

Comparative Analysis of Environmental Laws: Implementation and Lack Thereof

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ABSTRACT: The following research studies and analyzes the current laws, acts, regulatory provisions and environmental standings with respect to various environmental issues faced by select countries. This research shows an overview of the current condition and status of five countries, Brazil, China, India, United States of America, and Russia. These countries were chosen to be the part of this study due to their large land masses, thus assuming that each partake majorly in contributions to environmental protection on the global front.

KEYWORDS: Environmental laws, natural forest loss, pollution, India, China, Brazil, USA, Russia

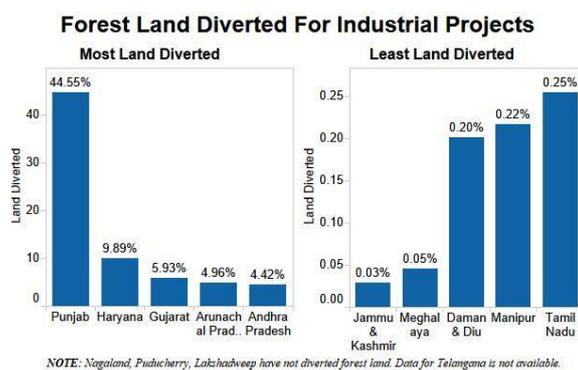
I. INTRODUCTION

The paper studies the stated countries considering the following crucial factors that lead to environmental degradation: natural forest loss, water pollution, air pollution and carbon emissions. Unlike existing rankings, this study purposely avoids emphasis on impact of these practices on human health, focusing solely on the effects on the environment.

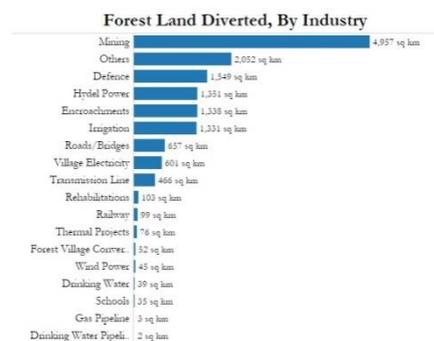
II. INDIA

A: Natural Forest Loss

Over the last three decades, 15k sq. km forests are destroyed due to encroachments and 14k sq. kms due to industrial projects according to government data. One of the major solutions implemented for this problem, ‘Compensatory afforestation’ may replace trees not ecosystems. Compensatory afforestation means that the trees that must be planted as compensation for forests cut down, which requires special permission from the ministry of environment and forests.



Source: Lok Sabha



Source: Ministry of Environment & Forests

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Many argue that this concept is flawed as the government may claim planted trees compensate for forests lost, but that does not restore complex flora and fauna. According to Ajay Kumar Saxena, Programme Manager (Forestry) at Delhi's Centre for Science and Environment it is impossible to compensate the loss of a natural forest, at least for centuries. A forest has numerous— of species of flora and fauna living in a complex ecological system with natural nutrient cycling habits that cannot be restored by creating these plantations.

Laws protecting forests

The Forest (Conservation) Act, 1980 came in to force with effect from October 25, 1980. Under the provisions of this Act, prior approval of the Central Government is essential for diversion of forest lands for the non-forestry purposes. Essentially the Act is passed to regulate the unchecked use of forest lands for non-forestry uses and to maintain an understandable balance between the developmental needs of the country and the conservation of natural forests.

Their implementation over the years

With the of the Forest (Conservation) Act, the rate of deforestation has come down to around 15000 ha. per annum from 1.43 lakh ha. per annum. The losses to required purposes must be compensated by afforestation and catchment area treatment plan, wildlife habitat improvement plan, rehabilitation plan etc. To ensure implementation "Compensatory Afforestation Management and Planning Authority (CAMPA)" is being constituted at the national level.

Difficulty in Implementation.

The legal diversion of forest land is accentuated by felonious actions, which implies many that get permission to chop down forests ignore the conditions obligatory onto them. The ministry of environment and forest records disclosed that against the due non-forest land of 1,03,381.91 hectare, 28,086 square measure was received throughout the period 2006-12 that recognized solely twenty seven per cent of available non-forest land. The afforestation done did simply 7,280.84 square measure constitute seven per cent of the land that have to be compelled to have been remunerated.

The record with reference to transfer of possession to the State Forest Department is equally dismal. Data made obtainable by State/ UT CAMPA disclosed that of the 23,246.80 square measure of non-forest land received by them solely 11,294.38 square measure was transferred and mutated within the name of the State Forest Department. Of this 3,279.31 square measure was declared as Reserve Forest/ Protected Forest that was solely fourteen per cent of non-forest land thus received.

- Receipt of non-forest land for undertaking compensative reforestation wasn't maintained by the Ministry and State Governments. The variation in information given was exceedingly large as as 3.5 per cent and 17.3 per cent - between the regional offices of the Ministry and also the State Forest Department.
- In case of non-availability or short-availability of forest land, to be punctually certified by the Chief Secretary, compensative forestation was to be undertaken over the degraded forest doubly to the extent of the forest land changed. It absolutely was ascertained that counteractive afforestation was allowed over a vicinity of 75,905.47 square measure with no certificate of the Chief Secretary, in the majority the states except Delhi, Himachal Pradesh, Meghalaya and Sikkim. Solely in 2 State/ utsviz. Chandigarh and Utrakhand, equivalent or a lot of non-forest land was received.
- Multiple instances of unauthorized renewal of leases, outlawed mining, continuance of mining leases despite adverse comments within the watching reports, comes in operation ignoring environment clearances, unauthorized modification of standing of forest land and irresponsibility in selections of forestry clearances were discovered. In six States wherever data was obtainable, encroachment of 1,55,169.82 square measure of forest land was noticed however moeffailed to take time bound action for eviction despite directions of the Supreme Court.
- Despite such gross non-compliance with statutory conditions and orders of the Supreme Court, no action was initiated by moef.

Fertilizer Use in India

Research by the Wall Street Journal shows that, in an endeavour to enhance food production, win farmer votes and encourage the domestic chemical business, the govt has accrued its grant of carbamide fertiliser over the years, and

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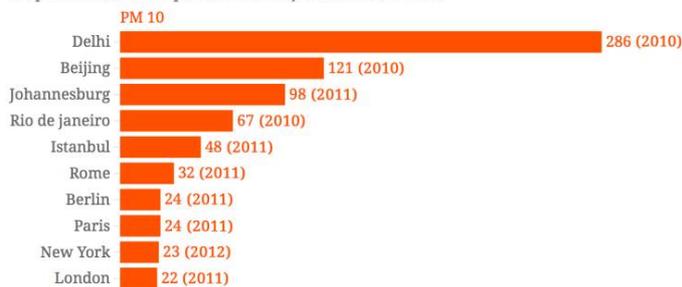
currently pays over 1/2 the domestic industry's price of production. The overuse of carbamide is therefore degrading the soil that yields on some crops square measure falling]. However what's worrying is that the impact it had on farming practices and soil health. The immediate result was an extreme rise in chemical costs, significantly for phosphorous and potassic fertilizers. This instantly resulted in instantaneous reduction of the use of phosphorous and potassic chemical concoction, with increase in carbamide consumption. the final result has been an overall increase in chemical fertiliser costs, with neither the govt benefiting attributable to grant reduction nor the farmer making the most of high costs. Another outcome has been the dangerous amendment in fertiliser concoctions that impacts not just productivity of crops, however conjointly on semi-permanent soil health. whereas rationalizing fertiliser grant across nutrients is also the short and immediate answer to the matter, it's vital to possess domestic production of fertilizers.

B: Water Pollution

The Water (Prevention and Control of Pollution) Act and the Water (Prevention and Control of Pollution) Cess Act was passed in for the charging and collection of a tax on water used for industrial purposes. The Central Pollution Control Board gathers information on twenty eight parameters of water quality, concentrating on: Biochemical Oxygen Demand, Dissolved Oxygen, and Fecal Coliforms.

C: Air pollution

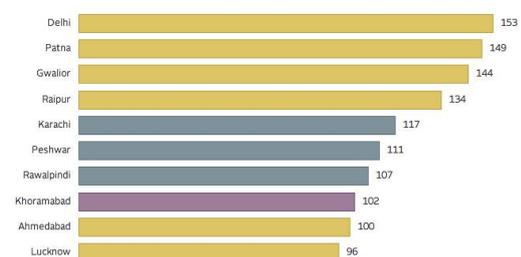
Air pollution level comparison with major cities in the world



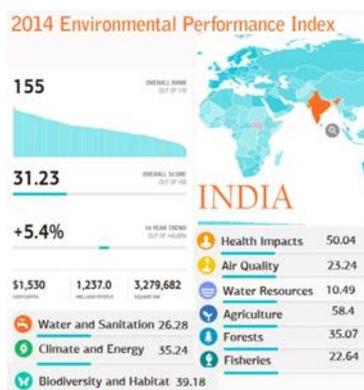
(microgram per cubic metre)
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Data: WHO report (May 2014)

The ten cities worldwide with highest levels of air pollution



Source: World Health Organization



The Air (Prevention and Control of Pollution) Act was passed in 1981 to regulate air pollution and there have been some The Air (Prevention and control of Pollution) Act was passed in 1981 to manage pollution and there are some measurable enhancements. In 2016 Environmental Performance Index graded India 141 out of one hundred eighty countries.

In 2015, Government of India, in conjunction with IIT Kanpur launched the National Air Quality Index

Starting in 1987, India's Central Pollution control board (CPCB) began collecting readings of dioxide (NO₂), pollutant (SO₂), and particulate with diameter smaller than a hundred μm (PM). The information were collected as a section of the National Air Quality program (NAMP), a program established by the CPCB.

Steps to enhance air quality:

1. Higher maintenance of roads, paving of unpaved roads, footpaths or low-elevation concreting of unpaved surfaces on major roads with high traffic. Use of ash bricks might be thought of as associate choice for pavement that will additionally facilitate in utilization of ash.
2. Agencies chargeable for construction & maintenance (should prepare tips for reducing silt load on roads.

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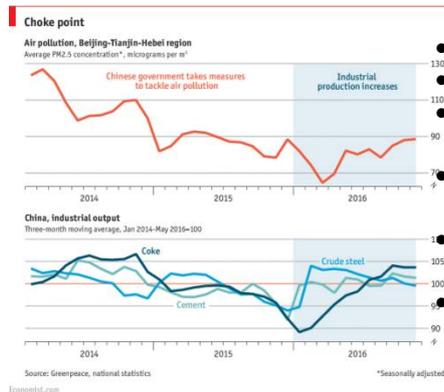
3. Progressive modification of emission rules since 1991 .The implementation roadmap for emission rules for all classes of vehicles within the short and medium run have to be compelled to be ready and needs to be updated on the continual basis.
4. New vehicles to be introduced in future even have to be compliant to the car fuel norms that will dictate making certain nationwide same quality of fuel will improve the conditions of in-use vehicle pollution .
5. Terribly short distance exposure to low grade fuel quality could harm these devices completely and therefore creating newer generation of in-use vehicles not effective or perhaps worse than those of earlier generation vehicles because of the failures of emission controlling devices.
6. Limiting entry of polluting trucks and heavy duty polluting vehicles, and forbidding of old industrial vehicles within the cities. As old vehicles emit increasingly more, a comprehensive vehicle scarp policy has to be evolved. In place of existing PUC theme, obligatory periodical review and maintenance necessities is also needed. Licensed service stations could issue certificates, once completion of servicing of vehicles.
7. Monetary incentives on non-polluting vehicles like electric- hybrid also will increase the penetration of those vehicles publicly as well as in personal vehicles categories.
8. Certain extremely polluting areas (hotspots) are often known as low emission zone and extremely specific norms are applied together with restrictions on certain activities.
9. Garbage/refuse burning ought to be strictly illegal and efforts ought to be created to reduce biomass use for domestic functions.
10. A time-bound action set up for reduction in use of biomass for cookery is also ready.
11. Use of cleaner fuels, stricter emission norms for industries placed in and round the cities.

Possible Solutions to Ease Implementation of Laws

1. With over two hundred Central and State legislations that manage environmental problems, it's necessary to own a comprehensive and an integrated law on environmental protection for essential social control.
2. A positive push from the society as in its entirety is important for effective and sustainable environmental laws.
3. It's necessary to provide additional powers to the Pollution management Boards for them to be ready to enact and enforce laws whereas giving appropriate punishments to violators.
4. Atmosphere Courts with one judge and 2 technical specialists from the sphere of bionomics and Ecology at the State and National levels which will later be extended to district level on need-based principle should be established so as to be efficient and economical and discourage prolonged cases of environmental defaults.
5. The requirement of the hour, however is social awareness. Only voluntary participation of all voters will ensure the success of those laws. In order to coach individuals regarding the environmental problems, there ought to be exhibition of slides within the regional languages at cinema homes and tv free of cost. Further, as directed by the Supreme Court of Republic of India, environment studies shall be created a mandatory subject in school and college.
6. Price effective technologies are essential for sustainable management and reduction of environment degradation. The normal idea that development and ecology are against one another should be inherently disqualified for discussion. The Supreme Court has accepted sustainable development as a part of the laws of the land and has thoroughbred the 'precautionary principle' and also the 'polluter pays principle' are essential options of sustainable development.
7. Finally, it should be understood by each national that participation within the success of those laws is definitely an elementary duty enshrined in Article fifty one A (g) of the Constitution of India.

A: Air Pollution

China's Air Pollution Prevention and Control Law, Action Plan for Air Pollution Prevention and Control, Environmental Protection, Performance Assessment Measures for Air Pollution Prevention and Control Action are some steps taken to tackle air pollution problems.



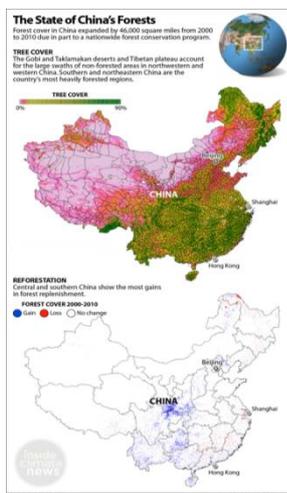
Regional environmental policies:

- Tianjin Programme (adopted in August 2013)
- Action Plan of Beijing City for Clean Air 2013–2017 (in September 2013)
- Implementation Details of Action Plan for Air Pollution Prevention and Control in Hebei Province (adopted in September 2013)
- Action Plan of Shanghai City for Clean Air 2013–2017 (adopted in October 2013)
- The 2014 Action Plan for Air Pollution Prevention and Control in Shan'xi Province (adopted in April 2014)
- Action Plan of Henan Province for the Blue Sky (adopted in May 2014)

National 10 Measures including the following:

1. Increasing work to reduce emission of multi-pollutants.
2. Carrying out industrial upgrade and restructure.
3. Increasing companies' technology upgrading and increasing their technological innovation capacities.
4. Accelerating energy restructuring to increase clean energy supply.
5. Enforcing energy-saving and environmental protection as market entrance requirements.
6. The standards for acceptance of new projects including energy-saving and environmental protection, and concentrating on protection of environmentally vulnerable areas.
7. Improving legal framework, implementation and enforcement.
8. Creating alerting and emergency response systems for air pollution episodes.
9. Delegating responsibilities for environmental protection between the government, private sector and the public.
10. Establishing a regional coordination mechanism to coordinate regional environmental governance.

B: WATER POLLUTION



The World Bank is wary of China's water problem. Half of China's population lacks safe drinking water. Nearly two thirds of China's rural population about half a billion people use water contaminated by human and industrial waste.

Through protection of forests and improvement of agricultural practices in targeted areas in China, the country can enhance water quality. Investment in renewables could lead to improvement in water quality by 10% in China's 30 fastest growing cities would cost about \$300 million each year leading to catchment conservation costs.

Investment in water supply catchments holds great potential benefits for nature as 25% of the total catchment contain 1/5th of China's fish and terrestrial animal diversity.

C: DEFORESTATION

Illegal logging and bad agricultural practices destroy upto 5,000 square kilometers of forest every year. The mountainous regions undergo tremendous deforestation, logging, hunting and obtaining of wildlife for traditional medicines. China is also the world's leading exporters of furniture, plywood and flooring and leading consumer of paper.

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China's program, known as the Natural Forest Conservation Program plays an important role in control of carbon emissions. While China regrows its own forests, the country's forest imports have led to major deforestation in other nations. More than half of the timber shipped anywhere in the world is produced for China (Greenpeace Report).

D: Coastal reclamation.

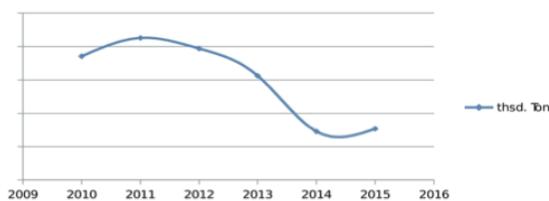
China's marine ecology, including the Yellow Sea and South China Sea, are considered among the most degraded marine areas on earth. Increasing coastal development for agriculture, aquaculture and industrial development are considered the biggest reasons of coastal pollution in the region.

IV. RUSSIA

Russia is a signatory of most major international environmental treaties.

A: Air Pollution

Figure 1. Air pollution trends in Russia: 2010-2015



Source: The Federal State Statistics Service of Russian Federation

Russia's air is still rates among the foremost contaminated in the world. Of the 43.8 million tonnes of pollutants discharged into the open in 1993, about 18,000 industrial enterprises generated a calculable 24.8 million tons. The highest contaminated cities are centers of significant industries (ferrous and nonferrous metallurgy, crude oil processing, chemicals, and pulp production). Not astonishingly, the biggest industrial cities head the list.

Most vehicles in Russia still burn leaded fuel. As Russia adopts the culture of the self-ownership of multiple vehicles, however, it is doubtless that transportation is certain to

increase its share of total emissions.



B: Water

Soviet leaders took very little action to shield t water resources so 75% of Russia's surface water is currently contaminated, a large portion of all water isn't potable consistent with quality standards established in 1992, and an calculable thirty % of groundwater offered to be used is extremely contaminated.

The quality of liquids consumed could be a major concern. Poor water management standards have raised health issues in several cities, and water safety is also uncertain within the rural area, wherever fifty nine percent of the population takes water from common wells stricken by groundwater pollution. Rudimentary transportable filters aren't common or accessible. In recent years, agents have noted that several of Russia's rivers as carriers of

waterborne diseases, epidemics of that were particularly frequent in 1995. In July 1995, Moscow town health officers spotted a scourge of cholera-causing bacterium within the Moscow stream. Administrators have warned of skyrocketing outbreaks of sewage-related diseases-including epidemic cholera, salmonella, infectious disease, dysentery, and infectious agent hepatitis--in several alternative Russian rivers. Voters are advised to boil all water before use. In some areas, clean water is thus scarce that water is foreign from alternative regions.

C: Soil and Forests

Russia devotes approximately ten % of its land to agriculture, however land quality is declining. Within the past twenty-five years, Russia's cultivatable area has diminished by a calculable thirty three million hectares, with a lot of that loss as a result of poor land management. In Russia a calculable seventy four million hectares of agricultural land are contaminated by industrial noxious agents, pesticides, and agricultural chemicals. Substantial land is also lost within the extraction of natural resource. Unauthorized disposal of dangerous industrial, chemical, and house waste takes land out of production. Massive tracts of Russian forest, most notably the locality of Chernobyl, have suffered radioactive

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contamination. Since forests can not be decontaminated, the distribution of radioactive particles within the trees remains constant over long periods of time. Forest management has improved step by step within the post-Soviet era. The Principles of the Forest, national laws that embrace tips for management and protection was instated. Since implementation of those laws has been quite slow, several regional jurisdictions have adopted their own management standards.

Acid rain from industrial centers and from power generation plants has destroyed large forest lands. Removal of enormous sections of these forests would have a forceful impact on the standard of land in Russia and therefore the quality of air over the whole world.

The Response to Environmental Problems

Peoples support for environmental improvement created a democratic and economic reform; by 1992 economic hardship began to will the zeal for reform, and also the overwhelming majority of Russians remained skeptical of political amendment throughout the early Nineties. As worsening economic conditions heightened short-run insecurity, problems like environmental protection paled, particularly in cases wherever the motion of a polluting plant endangered the resource of a city or town.

Possible ways in which to cut back the implementation gap

Reducing the implementation gap, specifically at the sub-national level, is one amongst the key challenges in bettering environmental management and, ultimately, environmental performance in Russia. to deal with this challenge, the Russian authorities might want to contemplate developing a reform package that will embody the stated actions:

- Overcome the declarative character and fragmentation of environmental dogmas. In procedural terms, authorities have to be compelled to increase the transparency, neutral involvement, and responsibility of the political procedures.
- Ensure a prime quality legal framework.
- Improve compliance assurance strategies and use compliance assurance tools a lot of effectively. Voluntary schemes have to be compelled to be promoted whenever doable.
- Fully implement the key principles of environmental ideology and strengthen the institutional framework for environmental management.

Taking account of reform barriers

There are external barriers that would forestall purposeful reforms within the field of environmental policy and regulation in Russia. First, these embrace political constraints, like opposition from powerful line ministries and interpretation of higher regulation as de-regulation, that is powerfully backed by intensive lobbying from business. There are social and collective issues associated with bold environmental regulation and raised resource valuation. Additionally typically, the state still has to build a basic framework of democratic governance: the rule of law; checks and balances between the chief, legislative, and judiciary branches; public scrutiny of state action; substantive autonomy for native government; and an freelance (and inherently active) civil society.

V. BRAZIL

A: NATURAL FOREST LOSS

Brazil's government has pledged to revive twelve million hectares of Amazon forests by 2030, conjointly promising to extend the share of electricity generation upto to twenty. Those skeptical say that zero deforestation ought to be the goal.

In Brazil, the cows and soy are the majority drivers of deforestation, up to ninety % of Amazonian deforestation was classified as banned between 2000 and 2012. a lot of of the criminal activity occurred before 2004. Actions to deal with rampant unlawful conversion were the greatest , foremost and most important drivers of this success.

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B: WATER POLLUTION

Water quality and connected discharges of effluent into stream courses are overseen by the relevant environmental licensing authority for the operation of the activities. However, water amount is controlled by federal or state water agencies through separate water permits.

Permits and laws

The National Policy on Water Resources sets out the below mentioned uses of water resources, that are subject to licensing by public authorities (Article twelve, I, Federal Law No. 9,433/1997):

- Diverting or taking water from a body of water for consumption, allowing for public uses or production processes.
- Taking water from an underground body of water for final consumption or for production processes.
- Disposal of sewerage waste and different liquid or volatilised waste, having been treated or not, into a body of water for dilution, transportation or final disposal.
- Hydroelectric generation.
- Other uses that modify the amount or quality of the water existing in a body of water.

Prohibited activities

The following activities are thought of as breaches of use of surface or underground water resources (Article forty nine, I, Federal Law No. 9,433/1997):

- Extracting or exploiting water for any purpose ignoring the right grant of use rights.
- Beginning readying or deploying an enterprise associated with extracting or exploitation of surface or underground water resources, involving changes to their amount, quality, characteristics or regime ignoring a grant from the competent authorities.
- Using water resources, or other work or services associated with them, violating the conditions of the grant.
- Drilling wells to extract groundwater or using them with no consideration for correct authorisation.
- Fraudulently recording the degree of water used or declaring totally different values measured.
- Violating federal laws, together with directions and procedures established by public authorities.
- Obstructing or preventing the activities of the superior authorities while they're executing their functions.

The defiler, whether or not direct or indirect, is to blame for any environmental injury arising from its activity, together with the duty to clean up or pay compensation for pollution. The extent of compensation varies with the precise harm verified or calculable.

The absence of a water licence permitting interference with watercourses or with underground water is deemed to be a legal breach and customarily may result in fines of between BRL100 and BRL10,000. However, pollution to water resources will be penalised by up to BRL50 million, counting on the extent of the harm.

C: AIR POLLUTION

The release and management of emissions into the atmosphere should be thought-about throughout the environmental licensing of a facility.

Prohibited activities-The use of drugs selected as regulated substances by the Montreal Protocol on Substances that exhaust the ozonosphere are prohibited in systems, equipment, facilities and new product, whether or not domestic or foreign (Article a pair of, CONAMA Resolution No. 267/2000). There are specific state laws that determine particular areas that are thought to possess reached saturated concentration levels of specific air pollutants which therefore can't be additionally exposed to any of those pollutants.

Clean-up/compensation-If an emission is in violation of the terms of an environmental licence, an organization will be assessed or sued to make amends for the damages known.

Penalties-Penalties for environmental crimes embrace imprisonment of 1 to four years, plus fines. Legal penalties embrace fines starting from BRL5,000 to BRL50 million. in an exceedingly worst-case state of affairs, if a plant cannot adapt or modify its instrumentation to go with the law, there are provisions to close up these institutions.

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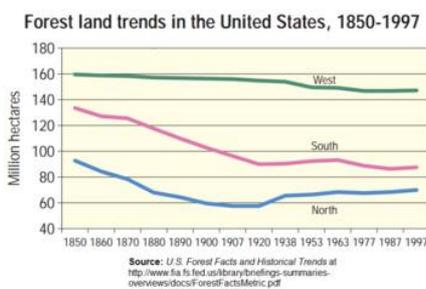
D: THREAT TO SPECIES

A study by the IUCN Red List of species, ninety seven species are known in Brazil with vulnerable standing. a lot of of this increase in Brazil, as well as the countries it precedes, is caused by fast deforestation and industrialisation. ever-changing environmental factors are mostly. Taking into consideration the big effects that deforestation and industrialisation have had, it becomes clear that by increasing regulation and policy these damaging effects are often reversed.

VI. THE UNITED STATES OF AMERICA

United States environmental law concerns legal standards to protect human health and improve the natural environment of the United States.

A: NATURAL FOREST LOSS



The Food and Agriculture Organization Global Forest Resources Assessment graded the US as seventh highest country losing its woods and natural forests.

National Forest Management Act (NFMA):

A federal law put forth by Congress in 1976 as a change to the Resources planning Act. The NFMA needs that wach national forest develop a 10-15 year set up describing how that forest are managed. By law, plans are developed by knowledge base groups and should embody public participation.

Resources planning Act (RPA):

Includes but not limited to 10 year plans that assess and create inventories for the resource needs of the citizens and how such needs are to be met.

Idaho Forest Practices Act:

Enacted by the Idaho state law-makers in 1974, this law needs forest practices that shield soil and water, which guarantee re-afforestation.

Current problems

Deforestation within the United States is especially laid low with wood trade. The US stated as the world's leading producer and buyer of forest goods and accounts for almost quarter of the world's production and consumption. The US is additionally the world's largest producer of softwood and hardwood lumber.

The biggest issue thought to be facing deforestation within the u. s. is prohibited logging in forests though facts prove otherwise from local and forest areas loss annually to harmful fires. over eighty three million acres are lost to inferno from 2005 up to now

Despite the reduction in primary forest areas, America still managed to post a gain in total forest area as a result of the regeneration of previous cut forests and new forest plantations. These forests are typically thought of as ecologically inferior to primary forests for their reduced diversity however currently compose major of American — and world — forests. Overall the US ranks fourth within the world in terms of total forest areas.

Solutions to stop deforestation to allowable extents:

Monitoring wildfires, implementing strict rules and rules against unlawful logging industries, protective and protective natural forests beneath government oversight

In 2008 Congress passed amendments to the Lacey Act, a century-old law that combats trafficking in unlawful plants and animal life, and therefore closed the whole U.S. market to lawlessly sourced wood.

If effectively enforced, the Lacey Act will:

- Reduce unlawful work and its pricey impacts.
- Help make sure that businesses understand wherever their wood is coming from.
- Protect the legal forestry trade within the US.
- Provide economic development opportunities.
- Help promote sustainable management of tropical forests.

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B: WATER POLLUTION **The Clean Water Act**

The Clean Water Act (CWA) is that the primary federal law within the US biological integrity of the nation's waters by preventing specific and nonpoint pollution sources, providing help to general population for innovative treatment works for the development of waste treatment, and maintaining the integrity of wetlands. The Clean Water Act doesn't directly address groundwater contamination. Groundwater protection provisions are enclosed within the Safe water Act, Resource Conservation and Recovery Act, and therefore the Superfund program act.

C: CARBON EMISSIONS

In 2014, greenhouse gas accounted for 80.9% of all U.S. greenhouse emission emissions from human activities.

Final Clean Power plan for Existing Power Plants

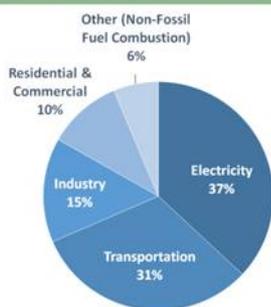
A state-based program beneath CAA Section 111(d) for existing sources with Environmental Protection Agency establishing tips and states then planning programs that slot in those tips to urge the required reductions in greenhouse gas.

- Proposed Federal plan for the Clean Power set up
- A projected federal set up that conjointly is a model rule for those states that are developing their own Clean Power resources that make up state plans.
- Final Carbon Pollution Standards for brand new, changed and reconstructed Power Plants
- The federal program beneath CAA Section 111(b) that establishes standards of performance to deal with CO₂emissions from

new, changed and reconstructed power plants.

Reducing Carbon Dioxide Emissions

U.S. Carbon Dioxide Emissions, By Source



The most effective way to reduce carbon dioxide (CO₂) emissions is to reduce fossil fuel consumption. EPA is taking common sense regulatory actions to reduce greenhouse gas emissions from our nation's largest sources, including power plants and motor vehicles. What are the government's goals?

The U.S. international population policy is to encourage healthy and educated global citizens by supporting fruitful health rights, voluntary birth control, women's rights, developmental policies, and efforts to combat HIV/AIDS. The U.S. doesn't endorse population "stabilization" or "control." The "ideal" family size ought to be determined by the wishes of couples, not governments. The U.S. powerfully opposes directive population programs.

What is the policy?

The US tartly supports the Program of Action of the 1994 International Conference on Population and Development (ICPD) that was negotiated and accepted by 179 governments and set sweeping goals linking world health, human rights, and development. A key principle of the ICPD is that couples and singles have the freedom to come to a decision freely and responsibly the quantity, spacing and temporal arrangement of their kids and also the right to possess the data, education, and facilities to take action on this matter. Fruitful health care programs mustn't embody any kind of coercion.

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AIR POLLUTION		
Country	Impact	Present Regulations
Brazil	<p>Atmospheric concentrations of acetaldehyde, ethanol and nitrogen oxides are greater in Brazil than most other areas of the world due to their emissions being higher in vehicles using ethanol fuels.</p> <p>The larger urban areas suffer from substantial ozone issues, to photochemical air pollution and ozone formation.</p> <p>Based on annual air pollution data gathered between the years of 1998 and 2005, 5% of total annual deaths in the age groups of children age five and younger and adults age 65 and older were attributed to air pollution. Rio de Janeiro and São Paulo were ranked the 12th and 17th most polluted cities in an evaluation based on World Bank and United Nations data of emissions and air quality in 18 mega-cities</p>	<p>The use regulated substances by the Montreal Protocol on substances that Deplete the Ozone Layer are prohibited, whether domestic or imported (<i>Article 2, CONAMA Resolution No. 267/2000</i>).</p> <p>National Council on the Environment</p> <p>The National Council of the Amazon</p> <p>Penalties for environmental crimes include imprisonment of one to four years, plus fines. Administrative penalties include fines ranging from BRL5, 000 to BRL50 million.</p>
USA	<p>The American Lung Association's annual "<u>State of the Air</u>" report finds 47 percent of Americans live in counties where levels of either ozone or particulate pollution is extremely unhealthy.</p> <p>The report states that at least 140 million Americans live in areas with unacceptably high levels of ozone.</p> <p>Although it has been controlled to a certain extent particulate pollution also is a problem.</p>	<p>The Clean Air Act in 1970 has reduced air pollutants by more than 41 percent as of 2010, according to the Environmental Protection Agency.</p> <p>Final Clean Power Plan for existing power plants Final Carbon Pollution Standards for New, Modified and Reconstructed Power Plants. The federal program under CAA Section 111(b) is representative of this action.</p>
China	<p>Coal and coal based industries are a very important factor causing air pollution in China.</p> <p>Sulphur dioxide exceeded the Chinese Grade-II standards in 22% of the country's cities.</p> <p>This problem of excessive emissions also resulted in acid rain in 38% of the cities.</p>	<p>China's Air Pollution Prevention and Control Law.</p> <p>Action Plan for Air Pollution Prevention and Control.</p> <p>Environmental Protection Law.</p> <p>Performance Assessment Measures for Air Pollution Prevention and Control Action Plan.</p>
India	<p>The World Health Organization among the worst in the world, is badly impacting the lifespan of most Indian</p> <p>13 of the world's top 20 polluted cities are in India.</p> <p>Air pollution slashes life expectancy by 3.2 years for the 660 million Indians who live in cities, including Delhi according to a report in The Hindustan Times.</p>	<p>The Air (Prevention and Control of Pollution) Act was passed in 1981.</p> <p>Starting in 1987, India's Central Pollution Control Board (CPCB) began taking serious decisions and started generating data in effect of these issues.</p> <p>In 2015, Government of India, together with <u>IIIT Kanpur</u> launched the National Air Quality Index which is also aimed to study the problems and quantify the effects of air pollution.</p>
Russia	<p>By one study, only 15 percent of Russia's urban population breathes clean air.</p> <p>Russia's Hydro meteorological Service, which monitors air quality, reported that 231 out of 292 cities exceeded maximum permissible concentrations for particulate matter, sulfur dioxide, nitrogen oxides, or carbon monoxide.</p> <p>Pollution levels in 86 cities exceeded MPCs by a factor of ten. The most polluted cities are centers of heavy industry including those of ferrous and nonferrous metallurgy, petroleum refining plants and chemical industries.</p>	<p>Russia has signed most major international environmental treaties aimed to curb air pollution.</p> <p>The Montreal Protocol for one, which controls the emissions of substances harmful to the ozone layer has significantly improved the air quality.</p>

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Natural Forest Loss		
Country	Impact	Present Regulations
Brazil	Cattle and soy cause up to 90 percent of Amazonian deforestation was categorized as illegal between 2000 and 2012. Much of the illegal activity occurred before 2004.	Since 2005, the country has reduced its carbon emissions by 41 percent and achieved an 85 percent reduction in deforestation-related emissions between 2005 and 2012. Restoration of 12 million hectares (more than 46,000 square miles) of forest by 2030 Aiming to increase renewable energy in its electricity generation mix to 20% during the same time frame.
Much of the illegal activity occurred before 2004.	The 2005 <u>Food and Agriculture Organization</u> (FAO) Global Forest Resources Assessment ranked the United States as seventh highest country in Forest Loss.	National Forest Management Act (NFMA) Lacey Act Resources Planning Act (RPA) also Idaho Forest Practices Act
Restoration of 12 million hectares (more than 46,000 square miles) of forest by 2030	Bad agricultural practices and logging consume up to 5,000 square kilometers of forest per year. In the north and central China deforestation has halved the natural cover in the past decade. The mountainous regions in southwest have occurred serious deforestation, logging, hunting and collection of plants and animals for traditional medicines.	Natural Forest Conservation Program enacted in 2000 to reduce soil erosion after floods devastated southern China. This helps China in carbon control regulations also.
Aiming to increase renewable energy in its electricity generation mix to 20% during the same time frame.	Over the last 30 years, land lost amount to 15,000 sq km to agriculture and 14,000 sq km to industrial projects.	The Forest (Conservation) Act, 1980 came in to force with effect from October 25, 1980. "Compensatory Afforestation Management and Planning Authority (CAMPA)" is being constituted at the national level
USA	In the last two decades, Russia's fertile land area has decreased by approximately 33 million hectares caused due to poor land management. Estimated 74 million hectares of agricultural land have been contaminated by toxins, pesticides, and agro chemicals. A lot of land also is lost in extracting minerals and dumping of hazardous wastes.	International Tropical Timber Agreement (1983) Russia's parliament passed the Principles of the Forest. A law that include guidelines for management and protection. Many regional law makers have adopted their own management standards to cope with these issues.

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WATER POLLUTION		
Country	Impact	Present Regulations
Brazil	<p>Industries and factories continue to be an important factor causing environmental degradation in Brazil. According to the World Bank report, studies found that industrial effluents, including heavy metals, in water resources in several metropolitan areas. Potentially harmful wastewater and industrial effluents are discharged into water bodies without initial treatment. In Sao Paulo and Recife, this dumping of sewage has made surrounding resources unpotable, thereby forcing the cities to get their water from basins or from wells far from the cities. The expected growth of industrial complexes is bound to result in long-term environmental problems, such as resource pollution and the unfair fight for water.</p>	<p>The National Policy on Water Resources sets out various standards for use of water resources, which are subject to licensing by public authorities</p> <p>The polluter, in any and all cases, is responsible for any environmental damage arising from its activity, including the obligation to decontaminate or pay compensation for water pollution. The extent of compensation varies with the specific damage verified or estimated.</p>
USA	<p>The severity of the problem of water pollution can be assessed by studying various incidents that have caused it such as: Buffalo Creek flood, camp Lejeune water contamination, cruise ship pollution in the United States, Hinkley groundwater contamination, Kingston Fossil Plant coal fly ash slurry spill, lead contamination in Washington, D.C. drinking water, Martin County coal slurry spill, water contamination in Crestwood, Illinois, 2015 Gold King Mine waste water spill, Groundwater contamination incident in Woburn, Massachusetts.</p>	<p>The Clean Water Act (CWA) is the primary federal law in the United States governing water pollution. It is enforced by the U.S. Environmental Protection Agency (EPA), in coordination with state governments.</p> <p>Groundwater protection regulations are encompassed in the Safe Drinking Water Act, Resource Conservation and Recovery Act, and the Superfund act</p>
China	<p>Water shortages and water pollution in China is such a problem that the World Bank warns of "catastrophic consequences for future generations."</p> <p>50% of China's population has no access to safe drinking water. Nearly two thirds of China's rural population that include more than 500 million people that use water that is unfit for human use.</p>	<p>The Action Plan for Water Pollution Prevention sets important goals over the next five, fifteen, and thirty-five years, and provides a wide-ranging policies that include stricter regulation on industries for discharging harmful effluents. Market-based incentives, investment in innovative water treatment plants, and to promote sustainable and cleaner technologies.</p>
India	<p>The largest source of water pollution in India is untreated sewage. Other sources of pollution include agricultural runoff and unregulated small scale industry. Most rivers, lakes and surface water in India are polluted to a large extent such that use of water without treatment is inadvisable in almost all cases.</p>	<p>The Water (Prevention and Control of Pollution) Act was enacted in 1974 and was amended in 1988.</p> <p>The Water (Prevention and Control of Pollution) Cess Act was enacted in 1977, to provide for the levy, collection of a tax on water consumed by industries and for industrialactivities.</p>
Russia	<p>Due to years of Soviet rule and negligence of this problem, 75% of Russia's surface water is polluted, 50% of all water is unpotable according to quality standards established in 1992, and approximately 30% of groundwater available for use is highly polluted. The most dangerous water pollution situations and lack of availability of clean water are in the industrial regions of Krasnodar and Stavropol' territories north of the Caucasus, Rostov and Novosibirsk oblasts, the Republic of Chechnya, and the city of Moscow. Poor water management standards have raised health concerns in many cities</p>	<p>United Nations Convention on the Law of the Sea (1982)</p> <p>Under the Russian Federation Federal Law Water Code of the Russian Federation- adopted by the State Duma on April 12th, 2006 and approved by the Federation Council on May 26th, 2006.</p>

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VII. CONCLUSION

Country	Possible Solutions to Fix Problems in Implementation of Environmental Laws
USA	Monitoring wildfires. Implementing strict rules and regulations against illegal logging industries Conserving and protecting natural resources under government supervision In 2008 Congress passed amendments to the Lacey Act, a century-old law that combats trafficking in illegal plants and wildlife, and thus closed the entire U.S. market to illegally sourced wood.
China	Strengthening the comprehensive efforts to reduce emission of multi-pollutants. Promoting industrial upgrading and restructuring. Accelerating companies' technology upgrading and increasing their technological innovation capacities. Accelerating energy restructuring to increase clean energy supply. Enforcing energy-saving and environmental protection as market entrance requirements. Imposing strict approval requirements for new investment projects regarding energy-saving and environmental protection, and restricting the investment of industries with high energy consumption and high pollution levels in environmentally vulnerable areas. Improving legal framework, implementation and enforcement. Establishing monitoring, alerting and emergency response systems for air pollution episodes. Defining responsibilities for environmental protection between the government, private sector and the public. Establishing a regional coordination mechanism to coordinate regional environmental governance.
India	Establishment of Environment Courts with one Judge and two technical experts Social awareness and voluntary participation. Cost effective technologies are essential for sustainable control. More powers to the Pollution Control Boards for them to be able to enact and enforce laws. Comprehensive and an integrated law on environmental protection for meaningful enforcement
Russia	Overcome the declarative character and fragmentation of environmental policy making. In procedural terms, authorities need to increase the transparency, stakeholder involvement, and accountability of the policy-making process. Ensure a high quality legal framework. Improve compliance assurance strategies and use compliance assurance tools more effectively. Voluntary schemes need to be promoted whenever possible. Fully implement the key principles of environmental federalism and strengthen the institutional framework for environmental management.

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