

Better Environmental Governance: A Function of Democracy or Authoritarianism?

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Abstract

This paper explores the ties between environmental policy and democratic versus authoritarian governance structures. Specifically, do authoritarian regimes represent an 'efficient' manner to improve environmental conditions over their democratic counterparts? Democracies often are tied up in so-called 'bureaucratic red-tape.' Can authoritarian systems offer a different approach that is more ecologically friendly? While leaving many 'answers' to future research, this paper poses significant questions for the future of global environmental governance.

Key Words: Environmental policy, authoritarianism, democracy, free-market, US, Germany, Japan, Russia, China, Venezuela, pollution, environmental governance

Introduction

A topic of ever increasing interest to the international community is the state of the environment. It is a cause that took high prominence in the United States during the social movements of the late 1960's and early 1970's, an issue that was formally addressed with the creation of the Environmental Protection Agency, or EPA. The first head of the agency, William Ruckelshaus, in his first days of office said: "We cannot afford even a slight pause in the ongoing and efforts to preserve and improve our environment" (EPA, 1970). Popular culture in the United States and around the world espoused the environmental movement in films such as "Erin Brockovich", a film which showed the link between corporate pollution and the wide reaching effects it can have on the environment and the people that live in it.

However, this is not a movement that has been limited to the United States alone. Many countries around the world are quite concerned about industrial practices and policies, and have passed laws and regulations in order to curtail some of the nastier sides of industrialization. Many nations have indeed taken it further, gathering together under the banner of the United Nations. The UN took seriously this movement for change, and out of it created the United Nations Framework Convention on Climate and Change, or UNFCCC. The formal mission statement of the treaty is "to begin to consider what can be done to reduce global warming and to cope with whatever temperature changes are inevitable" (UNFCCC, 2008). In 1992, a United Nations summit was held in Rio de Janeiro with the sole purpose of combating pollution. This conference, referred to as the "Earth Summit", saw many ideas and legislation proposed, with the final document including goals for emissions reduction.

At subsequent meetings, a final protocol to this document was added that came to be known as the Kyoto Protocol. The scope of the Kyoto Protocol is to reduce environmental emissions (Greenhouse Gases, or GHG's) by 15% from the year 2008 to the year 2012 (UNFCCC, 2007). It was the most far reaching and most idealistic environmental treaty ever to be ratified in the international community. The project was heralded by the majority of world governments as a huge success, and almost all UN signatory members passed the agreement within a relatively short period of time. However, there were a few nations that disagreed with the act. One of these countries, the United States, argued that developing countries were not required to change their industrial practices at all, and that it was wildly unfair to require only the industrialized world to change its practices. Under the Kyoto protocol, countries are divided into two categories. The first category, "Annex I" nations, consists of countries that are industrially and economically developed.

These states are placed under strict GHG restrictions and are required to decrease their pollution output domestically, or as an alternative, construct “eco friendly” projects in other nations. By undertaking such projects, such as hydroelectric dams or eco-friendly “caps” on smokestacks, industrialized powers could meet their own emissions reduction goals by helping out countries that have not reached the same levels of industrialization and development. The development of such projects in foreign nations is meant to increase investment in poorer nations and to help increase environmental awareness of other nations by the populace at large. The other category of nations, non- Annex I, consists of countries that have not reached a defined level of development and are under no obligation for emissions reduction. They are instead required to annually compile and submit an “emissions report” that details their yearly amount of GHG output and their plan to combat their pollution problems. Two excellent examples of countries that are non-Annex I are China and India.

While these countries unarguably contribute heavily to global Greenhouse Gas levels, they are not required by the protocol to curb them. The argument from non-Annex I nations was that it was simply unfair to place the burden for climate change on the shoulders of poorer and less able countries. They stated that it was the responsibility of the industrialized and economically powerful nations to “show them the way”, and to carry the unenviable load. However, the framers of the agreement knew that in order for the protocol itself to be passed, it would need the support of 55 percent of the world’s leading polluters and knew that the more countries that would approve of the protocol, then the greater likelihood it had of being ratified. China is as of this moment the second leading producer of greenhouse gases in the world, and its support for the project was critical for the movement. When the United States learned of the leniency being afforded to nations such as China, it began to oppose the legislation.

Since the program was not to be in effect until January 1st 2008, and there are no results to be compared, it is hard to measure the efficiency of the Kyoto protocol. For research purposes, it is much more prudent to measure nations on a case by case basis, and see how each responds to the challenge of complying with international agreements such as Kyoto. By studying the environmental protection history of a nation, there are key indicators that can predict the effectiveness of such an international agreement. The historical periods that will be studied are ones that portray national environmental movements at their apex, whether those periods are of the very recent or from those of years past. Studying the pinnacle of environmental support and the decline will often show how strong the movement truly can be, from nation to nation.

While passage of the Kyoto protocol will be discussed, it is important to portray civilian and governmental efforts in a very tangible way. To this end, a study was needed that compared environmental standards on a global scale. The World Conservation Union (IUCN or International Union for the Conservation of Nature and Natural Resources) is an organization that is dedicated to studying plant and animal loss, and has been doing so for four decades. It is committed to “highlighting taxa threatened with extinction, and to promote their conservation” (IUCN, 2007). The IUCN is an international interest group, it claims no allegiance, and produces environmental facts that can be used to point out species loss around the world. The model the organization provides is an excellent educational tool and is quite appropriate for the project.

When examining IUCN data, it is important to keep certain variables in mind that affect results. The first variable of this kind is the geography of the studied nation. Nations such as Japan and Germany have far different topographies than say the United States or China. They differ in size, face different seasonal weather systems, have varying levels of elevation, and so on and so forth. Another variable to keep in mind is one of Industrial development. It has been noted that nations undergoing Industrialization tend to have greatly elevated levels of pollution (World Resources Institute, Rising Energy Use), due to the emphasis placed on economic development. Nations such as these tend to be so focused on reaching economic benchmarks that environmental protection is an issue that tends to hold less importance in that nations legislature. Finally, possibly of most importance in this study, is the form of governance in the studied nation. This issue will be discussed more thoroughly in the passages to come.

Another, seemingly unrelated development on the political stage has been the resurgence of Authoritarian states since the end of the Cold War. Nations such as China; gripped by a pseudo-communist leadership, and Russia, a state retaken by the totalitarian few, have started to gain a considerable amount of prestige, influence, and economic power. The role of the Russian Republic in the recent Iran nuclear crisis was proof of this fact (Carnegie Endowment, 2006). Authoritarian states are not a recent governmental development.

The Roman Empire is an excellent example of Authoritarianism, along with the European Monarchies before the French Revolution, and the Axis countries of World War Two. States can be defined as Authoritarian if the power of their government is derived and held from one person (Russia, Venezuela), or a small group of power elite (China). Authoritarianism should not be construed however, as inherently “bad”. As Americans, we have a tendency to view anything that does not conform to our idea of proper governance as wrong. The German and Italian consolidation movements of the late 19th century were marked by severe autocratic leadership. Many casual historians now view the lives of Otto Von Bismarck and Giuseppe Garibaldi with a sense of reverence and respect for what they accomplished, even though both of them used very strong handed means to get to their desired goals (Hoffman, 1998).

The other, more common form of government in modern society can be referred to as Liberal Democracy. A Liberal Democracy has many key components. Liberal Democracies are governments who derive their power from the people, meaning that elected officials perform the role of government. This power is most often derived from a written set of laws, or some form of constitution. Power is dispersed among many people, and is designed to prevent autocratic rule from one strong central figure. This type of government originated with the Greek city-states in the pre-Roman era, but did not come into true fruition until America ratified its constitution in 1789. The French Revolution imitated the American model in the first stages of its famed revolution of the 1790’s, but that was abandoned in favor of Monarchic rule after the final Napoleonic defeat in 1815. After the Second World War, Liberal Democracies grappled with Communist regimes for international dominance, and after the end of the Cold War, it seemed that this form of government was the only one that could withstand the test of time. With the mentioned re-emergence of other, non Liberal powers, that notion is being quickly put to rest.

There have been many studies that have documented Liberal Democracies and their efforts to preserve the environment. These studies are quite numerous and quoted from ad nauseam. In recent times, there has also been a flood of information that has emerged from government archives in formerly closed off nations. This information has proved to be quite interesting, shining a new light on what authoritarian nations are capable of. One study that has not been undertaken is one that studies the differences between the two. The question that this inevitably leads to is as follows: Do nations that have a strong, unquestioned central leadership (Authoritarian regimes) perform better in the realm of environmental conservation than do nations that elect their leaders on a popular majority (liberal democracies)?

To most, the answer is simple at first glance. Nations that are able to control state affairs from a strong central office can affect environmental change rapidly and can comply with international agreements without delay. In a Liberal Democracy, members of the government are bound by numerous factors. The legislature is influenced at length by lobbyists, the court system has to review laws and make sure they comply with the nation’s direction and written constitution, the list goes on and on. This study will attempt to flesh out the differences between all six studied countries, and to provide a glance into the environmental preservation decision making structure.

Liberal Democracies

The first section of countries that will be studied are those that possess a liberal-democratic form of governance. Although these nations share the same form of government, the history of such governments is quite varied. In the United States, democracy has existed since the inception of the nation after the signing of the Declaration of Independence in 1776. The continued existence of democracy has held strong throughout the history of the country, the system only seriously being threatened during the height of the Great Depression in the early 1930’s. It was only when massive amounts of unemployment and a seemingly inept system of legislators (and president for that matter) that public support began to build for a new system of governance. This support came to an abrupt end with the bombing of Pearl Harbor in 1941. The public rallied behind the American government, and has not wavered since.

In Germany, the history of democracy is not so prevalent. Germany was not a unified country until 1871, and even then it was not considered a true democracy. Under the tutelage of Otto Von Bismarck, Germany quickly moved away from any notion of democracy to a state dominated by *realpolitik*, or an adherence to realist power politics rather than an idealist movement (Pennsylvania Press, 1960). This “Second Reich” (to distinguish it from the First Reich of Charlemagne) the existed until 1918, when Kaiser Wilhelm II declared war on Serbia and continued the long chain of events that ended with World War One. By the end of this terrible and protracted conflict, Germany was left in ruins.

It had been soundly defeated by the Allied nations, its colonial empire was decimated; and to top it all off, a popular democratic movement had sprung up within the major industrial centers of the nation. The treaty of Versailles ended the war, but that was only the beginning of Germany's governmental issues. Adolph Hitler climbed the ranks of the crippled Weimar republic, and eventually declared himself *fuehrer* (emperor) of Germany. The country was once again turned into a totalitarian state, and led down the path of war. World War Two ensued, and at the outset, the country was split into sections of East and West. Eastern Germany was controlled by Soviet Russia, and was dominated by the incumbent Communist party. Western Germany was left to its own (democratic) devices, finally settling on a parliamentary republic system that lasted until German reunification in the early 1990's. Since that time, Germany has been building a strong tradition of strong democratic governance and has enjoyed strong democratic growth. However, it still has a dark past of strong willed rulers, and the country is still facing the ramifications of their decisions to this day.

Japan is similar to Germany in that it too does not have a storied history of democracy, but rather one of strong central leadership. To accurately detail the history of leadership in Japan, one would need to rent out an entire bookshelf in the library. Power frequently passed from one ruler to another, or the power would be so widely dispersed among the local power elite that often it is quite difficult to ascertain who or what was leading the country. For simplicity's sake, the "modern" era of Japanese history will be defined in this study as the time from Commodore Matthew Perry's stroll into Tokyo harbor to the present. Before his landing, the Japanese people had closed their borders to all foreign peoples. They rebuffed most all attempts at diplomatic contact, and were very leery about trading or being contact with other nations. After the Americans forcibly removed Japanese ideas of isolationism, the Japanese people faced a crisis. They had seen the effects of colonialization at its worst, by looking just 100 miles to the East and taking into account what had happened to the Chinese.

The immediate domestic response came to be called the Meiji restoration period. Power was centralized under the emperor, who immediately began to institute drastic new domestic and international reforms. The newly crowned emperor realized the crisis the country was in a state of crisis, and he instituted radical domestic reforms that would transform Japan into an industrialized power by the time World War One broke out in Europe. From about 1912 (the death of the emperor) to 1927, an interesting phenomenon appeared onto the political scene. The statesmen who had traditionally ruled Japanese politics were either deceased, or had too little influence in this new industrial period. Political parties began to spring up and a prime minister was elected who was not even part of the traditional social elite during this time known as the Taisho period or "Taisho" democracy. In the late 1920's, members of the Japanese military began to grow restless. The country had enjoyed great domestic prosperity and was eager to continue economic growth. Geographically, Japan lacks significant natural resources, so it again looked 100 miles to the East and saw a politically-weak China that was ripe for the taking. A band of impulsive Japanese generals took the initiative, and by 1931 Japan was at war with the various factions that made up the nation known today as China.

At the conclusion of World War Two, Japan was left occupied by the United States. For seven years under the tutelage of Gen. Douglas McArthur, sweeping democratic forms were introduced to the country. Japan readily accepted these reforms, and in twenty-five years had enjoyed great prosperity, having the second strongest economy in the world behind the United States (Jorgenson, 2005). The economy has slowed down since those days, but Japan has become a nation that takes pride in its democratic foundation, a striking difference from its ultra-nationalist intentions of years past. These three nations have different histories when it comes to governance and democracy, but all three have been excellent examples of Liberal Democracy due to their democratic form of government coupled with a free-market capitalist system.

The United States

As is widely known, the United States is a global pioneer in the field of Environmental preservation. This environmental movement has a long and storied history in the US, preceding even the formation of the country itself. As far back as 1652, cities such as Boston, Massachusetts had established water supply laws which were designed to keep local sources of water unpolluted and preserved (EPA, 2007). In the early twentieth century United States President Theodore Roosevelt promoted the idea of the preservation of the environment setting up most of the national park system still seen in the country today. This movement continued to build up momentum, gaining national attention from such media works as *Silent Spring*, a novel by Rachel Carson outlining the value of nature as a standalone public policy focus.

The turbulence of the civil rights movement in the 1960's also helped fuel the movement, ultimately culminating in the formation of the NEPA (National Environmental Protection Agency) in the summer of 1969. This agency, later re-designated the Environmental Protection Agency (EPA), had three tasks set out to it by the federal government. Firstly, the agency was to "declare a national policy which will encourage productive and enjoyable harmony between man and his environment", or in other words create a sustainable environmental policy for the country. The second task was "to promote efforts which will prevent or eliminate damage to the environment and biosphere". This particular task called for programs to be instrumented that would ensure environmental tranquility. The third task the EPA was asked to undertake was the "enrichment of our understanding of the ecological systems and natural resources of the United States". The EPA was to provide information to the general public, and to increase awareness of environmental matters. The success of these three tasks to date is dubious, but there is no doubt that the Environmental Protection Agency plays a crucial role in legislation and enforcement of environmental protection laws (Lewis, 1985).

In the times since the conception of the agency, public opinion has wavered on the importance of environmental protection. During the late 1970's and early 1980's, an economic recession muted public support for environmental legislation. Many people had lost their jobs to this recession, and even for those that did not, prices for gas skyrocketed in the oil shortages of the late 1970's. Simply put, jobs and economic recovery were of greater value to the American people, much like the current economic atmosphere in the nation today. By the time Ronald Regan was elected President in 1980, the crisis began to reach a fever pitch. Through keen foreign policy with the Soviets and tax cuts to the American public, the country pulled out of its economic slump. When the Cold War ended in the early 1990's, America was again running on all its economic cylinders.

One of the main problems the United States has faced in environmental regulation has been the method of enforcement. In the past thirty years, the US has used a system of "command and control" regulation, or strict governmental enforcement of rules and codes. This has caused strong resistance from the business sector, which claims losses in the billions of dollars due to these regulations. However, new policy changes have begun to take hold that are much more incentive laden and are by result much more attractive to business interests (Kraft, 1999). These programs involve public education, pollution reduction market incentives and other creative methods that present a smaller bottom line for industrialists, and greater benefits received by the consumers of the environment.

A hotly debated international issue has been the refusal of the United States to join the Kyoto protocol of the UNFCCC (United Nations Framework Convention on Climate Change). The stance of the United States is that the market based incentive system which the United States sponsors is much more effective than the strictly enforced "command and control" system that is being espoused by the majority of the countries currently participating in the program. The US, as stated earlier, has a very long history with the command and control method and has found the market incentive system to be much more profitable for all participants. However, the United States has been unable to convince policymakers around the world towards its position and has instead drawn much ire from these other nations for its refusal to join the environmental pact. While this situation has been tense, there is hope for another international agreement that will be put in place in the post-Kyoto protocol world. A recent conference in Bali saw the US sign an agreement that it would participate in future talks on whatever piece of legislation would succeed Kyoto. This is a very surprising step for the United States, which going into the conference was steadfastly against any other sort of international treaty on the issue. It raises a good deal of hope that even the staunchest opponent of Kyoto would agree to talks in the future in the hopes that another "Kyoto" deadlock would not take place (US State Department, 2005).

Whether or not this new international environmental protection regime will be effective is far beyond any human eye to see or analyze. Instead, it would be of scientific benefit to examine the effects of the EPA and the government at large to protect animal and plant life inside the country. The previously mentioned "Red List" put out by the IUCN presents some interesting results when studying the biological loss of life in the United States. The US has the largest amount of extinct animals out of any country studied (two hundred thirty one), and has extremely high amounts of endangered and threatened species (one hundred eighty-nine, one hundred ninety-two). When it comes to species of plant, the United States shows the same trend. It also has the largest amount of extinct animals (twenty three), but very few that are threatened or endangered.

Results. Upon first glance, IUCN data shows the United States as a very astute offender of the environment. It has an incredibly high number of extinct species of animals, which is a factor that can be attributed to both the industrialized nature of the country, and to the biological diversity of the United States.

Most of this damage was also done during the period of industrialization from 1875 – 1915, and does not accurately reflect the nature of environmental preservation today. While the United States has caused many species of flora to become extinct, it does far better than many nations in the areas of endangered and close to extinct species of plant. The factors for this outcome can be harkened back to the strict environmental codes that the United States enforces on businesses and citizens alike. The United States has some of the strictest pollution and dumping laws in the world, and enforces these laws very seriously (HG, 2007). It is one of the major reasons why corporations locate their production facilities outside of the country, due to the increased cost of statute compliance in the United States. While there is still room for improvement, the US has taken a strong stand on the issue of environmental preservation and has given encouraging signs toward international legislation on this very sensitive issue.

Germany

The history of environmental preservation in Germany is not as long, and nowhere near as extensive as that of the United States. Before the emergence of a united German state in 1871, the territories within the traditional “German” zone acted to protect their own economic interests. As Ulrike Gilhaus noted out in his book *Schmerzenkinder der Industrie*, agricultural workers were protected by laws that also (quite unintentionally) benefited the environment. One law noted by Raymond Dominik, was one that mandated that all smelters be shut down in the spring, so that farmers could manage their crops without fear of damage from pollution. As the industrial revolution took greater hold however, this was to change.

During the late 1800’s and into the early 20th century, all of this was to change. Powerful lobbyists began to influence the government and many laws such as the one discussed earlier were struck from the record. Pollution levels increased, namely levels of Sulphur Dioxide (SO₂); a key chemical indicator of pollution levels (EPA, 2007). People reported respiratory problems throughout heavily industrialized sections of the country. One reporter noted that the Muglitz River near Dresden was so polluted from a local foundry, that the water itself was colored red.

These industrial practices increased steadily until the end of World War Two, when the nation was split into two halves. An in-depth study of the practices performed by both nations would require much dedication and is not appropriate to this article. Since unification after the fall of the Soviet Union in the late 1980’s, the levels of pollution within the country have remained quite high. Environmentalists in Western Germany crossed the wall in 1989 and soon found Eastern Germany in a state of environmental flux; with reporters quick to flock to the scene. Much international attention was put on the issue, and the new German government went quickly to work.

As their embassy in Washington is quick to tell you, Germany is a very ardent supporter of the Kyoto Protocol, going so far as to say that the protocol is “the most important of global environmental agreements. (Germany.com, 2007)”. In March 2002, the German legislature unanimously passed this measure. German Chancellor Angela Merkel was in fact one of Kyoto’s greatest advocates. One of the platforms she ran on for the Chancellorship was her dedication to environmental preservation, and how her previous post as Minister of the Environment prepared her for the task of leading the country. From 2004-2005, Germany along with the Netherlands and Finland, reported a 36 ton decrease in CO₂ from the previous year. This placed Germany at a pollution level that is 1.9 percent lower than it was in 1991. However, this reduction must be put in historical perspective. While the reduction in emissions is admirable, Germany faced an easier road to its emissions reductions than many other industrialized countries. When the Berlin wall fell in 1989, Eastern Germany had a grave pollution problem. The media coverage and the outrage of Western German citizens spurred the government to action, cleaning up factories and the environment. This effort was greatly assisted by the closure of Eastern German factories and facilities, the communist command economy having been replaced by a market-driven one. When the factories closed, the production of pollution naturally disappeared along with it.

This is not to discount the efforts undertaken by the German government and the citizens of the country. The Federal Environment Ministry (or *Umweltbundesamt*) has done much to encourage alternative energy development within the country and move away from fossil based fuels. From the year 2006 to 2007 there was a 2.5 percent increase in total energy usage that came from alternative energy. In total, 14% percent of German electricity is derived from alternative energy sources. By 2020, the government hopes to increase that number to 25 – 30% of total alternative energy usage (German Federal Ministry for the Environment, 2007).

According to the IUCN Red List, Germany is doing much to preserve animal and plant species. Germany currently has half of the vulnerable animal species that neighboring France does (forty-nine). It also has six times as less critically endangered (four) and endangered species (nine) than does nearby Portugal. In the flora category, Germany is also doing incredibly well. It has no extinct species of plant, and only has three total endangered species. Out of the main industrialized countries of Europe (France, Great Britain, Germany, Spain and Italy), Germany is only slightly behind the United Kingdom in the total lowest number of endangered plant species.

Results. Since the collapse of the Soviet Union, Germany is a nation that has proved to be very environmentally minded. It has cut emissions, and has become a pioneer in alternate energy technology. A recently passed bill hopes to phase out even Nuclear Energy, a bill which is currently being revisited in the legislature. In the latest round of Global Environmental talks at Bali, Germany has taken a strong leadership role. Germany sees itself as a pioneer in the field of the environment, and rightly so. Per ton, Germany has done quite a bit to reduce emissions levels. A most notable example of this can be found in a modern day factory that manufactures products from particles found in many types of air pollution (Moore, 1995). What remains to be seen, is if Germany can convince other nations to do what it has. The environmental movement is strong within the country, and that is one of the major reasons why the country has done so much to preserve it. In other nations, the environmental movement is not as strong, and it is hard to convince them to reduce economic output in favor of protecting the environment. Other, poorer nations sometimes see Germany as hypocritical due to their impressive economy and the standard of living for the people living inside German borders. In the future, the role of Germany will not be to reduce its own emissions, but rather share technologies and intellectual capital with other nations to help them reduce their own emissions. This may become a very profitable venture, as the outlook for the environmental protection industry is quite bright. Until that time, Germany will continue to slash hazardous wastes, improve alternate energy technology and lead the way as a global pioneer in the field of environmental preservation.

Japan

The study of Japan is an interesting one, in that Japan is not considered a traditional Western power. It also industrialized later than both Western Europe and America. Whatever time it lost behind those other nations, it made up rapidly in the late 19th - early 20th century. Up until that time, Japan's environmental code was not recognized as an important issue of ruling parties. Even when industrialization did take place, the environmental movement in Japan was almost non-existent. The nation had suffered what it had dubbed 'a great indignity', the forced entry into its country by colonizing powers, starting interestingly enough by the United States in the mid 1800's. The rapid mobilization of industry that lasted until the end of World War Two saw little concern for environmental matters, with the exception of one noticeable event. At a copper mine north of Tokyo called *Ashio Dozan*, protesters fought a losing battle against governmental authorities (UNU, 2007). For years, the copper mine had polluted the stream it was centered on and management showed little concern for the residents that lived in the area. Local crops became diseased and caused great sickness in the peoples of the area, but the government soon clamped down on the protestors once they became organized and they lost their case. The Japanese government placed its priority on economic development, and felt that environmental matters were of little concern in light of the governments intended course for the country.

With the end of the war however, the movement began to gain new momentum. Scientists that monitored the effects of the atomic bombs began to realize the effects that man had upon nature, and the movement began to grow. A memorable moment occurred in the 1960's, when businessmen hoping to expand Tokyo's Narita airport met fierce resistance from protesters who wished for their voices to be heard. By the time of the EPA in America, Japan had more than 3,000 registered anti-pollution groups within their borders. That represented a huge increase from just thirty years earlier, when groups such as these were drowned out and ignored.

In contrast to these and other earlier environmental movements, the protests by the citizens of Japan sparked quick and efficient legislative responses. New laws were swiftly passed, and the movement quickly lost steam. Environmentalists began to lose influence in the late 1970's, due to the oil crisis overseas and the ensuing economic quagmire. This had the effect of causing the environmental movement within the country to become more subdued in comparison to what it could have become, comparing the movement to the others, such as the ones in the United States or Germany. As in the United States, the economic recession hit Japan with great force. Japan imports a vast majority of its oil, and the increase in prices helped cause a recession in that country as well. Investments in Japan decreased, and the economy began a decline which it has failed to fully recover from to this day.

The Japanese economy is still strong however, and is still the second leading economy in the world in terms of GDP. It is predicted that within the next ten years it will be surpassed by the Peoples Republic of China as the second leading economic force. This places the Japanese government in a terrible predicament. If it chooses to create legislation that limits industrial outputs, then it voluntarily places a handicap upon itself that the Chinese are not bound to follow. If it does not choose to place these environmental restrictions upon itself, it risks being ostracized in the international community and being placed within the same category as the United States as an environmental offender. Though it is highly unlikely, the US has been threatened with sanctions for its perceived environmental recklessness. If Japan follows the lead of the United States and chooses not to participate in any more international environmental agreements, then the threat of sanctioning could be applied to Japan as well.

Ironically enough, Japan was the site of the final agreement on the famed Kyoto protocol. However, Japan did not sign the agreement itself until 2002, well after 72 other nations had signed it. Since Japan signed the legislation, it has claimed to be a ‘champion’ of the agreement, claiming to be a leader in the environmental protection movement. In contrast to their claims, Japan is the internationally recognized leader in the import of rainforest timber and is a staunch advocate of whaling. It has had many disputes with regional neighbors and environmental organizations over these two facts. Without the demand from Japanese consumers, and the inaction of the government to regulate or sanction off this environmentally destructive industry, Japan continues to fuel the destruction of the rainforest, and the ever dwindling whale population.

Like all of the other signers of the Kyoto protocol, it is impossible to judge the effectiveness of the agreement. However, that has not stopped politicians and intellectuals alike from creating plans and ideas on how to meet the protocols requirements (Web-Japan, 2002). The Japanese government admits that it is impossible to achieve their emissions reductions goals solely through improvements in domestic business practices. Instead, it looks into gaining carbon credits by constructing eco friendly projects in other nations. Japan has a very high, if not world leading, source of intellectual and technical capital and is able to use this capital in order to lower pollution levels in other countries. A small hydro-electric power plant already in construction in Brazil is proof of this statement. By constructing these projects, Japan is able to receive “carbon credits”, which can be used to offset domestic pollution output.

A very interesting development comes from the Japanese civilian sector. Japanese domestic companies have recently been created that address pollution on a very grass-roots basis. For a certain fee, these companies will enter homes, replace high pollution instruments with lesser ones, and will certify the home as “environmentally friendly”. These projects have become so popular, that it is slowly becoming a social stigma for homes not to have this certification. It is certainly not something that was envisioned by environmentalists, but unsurprisingly has received few complaints. Japan is a fair country when it comes to animal loss of life. Currently, Japan has lost thirteen species of animals, three times as much as the nearest study participant, China. However, the amounts of animals that are in risk of being extinct are quite few, and the low number of the animals in this category tends to offset the high number of lost species. Japan also suffers from the same problem as the United States, as it lost many species of animal from its industrialization period, a loss that is reflected in this study.

According to IUCN data, Japan is the worst offender in the East Asia region in the area of animal loss. It has 12 extinct species of animal, which is three times more than the next country in the region, China. Japan also has 23 critically endangered species of animal, and 81 endangered ones. These numbers are shocking, due to the size of the nation itself. Japan is a small archipelago that has nowhere near the land mass that China has. Added to that, Japan is very mountainous and its living spaces are quite limited. One explanation may be due to this limited living space that Japanese industry came to pollute a large amount of land in the rapid industrialization of the 19th and 20th century. The same argument that was made for the United States also could be made for Japan. Rapid industrialization efforts coupled with a lack of scientific knowledge removes some of the blame that these industrialized states have. The technology to detect and prevent pollution had not been as quickly developed as fast as the demand for it, and it is only now that entrepreneurs and innovators are financially able to tackle this carbon conundrum.

The number of lost plant species in Japan is practically nonexistent. It has no extinct or critically endangered species of any kind of flora. Three plant species are on the watch list, but that is the extent of plant species loss in the nation. This, again, can partially be explained by the geography of Japan. Compared to other countries in Asia, Japan has a relatively small array of plant life due to its size and rugged terrain.

Results. Japan is a land of stark contrasts. On the one hand, it has a strong recent history of environmental protection. It also has a strong national identity that often puts the wishes of the environment behind mercantilist ideas such as ‘national wealth’ and cultural prosperity. Its location as the center of the Kyoto protocol gives it the aura of strong environmental protectionism, but it in fact has a serious issue with whaling and timber import.

The nation hopes to meet its international quota for pollution through projects such as the one that can be found in Brazil. However, such projects are expensive and there is a strong possibility that the Japanese public will become angry with the increasing tax rates to befall them because of projects like these. If the tax does not fall on the consumer directly, then it is equally as possible that the cost for this pollution effort will fall on the mighty *zaibatsu*, or vertically merged industrial juggernauts. This would cause even a greater uproar in Japan, as these companies form the backbone of Japanese industry. All possible scenarios revolve around one specific question. How will the Japanese people react to this environmental movement? While they have been quick to embrace local changes in pollution output, how much support will they have for things that are taking place half a world away? Their action, or inaction, is what will drive Japanese environmental policy through the 21st century. No matter what happens, the eyes of many environmentalists will be set on Japan for years to come.

Authoritarian States

In this section, we will study nations that are governed autocratically, or in an authoritarian manner. Throughout history, these nations have been the most prevalent and have taken many forms. The most basic and often observed are Autocratic nations that are led by one powerful ruler. These are frequently called dictatorships, as the individual ‘dictates’ the actions of the country. Other forms of authoritarianism include monarchies, which prevailed in Europe after the fall of the Roman Empire, communism, socialism; or any other form of government that does not require the consent of the people through elections. The following three nations cannot be neatly divided into a single Autocratic category; instead, they each exhibit a form of governance that is unique to the study.

Russia has always been a hard nation to define, let alone describe. Politically speaking, Russia did not become a unified state until after the defeat of Mongolian forces in the mid 16th century. From the start it was governed by a single ruler, the first being Ivan IV or Ivan the terrible. After the reign of Ivan and his children, new leadership came into power led by Peter I or Peter the Great. This was the first event in a long string of acts that came to Russia becoming an Imperial power. Victories over Sweden and Poland gave Russia new tracts of land which helped fuel its impressive growth. Under Catherine the Great, Russia acquired the Lithuanian countries on the Baltic Sea. Russia even proved to be the linchpin in turning back the Napoleonic tide in the early 1800’s. After this defeat of France however, Russia began a slow and steady decline in power until it could not even defeat lowly Japan in the Sino-Russian war of 1904. Russia lost a naval fleet, a good part of their eastern army, and a lot of influence in Asia over the affair, with many European powers ready to add a second “sick man of Europe” to the list next to the Ottoman Empire. By the time the First World War broke out, Russia was in poor shape. Years of governmental repression at the hands of Nicholas II and his predecessors had caused the populace to be unsupportive of their government. The heavy handed rule of Russian leaders had held back the social reforms seen all over Europe after the revolutions of 1849, and caused much unrest among the lower classes.

It was this unrest that produced the infamous “Red Revolution” in Russia during the middle of the First World War. Leadership under communist forces was no more forgiving than that under the Tsars, as land reform measures and a virtual lock-down on civil liberties caused the atmosphere around Russia to remain the same. From Lenin to Stalin, from Stalin to Khrushchev; all the way down to Gorbachev in the 1980’s, the government was repressive and was not concerned with environmental issues. When the curtain of communism fell from Russia, victory for democracy was claimed and it was thought that the former Soviet State would never again revert to the old ways once it had seen the liberating nature of democracy. Yet, almost twenty years after the visage of communism has left, again we see a strong central figure in Russia dominating state and local politics. This man, Vladimir Putin, was elected democratically after the swift exit of Yeltsin in the 1990’s. Upon election to office, he quickly began re-nationalization efforts in the industrial sector and began to re-write the textbooks to glorify the acts of the Soviet past and encourage the populace to take pride in them. These and other acts by the Russian government have been documented thoroughly (Baker and Glasser, 2005), and indicate a strong tendency towards a state dominated by a strong central figure. Whether it be a tsar, communist secretary, or “president”, it seems as if Russia is destined to be a state governed by power politics.

The China as we know it today is quite similar, yet dissimilar than the China that had existed about four thousand years ago (Poon, 2008). Up until the power of the government was centralized under an emperor in the Qin dynasty at approximately 221 BC, China was ruled by a king in a manner very reminiscent of feudal Europe. It wasn't until warlords and external forces invaded that this system was replaced by the traditional emperor hierarchy. The Han dynasty which took control over Chinese politics at around 206 BC, was to be the dynasty which would form most aspects of the Chinese society we see today. In fact, many Chinese today refer to themselves as the "Han" people. Many advances took place under the *Liu* ruling family, including improved agricultural technologies, the invention of the trade route today known as the Silk Road, territorial expansions in the west and south, and responsive government that exercised power under widely-held Confucian beliefs (Minnesota State University, 2007). This golden period of China was to last until 225 AD when internal forces of dissent couple with external pressures led to a fall of the regime. From that time onward, China went through a cycle of partition due to ambition from powerful families, to a period of re-convergence, then again into partition due to a powerful foreign power that took advantage of a weak China; and excellent example being the Mongol invasions of the 12th and 13th century. This pattern continued well into the 20th century, essentially until the Second World War.

Upon Japanese invasion in 1931, China was again a fragmented state. Various warlords controlled their own section of the country and were at first content to resist the Japanese invasion on an individual basis. This would have been the case if not for the efforts of Chiang Kei-shek, leader of the nationalist party (Kuomintang or KMT). Previous to the invasion, the KMT had been fighting a civil war with a small communist force led by Mao Zedong. The war raged all over the countryside, until KMT forces were forced to declare an alliance with Mao and the various regional warlords in order to effectively combat the Japanese Imperial army. Upon the expulsion of the Japanese at the end of World War Two, hostilities resumed between the two powers and eventually resulted in the victory of Communist forces. The retreating Nationalist army escaped the mainland and settled on the island of Formosa (modern day Taiwan), and still maintains a degree of hostility towards the communist leadership of China proper. Upon victory, the communist forces began to implement many of the same changes that were made under the tutelage of Joseph Stalin. Some of these reforms include state-set production quotas, along with land redistribution rights to China's lower class.

However, most of these reforms led to scant economic growth, and discontent among the powerful elite who still lived in China. Upon the death of Mao Zedong in 1976, Deng Xiaoping began to introduce capitalist reforms that began to transform China into the country it is today. With these new reforms, China retained its communist leadership structure, but allowed state run factories and enterprises to compete in the global market. Since 1990 and the fall of communism in Russia, China has enjoyed dramatic increases in GDP and GNP. Within the next ten years, the total size of its economy will surpass Japan and will be second to only the United States. While enjoying this growth, it has convinced the global community that years of industrialization are still ahead and because of that, it is still a developing country and should not be placed with industrialized nations. This and other keen diplomatic moves has diminished much of the concern about Chinese growth. China is a diplomatically shrewd nation, and will certainly be a global competitor for generations to come.

Venezuela, the last of the Authoritarian nations that will be studied, is at first glance a large historical departure from both Russia and China. Venezuelan independence was gained in 1830, when a revolutionary leader named Jose Paez declared independence from a larger political entity known as Gran Colombia. Upon its emancipation, Venezuela went through a rough political period, which was dominated by a group of military men known as *caudillos*. Caudillos were military men who rose up through the ranks and would often use violent coups to gain political control of the country (Library of Congress, 2007). However, these rulers would often time grant requests for social reform, and would take an active interest in raising the GDP and the standard of living in Venezuela. In the early 1930's, oil was discovered off the Venezuelan coast, and immediately brought in previously unimaginable amounts of wealth into the country. Over a period of ten years after this discovery, Venezuela became one of the richest countries in Latin America. The newfound wealth caused many Venezuelans to question their cycles of dictators and coups, and began to clamor for new, popularly elected leadership. The old cycle of militarist/authoritarian leadership ended abruptly, as the country went through what is known today as the *trienio*, or the triennium. The triennium was the first real experiment in Venezuela to see if democracy was compatible with the country.

Unfortunately, the question was not given enough time to be fully answered and was ended when General Marcus Jimenez used the tried and true method of military action to take control of the country. It was not the death knell of Venezuelan democracy, however. In 1958 a democratic coalition led by the Romulo Betancourt replaced the military dictatorship and it seemed as if Venezuela had finally made the transition from an Authoritarian state to one of Liberal Democracy. Democratic rule continued unabated until President Rafael Caldera pardoned the leader of an attempted military coup in 1992, whose name was Hugo Chavez. Hugo Chavez was born a poor man in a mud hut in obscure Sabaneta, and through hard work and a bit of skullduggery, attained the rank of Lt. Colonel. After he was pardoned for his failed coup, Chavez began a grassroots movement to gain political power democratically. In the elections of 1998, amidst widespread public dissatisfaction with the government, Hugo Chavez was elected democratically with 56 percent of the popular vote. Since that time, Chavez has radically changed the face of Venezuela. With actions eerily mirroring Huey Long of Louisianan fame, Hugo Chavez has proclaimed “a new socialist era” for the country of Venezuela. Countless industries have been nationalized, under the claim that international companies unfairly profited from the natural resources of Venezuela. Recent elections have shown great support for his rule, as his margins of victory have grown ever since the 1998 election. The GNP has begun to rise in the country, mainly due to the increased price of oil and new reserves that have been discovered off the coast. The newly nationalized oil and gas industries are practically chomping at the bit to get these resources, which would make Venezuela the leading producer in the Western Hemisphere, and possibly the world.

In order to understand the way particular governments function, it is important to look at their history. By properly examining the role, scope, and evolution of government in a particular country, we can begin to see specific tendencies in countries that can be used to explain why some nations have policies that differ so radically from others. For example, France, or more specifically Paris, has always been a hotbed of radical (and oftentimes revolutionary) ideas and actions. It is this tradition of radicalism that has allowed ideas such as “nationalism” to be invented at the height of Napoleonic power. In Great Britain, the tradition of mercantilism that spans all the way back to the 15th and 16th centuries helps explain their shrewd economic policies of today. When someone can see past present day situations and predicaments and more into the previous events of a society, it allows them to gain a new perspective and new reasons as to why things are the way they are.

Russia

The history of Russia is quite tumultuous, filled with tales of Tsarist oppression, democratic upheavals and other such tales of political interest. Until the 1930's, Russia remained a very agrarian society. Large scale industrialization was practically non-existent. Many families lived on farms and merely tilled the land to ensure their survival. It was not until Stalin's “five year plans” that lasted from 1928-1939 that Russia industrialized at a very rapid rate. Stalin linked this rapid industrialization to the progression of socialist society, so it was natural that this progression would progress very quickly. The death toll from this movement was shocking, but by the time Adolph Hitler came roaring across the German – Soviet border, the process was complete. The environmental impact from this movement was almost equally as revolting. Poor records were kept during the period, but reading the journals and personal manuscripts of the Russian peasantry shows the loss of life and destruction of the environment to be inconceivable, and indescribable.

Throughout the lifespan of the Soviet Empire, the environment went through a period of indifference and degradation by the governing powers. All too often, environmental concerns were written off as “American propaganda”, and were largely ignored. All of this began to change with the fallout over the Chernobyl disaster. The explosion of the 4th reactor in the nuclear power plant in modern day Ukraine caused the displacement of 336,000 people, and catastrophic environmental damage. Soviet response to this crisis included resettlement, and strict orders to keep the whole ordeal as secret as possible.

There are many other, less well documented cases of Soviet mistreatment of the environment, but the common thread of bad government management remains. When democracy was ushered in under the tutelage of Micheal Gorbechev, many environmentalists believed that the condition would improve inside the country. However, this was not the case. When the mantle of leadership passed to Vladimir Putin on December 31, 1999, the matter of the environment was largely put on the back burner. Putin's main goal was to improve the economy of Russia by any means, and elevate it again to world power status. In his first few years of office, Russia realized economic growth rates of 10, 5.7 and 4.9 percent; which are very robust numbers for GDP growth (eurokonom, 2007). Unfortunately, this growth came at the cost of the environment.

In 2000, the only federal conservation agency, the State Committee for Environmental Protection to the Natural Resources, was disbanded in Putin's purge of "wasteful agencies". The duties of the former committee fell to the "Natural Resources Ministry", which is primarily concerned with mineral development across the nation. Sergei Tsyplenkov, director of Greenpeace Russia, was quoted as saying "The population of the country is deprived of its basic right, secured by the constitution, the right to a healthy environment" (Planet Ark, 2000).

Russia is a signatory to the Kyoto Protocol, joining the pact in 2004. Its acceptance of the treaty was deemed paramount, because of the refusal of the United States to sign it. Russia accounts for 17percent of global pollution emissions (BBC, 2004), and the treaty itself required a majority of global polluters to sign the agreement in order to be put into effect. Most analysts note, that Russia will not have to modify its domestic industry to meet protocol requirements as an Annex I nation. Since the collapse of the Soviet Union in the early 1990's, Russia went into a severe economic depression that eliminated many jobs and factories. Due to this depression, Russia was granted large amounts of 'carbon currency' in order to meet its reduction numbers. As an incentive to join, the European Union also agreed to support Russian entry into the World Trade Organization, lowering trade barriers for Russian goods and services which would serve as a great boon for the Russian economy. At the beginning of the decade, Putin had set a goal for doubling the country's GDP by the year 2010. Rampant nationalism and a resurgent Russian economy are all that can be predicted for the country. Whether this growth and 'prosperity' will again come at the expense of the people and the natural environment is a question that can only be answered by the historians of tomorrow.

Red list statistics show Russia to be a nation that has done well preserving animal life within its own borders. It has only two extinct species of animal, with only one species no longer seen in the wild. Russia does however, have 13 critically endangered species of animals, along with 97 other vulnerable species. In the plant kingdom, Russia is doing extremely well. It currently has no extinct or critically endangered species of plant. The nation does have two endangered species, but that is relatively small compared to regional neighbor Malaysia, which has 186. All of this data must be analyzed without forgetting Russia's climate, or terrain. East of the Ural Mountains, the environment is very cold and desolate. There are assorted species of both plant and animal, but these numbers of animals often pale in comparison to those found in more temperate areas.

Results. The state of Russia and its environment is a very unenthusiastic one. There are grassroots movements to save the environment, but those efforts are blunted by the abysmally bad living conditions for the lower class and the leadership of Vladimir Putin. Putin wishes for strong economic growth, and is unwilling to make concessions towards that goal. He has been willing to do most anything in order to achieve his goal of doubling GDP and raising the prestige of his nation. It is true that he has passed the Kyoto Protocol, but this measure will do nothing to preserve Russia's environment. The citizens feel much as the leadership does. Many of them qualify as poor under global wealth standards, and subsist on nutritiously poor foods. Alcoholism and drug use are clear signs of the trouble that Russian society is facing today. The Russian Republic has many problems, but the leadership of the country does not see environmental preservation as one of them.

China

Perhaps the most vilified country outside of the United States in the realm of environmental preservation is the Peoples Republic of China. China is a nation that was not wholly unified until the cessation of overt hostilities (no peace treaty was ever signed) in 1949, when it pushed the Nationalist forces of Chiang Kei-shek onto the island of Formosa in the South China Sea. The leader of the communist movement, Mao Zedong, then took control over the land of China proper, and began his social reform movement. This movement saw many communist programs try to take root, including land redistribution and state quotas for industry. Both of these turned out to be ill-fated attempts at economic control. Mao also staunchly rejected "western science" and ancient Chinese tradition, and instead focused on economic development (Shapiro, 2001). Where peasants saw trees and streams, Mao saw timber and iron mines ready to be harvested. Rivers that had had flowed through valleys for thousands of years were to be dammed and made to produce electricity. Chinese sentimentalism and tradition meant little to him. All that was important was his 'red revolution' in China.

Upon his death in 1976, moderate leadership and cooler political heads began to prevail. New leaders such as Deng Xiaoping began to introduce market based reforms that were to stimulate the economy. These market reforms however, had little effect upon the poor state of the Chinese natural environment.

In 1983, China passed the Marine Environmental Protection law, which was designed to protect the Chinese coastline and surrounding waters from manmade pollution. In 1985 the Chinese government ratified the Grassland Law, which was designed to protect the natural environment from human abuse. These and many other laws have been passed since the early 1980's, but have not come to fruition. The reasons for this are rather easy to ascertain. Since the modernization efforts by Xiaoping, China has been playing a game of 'catch-up' with other world powers. As in Russia, the highest priority of Chinese leadership has been to increase GDP and economic prosperity. Other concerns such as human rights abuses, poor medical facilities in rural China and ecological destruction do not appear on the governmental radar. An excellent example of this is the Three Gorges Dam on the Yangtze River. The dam has seen much controversy, as its construction forced the relocation of thousands of Chinese citizens whose family had lived there for generations. Chinese officials offered a fair market value price for these plots of land, but many families refused to move. In some cases, it took the direct action of the military to move these families.

The Chinese do an excellent job of masking their true intentions internationally, and the previously mentioned laws were meant to assuage any concerns about China and its environment. The People's Republic is trying quite doggedly to create a respectable international image, while convincing the world that it is still in the early stages of industrialization. To put it in perspective, China has recently become the global leader in carbon dioxide production (Christian Science Monitor, 2008). It produces 6,400 million tons of the gas annually, compared to the 5,800 of the United States. Considering that China expects to continue a rapid pace of the growth for the foreseeable future, this number could skyrocket and cause greater harm to the environment than has been seen before. An interesting fact, for a nation that considers itself to only be at the start of its industrializing efforts.

China is, and has been an ardent supporter of the Kyoto Protocol. Premier Zhu Rongji said upon ratification: "The approval manifests China's positive stance towards international environmental cooperation and world sustainable development". Of course, it is easy for the Chinese government to be so committed to the agreement. The People's Republic falls under the category of non-Annex I nations and is not required to do anything but submit pollution reports to the United Nations. It can proceed to pollute at its heart's content, and still criticize other nations for not signing the agreement (The United States), or chide nations that have not met pollution reduction goals (many of the protocol's signatory countries).

There is however, one area of the environment where China truly takes the lead. China outpaces all other countries in the East Asia region in the number of Critically Endangered, Endangered, and Vulnerable species of animal. In fact, China has more than double the number of animals in danger than does the next country on the list, Japan. It is only second to Indonesia in the Asiatic region in the amount of animals that have been put in harm's way due to human interactions with the environment. In the area of endangered flora, China again leads the way in loss of life. It has 74 critically endangered species, 174 endangered species, and 198 other, vulnerable ones. To be fair, China is a vast country and does have large, diverse amounts of vegetation. Comparing the country to other nations in the region that do not have the same landmass is not wholly fair. While it is impossible to measure China's animal and plant diversity to any other nation on the planet, one must not be quick to judge numbers merely based on comparison to other countries, specifically those that are located in the same approximate geographic area.

Results. China is a nation that in ancient times was very respectful and very concerned about the welfare of the environment. Ancient Buddhist tradition holds nature in very high esteem, citing the important interaction between humanity and the world around it. In the last one hundred years however, this tradition has been overridden by a desire to industrialize and gain importance in the international community. The Chinese people also have a very proud tradition, their culture being a very old and rich in cultural dynamics and beliefs. It was common fact in China that their nation was the center of the world, and all the other nations were merely revolved around it. Since the rude wakeup call during the invasion of the Japanese Imperial Army from the 1931 invasion to the eventual end of the war in 1946, China was faced with the reality that their culture had been challenged by Western ideology. The Chinese are a very proud people, and it is reasonable to assume that there was much anger among them to see their lands and way of life being destroyed by a force that was inspired by the West. Before they knew it, their people were being strangled by unfair economic practices, and drugs introduced by foreign societies to keep them pacified. Perhaps they realized that the only way to gain back their lost honor and prestige was to industrialize, and beat the West at their own game.

Perhaps that way, they would become powerful again. The environment just happens to lie in the way of that goal, and sadly, it is an issue that has been pushed aside in the pursuit of 'progress'.

Venezuela

Venezuela is a very biologically diverse nation. It currently ranks in the World's Top Ten of most environmentally diverse countries (Library of Congress, 2007), and has always been known for its keen interest in the environment. By 1977, Venezuela had developed a cabinet level ministry called the "Ministry of Environment and Renewable Natural Resources" that was given broad discretion in managing the state of the environment (Bassow, 1979). A former, popular director of the agency, Arnaldo Galbaldon, often espoused that it was quite feasible to maintain economic growth, while having a far reaching environmental protection program. In 1976, Venezuela came up with a string of laws that would dramatically affect the environment. One statute allowed for specially trained Natural Guard troops to patrol the environment and to stop illegal dumping and deforestation. A company was hired to repopulate destroyed forests, planting new trees at the rate of 65 million new saplings a year. In 1978, Venezuela allocated \$200 million dollars (US) to its environmental protection programs, more than all other Latin American countries combined.

As can be seen, the environmental movement in Venezuela has been strong for quite a long time. That is, until Hugo Chavez came to power in his "Socialist Revolution". In 1998, Chavez won the Venezuelan presidency with a majority of the popular vote, running on an anti-imperialism and pro social programs platform. Afterwards, he immediately began to work on socialist projects, such as road construction, mass vaccinations, and low rent housing projects. He halted the privatization of many industries, and began the process of nationalizing others. Recently, a spokesman for the Venezuelan government has been telling the press that "all future mining deals will be either be 51-49 percent of joint ventures or operator's contracts"; referring to joint ownership of mining facilities by the government in Venezuela (Abrams, 2006). According to World Bank and IMF statistics, GDP is on the rise in the country, along with drops in unemployment and inflation. Despite what claims one may make against him, it is without dispute that he has caused the standard of living for most people in Venezuela to rise.

In the face of this new economic prosperity however, lies a very insidious problem. The increase of wealth in the country has caused many Venezuelans to abandon their gusto for non-social issues, such as the environment. Jorge Hinestroza, a professor of sociology at the University of Zulia, spoke about the degradation of the environment to a reporter at a recent environmental conference in Maracaibo. He said "The Chavez regime has sought to provide the immediate necessities of life for the people. That is to say, the government offers large quantities of food and services, which in one way or another satisfies the most critical necessities of the people." In essence, the success of the Chavez regime has caused many environmentalists to instead focus on how to improve the economy, rather than preserve their environment.

Venezuela is a signatory to the Kyoto protocol, ratifying the agreement in 2005. It qualifies as a non Annex-I nation, and faces no penalties for its pollution habits. Without any sort of constraints, the lack of a propellant towards pollution reduction could be quite destructive to their environment, due to their main source of income. In 2002, Venezuela produced more than 3 million barrels of oil a day, which ranked it within the top ten oil producing countries in the world. Since then, it has found and developed other offshore oil reserves, which has placed it within the top-five oil exporting countries. Crude oil generates approximately 80 percent of revenue for the country. Noting all these facts, it makes little economic sense to place restrictions on industries that provide massive amounts (in fact, the vast majority) of revenue for the country, especially noting that the nation is in the early stages of an economic revolution. It is unlikely that Mr. Chavez will do much in the environmental arena, with domestic support for the majority of his policies and the opposition rallied against other hot button issues in his administration.

As the case in many South American nations, which are rich in biodiversity, there are many plants and animals that are endangered in Venezuela. The IUCN Red List counts thirty critically endangered animals, along with forty eight endangered animals and eighty eight vulnerable species. Compared to other nations in South America, these numbers are fair to middling. Ecuador for instance, has seventy four critically endangered species of animal, and has 106 endangered species. Columbia has seventy four critically endangered, and 122 endangered. The list of endangered plant species tells a more interesting tale. Venezuela has very few species of flora that are endangered, with only three critically endangered species and seven endangered ones. The reason that this number is surprising is the number of threatened plant species in nearby Ecuador.

Ecuador has 246 critically endangered species of plant, 668 endangered species, and 924 vulnerable ones. It is by far the regional leader in critically endangered plant species; in fact, Ecuador is the world leader in the number of plants that are being carefully monitored by the IUCN. The reasons as to these high numbers in Ecuador are still being studied, as are reasons abound as to why it is happening. Many scientists agree that the destruction of the rainforest in Ecuador and careless industrial practices are behind this wonton destruction.

Results. Venezuela is a land going through profound social change. Its leader, Hugo Chavez, is a man dedicated to bringing socialist reform to the nation. The present economic data models show the nation to be increasing its GDP and wealth, mainly due to the increase in oil reserves and the overall increase in the price of oil around the world. Because his socialist programs have been successful, many environmental advocates have found smaller and smaller audiences whenever they speak in the country. It is true that Venezuela has a rich history of environmental protection, but it is also a land that has seen immense poverty. With the hope of economic prosperity, many people have abandoned the environmentalist cause in favor of supporting Mr. Chavez and his socialist-progressivist policies. Outwardly, Venezuela portrays itself as a nation dedicated to the environment, praising and ratifying the Kyoto Protocol on International Climate Change. Most observers agree however, that much of these actions (like his recent performance at the United Nations) are simply for show. Neither Venezuela, nor any other non Annex-I nation, is forced to make changes in their economic practices. Since these economic changes partially stifle the growth that Mr. Chavez so ardently pursues, is it logical that he would avoid these sorts of changes?

Authoritarianism & Liberal Democracy

As was outlined, three authoritarian nations and three liberal democracies were studied. All six of them had different ecological histories, and all six of them had differing degrees of success when it comes to environmental preservation. As a whole however, can any relationship between system of governance and the environment be realized?

The United States is seen as the pinnacle of the Liberal Democratic movement. It has the oldest written constitution of any nation, and boasts as being the birthplace of democracy and freedom. America also has some of, if not the most, strict environmental regulations seen in the world today. Those regulations still have not been enough to prevent a large loss of plant and animal life since the nations inception. However, Russia and China have less-strict regulations, and a very different system of government. Both are currently industrializing at a very high rate. Both of these nations have an rising rate of environmental decay that may approach the United States given time.

The key difference between Authoritarian nations and Liberal Democracies is in essence, citizen participation. As has been seen in Latin America during the last fifty years, a grassroots environmental movement has caused much of the environment to be preserved. Backing these grassroots movements are wealthy foreign nationals, who either have an altruistic or more monetary interest in preserving the environment. Once these two forces are in place, they only need petition the government enough to act in a positive manner. This may happen rapidly as seen in the United States during the 1960's, or it may build over a period of time as it has done in Japan. That is of course, if the nation allows its citizens to petition the government. Authoritarian nations often do not have a very high tolerance for civilian participation in the government, and do not allow foreign nationals to influence domestic politics. It is conceivable however, that Authoritarian-led nations could have a leader who sees the environment as an important national issue and will work to preserve it. With the passage of the Kyoto protocol, the natural preservation industry has reached never before seen heights of growth.

Often times, industrialized nations that have signed the protocol often have no feasible means to reduce pollution inside its borders. It is either too costly to upgrade pollution reduction systems in factories, or it is equally as possible that the pollution comes from a source that is politically unfeasible to change. One of the only options left for a country is to contract a company to build an eco-friendly project overseas, which creates jobs and opportunity for all the parties involved. The rich nation receives international praise as doing good in environmental issues; which can translate to increased diplomatic power if asserted correctly. The poorer nation often receives more tangible results, such as a hydro-electric power plant (Brazil), new and cost efficient technologies that reduce pollution in the host nation without requiring them to pay for it. Industry receives a bonus for its improved international image as an "environmental hero", and last but not least, the environment benefits from reduced levels of pollutants being placed into the atmosphere.

Another difference between Authoritarianism and Liberal Democracy is the speed and efficiency that the two ideologies can respond to environmental crises. In an authoritarian government, power is usually centralized around a powerful center figure that is able issue decrees and statements that are rapidly approved and passed by a puppet legislature (if such a body even exists). The bureaucracy that carries out these decrees is often endowed with extensive powers and is able to enforce new laws and legislation without impediment. In other words; change happens quickly. As many have commented in the United States, things in government move at a snail's pace. Even the stock market 'stimulus' package deemed "extremely" important by Republicans, Democrats and the President himself is currently stalled in the US Senate. In Liberal Democracies, power is usually decentralized among many different actors. It is extremely difficult to enact change unless the force behind it is so strong, that it forces quick action. A good example of this event was the declaration of war upon Japan after the attack on Pearl Harbor; or the passage of the Patriot Act after the terrorist attacks in 2001. Outside of these rare examples, the majority of laws that legislative bodies consider does not even reach a vote on the floor. Too many interests compete for dominance for this situation to be any different. Liberal Democracies are notoriously slow to change direction, an inherent boon and a fault in their nature.

In the global arena, there is no nation that is qualified to be labeled as a first tier authoritarian nation. Russia and China both are on the fast track to becoming such countries, but their "time to shine" is still years in the future. If current political systems stay the same, then the world could experience an ideological struggle not seen since the end of the Cold War. On the one side stands Liberal Democracies. These are the nations that popularly elect their government, and give wide civil freedoms to their populace. On the other hand are the Authoritarian nations. Countries such as these are often led by one or a few power holding elites that are able to control and manipulate the forces of government without all the red tape that is found on the side of lady liberty. Will another Cold War emerge, between these two ideological systems? It is too far in the future to tell, but the one thing that can be assured; is that Political Scientists will have much to write about in the years to come. And, environmentalists will have much to consider when formulating public policy among differing nation-state structures.

References

- 1.) Hough, Peter. "Poisons in the System: the Global Regulation of Hazardous Pesticides." *Global Environmental Politics* 3 (2003): 11-24.
- 2.) Vogler, John. "Taking Institutions Seriously: How Regime Analysis Can Be Relevant to Multilevel Environmental Governance." *Global Environmental Politics* 3 (2003): 25-39.
- 3.) Humphreys, David. "Life Protective or Carcinogenic Challenge? Global Forests Governance Under Advanced Capitalism." *Global Environmental Politics* 3 (2003): 40-55.
- 4.) Falkner, Robert. "Private Environmental Governance and International Relations: Exploring the Links." *Global Environmental Politics* 3 (2003): 72-87.
- 5.) Steinberg, Paul F. "Understanding Policy Change in Developing Countries: the Spheres of Influence Framework." *Global Environmental Politics* 3 (2003): 11-32.
- 6.) Honneland, Geir, and Anne-Kristin Jorgensen. "Implementing International Environmental Agreements in Russia: Lessons From Fisheries Management, Nuclear Safety and Air Pollution Control." *Global Environmental Politics* 3 (2003): 72-98.
- 7.) Stoett, Peter. "Toward Renewed Legitimacy? Nuclear Power, Global Warming, and Security." Ed. Matthew Paterson. *Global Environmental Politics* 3 (2003): 99-116.
- 8.) Gat, Azar. "The Rise of Authoritarian Capitalism." *Journal of Foreign Affairs* 86 (2007): 59-69.
- 9.) Bhagwati, Jagdish. "The Race to the Center and Lessons of Globalization." *Brown Journal of World Affairs* 13 (2007): 271-276.
- 10.) Erikson, Daniel P., and Janice Chen. "China, Taiwan, and the Battle for Latin America." *Fletcher Forum of World Affairs* 31 (2007): 69-89.
- 11.) Andonova, Liliana B. *Transnational Politics of the Environment*. Ed. Nazli Choucri. Cambridge, Massachusetts: MIT P, 2004.
- 12.) Kraft, Micheal E., John McCormick, and Helmut Weidner. *Environmental Politics and Policy in Industrialized Countries*. Ed. Uday Desai. Cambridge, Massachusetts: MIT Press, 2002.
- 13.) Paehlke, Robert C. *Democracy's Dilemma*. Cambridge, Massachusetts: MIT Press, 2003.
- 14.) Baker, Peter, and Susan Glasser. *Kremlin Rising*. New York: Scribner/ Lisa Drew, 2005.
- 15.) Associated Press. "U.S., Australia Boost Alternative to Kyoto Protocol." *FOXNews*. 12 Jan. 2006. Asia-Pacific Partnership on Clean Development and Climate. 25 Sept. 2007 <<http://www.foxnews.com/story/0,2933,181463,00.html>>.

- 16.) Sunstein, Cass R. "Cass R. Sunstein - It's Only \$300 Billion." Washington Post. 10 May 2006. 19 Sept. 2007 <<http://www.washingtonpost.com/wp-dyn/content/article/2006/05/09/AR2006050901502.html>>.
- 17.) Afx News Limited. "Australia Rejects Kyoto Protocol." Forbes. 31 Oct. 2006. 26 Aug. 2007 <<http://www.forbes.com/home/feeds/afx/2006/10/31/afx3132011.html>>.
- 18.) Brown, Paul, and Jamie Wilson. "US in Plan to Bypass Kyoto Protocol." The Guardian. 28 July 2005. 25 Sept. 2007 <<http://www.guardian.co.uk/climatechange/story/0,,1537629,00.html>>.
- 19.) History of the EPA. Environmental Protection Agency. Sept. 1993. The Guardian. 10 Dec. 2007 <<http://www.epa.gov/history/publications/formative3.htm>>.
- 20.) IUCN Red List. Environment Impact Study. World Conservation Union. 20 Jan. 2008 <<http://www.iucnredlist.org/info/tables/table6a>>, <<http://www.iucnredlist.org/info/tables/table6b>>
- 21.) German Embassy, Washington D.C. 21 Nov. 2007 <http://www.germany.info/relaunch/politics/new/pol_kyoto_start_2_2005.html>.
- 22.) Strieker, Gary. "Japan Embroiled in Timber Predicament." CNN.Com. 18 Apr. 2001. CNN News Network. 5 Jan. 2007 <<http://archives.cnn.com/2001/TECH/science/04/18/japan.timber/index.html>>.
- 23.) Russian MP's Ratify Kyoto Treaty. BBC.Com. 22 Oct. 2004. 1 Feb. 2008 <<http://news.bbc.co.uk/2/hi/europe/3943727.stm>>.
- 24.) Danilyan, Viktor. Russia, Kyoto Protocol and Climate Change. Terradaily. 21 Feb. 2007. 2 Feb. 2008 <http://www.terradaily.com/reports/Russia_Kyoto_Protocol_And_Climate_Change_999.html>.
- 25.) Greenpeace Condemns Putin. Planet Ark. 23 May 2000. Reuters News Service. 15 Jan. 2007 <<http://www.planetark.org/dailynewsstory.cfm?newsid=6801>>.
- 26.) Environmental Laws of the Peoples Republic of China. Novexcn.Com. 2000. Peoples Republic of China. 25 Nov. 2007 <http://www.novexcn.com/environmental_protection_m.html>.
- 27.) Alvarez, Ceasar J. Venezuelas Oil Based Economy. Cfr.Org. 27 Nov. 2006. Council on Foreign Relations. 1 Feb. 2008 http://www.cfr.org/publication/12089/venezuelas_oilbased_economy.html
- 28.) J, Hoffman H. "Bismark, Otto Von." Ohio University. 3 Feb. 2008 <<http://www.ohiou.edu/~chastain/ac/bism.htm>>.
- 29.) Bush, Blair Call for Post Kyoto-Strategy." State Department.Gov. 7 July 2005. 25 Jan. 2008 <<http://usinfo.state.gov/gi/Archive/2005/Jul/08-375773.html>>.
- 30.) World Resources Institute, "Rising Energy Use, Health Concerns." 20 Sep 2008 <<http://www.wri.org/publication/content/8463>>.
- 31.) Arbatov , Alexi. "Russia and the Iranian Nuclear Crisis." 05-23-2006 20 Sep 2008 <http://www.wri.org/publication/content/8463>
- 32.) Holborn, Hajo. "Bismark's Realpolitik" 01 Jan. 1960. 25 Feb. 2005 <http://www.jstor.org/pss/2708000>
- 33.) Gordeeva, Tatyana. "Imperial Germany" . 25 Feb. 2007 http://www.germanculture.com.ua/library/history/bl_imperial_germany.htm
- 34.) Hunter, Janet E. Concise Dictionary of Modern Japanese History. : University of California Press, 1984.
- 35.) Jorgenson, Dale W., and Koji Nomura. "The Industry Origins of Japanese Economic Growth." National Bureau of Economic Research (2005):
- 36.) Marcus, Alfred A. "EPA's Organizational Structure, Assessing the Agency after Twenty Years." Duke University School of Law (1991):
- 37.) "U.S. Environmental Law." HG.org. 2008. Worldwide Legal Directories. 22 Sep 2008 <http://www.hg.org/envirus.html>
- 38.) "Six Common Air Pollutants." US Environmental Protection Agency. 2008. 22 Sep 2008 <http://www.epa.gov/oar/urbanair/so2/>
- 39.) Moore, Curtis. "Green revolution in the making - innovative German environmental protection efforts." B.net. 1995. 22 Sep 2008 http://findarticles.com/p/articles/mi_m1525/is_n1_v80/ai_16111823
- 40.) "Historical Implications of Copper Mine Posioning." United Nations University. 22 Sep 2008 <http://www.unu.edu/unupress/unupbooks/uu35ie/uu35ie06.htm>
- 41.) "MAKING THE KYOTO PROTOCOL WORK." Trends in Japan - Scientific Technology. 2002. 22 Sep 2008 <http://web-japan.org/trends/science/sci050328.html>
- 42.) "Gross Domestic Product (GDP) Growth - Russia (%)." Euroekonom. 23 Sep 2008 <[http://www.euroekonom.com/database/graphs.php?type=gdp-growth-russia\(=an&time=0](http://www.euroekonom.com/database/graphs.php?type=gdp-growth-russia(=an&time=0)>
- 43.) Jacques, Leslie. "China's pollution nightmare is now everyone's pollution nightmare." Christian Science Monitor. March 12 2008. 23 Sep 2008 <http://www.csmonitor.com/2008/0319/p09s01-coop.html>