

## **Climate Change, Deforestation, Industrial and Animal Agriculture**

Fossil fuels and transportation seem to take the forefront in most of the discussions and government initiatives regarding climate change, while two massive contributors, deforestation and industrialized farming seem to be so often sidelined or left unmentioned.

Even in our Province, which has a substantial Climate Action Plan, these two contributors do not seem to be receiving their corresponding share of attention.

First lets look at deforestation. Since forests act as carbon sinks, not only do they help to offset the effects of global warming, but when they are destroyed or over-harvested, they become sources of carbon dioxide. After the burning of fossil fuels, clearing and burning of forests is the second greatest cause of global greenhouse gas emissions worldwide, accounting for up to 20% or even more. Forest destruction sends more heat-trapping carbon dioxide into the atmosphere than all the world's planes, trains, trucks and automobiles. According to The Independent's author, Daniel Howden, in the next 24 hours, deforestation will release as much CO<sub>2</sub> into the atmosphere as 8 million people flying from London to New York.

Temperate rainforests can hold 600 to 11,300 tonnes of carbon per hectare. The total carbon stored in this ecosystem alone amounts to 88 times Canada's annual greenhouse gas emissions – the equivalent of the annual electricity use of 8.5 billion households, or keeping 14 billion cars off the road for one year.

Though deforestation rates are much higher in tropical rainforests, we could certainly do our best to help offset this destruction. For the past 60 years of B.C. history, increases in logging have been associated with fish-habitat destruction, landslides, erosion, flooding, drying of streambeds, and the ruination of drinking-water sources, whereas one of the key elements in mitigation and adaptation to climate change is protecting significant existing ecosystems that have immense stores of carbon. We need a good – no make that great – overall planning strategy for our forests.

And, as the Sierra Club recommended back in 1980, "The United States and Canada should develop stronger policies and undertake timely actions sufficient to assist nations with tropical forests in the environmentally sound management and conservation of this resource".

U.N. specialists estimate 60 acres of tropical trees are demolished every single minute. At this rate nearly all tropical rainforests could be destroyed by 2050. At last December's climate conference in Bali, more than 300 scientists, conservation groups, and others declared, "If we lose forests, we lose the fight against climate change!"

Now, let's look at industrial agriculture, which is the third largest emitter of green house gas emissions, rated at contributing approximately 18% or more worldwide and 10% of Canada's GHGs. The negative effects of industrialize farming come from both crops and animals, and even under the best farming practices animal agriculture is still a significant contributor.

Industrial agriculture utilizes large inputs of fertilisers, herbicides and pesticides, that depend on large scale irrigation, and that consume large quantities of fuel both in growing and delivering the food. It has been estimated that to produce a tonne of cereals or vegetables by means of modern agriculture requires 6 to 10 times more energy than by using sustainable agricultural methods. Overuse of fertilisers also renders the soil less fertile in the long run.

In addition, the expansion of rice paddies has also seriously increased methane emissions because rice grows mostly in flooded fields, where bacteria in waterlogged soil releases methane. Rice cultivation has developed into a large business and its farmland has doubled in the past 45 years.

As for animal agriculture, according to the UN, it emits more greenhouse gases than cars and SUVs and uses 30% of the world's land surface. Meat production requires, on average, 10-20 times more energy per edible tonne than grain production. It is also heavily linked to deforestation. Cattle ranching is the leading cause of tropical deforestation in Central America and the Amazon.

Here are some other related facts:

- World livestock is the #1 cause of soil erosion.
- 40,000 pounds of potatoes can be produced on an acre of prime land, whereas only 250 pounds of beef can be produced on that same acre.
- Depending on the animal (chicken, pork, beef) it takes 2 to 10 kg of grain to produce one kg of meat.
- 100 million people could be fed with a 10% decrease in North American meat consumption.
- Livestock production is a huge consumer of water and is the largest polluter of water in North America.
- According to Environment Canada, about 40 kg of manure are produced for each kilogram of edible beef.

Livestock such as cows, sheep, and goats release methane during the cattle's digestive process and also via their manure. Methane is about 25 times more potent as a greenhouse gas than CO<sub>2</sub>.

So, what this all comes down to is that *what you eat matters more than what you drive*.

As for our Province, instead of promoting local farming, the government contributed to its demise with its 2007 legislation to stop local slaughter. This also added to the unfortunate animals' trauma by forcing them to be transported long distances before being killed.

What can you do to help on both fronts? Be frugal in your use of paper, support rainforest initiatives such as Conservation International, lobby our governments, cut down or eliminate your intake of meat, and buy food locally as much as possible.

Kelsey Mech, September 2008