic move, activists linked the EU's experience with mad-cow to the unknown risks caused by biotechnology, simultaneously playing on the public's fears of another public health disaster and its strong distrust of food safety authorities. It did not matter to the public whether or not these claims were scientifically supported, what mattered was the power of suggestion that the movement utilized and its ability to capitalize on consumer concerns and fears (Wales and Mythen 2002, 127). Environmental groups in particular

were able to use food safety concerns and a distrust of scientists amongst the general public to generate support for the implementation of the precautionary principle, which argues that a lack of evidence regarding the existence of risk should not be equated with an absence of risk (Toke and Marsh 2003, 246).

An interesting example of the strategic efforts of the anti-GM movement to construct the discourse surrounding GMOs can be found in the movement's decision not to make the GM drugs produced by some of the same companies an issue. Because drugs are used by people whose health often depends on them the movement sensed that consumers would not oppose the use of this technology in drug production (Q&A: What is GE?, 2004; Schurman 2004, 260). Thus, they chose to oppose GM food and GM crops rather than the entire biotechnology industry.

The anti-GM movement's use of various strategic frames with which to portray the issue of GMOs, illustrates its role as a key agent in this issue area. Prior to the adoption of environmental and health frames, the biotechnology industry had been largely unconstrained in the development and marketing of agricultural biotechnology. However, the anti-GM movement was able to emphasize the issue of GMOs by shifting the dominant discourse from one which was highly technical and therefore exclusionary to an alternative discourse which was easily understood and resonated with the general public due to its emphasis on right and wrong and causal chains of blame.

Anti-GM Frame Resonance in the European Union

The effectiveness of the frames utilized by the anti-GM movement were mediated by the cultural and political climate in which the movement operated. While concerns regarding GMOs may have been based on economic, environmental and health risks, levels of opposition in the EU and the US were also "determined by cultural values that reflect sensitivities to dread and unknown risk, personal risk, personal experience, and socio-cultural context" (Finucane and Holup 2005, 1606). Nowhere have the tactics of the anti-GM movement been more vocal, sustained, and successful than in the EU.

While the level of opposition to GMOs varies throughout the EU, the anti-GM movement has been strong enough to pressure the European Parliament and other EU agencies to implement stringent guidelines regarding the production and consumption of GMOs. The anti-GM movement is strongest in France and the UK, which have considerable clout within the EU; the movement has been relatively weak in Spain and Portugal where governments have been more supportive of GM crops. However, as many regulations regarding GMOs are made at the regional level, it makes sense to group the member countries of the EU together when discussing the effectiveness of the anti-GM movement.

In the EU, Bovine Spongiform Encephalopathy (BSE) and to a lesser extent other food crises have reduced the public's trust in the food industry and government regulation, giving resonance to GM food as a consumer protection issue and sensitizing large sections of the EU public to the lack of effective regulatory oversight in industrial farming practices (Finucane and Holup 2005, 1608). The BSE crisis in the UK

highlighted both the fallacy of expert advice and the shortcomings of government regulators. In the case of the BSE crisis, for nearly a decade ministers and senior policy officials had repeatedly assured the public that British beef was safe, even though scientific evidence suggested the need for precautionary measures. The result of this policy strategy was that when government regulators suddenly acknowledged that BSE did pose serious risks to humans the government appeared to have deliberately misled the public.

In managing the issue of BSE, the UK government chose to subordinate consumer protection and public health to the interests of the agricultural and food industries. Additionally, policy makers formulated policy responses to the crisis prior to consulting with scientific experts, using subsequent scientific expertise as an endorsement for previously formulated policies. Thus, "[government] failure has been blamed for triggering an evaporation of trust in both government institutions and scientific expertise" (Van Zwanenberg and Millstone 2003, 28; see also Gerodimos 2004).

Support for GM foods is positively linked to citizens' trust in government to provide adequate transparency around the issue of GM food and protect public health and safety and the environment from potential harm (Durant and Legge 2005, 196-197). The GM food issue is also connected to the powerful cultural significance that food and agriculture have for many Europeans. For instance, in France there has been a movement to reassert culinary sovereignty in response to the erosion of traditional food and eating habits due to the invasion of US fast food culture (Finucane 2002, 33). As Schurman

states, "National cuisines in many Western European countries are a rich source of pride for people, and form a critical part of their histories, cultures, and identities" (2004, 261).

In addition, within the EU the role of the family farm in agricultural production is also viewed as culturally significant and has been consciously protected against the potentially detrimental effects of the world market under the auspices of the EU's Common Agricultural Program. Europeans have justified protectionist agricultural policies for cultural reasons and due to concerns about the potential detriments of mass production techniques that dominate US agriculture. Added to this is the lack of large tracts of wilderness in much of the EU, making the family farm an important repository of biodiversity that would be wiped out by the further expansion of large scale monoculture (Prakash and Kollman 2003, 628). Many scientists also feel that the nature of European farms, which tend to be small and closely spaced, makes contamination between GM and non-GM crops inevitable even if safeguards are in place to prevent this from occurring (Rosenthal 2006a; 2006b).

As a result of the anti-GM movement and the massive media coverage GM food received in the EU, Europeans' awareness of GMOs increased substantially after 1996, and public opinion began to turn firmly against it. While the majority of Europeans were unaware or ambivalent towards agricultural biotechnology in the early part of the 1990s, by the end of the decade public opinion had turned firmly against GMOs and the general public had become openly hostile. Thus, the public came to see GM food as a product that offered no additional benefits to consumers, only potential risks (Toke 2002, 67). As Schurman argues, "The fact that no GM food-related disaster had occurred to change

public opinion points strongly to the impact of the movement....had activists *not* made agricultural biotechnology into a public issue, it is hard to imagine that this shift in public opinion would have occurred" (2004, 254; emphasis in original).

Anti-GM Frame Resonance in the United States

In the US the anti-GM movement has lagged behind its European counterpart in both time and in impact. Although the success of the European component of the movement energized the US campaign, the tactics and frames employed by American activists have had much less resonance and success. In the case of the US component of the anti-GM movement, the political and cultural contexts were a significant impediment to its effectiveness.

The success of the anti-GM movement in the EU served to heighten the interest of US civil society groups towards the issue of GM food. As Keck and Sikkink (1998) outline, activists will often share values and will frequently exchange information and services. Activists and groups within a movement form both formal and informal linkages with one another, and both individual activists and information will move amongst various components of the movement. NGOs within the movement will also provide training and assistance to other NGOs as was the case with the anti-GM movement in the US and the EU (see Keck and Sikkink 1998). In the case of the anti-GM movement, the European component of the movement has played a pivotal role in heightening the awareness of GMOs amongst US civil society groups and educating them about the most effective frames and tactics for opposing the technology.

Prior to the backlash against GM food in the EU, US consumer groups did not have campaigns focussing on GM food, despite the fact that they have traditionally been very involved in food safety issues. The first major statement from a US based consumer organization on the issue of agricultural biotechnology was not made until April 1999, when the Trans Atlantic Consumer Dialogue called for effective and mandatory government approval systems and for the mandatory labelling of GM foods.[7] As Young outlines, "In the course of the discussions within the TACD [Trans Atlantic Consumer Dialogue] that led to the statement, the US consumer organizations appear to have become sensitized to the concerns of their European counterparts. Thus 'political transfer' seems to have been a crucial factor" (2003, 476).

Furthermore, while some environmental organizations had been active in the issue area of agricultural biotechnology since the 1980s, many of the most prominent environmental organizations in the US, such as Friends of the Earth USA, Greenpeace USA, and the Sierra Club did not become actively involved in the issue of GMOs until 1998-1999, by which time the movement had proven particularly effective in the EU. For example, Friends of the Earth USA did not ask US food manufacturers to go GM free until August 1999, more than eighteen months after its sister organization in the UK had launched a similar campaign (Young 2003, 476).

The anti-GM movement in the US was further motivated by the media attention that protests against GM food and fast food culture in the EU received in the international

[7] The Trans Atlantic Consumer Dialogue is a forum of US and EU consumer organizations which develops and agrees to joint consumer policy recommendations to the US government and European Union. (Trans Atlantic Consumer Dialogue 2004).

media. For instance, the protest against a McDonald's restaurant in southern France in August 1999, led by the French Farmer's Confederation and its charismatic leader Jose Bove, generated international media attention. Bove subsequently met with consumers' groups, environmentalists and farmers in the US, prior to attending the Seattle WTO protests, thereby strengthening linkages between the US and EU factions of the anti-GM movement (Bove and Dufour 2001; Jung 1999, A24). Thus, in this case it appears that the media operated as an indirect diffusion point for the anti-GM movement.

Connections between the members of the anti-GM movement in the US and EU were further strengthened by several international events involving GMOs. Negotiations for a Biosafety Protocol to the 1992 Convention on Biodiversity began in 1999 to regulate trade in GMOs and this mobilized NGOs to lobby government representatives for an agreement that included a strong understanding of the precautionary principle. The WTO dispute initiated by the US over the EU's moratorium on GM crops also drew the media and civil society groups' attention to the issue on both sides of the Atlantic (both the Biosafety Protocol and the WTO dispute will be discussed in greater detail in the following chapter).

The anti-GM movement in the US was further aided in September 2000 by the Starlink corn debacle in which it was discovered by Friends of the Earth USA that taco shells sold by Kraft Foods contained traces of a type of GM corn that had been approved for animal feed but not human consumption. Traces of Starlink corn were subsequently found in several additional brands of taco shells. After urging from the Environmental Protection Agency (EPA) in the United States, Aventis, the company marketing the corn,

'voluntary' cancelled its marketing licence for Starlink, but not before product recalls had cost food companies in excess of $1 billion (Friends of the Earth 2001; Knudson, Lau and Lee 2004). The Starlink incident generated considerable publicity for the movement, with stories on biotech regulation appearing in the New York Times, the Washington Post, USA Today and on CBS news (Prakash and Kollman 2003, 634). The incident also served as an impetus to draw new members into the movement.

However, despite incidents such as Starlink corn and strong linkages between the EU and US segments of the anti-GM movement, the movement has thus far been much less successful in the US. As Young states "Although consumer concern about genetically modified food appears to have increased in the US since the trade dispute with the EU began to heat up, Americans still tend to be less worried than their European counterparts about the technology" (2003, 478). While opposition to GMOs in the EU has involved considerable grassroots action by consumers, opposition to GMOs in the US is still significantly more activist-based than consumer-based (Schurman 2003, 10). The political and cultural context in the US was less open to the concerns of the anti-GM movement, than it was in the EU.

The diminished success of the anti-GM movement can be partially attributed to the different cultural significance that food holds in the US. In the EU, food is an important connection to ones' culture, while in the US food in general has less cultural resonance and a greater emphasis is placed on convenience (Toke 2004, 185; see also Bove and Dufour 2001; 2005). The culture of food in the US appears to be connected to

an emphasis on technological progress, speed and convenience within the broader US culture (Rappoport 2003, 137-141; see also Schlosser 2002).

Furthermore, despite several food safety scares in the US throughout the 1990s, including an outbreak of *E.coli* bacteria traced to several Jack and the Box restaurants, US consumers have not expressed the same distrust in regulatory authorities that European consumers have. This is likely due to the higher levels of confidence that US consumers have in various regulatory agencies and a higher tolerance towards risk amongst the general population (Nestle 2003, 241). Furthermore, the relative weakness of the anti-GM movement in the US when compared to the EU may also be attributable to the strength of the free market discourse in the US. As Kleinman and Kinchy state,

> For technological development, the importance of this discourse is clear: technologies that meet the standards of a free market should be developed and commercialized; those that do not will rest on the proverbial ash heap of history. Thus, free marketism has been used to explain the slow development of solar technologies in the US and to justify the pushing forward with agricultural biotechnology worldwide (2003, 382).

Kleinman and Kinchy (2003) suggest that while the US is dominated by discourses of technological progress, the free market, and scientism, in the EU the discourse of social welfare also carries significant weight. They argue that the existence of a stronger social welfare discourse in the EU allows more room for a stricter application of the precautionary principle and government intervention than in the US. The emphasis placed on the positive aspects of new technologies in the US, has meant that the frames utilized by the anti-GM movement in the EU were less effective in the US as they did not link as effectively to the broader political culture.

The environmental movement may also have less influence in the US than the EU. Unlike many EU member states, the US political system lacks a strong Green Party and the greater influence of environmental organizations in the EU may have created a more welcoming and attentive constituency of supporters for the anti-GM movement than in the US. Vig and Faure (2004) argue that the differences between environmental policies in the EU and the US may also be rooted in various institutional variables, notably their different party systems. They argue that the multiparty, proportional representation systems of most EU member states not only help to ensure green representation, but also force other political parties to compete for the environmental vote, further magnifying the impact of green parties. On the other hand, the party system in the US is characterized by a high level of interest aggregation that is typical of a two-party, first-past-the-post system of elections that tends to marginalize environmental interests.

The nature of agriculture in the EU and the US also differs; while most of the countryside in the EU is farmed, most of it in the US is not. This material difference has meant that while EU environmental groups have been concerned for a long time about the environmental impact of agriculture on wildlife, the main environmental groups in the US are primarily concerned with the protection of wilderness areas (Toke 2004, 184). Thus, political and cultural variables have made it much more difficult for the anti-GM movement to achieve success in the US.

Conclusion

The anti-GM movement has been a key agent in the issue area of agricultural biotechnology. The anti-GM movement has been able to successfully frame the issue of agricultural biotechnology by using a variety of strategic frames that have highlighted the environmental and health implications of GMOs. As Keck and Sikkink highlight, activists "create categories or frames within which to generate and organize information on which to base their campaigns. Their ability to generate information quickly and accurately, and deploy it effectively, is their most valuable currency; it is also central to their identity" (1998, 10). While the effectiveness of the movement varied depending on the political and cultural context in which it operated, were it not for the efforts of the anti-GM movement, it is highly unlikely that the issue of GMOs would have gained widespread attention amongst the general public, and gone on to become an issue of concern for both states and corporations.

CHAPTER THREE

THE EVOLUTION OF THE GLOBAL REGULATORY FRAMEWORK FOR GMOS

As outlined in the previous chapter, the anti-GM movement has increased in size and visibility since the early 1990s, but its success has been impeded or facilitated by political and cultural factors in the US and EU. Differing political and cultural contexts are also evident in the significant regulatory differences between the US and EU. To counter these differences the anti-GM movement has also looked to influence a variety of supranational bodies, as well as private actors such as biotechnology corporations, food retailers and processors, and farmers.

When targeting states the movement has focussed on the need for a more stringent regulatory framework to monitor the long term impacts of this new technology and a stronger use of the precautionary principle. The movement has also targeted supranational organizations, most notably the WTO and what would become the Cartagena Protocol on Biosafety. The anti-GM movement's success in targeting various governmental bodies has been shaped by the political and cultural structures of the contexts in which the movement operated.

Tactics Utilized by the Anti-GM Movement

The anti-GM movement has utilized a variety of tactics when targeting states and corporate actors. While it is the movement's more radical tactics, such as the destruction of GM crops and its vibrant protests, which have generated the majority of publicity, the movement's tactics have also involved lobbying, litigation, and consumer boycotts (Schurman 2003, 11). Both conventional and unconventional tactics have been important when influencing policies governing GMOs. More conventional elements of the movement have influenced the development of policies regulating GMOs through their involvement in policy networks, while unconventional elements of the movement have effectively drawn attention to the issue of GMOs, thereby influencing government agendas through the use of public pressure (Toke and Marsh 2003, 250). As Schurman states, "organized social activism has moved the issue of agricultural biotechnology out of relative obscurity, and out of the hands of a small number of corporate and state actors, into the public arena, where it is being debated by a broader spectrum of society" (2003, 112).

Reflective of the changing composition of the movement post-1995 and the commercial reality of GMOs, the tactics and strategies of the anti-GM movement have evolved over time. While prior to 1995, the movement had focussed on the provision of expert knowledge and lobbying, after 1995 the movement also began to draw on the experiences of environmentalists and embraced a variety of attention-getting symbolic tactics (Schurman 2004, 253). When the first US ships carrying GM soy arrived at European ports in 1996, they were met by a flotilla of Greenpeace activists, who

prevented the ships from docking and unfurled banners demanding a ban on GM food imports. In another protest, a group of activists dressed themselves up as "Super Heroes Against Genetics" and took over the headquarters of Monsanto UK, wielding plastic swords and dressed in capes, tights and underpants. Greenpeace activists also slipped into the 1996 World Food Summit in Rome and stripped off their clothes to reveal anti-GM slogans painted on their bodies (Charles 2001). Activists have also taken to destroying GM crops by uprooting them or chopping them down with machetes. In one well-publicized case in 1999, two protestors uprooted a field of GM corn that had been planted close to an organic farm in Totnes, England. When the protestors were arrested, members of the anti-GM movement organized in their support and used the legal system and the media to bring further attention to the issue (Lynas 2004, 26-27; Millar 1999, 3).[8]

The tactics of the anti-GM movement benefited from stories in tabloid newspapers, especially the UK Daily Mail's "Frankenstein Food" campaign that began in February 1999 (Toke and Marsh 2003, 245). The movement also benefited from the publicity generated by various public figures who opposed the use of GM food. In 1998 Prince Charles brought considerable public attention to the issue of GMOs when he wrote an editorial in the Daily Telegraph opposed to genetic engineering. The editorial outlined many of the movement's arguments against GM foods such as the potential long term effects on human health, increased use of agro-chemicals, genetic drift, insect resistance to pesticides, past agricultural disasters, the inability to recall products, and a lack of

[8] As outlined in the previous chapter, a similar incident was the arrest of Jose Bove and several other activists who had targeted a McDonalds in France. In this instance activists were also able to use the judicial system to bring greater attention to their cause.

public control over the food supply. It also questioned the necessity of the technology and highlighted the importance of consumer choice. By the end of 1998, the Prince's website had begun to host a debate on GM foods. As Reed states, "Charles was able to provide a celebrity endorsement that gained global publicity" (2002, 494).

The internet has played an important role in the success of the movement, and has enabled its global dimension. The anti-GM movement has utilized the internet to communicate its arguments, advertise protests and other events, generate petitions, and to solicit letters of protest against governments and companies around the world. Internet sites associated with the movement, such as Resistance is Fertile and GenetiX Alert, have acted as dissemination points for news and information about the anti-GM movement's activities. The use of the internet has facilitated creative collaborations between facets of the movement in the North and the South, and has also allowed groups in Europe and North America to connect and share resources (Schurman and Munro 2003, 115-116).

Thus, the anti-GM movement has embraced a variety of tactics when targeting both states and various private actors. The movement has utilized its diversity in the tactics it has pursued, using both traditional lobbying and unconventional symbolic actions to gain attention and credibility. Information technologies, especially the internet, have also shaped both the tactics of the movement and its geographically and politically diverse character. This combination of tactics has allowed the movement to be successful when targeting various government regulators.

Windows of Opportunity: The Anti-GM Movement and GMO Regulations

As previously noted, recent food safety events, especially in Europe, have enabled the anti-GM movement to effectively frame the issue of GMOs as a health and environmental issue. As Nelson observes, several characteristics are likely to make an uncertain outcome appear risky to the public: involuntary, unfamiliar, controlled by others, acute, artificial, unfair, undetectable, and memorable (2001, 1381). These characteristics are present within the issue area of GMOs and are reinforced by the lack of agreement among scientific experts regarding the safety of the technology. As Muller states,

> ...science cannot provide unequivocally evidence and insurance regarding the absence of any long-term adverse impact of GMOs. While some scientific studies raised doubts about the long-term health safety of consuming GM-food products for humans, others, however, questioned those results. In any case, the display of conflicting opinions among scientists in the public on such a vital issue does not contribute to consumers' confidence, rather weakens further the role of scientists as "judges" about "what is safe, and what is not" (2004, 9).

The anti-GM movement has taken advantage of this division within the scientific community to advocate its position on GMOs. In both Europe and North America, the movement has revealed weaknesses within existing regulatory structures by making embarrassing public revelations of government practices. For example, in May 2000 activists in the UK revealed that a Canadian company had inadvertently (and illegally) sold conventional canola contaminated with Monsanto's Roundup Ready canola to British farmers who unknowingly planted it on more than ten thousand acres of farmland. The movement used the incident to claim that the technology is effectively uncontrollable

and that the government was indifferent about regulating GMOs (Schurman and Munro 2003, 117).

The anti-GM movement's success in linking its concerns about GMOs to existing health and environmental concerns, and declining public confidence in regulatory authorities and scientific experts, illustrates how a movement can advance an issue by latching on to an existing policy crisis. As Sell and Prakash highlight, "Crises may lead to a demand for policy changes. To bring about such changes agents need to link their private concerns to broader societal concerns" (2004, 154). In linking the issue of GMOs to existing public concerns such as food safety the movement was able to have much greater influence than it would otherwise have been able to.

The anti-GM movement has also sought to portray the biotechnology industry as greedy and irresponsible and more concerned with profits than public health, the environment, or food security in the developing world (Wales and Mythen 2002, 137). As Schurman and Munro state,

> ...activists' efforts to establish and shape new regulatory regimes for genetically engineered foodstuffs have helped to make decision making about agricultural biotechnology more democratic by ensuring that decisions about the deployment of biotechnology are not left entirely up to those with the most to gain from promoting these products and the least to lose if the products have negative economic or environmental consequences in importing nations (2003, 122).

These characteristics of GMOs have assisted the anti-GM movement in pressuring governments to adopt stricter regulations for agricultural biotechnology. The emerging shift towards the reregulation of industry and technology in the area of agricultural biotechnology represents an important counter to the deregulatory trend of the past two decades (Schurman 2003, 13). While previously governments were ambivalent or

reluctant to regulate this new technology due to concerns about declining competitiveness, in recent years governments have shown an increased willingness to address consumer concerns through the stricter regulation of this new technology. While government willingness to implement stricter regulations for agricultural biotechnology has varied amongst states, there has been a general recognition that there is legitimacy to those concerns vocalized by the anti-GM movement.

Regulating GMOs in the European Union

Since 1990, EU authorities have had a role in the regulation of GMOs. Under the Directive 90/220/EC, EU member states retained important regulatory powers regarding GMOs, but shared their responsibilities for risk assessment and authorization for release throughout the EU with other member states and the institutional bodies of the EU. In the early to mid-1990s the EU approved eighteen GM crops for import or cultivation and allowed thousands of research trials to go ahead (Skogstad 2003, 327).

However, by the late 1990s there were increasing signs that the EU level GMO regulatory framework, based on a combination of state-centred and expert based authority, had lost credibility and legitimacy with the public. Although most EU member states and the EU itself had viewed biotechnology favourably during the early 1990s, they began to alter their positions in 1997. Facing strong public opposition to GMOs, EU regulations became increasingly strict in spite of opposition from the biotechnology industry (Skogstad 2003, 327-328; Skogstad 2005, 248).

The changing nature of GMO regulations in the EU is due to the actions of the anti-GM movement and the political opportunity structure in which it operated. While the biotechnology industry in the EU has been successful in avoiding strong regulatory language regarding liability, other aspects of regulations governing GMOs reflect the demands of the anti-GM movement. The industry has attempted to frame arguments for a looser regulatory framework around concerns about employment and competitiveness; however, this has had little effect compared to widespread public opposition to GMOs (Rosendal 2005, 87-89). Strong public opposition has been particularly important for the anti-GM movement because biotechnology and farming interests are relatively rich and powerful groups within the EU and typically have a privileged place in the policy making process (Toke and Marsh 2003, 244).

The anti-GM movement has benefited from the large number of veto points in the EU approval process for GM crops. The EU approval process allows small groups of governments to block the approval of any GM crop or food. In the late 1990s, France substantially altered its position on GMOs, moving from being a sympathetic supporter of the biotechnology industry to a position of extreme regulatory caution. The UK also substantially altered its formally liberal policies towards the approval of GM crops. As a result of this and other government actions from October 1998 until 2004 there were no approvals of GM crops in the EU, creating a de facto moratorium on GM crops.[9] In June 1999, the situation was further formalized when the governments of France, Denmark,

[9] In 2004, the EU effectively ended its six year moratorium on GM crops when it allowed Syngenta to sell its genetically modified sweet corn. However, the EU continues to enforce strict labelling and traceability requirements on GMOs (EU Farmers Plant more Genetically Altered Corn 2005; Partial Surrender on iFrankenfood 2004, A18).

Greece, Italy and Luxembourg adopted a declaration suspending new authorizations pending the adoption of a revised regulatory procedure (Schurman 2004, 255; Young 2003, 465).

In 2001, Directive 90/220/EC was replaced by the new Directive 2001/18/EC on the Deliberate Release of GMOs. The new Directive introduced more stringent assessment procedures, amendments on labelling, and stated that the authorization of GM products is valid for a fixed time period only. At the same time an unofficial moratorium on the growing and marketing of GM crops was forced through by several EU member states vehemently opposed to GMOs: Denmark, France, Greece, Austria, Italy, and Luxembourg, later joined by Belgium and Germany. Following Directive 2001/18, EU Environment Ministers agreed to two further regulations on GMOs, one on mandatory labelling and traceability and one on GM food and feed. These regulations give a tolerance threshold of .05% for the accidental presence of GMOs in food and a minimum threshold of 0.9%, below which there is an exemption for labelling. Food and feed produced from GMOs are also required to be traceable throughout the product chain (Annerberg 2003, 16; Rosendal 2005, 85-86).

In pushing for tighter regulatory controls on GMOs, the anti-GM movement has benefited from the wide range of factors that the EU takes into account when formulating health and environmental regulations. As Young states, "the European approval process provides much greater scope [than the US regulatory process] for the consideration of non-scientific factors. The EU's new food safety regulations, for example, permit the consideration of 'societal, economic, traditional, ethical and environmental factors' in

risk management decisions" (Young 2003, 464). Furthermore, biotechnology products are considered to be substantially different from other products produced through more traditional means and 'substantial equivalence' between the two is rejected (Young 2003, 464).

The EU's approach to agricultural biotechnology reflects the considerable emphasis that the region has placed on the precautionary principle. Christoforou states that:

> The precautionary principle applies to scientific uncertainty and risk regulation. It permits regulatory authorities to take action or adopt measures in order to avoid, eliminate, or reduce risks to health, the environment, or in the workplace. The precautionary principle may also oblige regulatory authorities to take action when this is necessary to avoid exceeding the acceptable level of risk (2004, 17).

The precautionary principle was introduced into environmental policy to prevent environmental degradation. Christoforou goes on to argue that "The term precautionary *principle* was clearly inspired by a desire to create a normative basis for action even in the absence of clear evidence of harm and causality. It aimed, therefore, to achieve and maintain a high level of health and environmental protection and facilitate the decision-making process in the complex area of risk regulation" (2004, 22-23; emphasis in original).

The precautionary principle carries particular weight in the EU because it is explicitly mentioned in Article 174 (2) of the European Community Treaty, thereby giving it constitutional status and because it is also firmly enshrined in implementing legislation and case law. The precautionary principle is binding on the institutions of the EU and can be used to ensure that health and environmental regulations reflect societal

values and acceptable levels of risk regarding desired levels of health and environmental regulation. That same emphasis on the precautionary principle is also evident within most member states under their domestic legal systems. In contrast, while the precautionary principle is also recognized within US policy networks, it does not enjoy the same legal status that it does in the EU (Christoforou 2004, 40-41).

The strength of the precautionary principle in the EU has given the anti-GM movement a widely accepted norm on which to graft its arguments. Numerous scholars have highlighted that one important factor in norm development is how well a new norm resonates with norms already in existence (see Keck and Sikkink 1998; Price 1998; Sell and Prakash 2004). Within policy circles the anti-GM movement highlighted the potential for environmental degradation and health problems posed by the unregulated use of GMOs and used that potential threat to argue for a strict application of the precautionary principle. By linking GMOs to other potential threats, such as bovine growth hormone and global warming, in which the precautionary principle had already been employed by the EU, the movement was able to give its arguments greater legitimacy.

Another key factor that has helped enable the success of the anti-GM movement in the EU is the emphasis placed on a consumer's right to information about how a food was produced. EU regulations stipulate that labelling is mandatory for all GM products, including plants, seeds and foods, in which DNA or protein resulting from genetic modification is present, as well as for foods and food ingredients containing additives or flavourings derived from GMOs (Young 2003, 465). However, while the imposition of labelling restrictions has meant short term success for the movement, in reality it may be

a two-sided victory. In a positive sense, labelling serves as recognition of autonomous, "democratic" choice in that power is vested within the individual consumer's purchasing decision. Labelling can force food manufacturers to be more selective in sourcing ingredients and can pressure suppliers to abandon GM technology. The use of labelling in the EU has meant that there is little or no market for GM food, thereby helping to create an unofficial moratorium.

However, labelling is also highly problematic for the long term sustainability of the movement. The use of labelling as a strategy for opposing GM food makes risk management a matter of consumer choice and effectively privatizes broader societal decisions. Furthermore, socioeconomic inequalities mean that the democratic freedom associated with labelling is not equally distributed, and threaten to make non-GM food a niche market much like organic food (Guthman 2003, 131; Wales and Mythen 2002, 136). As Guthman argues, "labelling could take the sights off direct state regulatory action, such as a moratorium or an outright ban, thus making the labelling law a Pyrrhic victory" (2003, 137).

Labelling has also been contentious within the different factions of the anti-GM movement. By arguing for mandatory labelling activists have reinforced a market-based approach to the regulation of GMOs. This is problematic for the anti-GM movement as it undermines a broader critique within some segments of the movement of industrialized agriculture and the cultural homogenization of traditional cuisines. Furthermore, environmental and ethical arguments made by the movement could be further undermined if in the future it is shown that GM food poses no significant risk to human

health, and consumers therefore become more willing to consume it. Biotechnology companies in the EU are no doubt hoping that this will be the case when they argue for the labelling of GM products under the guise of consumer choice rather than a full moratorium, with the view that getting GM food back on supermarket shelves will be the first step towards broader public acceptance.

The anti-GM movement has benefited from both political and institutional factors when pressuring governmental bodies to adopt stronger regulatory measures in the EU. Through a variety of tactics the movement was able generate widespread public opposition to GMOs, which enabled it to pressure regulatory bodies to adopt stringent regulations for the governance of GMOs. However, in the US the political and institutional climate has not been as favourable to the movement, severely circumscribing its ability to pressure governmental bodies to adopt stronger regulations regarding GMOs.

Regulating GMOs in the United States

Unlike the EU, the United States has emerged as a leader in the adoption of agricultural biotechnology. More then ten years after the first commercial release of GMOs, 90% of GM crops are grown in only four countries, with 55% of GM crops grown in the United States (European Union 2006).[10] In 2006, 89% percent of soybeans, 61% of corn and 83% of cotton grown in the US came from GM varieties (Adoption of Genetically Engineered Crops in the US 2006). The US government and US business

[10] The other major producers of GM crops are Argentina which grows 19% of GM crops, Brazil (10%) and Canada (6%) (European Union 2006).

leaders have generally shown a willingness to embrace new technologies, and so far this has been the case with agricultural biotechnology (Boyd 2003, 25).

Biotechnology has faced a favourable regulatory climate in the United States where concerns about declining national competitiveness have led government leaders to embrace biotechnology as a future source of national prosperity. As Guthman states,

> It does not seem accidental that the appearance of commercial possibilities for these technologies coincided with the economic crises of the 1970s and early 1980s, which were partially attributable to the United States' failure to keep pace with technological innovation in other countries, particularly electronics. Both the Carter and Reagan administrations were strongly committed to rapid technological investment as a vehicle for economic recovery, and they provided substantial tax incentives for investment in biotechnology (2003, 135).

Furthermore, agricultural biotechnology has received large amounts of investment in the US, and while most of that investment has been private, some of it has also come from public sources (Lang and Heasman 2004, 25). The biotechnology sector has considerably more power in the US policymaking process than it does in the EU and as such the anti-GM movement has not been effective in pushing for stronger regulations. Evidence of the influence of the biotechnology industry and the favourable institutional environment in which it operates is the success the industry has had in recent decades in extending private property rights to life forms (Charles 2001, 10-11; Dickenson 2004, 118).[11]

[11] The United States has been a strong supporter of intellectual property rights both domestically and internationally. Beginning in 1980 with the US court decision Diamond vs. Chakrabarty, domestic US political institutions have shown a willingness to extend patent rights to living organisms in order to benefit the US biotechnology industry which has a comparative advantage over other countries (Charles 2001, 10-11; Dickenson 2004, 118). In order to reinforce the dominant position of its own biotechnology industry the US government has also been a major proponent of GM crops worldwide and has been the major proponent of the extension of intellectual property rights to biotechnology and its subsequent products (McAfee 2003a, 203).

Responsibility for the regulation of GMOs in the US lies with three regulatory bodies with somewhat overlapping jurisdictions. The US Department of Agriculture (USDA) is responsible for ensuring that GM crops are safe to grow, while the FDA is responsible for ensuring that they are safe to eat, and the EPA is responsible for ensuring that GMOs are safe to be released into the environment. The USDA, which has a reputation for being business friendly, is the lead regulatory agency for GMOs. It is responsible for ensuring that a GM crop is not a pest and for approving field trials. The USDA has been a key proponent of GMOs and also undertakes active research in the field of biotechnology, owning several patents that have yet to be commercialized (Prakash and Kollman 2003, 624). This has meant that there is an obvious conflict of interest situation within the main body responsible for the regulation of GM technology and that the anti-GM movement has very minimal influence over the USDA.

The biotechnology industry has further benefited from the manner in which the FDA has chosen to define GMOs. Unlike the EU, where GM products are defined as fundamentally different from non-GM products due to differing production methods, the FDA focuses on the final product and thereby treats GM and non-GM products as fundamentally the same. This has meant that GM products do not have to be subject to any special regulations or testing, such as labelling or pre-market safety studies, before being released onto the commercial market (Prakash and Kollman 2003, 625; Young 2003, 462).

In general, the EPA has been most receptive to the concerns of the anti-GM movement. The EPA is involved in the regulation of GMOs because it regulates

pesticides and sets tolerance levels for pesticide residue levels in foods. Because many GM crops contain pesticides or herbicides, they require the EPA's approval. The EPA has called for rules that would regulate pesticide resistant GM crops in the same manner as pesticides; however, these have not been adopted. Thus, Young concludes that "the EPA has voiced greater concern about the potential risks of the release of GMOs into the environment than the USDA or the FDA; however, it has only rarely turned these concerns into concrete action" (2003, 463).

Together these three regulatory agencies have proven difficult for the anti-GM movement to penetrate. Unlike the EU, where health and environmental regulations take into account a broad range of factors, US regulatory agencies emphasize scientific data and expertise. The regulatory system is based on the neutrality of science, such that arguments framed in socio-political terms have little or no resonance (although regulatory agencies often face substantial pressure from corporations and the executive branch of the federal government) (Buttel 2003, 165). Furthermore, federal policies have also helped the development of the US biotechnology industry by leaving the resolution of many technical issues either to the industry or to government regulatory agencies with sharply curtailed mandates. In some situations the government has allowed the biotechnology industry to provide data or implement safety measures on a voluntary basis. Even more problematic, is that regulatory agencies have failed to conduct their own studies or to sponsor independent research on GM food products (Kelso 2003, 242).

Unlike regulators in the EU, US regulators also place very little emphasis on the precautionary principle. Private corporations are responsible for providing data about

GMOs to the appropriate regulatory bodies in the US. Thus, Buttel argues "The US regulatory process contradicts the essence of the PP [precautionary principle] in that in a PP regime the burden of proof lies entirely on the corporation, and the absence of adverse environmental impacts is not a primary evidentiary requirement" (2003, 165). The US government has shown a general unwillingness to embrace a strong understanding of the precautionary principle, especially when it has the potential to threaten US economic interests. This has been the case with issues such as global warming and appears to also be the case with GMOs. Thus, within the domestic political context of the US, the anti-GM movement's linkage of GMOs to the norm of the precautionary principle was not as effective as it was in the EU.

US regulators have also dismissed the possibility of mandatory labelling for products containing GMOs. Because regulators view GM products as substantively equivalent to those grown using conventional methods, the FDA has denied that there is a need for labels on GM products (Guthman 2003, 130). As such, US regulators place less emphasis on a consumer's right to information about what they are eating than EU regulators. US regulators have much higher levels of trust amongst the general public, than regulators in the EU, and as such their decisions face less public scrutiny. Furthermore, unlike the EU, where the biotechnology industry supports the use of labels to get GM foods back on store shelves, the biotechnology industry in the US strongly opposes labels fearing they will draw further attention to the issue and severely undermine the profitability of GM food (Toke 2004, 184).

Within this relatively closed political opportunity structure the anti-GM movement has had limited success. Unlike the EU, concerns about GMOs are not widespread in the US, but are limited to a number of activist groups (Nelson 2001 1371). As such, the anti-GM movement has mainly focussed on undermining the credibility of government regulatory bodies by exposing their low levels of knowledge, weak regulations, and tendency to take industry claims at face value. Activists have stressed the difficulty of controlling this new technology and have attempted to highlight the responsibility of the state to do so (Schurman and Munro 2003, 117).

The anti-GM movement has complemented this strategy with a tactic of sustained litigation in US courts. Activist groups in the US often utilize the courts as a venue in which to present their views because of the centrality of the courts in US politics (Keck and Sikkink 1998, 24). As Schurman and Munro state, "Court action is a powerful tool for raising the stakes of public accountability in the food regulation regime because it enables activists to frame specific and sometimes technical questions in terms of the state's responsibility to the public" (2003, 118). For example, in 1999, members of the anti-GM movement filed a lawsuit against the FDA for its policy of neither labelling GM foods nor subjecting them to independent testing claiming it violated the Federal Food, Drug, and Cosmetic Act, the agency's primary regulatory instrument. The aim of the lawsuit was to show that the FDA had failed to ensure the safety of GMOs because the tests carried out were designed to favour the biotechnology industry. The suit publicly raised questions about the adequacy and accountability of government procedures, while also forcing the government to make public a vast amount of information about internal

disagreements, decision-making procedures, and the basis of its scientific findings. This information compromised the objective, apolitical stance of the FDA (Schurman and Munro 2003, 118).

The anti-GM movement has also had some success in pushing for stricter regulations for GMOs. In 1999, US Secretary of Agriculture Dan Glickman acknowledged that consumers needed to trust the regulations governing GMOs if they were to widely accept the technology. A number of specific initiatives were introduced to strengthen the regulatory process: a review by the National Academy of Sciences of the USDA's approval process; a review to reinforce the separation between the USDA's regulatory and promotion functions; and the creation of an advisory committee on biotechnology to address the social and economic implications of agricultural biotechnology (Young 2003, 471). As a result, regulatory bodies have attempted to strengthen their arms' length status and the FDA has expanded its research on current and future safety issues and now requires mandatory notification before GM crops or products are introduced into the food supply (Young 2003, 472-473). However, these new regulations are still a far cry from those introduced in the EU. Government data on GMOs continues to be inadequate and much of the data that federal regulators have comes from corporations seeking approval to market their GM crops (Knudson, Lau and Lee, 2004).

More substantial attempts to regulate GMOs have occurred through a number of legislative initiatives at the federal and state levels since 1999. Bills calling for mandatory labelling and instructing the FDA to treat GM as a food additive (thereby creating a need

for stricter regulatory controls) were introduced in the House and Senate in 1999 and 2000. While these bills failed to pass, they do suggest that the anti-GM movement has had some influence federally (Young 2003, 473). The movement has had more success at the state level. Maryland adopted a five year ban on the release of GM fish in 2001, and North Dakota and Maine have adopted laws requiring manufacturers of GM plants or seeds to provide guidelines on how to minimize cross-contamination. Additionally, laws have been proposed in several states that would impose moratoriums on at least some GM crops and/or would require mandatory labelling (Legislation 2006; Young 2003, 474).

However, bills proposing more stringent regulation of GMOs in the United States face strong opposition from the biotechnology industry. Biotechnology companies are major campaign contributors at both the federal and state levels, and as a result most bills dealing with biotechnology are supportive of the industry. In 2003 alone, legislators in 32 states introduced 130 bills and resolutions related to biotechnology; however, only 27 pieces of legislation passed, and of those that did 70 percent sided with the biotechnology industry (Lee and Lau 2004).

In areas where activists are successful in opposing GMOs, they face significant financial opposition from the biotechnology industry. In 2004, activists in California's Mendocino County aimed to make their county the first to ban GM crops. Biotechnology companies, under the industry association umbrella CropLife America, spent more then $700,000 or nearly $60 for every person in the county, to convince residents of the benefits of GM crops. Despite this, local residents were not convinced of the advantages

of GM crops and approved the proposal, spurring similar bans in other counties (Doyle 2005, B1; Garcia 2004; B7).

Thus, while the political and institutional context in the United States has sharply curtailed the success of the anti-GM movement, the movement has been able to raise public awareness regarding the issue of GMOs through the use of symbolic action and other tactics such as litigation. The movement has pressured governmental bodies to implement some minor policy changes and has raised questions about the effectiveness and impartiality of the US regulatory framework. However, the movement has also looked outside the national political context and towards supranational bodies to draw further attention to the issue of GMOs and overcome weak or resistant national regulators.

Negotiating a Global Framework for the Regulation of GMOs: The Cartagena Protocol on Biosafety

The Cartagena Protocol on Biosafety was adopted on January 29, 2000 as a supplementary agreement to the Convention on Biodiversity and provides an international forum for the governance of GMOs. The Protocol seeks to protect biological diversity from the potential risks posed by GMOs (termed living modified organisms in the agreement). The agreement operates on the precautionary principle and uses an advance informed agreement procedure to ensure that states have necessary information before agreeing to import organisms into their territory. The Protocol also established a Biosafety Clearing House to facilitate the exchange of information on GMOs and assist

countries in the implementation of the Protocol. Currently 134 countries actively participate in the agreement. However, three of the world's major producers of GM crops: the United States, Canada, and Argentina, have thus far refused to ratify the Protocol (Cartagena Protocol on Biosafety 2006; Vidal 2006).

The anti-GM movement played a significant role in the period leading up to the negotiations for the Biosafety Protocol and during the negotiations themselves. While it has often been suggested that globalization has led policy-making to leach away from states, the simultaneous targeting of both national regulatory bodies and supranational regulatory bodies by the anti-GM movement suggests that civil society organizations may be adapting to this changing policy environment and utilizing it for their own benefit. As Schurman and Munro state, "Activists have...sought to slow the biotechnology train by helping to create supranational regulatory regimes that govern the international deployment of GEOs [GMOs] in food and agriculture production" (2003, 120).

The idea for an international agreement on biosafety emerged in 1992 during negotiations for the UN Convention on Biological Diversity. During these negotiations, participants from the global South voiced concerns that their rich resources in biological diversity were at risk due to the introduction of GMOs, and argued for the creation of a global body to oversee this new technology. Activist pressure helped to reinforce these concerns in both the global South and in other regions such as the EU. As Nijar states, "intervention by the Third World Network, GRAIN, RAFI and Greenpeace is widely credited to have led to the call by the G-77 and China for work to begin on an

internationally binding protocol and for the Conference of the Parties to endorse their request" (2002, 264).

Many governments found themselves confronted with a new technology and a suspicious and fearful public, and wanted assurance that they would be able to regulate this new technology without challenge, even if regulatory decisions responded to consumer fears or economic considerations, as opposed to established health or environmental risks (Safrin 2002, 615). The primary opponent of a strong Biosafety Protocol was the Miami Group which consisted of delegations from Argentina, Australia, Canada, Chile, Uruguay and the United States.[12] The main concern of the Miami Group was that the proposed agreement would not restrict trade unnecessarily or create transnational food safety regulations (Ballhorn 2002, 112; Enright 2002, 98).[13]

The anti-GM movement had a significant impact on the negotiating position of the EU prior to and throughout the negotiations. When talks regarding the Biosafety Protocol began the EU did not have significant concerns about GMOs and felt that the domestic regulations it had in place were sufficient. However, by 1995 the EU was facing public pressure to implement more stringent regulations for GMOs, and saw the demand

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[12] While the US chose to become involved in the biosafety negotiations, it cannot become a Party to the Biosafety Protocol until it ratifies its parent convention, the Convention on Biological Diversity. Thus, the US participated in the biosafety negotiations as an observer, something that served to create further tensions between the Miami Group and other negotiating blocks (Safrin 2002, 609).

[13] The divergent positions between the EU and the US during the Biosafety Protocol may also be partially attributable to what Kramer argues are their differing views on globalization. He argues that the EU views globalization as including, with the same degree of importance, trade issues, environmental concerns, and social questions and attempts to balance these competing interests on a case-by-case basis. In contrast, the US places far greater importance on economic considerations than it does environmental and works towards global institutions and instruments that reflect this viewpoint. In the view of the United States, environmental considerations should interfere with the global market as little as possible (Kramer 2004, 66).

of several developing countries for an international agreement to regulate biotechnology as reasonable and necessary. By the time the biosafety negotiations were coming to a close in the late 1990s the EU's position had dramatically changed and a strong and successful agreement was now important for the EU itself (Bail, Decaestecker, and Jorgensen 2002, 166-167). As Bail, Decaestecker, and Jorgensen note, "it was necessary for the EU to be seen as actively advocating global safety for action in biotechnology in order to respond to domestic civil society/NGO concerns and to reassure a public extremely concerned about food safety...and increasingly sceptical towards biotechnology" (2002, 167).

The anti-GM movement also played a key role throughout the negotiating process as information providers. During the biosafety negotiations many government representatives regularly consulted both formally and informally with NGOs associated with the anti-GM movement. Negotiators discussed compromises proposed during the negotiations with NGO representatives in order to gage their reactions and seek their ideas for alternative solutions. NGOs had significant influence over the inclusion of the precautionary principle in the agreement, issues regarding socio-economic concerns, and increasing the overall political awareness of the actual protocol, a factor that was essential in ensuring a positive outcome to negotiations (Bail, Decaestecker, and Jorgensen 2002, 173; Gale 2002, 259). The movement also provided negotiators with scientific, legal, technical and political information. This function performed by the movement was especially helpful for those delegates from the South who supported a strong agreement but lacked sufficient resources. As Nijar states, "cooperation between

countries of the South and NGOs was vital in order to counter the immense resource of the countries of the North" (2002, 267).

During the final negotiations of the Biosafety Protocol in Montreal those parties pressing for a strong agreement placed increased emphasis on the role of the anti-GM movement. The anti-GM movement informed members of the public that the negotiations were taking place as well as the issues at stake and the positions of their respective governments (Canadians Winners in Seattle, the Sequel 2000; Gale 2002, 259). The EU used NGOs as part of its negotiating strategy by putting public pressure on the Miami Group to show more flexibility towards the agreement. Members of the Miami Group became the target of considerable criticism, and the group began to develop proposals necessary to create a consensus for the agreement with the other negotiating parties (Ballhorn 2002, 109). This led one participant in the negotiations, a member of Greenpeace International, to conclude that "[b]y giving visibility to an otherwise obscure and complex issue, Greenpeace and the rest of the NGO community assisted in empowering governments to take strongly environmental positions and giving their negotiators the encouragement that was needed at the crucial moment of the negotiations" (Gale 2002, 260).

The biotechnology industry was also involved in the biosafety negotiations; however, compared to the anti-GM movement they appear to have had much less of an impact. In 1998, the biotechnology industry attempted to increase its influence over the negotiations and its role as an information provider by organizing formally under the banner of the Global Industry Coalition (Reifschneider 2002, 275). Issues over which

industry representatives had considerable influence included commodities and the exclusion of pharmaceuticals from the agreement as well as solutions for the contained use of GMOs (Bail, Decaestecker, and Jorgensen 2002, 173). Despite this, there appears to have been significant divisions within the biotechnology industry that reduced its influence over negotiations. Representatives of European biotechnology firms were more open to some sort of regulatory agreement than their US counterparts who took a confrontational approach to the agreement (Tapper 2002, 271). When negotiations for the Biosafety Protocol were completed industry representatives were disappointed with the final outcome and felt that they had lost out to the interests of the anti-GM movement. As one representative from the Global Industry Coalition stated; "[i]t was perhaps our biggest disappointment... delegates felt so constrained by politics and unrelenting activist pressure that they were inhibited from asserting or even expressing their own points of view in the negotiations" (Reifschneider 2002, 276).

Thus, the anti-GM movement played a significant role in the negotiations for the Cartagena Protocol on Biosafety. The movement brought attention to the issue and provided information to under-resourced delegates. The inclusion of the precautionary principle in the final text of the agreement helped to cement the linkage between this norm and GMOs, further legitimizing arguments employed by the movement.

GMOs at the World Trade Organization

Different regulatory approaches towards GMOs in the EU and the US have come to a head at the WTO. In May 2003, the US, supported by Canada and Argentina,

launched a dispute at the WTO regarding the EU's authorization regime and moratorium on GMOs. They argued that the EU's regulations discriminate against GM food and are not based on scientific evidence, constituting an unfair trade barrier. They also argued that six European countries: Austria, France, Germany, Greece, Italy and Luxembourg, violated trade rules by banning GM crops that had been approved by the EU. The EU responded that it never had a moratorium on GM crops in place; rather, it took a precautionary approach towards the issue that took time to weigh the possible risks to health and the environment posed by GMOs (Pollack 2006; Rosenthal 2004). In February 2006, the WTO ruled that the EU and six of its member states had broken trade rules by barring the import of GM crops and foods. While the ruling is not expected to increase consumption of GM crops in the EU, the complainants hope that the ruling will serve as a warning to other countries (especially those in the developing world) that are considering implementing regulations similar to that of the EU (McAfee 2003b; WTO Rules EU Import Ban Illegal 2006; see also Clapp 2005).

However, rather then undermining the anti-GM movement, the WTO dispute and its subsequent ruling appear to have strengthened the movement and brought it further publicity. For many of the movement's supporters the WTO dispute has served as further evidence of the organization's lack of democratic accountability and its willingness to undermine the policy preferences of a state's citizens (see Skogstad 2001). The movement has linked these criticisms of the WTO to its argument regarding consumer choice in food.

The trade dispute also appears to have helped increase global linkages amongst the members of the movement. Members of the movement, including Friends of the Earth International, Greenpeace International, Public Citizen, the International Gender and Trade Network, the French Confédération Paysanne, and the Indian Research Foundation for Science, Technology and Ecology along with over 745 other organizations launched a campaign entitled "Bite Back: WTO Hands off Our Food" in response to the dispute (Bite Back 2006; Friends of the Earth Europe 2006). The WTO dispute has also helped to raise awareness about GMOs in the US. As Young states;

> Officials of the US government and the European Commission and representatives of industry associations and civic interest organizations attribute the greater mobilization of civic interest groups in the US at least in part to the publicity surrounding the EU-US trade dispute. The impact seems to have been most pronounced on US consumer organizations (2003, 474).

Thus, while the WTO dispute and ruling on GMOs was a setback for the anti-GM movement, it has not been wholly negative. The movement was able to use the dispute to bring greater attention to the issue of GM food and to a consumer's right to decide what acceptable levels of food safety risk are. The WTO dispute also served to bring further attention to the issue of GMOs in the United States and helped the movement to strengthen its transnational linkages.

Conclusion

The anti-GM movement has been successful in bringing public attention to the regulations (or lack thereof) governing GMOs and in pressuring various regulatory bodies. However, the effectiveness of the movement and the vulnerability of regulators to

activist concerns have been mediated by the political and institutional contexts in which the movement has operated. Within the EU, recognition of the precautionary principle and widespread public concern led regulators to adopt stringent regulations regarding GMOs. In contrast, the US regulatory system places much less emphasis on the precautionary principle and political or societal factors, thereby making it a more difficult context for the movement to operate in. The anti-GM movement also looked towards supranational bodies, most significantly the creation of the Biosafety Protocol, in order to press for stronger regulatory structures. In addition, in its efforts to stem the spread of GMOs, the anti-GM movement has looked beyond traditional regulatory arrangements and towards corporate actors whose profits are vulnerable if faced with widespread public opposition to GMOs.

CHAPTER FOUR

STRATEGIZING BEYOND THE STATE:

THE ANTI-GM MOVEMENT AND THE BIOTECHNLOGY INDUSTRY

One of the reasons behind the success of the anti-GM movement is that while it has targeted government regulators it has also focussed its energy on a variety of non-state actors. The use of consumer resistance has been one of the key tactics employed by the anti-GM movement and has been effective in pressuring corporate actors (most notably food processors and retailers) to respond to the issue of GMOs, even if government regulators lack political will or are slow in doing so. The anti-GM movement utilized a two-pronged approach in targeting corporate actors: they targeted the biotechnology companies themselves, particularly Monsanto, drawing attention to some of the questionable motives and practices employed by the industry; and they targeted the food processors and retailers on whom the biotechnology industry was indirectly reliant to sell its products and who were vulnerable to consumer opposition.

Due to the significant consumer resistance that the movement helped to ignite within the EU and to a lesser extent in the US, food processors and retailers in Europe have become reluctant to carry GM products and US farmers have become reluctant to grow GM crops which may affect key export markets. This reluctance to produce GM

food has had a significant impact on the profits of the biotechnology industry and the future development of GM crops. The success of the anti-GM movement in targeting corporate actors involved in the production of GM food demonstrates that a movement can create de facto policy change without the primary involvement of states through targeting vulnerable elements of industries involved in an issue area.

Tethered Elephants: The Anti-GM Movement Targets the Biotechnology Industry

When GM crops first entered the market in 1996, the biotechnology industry was viewed as the next big thing; an industry with a bright and profitable future. Economically insignificant at the beginning of the 1980s, almost twenty years later the biotechnology industry had become a leading economic sector in the US economy. In the US alone, the industry generated twenty billion dollars in revenue in 1999, of which agricultural biotechnology accounted for $2.3 billion (Lang and Heasman 2004, 6). However, in pursuit of profits the biotechnology industry had undertaken an aggressive strategy of expansion, which made the industry vulnerable to the tactics of the anti-GM movement. Many corporations involved in agricultural biotechnology were so preoccupied with profits and growth that they were largely unaware of the growing public opposition to GMOs (Schurman and Munro 2003, 123).

The growth of agricultural biotechnology has been accompanied by the consolidation of the biotechnology and agricultural industries, such that biotechnology companies have come to encompass much of the agricultural sector ranging from chemical inputs to seed companies to farming. In their efforts to create markets for

agricultural biotechnology, biotechnology companies moved to purchase the seed companies that would distribute their products. Between 1996 and 1999, approximately $15 billion worth of mergers occurred within the global seed industry (whose global market was only worth $25 billion), driven almost entirely by the biotechnology industry's desire to acquire high quality germplasm which could further the distribution and development of GM seeds. The result of these aggressive mergers was that by 1999 the top three global seed companies were all chemical companies who had moved into agricultural biotechnology in the 1990s (Boyd 2003, 26-27).

The most aggressive and successful company amongst those involved in agricultural biotechnology was Monsanto, and this made it an ideal target for the anti-GM movement. While Monsanto had been involved in the development of agricultural biotechnology since the early 1980s, in 1996 the company shifted greater emphasis towards agricultural biotechnology. The company sold off its main chemical businesses and used this money to finance further ventures into agricultural biotechnology. Monsanto also began to aggressively buy up smaller biotech companies that had expertise or patents that would aid the company in its success. Between 1996 and 1998, Monsanto went heavily into debt by financing $8 billion worth of acquisitions. Monsanto bought major shares in Asgrow Agronomics, a leader in soybean research and seeds; Holden's Foundation Seeds; Agroceres, a leading Brazilian corn seed company; Cargill's international and seed distribution operations; Plant Breeding International; and DeKalb Genetics. In May 1998, Monsanto also announced plans to purchase Delta and Pineland,

which controlled seventy percent of the US cotton seed market (Feder 1998, 2; Monsanto Buys DeKalb, Delta & Pine 1998, 43; Schurman 2004, 257).[14]

Members of the anti-GM movement saw Monsanto's aggressive acquisition of biotechnology companies and seed distributors as evidence that the company was attempting to seize control of the world's food supply by gaining control of seeds and preventing farmers from engaging in the age-old practice of seed saving and replanting. These suspicions by members of the anti-GM movement received further confirmation when it was revealed Monsanto was attempting to gain control of the "terminator gene" developed by the USDA and the Delta and Pine Land Company. The invention of the terminator gene created a way to produce seeds that were incapable of germination, thereby undermining traditional seed saving practices and further solidifying corporate control over the agricultural sector. The conspiratorial nature of the terminator gene helped to generate negative publicity about GMOs and angry opposition towards Monsanto (Brown 1999, 2; Charles 2001, 218-221).[15]

Concerns expressed by the anti-GM movement that biotechnology companies, in particular Monsanto, were attempting to grab control of the global food supply were further legitimized by Monsanto's practice of having farmers who plant GM seeds sign contracts stating that they will not replant GM seed the following year or face stringent

[14] However, despite repeated attempts Monsanto would never be able to finalize a merger with Delta and Pineland as there were significant issues between the two companies and the deal would eventually be vetoed by federal anti-trust regulators (Schurman 2004, 257).

[15] Opposition to the terminator gene was so strong that in 1999 Monsanto and AstraZeneca publicly vowed not to commercialize terminator seeds. In 2000, the UN Convention on Biological Diversity adopted a de facto moratorium on terminator seeds. However, recently some biotechnology companies and governments have shown a renewed interest in terminator technology and there has been a push for field trials and commercialization. As such, the anti-GM movement has placed renewed emphasis on opposing the development of this technology (The Campaign 2006; Vidal 2005).

financial penalties.[16] These contracts undermine traditional agricultural practices and integrate farmers into vertical supply chains controlled by large biotechnology corporations (Boyd 2003, 50-51).

These circumstances made the biotechnology industry vulnerable to the actions of the anti-GM movement. The movement made the strategic decision to specifically target Monsanto in an aggressive anti-corporate campaign. Monsanto's heavy investment in agricultural biotechnology made the company particularly vulnerable to changes in the fortunes of the biotechnology industry, and the anti-GM movement exploited this weakness. As Lord Melchett, head of Greenpeace UK's campaign against GMOs stated, "Of all the companies in this business, Monsanto is the most committed to agricultural biotechnology. They are no worse than Dupont. But Dupont can survive without GMOs, and I don't think Monsanto can. So we...had an opportunity with them that we did not have with anyone else" (Schurman 2004, 257).

Within the European arm of the anti-GM movement Monsanto was also an easy target because it possessed many features that Europeans associate negatively with the United States: arrogance, cultural insensitivity, and superiority. When GM crops were first being marketed, Monsanto had dismissed the concerns of the European public and government regulators regarding GMOs, despite warnings from European biotechnology

[16] For example, farmers who sign contracts with Monsanto to grow Roundup Ready soybeans must pay a technology fee to the company and are only permitted to use Monsanto's Roundup herbicide, despite the fact that other cheaper, suitable herbicides are available. The contracts also prohibit the saving of seeds, and oppose stiff penalties for doing so: the payment of any legal fees Monsanto incurs in enforcing the agreement, damages of 120 times the applicable technology fee, and loss of the right to acquire GM seeds in the future. Farmers are also required to submit to inspections of their fields and their records. Given the precision with which biotechnology companies can track their proprietary traits and technologies, the surveillance and enforcement procedures of these contracts are not overly difficult for Monsanto (Boyd 2003, 50).

companies that Monsanto's actions could fuel opposition to GMOs at the expense of the biotechnology industry as a whole (Schurman 2004, 257-258; see also Charles 2001). This attitude was exemplified in 1996, when Monsanto shipped GM soy to Europe unannounced and unlabelled, despite warnings from European biotechnology executives that this would only create further problems down the road for the biotechnology industry. The anti-GM movement was outraged when they discovered that Monsanto had purposely flaunted Europeans' right to know what they were eating and used this and other incidents to make the public distrustful of biotechnology companies and sceptical about the safety of GM food (Schurman 2004, 252-253).

Consumer Resistance to GMOs: Targeting Food Processors and Retailers

In addition to directly targeting biotechnology companies such as Monsanto, the anti-GM movement has also organized consumer campaigns to convince food processors and retailers to stop selling GM food. There has been a steady increase in consumer resistance campaigns since the 1970s, and this tactic has been repeatedly utilized by factions of the anti-globalization movement (Stolle, Hooghe and Micheletti 2005, 245). Consumer resistance campaigns offer a way for citizens to easily "engage" in social movements and offer movements an opportunity to educate the general public about some of the negative impacts of globalization (Frank 2003, 373).

The goal of the anti-GM movement was that consumer resistance to GM food would travel up the supply chain to farmers and exporters of GM foods, ultimately undermining the market for GM crops (Schurman and Munro 2003, 123). The highly

competitive nature of the food processing and retailing sectors made the anti-GM movement's decision to target these industries particularly effective as they are vulnerable to changing consumer preferences and eager to find profitable new niche markets. In both Europe and North America, grocery retailers have experienced significant growth and concentration over the past few decades, and the industry has come to be dominated by a relatively small number of large and powerful companies who fiercely compete for market share. The food processing sector is similarly competitive in character. As Schurman states, "Had these industries been monopolies or even less competitive oligopolies, they might have been less sensitive to consumer concerns. But in both of these 'final consumer'-oriented sectors, the customer is considered king" (2004, 259).

The vulnerability of food processors and retailers was further augmented by the importance of brand names in this particular sector. Industries where brand names and reputations are important are far more vulnerable to attack from civil society actors than industries composed of multiple, anonymous firms producing generic products (Schurman 2004, 248). In the food retailing and processing sectors a company's brand image is its assurance of quality and safety, and thus one of its most valuable assets. As such, the targeting of valuable, household names, such as Nike, has proven highly effective for the anti-sweatshop movement and would also prove effective for the anti-GM movement (Carty 2002).

Within the EU, the anti-GM movement consciously targeted a handful of large food retailers and attempted to play one retailer off another. Members of the movement

distributed pamphlets warning shoppers of the dangers of GM foods. Activists also undertook more attention-getting, media friendly tactics such as filling grocery carts with food, taking them to the checkout, and refusing to pay until the store manager would guarantee that all foods were GM free. Other tactics included dressing up as mutant cows or corn and sticking biohazard labels on food products that could contain GM ingredients (Lynas 2004, 29). Groups such as Friends of the Earth appeared in the media congratulating retailers and processors that took steps to go GM free and chastising those companies who refused (Schurman 2004, 259). The anti-GM movement also instigated shareholder actions against publicly owned corporations in North America and the EU, demanding that processors and retailers disavow the use of GMOs (Cox 2000, 1B; Maiman 2000, 40).

In 1998, UK frozen food producer and retailer, Iceland Foods became the first major food retailer to announce its decision to make its products GM free. Iceland appears to have made the decision to go GM free for two reasons; first, it hoped that by becoming the first company to offer GM free products it would increase its market share; second, the company's CEO appears to have had personal reservations about GM foods and was thus sympathetic to the concerns of the movement.[17] Iceland used its decision to go GM free to market itself as more responsive to consumer concerns and this put pressure on other food retailers to also go GM free (Phelps 2000, 21; Schurman 2004, 260).

[17] Iceland's strategy of going GM free to increase market share appears to have been successful. One year after Iceland banned GMOs in its products it experienced a 10% rise in sales (Phelps 2000, 21).

In response to Iceland's decision and consumer pressure, other major EU food retailers and processors also began to announce decisions to go GM free. Major food processors, including H.J. Heinz, Gerber, Bestfoods, Frito-Lay, Unilever, Seagram's, and Nestle, have publicly announced that their products will be GM free in some or all of their markets. Novartis, part of the biotechnology company Syngenta, also announced that it was eliminating GMOs from all its food products, effectively refusing to provide a market for its own products. In 1999, McDonald's in the EU, fearing a boycott, decided not to use GM potatoes in its French fries. After similar decisions were then made by Burger King and Wendy's, the three major potato processors, J.R. Simplot, McCain Foods, and Lamb-Weston, advised farmers that they would no longer be buying Monsanto's GM NewLeaf potatoes. As a result, Monsanto closed the research lab where the potato was developed and eventually pulled the potato from the market (Schurman and Munro 2003, 124; Spears 2001). Members of the anti-GM movement then shifted their attention to animal feed, which is a significant user of GM imports. They demanded that milk, eggs and meat be guaranteed GM free and once again many EU retailers responded to consumer pressure and reluctantly also began moving towards making these products GM free (Lynas 2004, 29; Sainsbury's Trials GE-Free Milk, 2004.).

The negative consumer response to GM food has been so strong in the EU that despite the WTO ruling against EU regulations and recent approvals by the EU of some GM crops, food processors and retailers in the region are still extremely reluctant to market GM products, fearing that whomever markets GM products first will pay the price in terms of a drop in sales and negative publicity (Rosenthal 2006a; Wright 2005). Thus,

while the EU's regulatory policies regarding GMOs are gradually relaxing as more and more GM crops gain approval, consumer resistance remains strong and has served to create a de facto moratorium on GM food in the EU. As Kelso states, "retail-level resistance suggests that consumers will be key actors in constraining the adoption of genetically engineered foods. In that role, consumers, as well as nongovernmental organizations, serve as imperfect surrogates for democratic institutions that have been slow to address the range of social issues associated with these new technologies" (2003, 239).

Braithwaite and Drahos (2000) state that an environmental victory by civil society groups in one major economy, such as the EU, can divide and conquer business globally. The issue area of GMOs offers limited support for this argument, as this case study suggests that a movement's ability to divide and conquer business may also be mediated by the political opportunity structure of a particular state. Decisions by food processors and retailers to go GM free have been less prevalent in North America, but companies are beginning to follow suit and some food processors and grocery chains such as Gerber Baby Foods and Whole Foods have announced that they will go GM free in their North American markets. Other grocery retailers such as Safeway have introduced organic brands that are GM free (Buttel 2003, 159-160; Laidlaw 2000; Supermarkets and GE Foods 2003). The resistance of food processors and retailers in North America to the demands of the anti-GM movement is largely due to the lack of widespread resistance in the North American market compared to the EU.

As noted in the previous chapter, US regulators have ruled out requiring labels for products containing GMOs and this may have also impacted on the effectiveness of consumer resistance tactics as a lack of labels makes it extremely difficult if not impossible for consumers to avoid GM food. Frank's (2003) brief history of consumer resistance campaigns highlights how labels have played an important role in these campaigns by separating out specific products and simplifying participation for consumers. Because US regulators do not require GM foods to be labelled they have effectively curtailed one of the anti-GM movement's more valuable tactics and made consumer resistance to GMOs more difficult for the individual consumer in the US.

Consumer resistance to GMOs has also had a significant impact on the farmers who grow GM crops. US agricultural producers have sought to mitigate the impact of more stringent EU regulatory processes and strong consumer resistance by both separating GM crops from non-GM crops for export and by effectively abiding with the most stringent regulations. US corn refiners and the American Soybean Association have worked to ensure that GM and non-GM crops are kept separate. However, this strategy is difficult to implement due to the US commodity-based agricultural system in which crops are gathered from farms and transported in bulk to grain elevators for subsequent distribution. The commodity-based agricultural system means that the possible presence of GM crops which are banned in the EU can threaten the export potential of an entire crop. As such, other farmers who are heavily dependant on exports are effectively complying with stricter EU regulations. US sugar refiners have asked US farmers not to grow GM sugar beets and the Flax Council of Canada has prevented GM flax from being

grown commercially (EU Blocks Import of Corn Feed From US 2005; GE Foods in the Market 2006; Young 2003, 467-469).

Pressure from US and Canadian farmers also led Monsanto to abandon its plans to introduce GM wheat onto the world market in 2004. Monsanto spent seven years and hundreds of millions of dollars developing a strain of RoundUp resistant GM wheat, which increased farmers' yields by five to fifteen percent. However, North American farmers feared that consumer resistance to GMOs in Europe and Japan would significantly hurt wheat exports to these two markets if cross pollination or mixing during storage and transport occurred between GM and non-GM wheat varieties. As such, they strongly opposed the introduction of GM wheat (Coghlan 2004; Brown 2004).

Monsanto and other companies in the field of agricultural biotechnology underestimated opposition to GM technology because they viewed farmers rather than consumers as their ultimate customers. While GM crops do offer benefits to many farmers, the biotechnology industry failed to recognize that without markets for these crops any benefits offered to farmers by GM crops would be negated (Wrong 1999, 21). The success of the anti-GM movement in Europe has served to curb the popularity of GMOs with farmers, food processors and retailers worldwide, thereby reducing markets and profits for the biotechnology industry.

Too Little Too Late: the Biotechnology Industry's Response

While the biotechnology industry was initially dismissive and sceptical about the rise and growing influence of the anti-GM movement, in the late 1990s, the industry

undertook a number of measures to improve both its image and influence. The biotechnology industry has attempted to turn the discussion surrounding biotechnology away from the environmental and health frames utilized by the anti-GM movement and towards ethical issues, which allow for a focus on the potential benefits of biotechnology such as food security and the development of new medications. Biotechnology companies, such as Hoechst and Novartis, have also undertaken advertising campaigns in response to the anti-GM movement. These advertising campaigns have focussed on the role of science in the improvement of nature and in gaining control of nature and the future (Hellsten 2002, 475; Rosendal 2005, 87).

In response to all the negative publicity it was receiving, in June 1998, Monsanto invested five million dollars in an advertising campaign intended to inform EU citizens about the benefits of GMOs. Nevertheless, Monsanto underestimated the strength of the anti-GM movement and the depth of the public's opposition. The advertising campaign was deliberately understated and put forth the message that moral and humanitarian concerns were driving the company's engagement in biotechnology. However, the movement had already succeeded in branding both GMOs and Monsanto as reckless and dangerous entities that held no benefits for consumers. The moral tone of the ad campaign further infuriated European consumers, confirming their view of Monsanto as deceitful. Activists also responded strongly to the ad campaign, assembling a variety of examples about the evils of biotechnology and using the European media to broadcast them to the general public (Charles 2001, 221-223; Rosendal 2005, 99).

In both the EU and North America, the biotechnology industry also began to undertake stakeholder dialogues and "listening sessions" with its harshest critics. In an attempt to mend fences, Monsanto executives publicly admitted that the company's actions had been blind, arrogant and insensitive and pledged to do better in the future (Vidal 2000, 7). Speaking at a Greenpeace Europe conference via satellite in 1999, then Monsanto chairman Robert Shapiro admitted that Monsanto must bear responsibility for the strong public opposition to GMOs in the EU. Shapiro stated, "We are now publicly committed to dialogue with people and groups who have a stake in this issue. We are listening." Shapiro went on to state that "Our confidence in this technology and our enthusiasm for it has, I think, widely been seen—and understandably so—as condescension, or indeed, arrogance" (Lambrecht 1999, A16).

Finding itself bombarded with negative publicity in the late 1990s, the biotechnology industry united with the aim of gaining control over the debate surrounding GMOs. Monsanto and other biotechnology companies sought to build better alliances with one another in order to counter the influence of the anti-GM movement. The biotechnology industry increased its physical presence in Brussels and its lobbying and institution building within the EU (Rosendal 2005, 95). The industry also formed a number of coalitions in order to increase its influence with government regulators and better coordinate public relations campaigns.

In November 1999, seven of the largest agricultural biotechnology companies, including Bayer, Monsanto, Dow, Dupont, and Syngenta, came together to form the Council for Biotechnology Information. The organization aims to counter criticism from

the anti-GM movement and publicize the positive aspects of biotechnology. It has developed a three to five year agenda for building public support for GM foods (Council for Biotechnology Information 2004; Lang and Heasman 2004, 198). The biotechnology industry also formed the organization CropLife International in 2002 whose membership consists of eight of the largest biotechnology corporations and aims for greater influence over policy outcomes within the biotechnology sector. Within Europe the largest biotechnology coalition is the European Association for Bioindustries (EuropaBio) which represents forty international corporations and seventeen national biotechnology coalitions for a total membership of about 1200 companies. Another large industry grouping is BelgoBiotech which coordinates a large number of small Belgian biotechnology companies as well as multinational corporations, such as Bayer Cropscience, Monsanto, Pioneer Hi-Bred and Syngenta (Newell 2003, 63; Rosendal 2005, 86).

However, despite this the efforts of the biotechnology industry are best characterised as too little too late. The anti-GM movement has been able to shape the manner in which biotechnology is viewed within the general public. It has ensured that the issue of GMOs is characterized by terms such as "genetically modified" and "Frankenfoods" rather than terms such as "agricultural biotechnology" that the industry would prefer to have dominate the public debate. By the time the biotechnology industry did respond to the anti-GM movement, the movement's portrayal of the industry as arrogant, selfish, money-hungry and unregulated had already been cemented within the public consciousness, making it extremely difficult for the industry to remake its image.

The Financial Impact of the Anti-GM Movement

The tactics of the anti-GM movement have been successful in curbing the influence and profitability of the agricultural biotechnology industry. Since the late 1990s, the future of the agricultural biotechnology industry has been in doubt and the industry has undergone a major economic restructuring. In the late 1990s, much of the venture capital flowing into agricultural biotechnology began to dry up and companies that had aggressively expanded in anticipation of future profits found themselves struggling.

Many companies that were formally leaders in agricultural biotechnology have found themselves bought out, spun off to preserve corporate profitability, or forced to merge with other multinationals. In December 1999, two major biotechnology companies, Astra Zeneca and Novartis AG, announced their plans to merge into Syngenta, and to shed their agricultural divisions. In November of 2000, Aventis announced its plans to sell its agricultural division, Aventis CropScience, in a deal that was negotiated with Bayer AG in October of 2001. Pioneer Hi-Bred also found itself bought out by Dupont (Buttel 2003, 169; Morrow 1999, C12; Wassener 2001, 28).

By 1999, Monsanto was also in trouble. Facing increased consumer opposition to its products and significant debt due to its three year, eight billion dollar acquisition spree, Monsanto saw its share price plunge in late 1998 and 1999, forcing the company to seek out a buyer. In March 2000, Monsanto merged with Pharmacia and Upjohn in a deal based on its pharmaceutical assets rather than its role as a leader in agricultural biotechnology. The newly merged company then spun off its agricultural component so

that it could be put up for sale in the future and in order to raise the company's share price. In 2002, Pharmacia divested itself entirely of Monsanto (Boyd 2003, 52; Gilbert 2002, C2). As Boyd states, "For a company that seemed to be making all the right moves as far as Wall Street was concerned the turnaround in Monsanto's fortunes has been stunning" (2003, 52).

The agricultural biotechnology industry also appears to have largely given up on the EU for the time being. Despite the end of the EU's unofficial moratorium on GMOs in 2004, and its approval of several GM crops, small and medium sized biotechnology companies have largely stopped participating in agricultural biotechnology research and large biotechnology companies have relocated their research, field trials, and the commercialization of new GM crops outside the EU. In Belgium, the biotechnology industry announced a self-imposed moratorium on all new field trials on the grounds of regulatory confusion and hostility towards the biotechnology industry (Lean 2004; Rosendal 2005, 90). In early 2000, several biotechnology companies began narrowing their R&D investments to focus only on the United States' four major crops (corn, soy, cotton and canola) and also began to take a less aggressive stance towards the technology. That same year, Advanta Seeds closed the doors of its GM crop testing facility in the Netherlands after it concluded that GMOs would not be profitable in Western Europe for at least another five to ten years (Schurman 2004, 243-244). Finally, in 2004, Syngenta followed Monsanto, Dupont and Bayer Cropscience in closing down its agricultural biotechnology research facilities in Britain and moved to the United States (Crolly 2004).

In a short period of time, the field of agricultural biotechnology went from being one of immense promise and potential profitability to a financial liability with a doubtful future. The tactics of the anti-GM movement were so successful that many biotechnology companies have all but abandoned their agricultural divisions or substantially scaled them back. While research in the field of agricultural biotechnology persists and GM crops continue to be grown throughout the world, the movement was successful in raising questions amongst the general public about the value of this technology and in slowing its advance.

Conclusion

While the anti-GM movement targeted government regulators in its fight against GMOs, one of the keys to the movement's success was that it also looked beyond the state and directly targeted those corporations involved in the marketing and retailing of GM crops and products. While the biotechnology industry was a darling of governments and investors in the mid-1990s, the anti-GM movement was able to exploit weaknesses within the industry in order to create a favourable political context for its arguments. As Schurman and Munro state, "On one side is a group of scrappy and diverse activist organizations who can punch and jab faster than you can say 'genetic engineering,' and on the other side is an elephant tethered to a post by its size, its enormous and sunk costs, and its competitive character" (2003, 123). Thus, in this case the anti-GM movement has been able to out manoeuvre the biotechnology industry, despite disadvantages in resources and political influence.

The anti-GM movement strategically targeted food processors and retailers through consumer resistance. Because the food processing and retailing industries are highly competitive and focussed on meeting consumer needs they were susceptible to the tactics of the movement and within the EU widespread consumer resistance was responsible for encouraging many companies to go GM free. Consumer resistance to GMOs within the EU has undermined the spread of GMOs worldwide as many farmers have become reluctant to grow GM crops for fear it will damage export markets.

Now that the EU's unofficial moratorium on GM crops has come to an end and regulators are beginning to approve GM crop varieties, sustained consumer resistance is vital to the continuing success of the anti-GM movement. As long as consumers remain resistant to consuming GM food, food processors and retailers will be reluctant to sell GM food and farmers will be hesitant to grow GM crops. This will continue to limit the spread and profitability of GMOs. Thus, if the anti-GM movement is to remain successful in its opposition to GMOs, despite a lack of strong scientific evidence that GMOs pose significant risks, the movement will need the widespread support of the general public.

CONCLUSION:

IMPLICATIONS OF THE ANTI-GM MOVEMENT FOR THE STUDY OF GLOBAL SOCIAL MOVEMENTS

This thesis has shown how a global social movement opposed to GMOs became a key agent in redefining public perceptions of agricultural biotechnology and pressuring governments and corporate actors to alter their stances towards this new technology. It has argued that globalization and the changing nature of global governance have increased the influence of global civil society, and as such more attention should be focused on this actor in the field of international relations. In its analysis of the anti-GM movement this thesis has drawn on literature in both international relations and social movement theory, which together provide a helpful framework for understanding the actions of global civil society actors. However, this thesis has also gone beyond much of the current literature in these two areas and has paid specific attention to the relationship between global civil society and corporate actors.

This case study of the anti-GM movement highlights several characteristics of global social movements and factors that are important to their success. This thesis has shown that while movements are generally motivated by altruistic concerns they often approach an issue in a strategic manner in an attempt to maximize their influence and

chances of success. To be effective civil society actors generally attempt to frame issues to resonate with existing ideas and to generate the attention of the mass media. This was illustrated by the changing fortunes of the anti-GM movement throughout the 1980s and 1990s. Until the mid-1990s the social and ethical arguments put forth by the anti-GM movement tended to have little resonance in either the media or the general public. However, in the mid-1990s the movement shifted its arguments to focus on the environmental and health risks posed by agricultural biotechnology, frames which resonated with existing policy concerns and which attracted the attention of the media. This supports Sell and Prakash's (2004) argument that activists will be most successful when the issue they are advocating can latch on to existing policy concerns.

This thesis has also demonstrated the continuing role that domestic structural factors such as political opportunity structures and culture play in mediating the effectiveness of civil society actors. While a diffusion of ideas and tactics did occur from the European component of the anti-GM movement to the US component, the ability of the movement to generate substantial public opposition to GMOs in the US has been limited. For a variety of reasons, the frames employed by the anti-GM movement have had much greater resonance in the EU then they did in the US and US regulators were better able to resist demands by the anti-GM movement for more stringent regulatory frameworks.

While several authors (see della Porta and Kriesi 1999; Koopmans 1999) note the continuing impact of domestic political structures in mediating the influence of global civil society, these authors generally fail to recognize that in response civil society actors

may choose to look beyond the state as a primary target and towards other actors and venues to influence policy change in an issue area. The anti-GM movement was somewhat successful in influencing the content of the Cartagena Protocol on Biosafety, although the effectiveness of the agreement is still uncertain. While the movement has only been indirectly involved in the WTO dispute over GMOs between the EU and the US, it appears that the movement has been able to use the publicity generated by this conflict to make new connections amongst actors involved in the movement and to bring new members into the movement. Thus, this thesis suggests the need to look at both domestic and international contexts simultaneously when seeking to explain social movement behaviour.

In addition, the anti-GM movement has also looked towards corporate actors in an attempt to create de facto policy change. There is limited research on the relationship between global civil society and corporate actors in the field of international relations. Much of the research that does touch on the relationship between civil society and corporate actors argues that civil society actors will often be at a considerable disadvantage when compared to corporations due to their limited material resources and reduced influence within policy networks. However, this case study indicates that civil society groups can under certain circumstances overcome material differences in resources through strategic actions, and that corporate actors can also be motivated by intrinsic concerns, such as brand image, that civil society can exploit to its advantage.

More research is needed to better understand the relationship between corporate actors and civil society groups. It is uncertain if and to what extent civil society groups

are increasingly choosing to target corporate actors. It is also unclear if civil society groups are choosing to target a variety of actors as was the case with the anti-GM movement or if civil society actors will choose to target one type of actor at the expense of another. Further research would help to clarify which industries and/or companies are most susceptible to public pressure and what social movement tactics are most effective when targeting this type of actor.

Similarly, in the case study of the anti-GM movement corporate actors were more responsive to the demands of the GM movement in the EU then they were in the US. While this is no doubt due to differing levels of public opposition in the two regions it is unclear if structural differences in the food retailing and processing sectors in the two regions also played a role. Labelling restrictions in the EU may have also encouraged retailers and processors to go GM free and more research is needed to determine if there is a linkage between the vulnerability of corporate actors to social movement tactics and the regulatory structures put in place by states. Braithwaite and Drahos (2000) suggest that those states with a comparative advantage, such as the United States in agricultural biotechnology, may be most resistant to consumer opposition as they have the most to gain from the growth of this industry. Additionally, in the case of the anti-GM movement it is unclear if grocery retailers and food processors will continue to go GM free in many parts of the world if public opposition to agricultural biotechnology decreases. If the commitment of these industries to go GM free is dependant on sustained public opposition, this would make this type of de facto policy change very difficult for the anti-

GM movement to sustain in the long term and makes targeting corporate actors to achieve de facto policy change a questionable long term strategy for civil society groups.

Finally, while some scholars may argue that civil society can be somewhat elitist due to the dominant role of professional activists in many high profile NGOs, this thesis highlights the continuing importance of grassroots participation, whether a movement is targeting a state, international organization, or corporation. While the professionalized aspects of a social movement may be important in framing issues and coordinating tactics, in the case of the anti-GM movement it was widespread public pressure and grassroots involvement that led to substantial policy change. The lack of widespread public opposition to GMOs in the US is one of the major reasons why the anti-GM movement has been much less effective there than in the EU.

Since 2004 when the EU effectively ended its unofficial ban on GM crops with the approval of Syngenta's GM sweet corn, European regulators have gradually been opening their doors to GM crops. However, vehement public opposition to GMOs continues to exist throughout much of the EU, circumscribing markets for GM products in the region for the foreseeable future. If the anti-GM movement is to continue to be successful in its opposition to GMOs it will have to sustain public opposition in the EU and other regions in order to ensure that markets for GMOs are of limited profitability. Sustaining this opposition will no doubt involve the anti-GM movement continuing to implement its three prong strategy of targeting states, international institutions and corporate actors in an attempt to maximize the influence of the movement. Further

scholarship in this area will enhance our understanding of the effectiveness of global civil society and its relationship to other types of actors in the international system.

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