Corrupting Roots: The Impact of Neoliberalism and Seed Patent Laws on the Mapuche People of Chile

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The Impact of Neoliberalism and Seed Patent Laws on the Mapuche People of Chile

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Abstract

In a globalizing world, indigenous communities are repeatedly targeted by development practices that threaten their cultural heritage and traditions. The Mapuche people of Chile are the largest indigenous group still occupying South America. Practices by wealthier nations, to include; seed patent laws, intellectual property right agreements, and development, have threatened the Mapuche and their deeply embedded cultural traditions. I use a critical approach, a main sociological research method, with a focus on the neoliberal regime of truth to analyze the consequences of development and capitalism to the indigenous Mapuche people. Through use of Immanuel Wallerstein’s World Systems Theory, David Harvey’s explanation of neoliberalism, and case studies provided by Vandana Shiva I argue agricultural practices and intellectual infringement are altering the health of the Mapuche people, threatening their food security, and their rights to cultural benefits.
Introduction

There are many examples where subsistence agricultural practices are becoming increasingly vulnerable to large corporate influence and control. These include, the Zapatista Uprising between the Mexican state of Chiapas and the indigenous peoples, to the case of the farmers of Earnataka Ryota Sangha in India, and across the native communities of Hawaii. The country of Chile, with a focus on globalization, has been repeatedly targeting indigenous communities by development practices that threaten their cultural heritage. The indigenous Mapuche peoples of Chile rely on subsistence agriculture as a major economic enterprise as well as an integral part of their cultural practice. Seed-saving and the adaptation of plant varieties over generations has been a traditional method of improving crop outputs, preserving seeds, and generating new plant material. Through Trafkintu, a traditional ceremony of exchange, the Mapuche trade new seed varieties that they have developed as well as seeds they have used for generations.¹ Large commercial seed developers such as Monsanto, an agricultural company whose stated mission is to help farmers large and small grow food more sustainably, seek to possess the rights for new seed varieties for economic gain, threaten this indigenous process. Due to international intellectual property law agreements, and deeply rooted colonial infrastructures, Monsanto has also been able to introduce genetically modified seeds into Chile, ultimately threatening the health of Mapuche agriculture and the food security of the indigenous group.

My interest in this topic stems from my time living abroad in Chile and observing the disregard for and disparagement of deep-rooted cultural traditions. I spent my formative years

living and attending school on the island of Hawaii, and was taught the value of indigenous communities. My upbringing provides me with a unique perspective on understanding how indigenous cultures value and depends on deep-rooted traditions. I understand the depth and severity of the injustices the Mapuche people continuously endure from the results of colonization, capitalism, and neoliberal agendas is illustrated through this case study of cultural imperialism. Bayer, a German transnational pharmaceutical corporation, now owns the corporation known as Monsanto, which originated in the U.S state of Missouri. It has since become a transnational corporation (TNC) and has infiltrated Chilean agriculture under the guise of agricultural improvement. I use agriculture as a focal point to analyze the capitalist agenda, while critically questioning the long term and life altering consequences seed patent laws have on Mapuche culture, and overall ecological environmental health.

**Literature Review**

Through the means of genetic engineering seeds, intellectual property agreements, and seed patent laws, large corporations have been able to exploit and capitalize on indigenous peoples and the Third World. The issue at hand is the ‘increasing loss of biodiversity, cultural knowledge, and the potential for any future use of alternatives’ in medicine, food, and for personal health. This literature review aims to explain how through the patenting of knowledge, neoliberal dominant nations are capitalizing on indigenous communities and Third World countries for economic advantage and gain.

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3 Shiva, Vandana. 7
I will begin by examining the historical significance of the Mapuche resistance against the neoliberal agenda in Chile. Through analysis of the Mapuche resistance, the environmental significance and issues relating to international seed patent, and intellectual property laws are further highlighted. I will answer the question; through the medium of agriculture, how has the neoliberal agenda altered the cultural roots of the Mapuche people in Chile?

The Mapuche are one of the largest surviving indigenous groups in Latin America. Much of the information available concerning the Mapuche and their long-term struggle against the oppression of the Chilean government focuses on the concerns of communal ownership of their lands and their constitutional rights. The Mapuche have had to adapt and assimilate to the changing Chilean cultural, economic, and environmental landscapes. Emerging issues, such as the introduction of genetically modified seeds are becoming an increasing issue for this indigenous community. The introduction of new species, especially nonnative, invasive, and genetically designed seeds for higher crops yields robs the soil of nutrients, promotes habitat loss, and discredits native biodiversity and the knowledge the land itself provides.

Historically, the Mapuche resisted attempts from the Inca, Spanish, and Chilean forces to eliminate the culture and political structure of their communities. Their territory extends throughout the south of Chile and into Argentina, transcending the natural and political borders between these two countries drawn along the Andes mountain range. They have inhabited what is called the Araucania region for more than seven thousand years and each individual village is

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shaped by the elements and local environment in which various communities settled. Prior to colonization the Mapuche communities used only the natural resources that were necessary for the subsistence of their communities. Spanish *conquistadores* claimed much of the Mapuche territory through violent conflict, as well as forced integration into mainstream society through the mixing of races and the strategic eradication of traditional cultures further destroyed the Mapuche culture.\(^6\)

Through the “Pacification of the Aracania” from 1862 to 1883 much of the Mapuche territory was systematically stolen and redistributed to private landowners and foreign colonists. Furthermore, more recently under the dictatorship of General Augusto Pinochet that lasted 17 years from 1973 to 1990, the Mapuche lost valuable lands to private forestry companies.\(^7\) This unjust treatment of indigenous populations by the Chilean state has resulted in the Mapuches’ people strong tradition of social activism and demands for reform that will benefit their communities.

Equally important, in 1970 Salvador Allende became the first democratically elected Marxist head of state in the history of Latin America. U.S President Nixon feared a communist regime and led a concentrated effort to get Allende out of power. Nixon ordered the CIA to make ‘the economy scream’ and worked actively to deny Chile international financial assistance in order to get Allende out of office.\(^8\) After three years of pressure, Allende’s government was


\(^7\) Dillehay, Tom D., and Francisco Rothhammer. 163

overthrown by the U.S trained Chilean military and the military dictatorship of General Pinochet was established in 1973.

Personal experiences with Chileans have led me to understand that their opinions on Pinochet and his dictatorship are vast and diverse. I explicitly highlight the coup of 1973 against the democratically nominated president that was backed by US corporations, CIA, and US Secretary of State Henry Kissinger. The United States experimented with the Chilean economy through measures such as the “Chicago Boys”, where Pinochet brought in U.S. economist to restructure the Chilean economy after Allende. This group worked alongside the International Monetary Fund (IMF) to restructure the economy according to newly developed and understudied neoliberal theories. The Chicago Boys advised the Chilean economy to reverse nationalizations and privatized public assets, open up natural resources to private and unregulated exploitation, and to privatize social systems. The right of foreign companies to reap profits from their Chilean operations was guaranteed. ⁹

Theorist David Harvey explains this phenomenon of neoliberalism in *A Brief History of Neoliberalism*, explaining that neoliberalism is the first theory of political economic practice that proposes that human well-being can best be advanced by ‘liberating individual entrepreneurial freedom and skills within an institutional framework’. ¹⁰ In this context, the market is the center of focus, and individual freedom is only possible through freedom of the market and trade. The experiment with neoliberalism in Chile showed that capital accumulation is skewed under forced privatization. The ruling class and foreign investors did well while all others suffered. For the Mapuche, their lands were sold and exploited to private investors.

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Additionally, Immanuel Wallerstein’s explains in his article on the *Constraints of the Capitalist World Economy*, whose rights are of the most concern in a three-tier society. Value of land was not established until ‘one put something into value, one means that it then acquired within a capitalist economic system,’ this concept is coined *mise en valeur* in French.\(^\text{11}\) Ultimately in a world system, sustainability is not a priority, which is continuously reiterated by Wallerstein, where eminent domain and profits rule while basic human rights are forgotten or overlooked. Sustainability is a serious issue, as world populations grow and environmental disasters continue to make headlines, land is continuously cleared and taken for ownership and profit. Through the lack of diversity the commodification of peoples and cultures are easier to promote and regulate. Wallerstein’s theory is broad but can be applied to a variety of fields. Exploitation that is created from the three-tier society by large Global North corporations is deliberate.

Development of land for monetary gain or increased control of space is intentional and exploitative. Meaning, when one develops land the consequences of loss and removal are accepted. Additionally, development creates an unequal exchange between countries and people. Though intentions may not always be malicious, the existing power structures beginning with colonist rule dating as far back as 1600 with the British East India Company, facilitate and reinforce the means of unequal distribution in today’s modern capitalist world.\(^\text{12}\) In many dimensions, the existing structure of the world economy runs on exploitation. Colonialism, now coined capitalism, illustrates why exploitation happens. The history of economic development

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\(^\text{11}\) *Wallerstein, Immanuel. "Land, Space, and People: Constraints of the Capitalist World-Economy" (Journal of World-Systems Research [Online]), 2*

exposes how Latin America has always been seen as as exploitation colony to more powerful western nations, and the ingenious peoples are left without care or concern.\textsuperscript{13}

In light of the long-standing battle with government and social oppressors there are many limitations on social movement networks as a mechanism of political voice in Mapuche Chile. To resolve claims of injustice over ancestral land and resource rights, Mapuche leaders have forged sophisticated links with environmental organizations, Human Rights activists, scholars, and other indigenous communities. The complexity of environmental, social, and political issues surrounding the Mapuche are still of crucial recognition and manifest in the indigenous’ struggle for a voice in Chilean politics. International outreach has drawn ties to advocacy groups such as California’s South and Meso American Indian Rights Centre (SAIIC) and Human Rights Watch.\textsuperscript{14} Through the verbiage of terrorist law the Chilean government has been able to create a state-based war on the indigenous Mapuche, robbing them of their food sovereignty and cultural ancestry.

Consequently, the government and transnational corporations are robbing the Mapuche, whose medicinal and cultural heritage is closely tied to the land and natural resources that surround them. The socio-cultural and religious values of medicinal plants among the Mapuches rural communities in Araucania, Chile have both symbolic and religious meanings within their culture.\textsuperscript{15} Many plants have been studied in depth to their cultural context, and the significance of the Human Rights to cultural benefit and health reinforce that the Mapuche people have a


right to produce and harvest the plants they have been using for generations for their benefit. Seed patent laws and corporate influence will restrict the diversity in Mapuche communities’ options of plants and herbs.

Accordingly, in an exploration of origins by Kwame Anthony Appiah, he speaks of the significance of personal roots and the importance of carrying on the spirit of our individual ancestors. For the Mapuche, the ceremony of exchange, the Trafkintu, and the traditional subsistence farming practices they have passed down for generations, are a vital part of their cultural roots. Appiah shares his input in saying, “A community that has an obligation to maintain shared memories is, in the phrasing suggested by Margalit, a “community of memory”… In thinking about these ideas, I am reminded that memory is a burden and an obstacle, as well as something to celebrate”. Knowledge and tradition are an integral part of the Mapuche society; their ‘community of memory’ is carried out through seed conservation, agricultural practices, and their connection to the divine through the Earth. As increased protection of seed breeder’s rights intensifies, it will become easier for imported, modified seeds to enter into Chile, them to be sold to farmers, and make it illegal for farmers to develop their own organic seeds in a sustainable manner, robbing them of their long established ‘community of memory’.

By the same token, Indian philosopher and activist Vandana Shiva advocates for the ever-declining biodiversity in our current world state. Shiva speaks of how “the main threat to living with diversity comes from the habit of thinking in terms of monocultures”. Shiva highlights that the main problem with the loss of biodiversity stems from the erosion of decentralized

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18 Shiva, Vandana. 7.
decision-making and the centralized control of agriculture. My position is in embracing and encouraging a diverse gene pool and genetic variation in plants, not only to support the ever-declining biodiversity, but also to acknowledge the strength in a system of diversity.

Monocultures are popularized because they are easier to control; however, they decline natural productivity and abundance in crop yields. The expansion of monocultures is because of policy and power, and not due to the enrichment and enhancing of systems of biological production. As large corporations continue to infiltrate Chile’s agricultural economy, the diversity that the indigenous peoples are preserving is becoming erased.

Furthermore, in Shiva’s authored book, *Patents, myths and reality*, Shiva emphasizes how ‘Third World countries’ are often forced to buy products based on their indigenous knowledge at much higher and unjust prices.\(^{19}\) International property rights (IPR) are taken by western corporations without recognition or payment and then infringe on local communities ability to use century old knowledge. Patents are used to commodify knowledge, and while western nations have the funding, infrastructure, and politics to achieve and corner the market for intellectual property; the consequences and impacts patents have on many marginalized groups and their food sovereignty is neglected. The universalization of Trade Related Intellectual Property Rights (TRIPS) is a tool of colonization that has real and significant consequences on ecological and economic impacts on indigenous because of globalized patent laws.

Agriculture production and logistics involve economics, politics, and law. Amartya Sen argues the food problem is not concerned just with the ‘availability of food but with the disposition of food’.\(^{20}\) Conclusively, starvation, malnutrition, and loss of alternatives and

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biodiversity relate to ownership and exchange in addition to production possibilities. With this increasingly globalized world, the mobilizing of environmental activism needs to adapt and become more strategic in its approaches. Paul Wapner’s research focuses on global environmental politics and thought. His articulation of the future of environmentalism discusses the challenges modern day environmentalism is having with the increasing globalized society we live in. The changing terrain of environmentalism is the main antagonist of globalization. Innovations in technology, transportation, market interpretation, and the transnationalization of information, all contribute to developing a new environmental activism perspective. Environmental activists must recognize shifts in the global sphere and respond appropriately in order to shape widespread practices of sustainability.\(^21\)

There is no doubt that through analysis of environmental concerns at a local level the solutions for global environmental problems become more comprehensible to solve. At the center of concern and focus should be the lives of people. Current international negotiations over global environmental issues do not address the most immediate concerns of universal human issues. Opposed to widening the scope for environmental concerns and action a more narrowed and focused agenda would prove better results. Through World Bank operations of transnational corporations it becomes clear the Global North exists in the South, but the South exists only in itself.\(^22\) In the case of the farmers of Earnataka Ryota Sangha in India, the farmers launched Seed Satyagraha in order to protect the "rights of farmers to produce, modify, and sell seeds".\(^23\) This fundamental right of farmers to conserve, use and produce seed is under threat from

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\(^{23}\) Shiva, Vandana. 204
multinational seed companies, which see farmers' rights to their own seeds as an obstacle in their market expansion. It is clear there is a bottom up resistance coming from ‘Third World’ countries actively trying to preserve their worldviews and cultures.

Furthermore with Shiva and Appiah’s thoughts and positions on cultural roots and the importance of biodiversity, the cosmopolitanism approach, in the context of the Mapuche, can now be illuminated. For scholar Stan van Hooft cosmopolitanism suggests a range of virtues that an individual should display. A key feature of the concept is the “quest for lasting world peace”.24 This can only be accomplished through a willingness to take responsibility for change on a global scale, so it is an individual field of ethics and of existential commitments that the individual and their communities make towards the world at large in order to accomplish a utilitarian goal such as this one. Throughout the Mapuche’s battle with the capitalist agenda pervading and manipulating their traditional agricultural practices, they have been misrepresented and labeled as terrorists. Their acts of protests are often interpreted as violent and portrayed negatively in the greater society and twisted in the media. While the Mapuche fight for the recuperation of their land for the purposes of continuing subsistence agriculture, the motivation of a neoliberal economy is destroying their livelihood and traditions. This creates a further divide between big business and South American indigenous groups, ultimately making the quest for lasting world peace appear as a distant phenomenon.

Local grassroots movements in countries from Asia to Latin America are actualizing and mobilizing to enact environmental change. Peter Singers thoughts align with mine on ultimate suffering and the notions of cosmopolitanism when he states, “When all considerations have been taken into account, the conclusion remains: we ought to be preventing as much suffering as

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24 Stan van Hooft, Cosmopolitanism: A Philosophy for Global Ethics (McGill-Queen's University Press, 2009), 19
we can without sacrificing something else comparable moral importance”.  

Singer then argues that his optimism should not be a criticism of his position but rather of our ordinary standards of behavior. This notion instigates a question raised by Stan Van Hooft, “What controls if any should be placed on multinational corporations as they exploit natural resources..?” (Van Hooft, 9). 

The increasingly exploitative dynamics of agricultural production are encouraging environmental organizations to become more strategic from the local to the global. Ultimately, the path of environmental sustainability requires a cooperative interdisciplinary mode of inquiry as no single disciplinary can tackle this challenge alone. As the Chilean economy continues to grow the concern over environmental conservation and indigenous knowledge is not a priority. The clear motives of the Mapuche to preserve knowledge and culture, compared to the actions of corporations is clear. Mapuche people employ a unique set of functions, values, and responsibilities to the environment. They have a close relationship with nature and its resources in a sustainable relationship. For thousands of years evidence supports that the Mapuche communities are of value for the overall health and well being of their natural environment.

Conclusively, Vandana Shiva presents solutions by emphasizing a nature-centered, people-centered transition from market-centered economies. Shiva sheds light on corporate globalization advocating for increased control over earth’s resources and the industrialization of the globalized economy. Through the emphasis on the word “development”, it is better explained why our current regime and way of living is not development at all but rather a reframed

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26 Van Hooft, Stan. 9
definition of colonization. There is no such thing as sustainable development, the nature of the words is a contraction, and development leads to industrialization and increased ecological and global issues. Either the processes of ‘destruction, development, and disintegration will continue to be unchallenged, or collectively we can challenge the regime of truth and notions of common sense, and reclaim our species as part of the earth’.  

**Theoretical Perspective**

When analyzing the roots of indigenous communities and global impacts on these societies it is important to understand the fundamental theory. David Harvey is a distinguished professor of anthropology and geography, his work conceptualizes and analyzes the neoliberalized global political economy and the results that occur from this phenomenon. Neoliberalism as a political economic philosophy explains the unequal exploitation that is taking place in Chile, and elsewhere in the world. Neoliberalism places importance on free trade, less government interference in economic affairs, the privatization and deregulation of business, and capitalist expansion. The history of experimentation with neoliberalism as an economic model in Chile demonstrates how capital accumulation is skewed under forced privatization. Harvey calls this ‘accumulation by dispossession’; the ruling class and foreign investors do well, while all others suffer. For the Mapuche, their lands were sold and exploited to private investors.

To understand how this economic divide in geography has occurred I take the stance of Immanuel Wallerstein, an establish professor and theorist. Wallerstein is greatly influenced by the economic philosopher Karl Marx’s whose economic standpoints on capitalism and socialism have provided explanations on how human society develops through class struggle. In addition,

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29 Harvey, D. 55
the Annales School founder Marc Bloch, who promoted new forms of a more complete ‘total history’, has had influence on Wallerstein’s theory. Wallerstein's theory on the World Systems explains that as the population increases the need for more resources, coupled with controversial land titles, results in wealthier nations purchasing land in the Global South, which further polarizes the World Systems.  

As consequence of continued urban and modernization of land, these development practices will result in further commodification of land rights and worsened ecological degradation of the planet. Wallerstein uses the three-level hierarchy of core, semi-periphery, and periphery countries, to clearly illustrate the divide in the systems of the world. Wallerstein elaborates on how the removal of people from the land has led to the capitalist and exploitative economic system we are in today.

Furthermore, I use Vandana Shiva, a well-respected and known environmental activist and nuclear physicist, whose books and personal case studies provide tangible evidence and experience of these theories in practice and reality. By the hand of exploiting and controlling nature, the capitalist agenda can be clearly seen through the exploitative agricultural industry. Agriculture is a perfect example of this model because capitalist take from the land without giving back. TNC’s, not small-scale farmers often run monocultures. This gives corporations the ability to pay off governments and buy more land, furthering the separation of people from the land. Monocultures are a source of scarcity and poverty, ‘they destroy diversity and alternatives, and they destroy decentralized control on production and consumption systems’.  

My position is embracing and encouraging a diverse gene pool and genetic variation in plants, not only for the health of the environment, but for the betterment of cultures as a whole.

30 Wallerstein, Immanuel. "Land, Space, and People: Constraints of the Capitalist World-Economy"

31 Shiva, Vandana. Monocultures of the mind: perspectives on biodiversity and biotechnology. 7
With support from Immanuel Wallerstein's World Systems theory and David Harvey’s explanation of neoliberalism I explain how cultural imperialism is transpiring through the ground roots, upward. Vandana Shiva provides evidence to support these two concepts and theories in action. Natural and cultural diversity is a source of wealth and alternatives; the human race needs to think in more collective long-term patterns in order to remedy this violation of the land.

**Methodology**

To explore the global implications of the neoliberal agenda on the Mapuche people I attended to multiple levels of analysis. Using historical methods and research, content analysis, participant observation, and qualitative studies I focus on the case study of the Mapuche people to explore how neoliberalism promotes the concentration of resources and power in a minority, at the expense of the majority. My onsite observations and participation in the community were conducted in Chile with the Mapuche peoples of Temuco in Concepción, Chile. A diachronic approach is being taken but elements of other countries will be, and are of much significance. Primarily using data collection and quantitative methods of research through analysis of secondary sources I answer my research question. In addition with personal engagement, coupled with perspectives from environmental justice activists such as Vandana Shiva, I support my research and claims.

**Findings**

I acknowledge as a white woman from the United States, who had the privileged opportunity to live in Chile, I do not claim to understand the oppression and intolerance the Mapuche people face. However, what I have been witness of encourages me to use my voice and education to speak of the inequalities I have seen, and in 2018 if it is not appropriate to address
these issues and use my voice to say this is not right, then when will be the right time? The Mapuche people, who exist in both Chile and Argentina, do not receive adequate participation in the decisions affecting their ancestral lands. Repeatedly, the agricultural and extraction processes undermine and disregard the indigenous’ connections to their ancestral lands. As a result, many of the Mapuche families are in poor health and living in inadequate conditions. Mapuche people have a tradition-based culture, their ‘peoplehood, that is their language, sacred history, territory, and religion/ceremonial cycles’ are all necessary in supporting their sense of identity. 32 All of these factors create a meshwork that account for the particular social, cultural, political, economic, and ecological behavior of the Mapuche. In Western evolutionary conception, the separation of the Mapuche from their lands is benign, but for the Mapuche societies whose lives are intertwined with the land, their peoplehood is threatened, and their cultural roots and identity altered and challenged. Many native societies everyday lives hold a view that human beings are part of, rather than a demand and imposition, on their environments.

There is a major lack of information and education surrounding the inalienable rights the Mapuche communities possesses, and as a product their communities are further isolated and exploited. The Mapuche peoples speak Mapudungun, and the assimilation of this community into mainstream Chilean society is being eradicated. Opposed to understanding this community, and creating a system of reciprocity, they must learn English and Spanish and alter their native traditions of peoplehood and their cultural identities. Lastly, being denied basic services such as employment opportunities, health care, and quality education are all further separating this indigenous community from prospering in modern society.

From my research and investigation I have found a lack of true and real empirical evidence on the consequences and effects of neoliberalism in present time. Without analyzing and addressing the nature of the problem, the solutions will only mitigate this issue and not address the complications at their core. It is clear that capitalism does not solve economic crises but moves them around geographically, as can be seen by the financial crisis in 2008, which spread from the United States, to Greece, and then Spain. By ignoring and not addressing the bottom up revolutions around the world, the IMF, World Bank, and powerful world nations are perpetuating a system of ignorance and exploitation. Power only exists when the social body gives power, and the various institutions in which we abide, are further reinforced when we succumb to the dominant narrative without questioning the regime of truth presented to us.

In the same light, European agricultural systems are applied all over the world. However the systems used are often not native or natural to the lands they are being practiced in. The topography, soil nutrients, and weather all differ and this often results in massive ground soil depletion and overall devastation of the land. As Shiva mentions, “Monocultures of tree plantations result in famines of fuel wood, monocultures in agriculture result in famines of food…” and the ever-increasing presence of these monocultures will produce a loss of biodiversity in plant roots, and cultural roots as well. It is crucial to practice agricultural methods native to the land in which one is working in, and indigenous communities carry these skills and knowledge through their peoplehood and traditions. Economic gains comes at a price, and the price here is the insertion of profit making corporations at the demise of the indigenous people and they way they choose to live. Although production of crops may increase, it comes at an ultimate cost to some individuals.

33 Shiva, Vandana. Monocultures of the mind: perspectives on biodiversity and biotechnology. 7
Analysis

David Harvey’s critique and analysis of neoliberalism lays the foundation for why the systematic inequality exists, and is perpetuated. The fragility of society and human existence thrives on a market centered, easily controlled population. Human fragility and non-resistance feed the capitalist regime and further exacerbate environmental and cultural exploitation. Harvey mentions ‘he addresses the nature of the problem, but the solutions are not easy to come by and therefore difficult to implement’. ³⁴ As a result, if time permitted, I would include a feminist perspective and analyze how specifically the roles of indigenous women’s movements shape and influence bottom up resistance and opposition around the world. I acknowledge the significance that the Mapuche women have specifically played in the resistance and revolution of the Mapuche peoples as a whole through bottom up campaigns. I wish to have included more literature on the role these indigenous women contributed to the survival of their communities.

Furthermore, I would like to factor in the element of pesticides in environmental degradation. Pesticides being chemicals used to promote crop yields are often understudied and used in low-income marginalized communities. Monsanto and other large corporations are responsible for the chemical composition and implementation of these chemicals. This results in further intellectual property issues and overall degradation of environmental health. By using understudied chemicals and genetically engineered pest resistance in crops, corporations are altering the chemical compounds of plants and therefore the environment in which they are planted. Air pollution, soil depletion, and human health risks are important contributing factors as to why pesticides need to be further studied before being used. Consequently, I would like to

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include an analysis and perspective on the effects genetically modified pesticide based chemicals have on the indigenous communities and Third World countries through the implementation and funding from foreign investors and corporations.

**Conclusion**

The indigenous Mapuche peoples of Chile are no different than other indigenous communities around the world. Through subsistence agriculture the Mapuche are self-sufficient farmers, simultaneously carrying on generations of traditions. Through *trafintu*, a traditional ceremony of exchange, the various Mapuche villages trade new seed varieties for higher crop yields and overall betterment of genetic evolution of seeds. Now this indigenous process is threatened by large commercial seed developers and due to international intellectual property law agreements, and deeply rooted colonial infrastructures, the health of Mapuche agriculture and the food security of this indigenous group are threatened.

From my personal experience with Chilean communities; ranging from Hare Krishna communes, to wealthy Santiago families working in the construction industry, to middle class citizens, students, professors, and the Mapuche Peoples of Temuco themselves, I have seen the disruption of culture and interference with a peoplehood. I use agriculture as a focal point to analyze the capitalist agenda, while questioning the long term and life altering consequences these seed patent laws have on Mapuche culture, and overall ecological environmental health. As someone who grew up on an island colonized by the United States, I grew up witnessing the importance and significance of respecting cultures different than one’s own. Cultural preservation and diversity not only leads to more options and alternatives, it is key to having more tolerance, acceptance and overall peace. Bottom up resistance, through local grassroots
movements provide the knowledge for revolution and counter culture to thrive, and succeed. It is time we reclaim our species as *apart* of the Earth, and not just people *using* the Earth.
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