

Tree Farming and its Effect

Abstract

In this essay I analyze the timber industry, it's effect on indigenous peoples and the environment. I attempt to dissuade people from supporting the industry because of its effects. I also search for alternatives to wood, such as bamboo and hemp, and advocate for the disuse of wood in modern building and society.

The Problem

What does it mean to be bred, born and raised to do a singular, unpaid, unthanked and often unnoticed task? Slavery. What is a tree then if not a slave; we grow them and thin out the ones that don't grow straight and tall. That's essentially eugenics. Very similar to the cattle or chicken industries, the timber industry should be considered immoral and inhumane. More so, trees do a lot of good for the environment, thus removing them is bad for the environment. This is because trees, like all plants, live by photosynthesising. They absorb the carbon in the atmosphere for this metabolic process, and require water for it. Given only those simple nutrients, they respire and release oxygen into the atmosphere. The carbon is stored in the tree, like a carbon sink. Timber industries are also often claimed to be intrusive on indigenous peoples, who don't enjoy having their native forests invaded. For humanity to stop cutting down trees, at least on the industrial/agricultural level, would be a big step towards a greener

tomorrow. If we realize how little we need wood when given its alternatives, we can achieve a woodless world and conserve our already diminishing forests.

The World's Forests

Five percent of the Earth's forests are tree plantations. That seems like a low figure, but naturally the Earth would be 100% original old growth forestry. However, half of the Earth's original old-growth forests have been destroyed, making the other half much newer. While not bad, having a younger forest simply means the world will have to wait decades for the forest to mature. The twentieth century was the time for logging, and thus when most of the damage to the original old-growth occurred. The remaining old-growth is called frontier forest. Of Earth's forests, only forty percent are frontier forests. Seventy percent of Earth's frontier forests are in Russian, Brazil and Canada. Unfortunately Brazil, Indonesia and Malaysia all have millions of hectares open for tree plantations, with the industry moving into the Mozambique and Mekong regions in Africa(EJOLT Report No. 3 Pg 3).

The Virtue of Biodiversity

Forests cover 27% of the Earth. However, it is estimated that two thirds of wildlife species inhabit those forested areas(Earthwatch). This is because naturally existing forests have a variety of tree species comprising the forest. This in turn attracts a variety of plant species that grow under, on and around the trees. And all of this plant variety encourages numerous species of animals to inhabit the forested area. For example, a tree grows, and moss grows on the tree. Ferns grow under the tree where the tree's roots make the ground damp, among fungus and other small ground plants that grow well under the tree. All of this flora attracts

insects, worms and microorganisms. Insects attract birds, birds attract predators, etc, All species of this ecosystem are greatly benefited by the presence of the tree.

The Importance of Forest to Indigenous People

Many indigenous people in rural areas still rely heavily on forests and thus it is natural for villages to be oriented around forested land. In many countries, using a woodstove for everything (heating, cooking, etc.) is common. The biodiversity of the forest can create game for the indigenous people to survive on. Wood from the forest is likely the only building material many indigenous people would have.

The

Problem with Monocultures

Where many of the world's tree plantations exist were once beautiful old-growth forests that could have been centuries old. Luckily, it is now uncommon for a legitimate timber business to be allowed to remove an existing forest in order to grow a plantation. However, it was common thing to do in the 1800's to 1900's during the height of the American timber industry. The plantation that would replace the old-growth would often be a monoculture- where only one species of organism is cultivated in the area. Monocultures do not create the biodiversity of under-canopy plants and animals that one finds in a natural forest. Therefore, fewer animals live in a forest that is a monoculture. Monocultures also make the forest weaker as a whole. This is because a forest with variable tree species has a greater genepool, and therefore has a potentially higher resistance to disease. For example, a forest that has Firs, Alders, Maples and Ceder is not going to fail as an ecosystem if all of only one species gets a tree disease.

The Problems Native's Face

The timber industry is dominated by American, Chinese and European businesses, but most or all of the plantations are in South America and South-Eastern Asia (EJOLT Report No. 3 Page 3). All of South-Eastern China's natural forest has been replaced with Teak tree plantations.

These industries move in and totally control the area. Native peoples are rightfully cautious of the industry that moves in so close to their home, and many countries often report violent and sexual harassment by the loggers. One Brazilian woman claimed:

"...For us women, eucalyptus plantations have created a situation of fear, violence and sexual harassment" (EJOLT Report No. 3 page 34).

After Michelin (tire company) bulldozed an area inhabited by 20,000 to make rubber plantations, a Nigerian woman reported:

"These people want to plant rubber and starve us to death... Now, the farm is gone and I don't have any source of food and livelihood anymore" (EJOLT Report No. 3 page 34).

Many indigenous people feel threatened by the very existence of the plantations, which often pay for privatized security. Where once they used to be able to hunt and forage, the native peoples are physically barred from entering the forests in many cases.

".....now, when they [the men] go out to hunt, they don't find anything, and when they get home, you can see the sadness in them." (EJOLT Report No. 3 page 34)

The monoculture plantations that replace the original old-growth forests are called "Green Deserts". Not all indigenous beings sit quietly while their home is taken over however. Some baboons that were displaced by plantations in Africa were found to fight back. They did this by destroying the leaves, branches and bark of the alien trees (EJOLT Report No. 3 Page 33).

Western Washington and Weyerhaeuser

One of the world's largest timber companies, Weyerhaeuser owns 64 million acres of forest in America- 1,126,000 acres just in Washington state(Weyerhaeuser). Weyerhaeuser runs business in eighteen countries worldwide, and owns much of the forests in the Mt. Saint Helens area and other areas in western Washington state. Weyerhaeuser trees are likely to be genetically altered so that they'll grow straighter for wood production. (a straighter tree makes for better boards) One who passes a Weyerhaeuser plantation will probably notice the straightness and uniformity of the trees. Uniformity like that never exists in nature. These genetically altered trees are not bad for the environment per se, but like with all gmo's, many believe they cannot be good and should not be used. Weyerhaeuser's current headquarters is in Federal Way, Washington(Weyerhaeuser).

Big Business vs Local Farmers

In Eastern Washington, it's more common to practice "selective harvesting" as opposed to the "clear-cut" method that most large industries would use, such as Weyerhaeuser. To clear-cut is to remove every tree from the area in order to start over from scratch. When using selective harvesting, the farmer surveys their trees and exclusively cuts down a few at a time if they meet the farmers desired traits for cutting. For example, the farmer will cut down the older and more mature trees as opposed to younger ones, thus allowing the younger trees to mature. The benefit of selective harvesting is that trees retain variable age and size, making it closer to natural forestation.

Alternatives to Trees and Wood Products

There are many valid alternatives to wood we don't recognize; wood itself can be reused. The wood from an old building or barn adds a rustic look, and the reuse of wood ("reclaimed wood") is becoming trendy in the modern housing world(WWF). When looking for wood for a bookshelf, one might go to an abandoned house and make it out of the weathered wood found at the old building.

Other Woods

Bamboo is another great alternative to wood. Not all species of bamboo can be used in place of hardwood for floor or whatever its purpose, however hardwoods take forty to fifty years to mature and be used. The right bamboo species only take five to seven years. Bamboo is a grass, which means it has to be compressed into boards. This process isn't far worse than how a lot of wood gets treated, such as plywood. Bamboo is also not carbon neutral like a hardwood tree. Hardwood floors last longer though, up to a hundred years for some hardwoods, compared to a forty to fifty year life of bamboo boards. During the process of making bamboo boards, thirtyfive percent of product can be waste. While there are many ways hardwood still beats bamboo, bamboo is still a valuable alternative to wood. Bamboo is very unused and unregulated by its mostly Chinese producers though. If it can become a better practiced business, bamboo could do a lot of good.

Hemp: Global Super Crop

The average person consumes roughly seven hundred and thirty pounds of paper a year(Hemphesis). And unlike paper made from trees, hemp paper can be bleached using hydrogen peroxide, a much greener route. Hemp absorbs four times the amount of carbon dioxide than trees do, and takes only four months to grow and mature. Hemp can be made into

other things as well. Canvas is Dutch, for Cannabis, because most textiles were made of hemp before the invention of the cotton gin. Hemp can also be grown to create oils used in fuels, or to be made into plastic. Therefore, an entire car can be made out of hemp. In fact, Henry Ford grew hemp and made a hemp car in 1941, Popular Mechanics published that Ford's car had a much higher impact rate than a car made of steel at the time, at only two thirds the weight(Hemphasis). Only six hundred-thousand acres of hemp exist in the world(Legally). Hemp is the top biomass producer in the world(It grows so much, so fast, with so little effort).

Miraclecrete

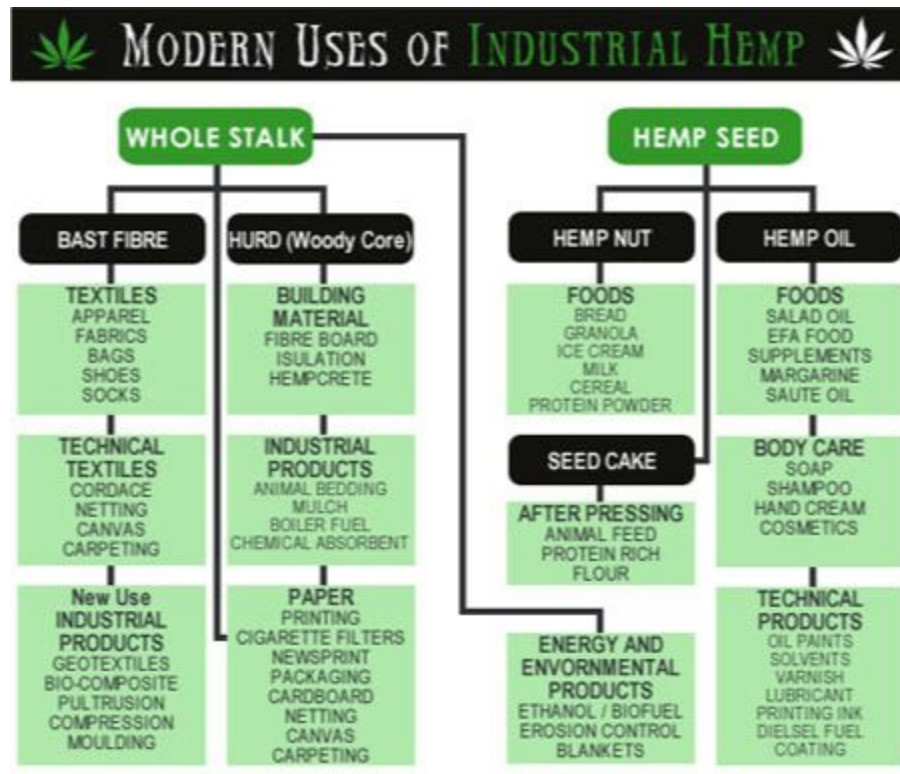
Anything made of solely hemp products are fully biodegradable. A bridge in France was found to have a brick of "hempcrete", a concrete made by binding limestone to hemp. Unfortunately, hempcrete is only one twentieth the strength of concrete, but it is also eight times lighter and can float on water(American Lime Technology 2012). The carbon dioxide that was absorbed by the hemp crop while it was growing is still store in the hempcrete. Hempcrete structures need a vertical structure for support between layers of hempcrete, but hempcrete is a very good insulator when compared to mainstream insulators such as fiberglass, and greener.

The History of Hemp

While hemp is seemingly perfect, it's not widespread. In fact, it is illegal to grow anywhere in the United States of America. This is because hemp is the male part of the cannabis species, a longstanding enemy of America's war of uprightness. Even while marijuana is becoming more and more legalized in the United States, all American hemp is shipped over from the United Kingdom and other European hemp producers. Hemp is illegal, even though it has none of the psychoactive powers marijuana has. Were one to smoke hemp, no drug effect

would happen. So why is hemp illegal? Hemp was criminalized in 1970, during the height of the war on drugs. However, hemp is one of the oldest domesticated plants and has been in use for thousands of years. It was the Spanish that introduced hemp to the western hemisphere, and colonial Americans considered it a cash crop. In Virginia, an act was passed stating that all farmers must grow hemp, as it was the most common rope-building material at the time, and was also used in most non-clothing fabric worldwide. Many founding fathers, such as George Washington, Benjamin Franklin and Thomas Jefferson all grew hemp and advocated its growth for America's economic growth(Hemphasis). Hemp began to be frowned upon in America during the 1930's when the American public became aware of marijuana and it's "dangers to society." This resulted on a tax being put on all sales of cannabis products. The act was likely the will of extremely wealthy industrialist, William Randolph Hearst. Hearst had a lot of money in the timber business, and also pioneered America's printed news industry, therefore wanting to maintain his investments by ensuring the industries he worked in survive. In World War II however, America had to make the most of their limited and expensive resources. Therefore, soldiers' uniforms, rope and other materials were all made of hemp grown in America. Hemp pre-Hearst was believed to be the thing to totally replace the timber and cotton industries. Russia was the world's largest commercial hemp producer during the height of communism. Commercial hemp production stopped more or less when the U.S.S.R disbanded, but two and a

half million acres of hemp still grow wild in Russia. France is currently the world's greatest



producer of hemp.

Without Wood

One of the easiest alternatives to wood is to live paperlessly. Paper is everywhere, yes, but do we need it? For paperwork, one can often submit digitally, such as with email. With modern technology, the transition to paperlessness would be almost unnoticed.

In regards to building without wood, that too is simple. We've had concrete and fiberglass and metal beams for quite a while. It is more expensive to build out of everything but wood, but one would have the benefit of their building being more resistant to wear. Wood deteriorates when exposed to air and water, whereas most other building materials will last much longer (EPS Solutions 2016). It is also harder to clean dirt off of a wood surface than a vinyl surface or other surfaces. A wooden wall is easier to break than a cement wall, and wood burns

better than most other building materials. The only real downside to building without wood is the cost. But were the cost of wood to actually represent the significance and value of a tree, it'd likely be much higher.

One new innovation allows for us to make plywood out of recycled newspaper, leaves and cardboard. This new plywood was created by two Malaysian teens, and is weatherproof and pest resistant(Society for Science & the Public 2015). Floors can be made out of corkboard, and cabinets made out of bamboo, with insulation made from hempcrete. All of those materials are essentially woods but with no ill-effect to the environment. How small of a change would that be? To live in a house that uses three or four good materials instead of just wood, but otherwise living the same in the same house. Just without wood.

Supporting the Timber Industry

The timber industry has been under scrutiny since the 1970's, but it is a business that's been generating revenue and building the American economy for centuries. And while a natural forest may have biodiversity, plantations still act as very effective carbon sinks. Even though the trees are cut down and killed, they still retain the carbon the tree absorbed while it was growing. This is called sequestration(WFPA). Sequestration in this sense means the action of taking something into your possession(Trees take carbon from the atmosphere into their possession). Besides creating money, the timber industry creates jobs too. While the treatment of workers in other countries may not be up to code, there are still many jobs through the timber industry that exist for Americans in need.

Rebuttal of Timber Industry

While the timber industry does create jobs, and tree farming really isn't that bad for the planet, in the end it's better to not do. A natural area of forestation is always better than a plantation for its biodiversity and wildlife population.

Conclusion

Ultimately, only we can save the planet. And a major step is to protect, preserve and create areas of natural, old-growth forestation. Because of the benefit of natural forestation as opposed to plantation forestation, we should retire the business of industrial tree farming. Because of the existence of alternatives to wood like hemp and bamboo, we can live without an industrial timber business. In the end, we must ask ourselves, "Why continue the timber industry?" If the answer is pertaining to the capital created by the timber industry, the world may suffer. It is also easier to leave an existing forest as it is than to remove the native trees in favor of your own.

Application

Anyone can take action against the timber industry; stop buying wood products. Support the hemp and bamboo industries by buying their products and working politically towards legal hemp in the United States of America. It wouldn't be easy or cheap to live in a woodless building, but outside of that, it's very easy for the everyman to take action towards saving our forests. We just all have to work towards it.

Bibliography

- American Lime Technology. (2012) *What is Hempcrete?* Retrieved from <http://www.americanlimetechnology.com/what-is-hempcrete/>
- Briggs, Jeremy. (1998) *Hemphasis*. Retrieved from http://www.hemphasis.net/Paper/paper_files/hempvtree.htm
- EPS Solutions. (2015) *Product Comparison*. Retrieved from <http://epsplasticsolutions.com/the-plastic-advntage/epss-product-comparison.html>
- Gerber, Julien-Francois. Kroger, Markus. Overbeek, Winfridus. (June, 2012) *Ejolt Report No. 3: An Overview of industrial tree plantations in the global South*. Retrieved from <http://www.ejolt.org/wordpress/wp-content/uploads/2012/06/EJOLT-Report-3-low1.pdf>
- Schwartz, Jill. (January 13, 2015) *Alternatives to Wood*. Retrieved from <http://www.worldwildlife.org/stories/alternatives-to-wood>
- Society for Science & the Public. (2016) *Better than Plywood*. Retrieved from <https://student.societyforscience.org/article/better-plywood>
- United Nations System-Wide Earthwatch. *Forest Loss*. Retrieved from <https://web.archive.org/web/20100106001800/http://earthwatch.unep.net/emergingissues/forests/forestloss.php>
- Washington Forest Protection Association. *The Art and Science of Timber Harvesting*. Retrieved from <http://www.wfpa.org/sustainable-forestry/renewable-resource/timber-harvest/>
- Weyerhaeuser. *Weyerhaeuser In Brief*. Retrieved from <http://web.archive.org/web/20061109055241/http://www.weyerhaeuser.com/aboutus/facts/WeyerhaeuserInBrief.pdf>