

Let's put the industrial revolutions and the agriculture topics in dialogue with each other. Although one was about the development of the factory system of production and the other about changes in our farming practices, there are a host of common features that prevailed in both of these momentous changes in our economy and, thus, the ways we interact with our environment and the ways we relate with each other

What are some of these common features?

Common Features

- Mechanization of production
- Technologies and new inputs □ environmental pollution
- Increased production driving consumption of goods
- Fossil fuels as basis of production and thus profits
- Changes in social relations (class structure)
 - new inequalities
 - workers in pollution zones (sacrifice zones)
 - environmental injustices

Industrialization of agriculture □ wage laborers for factory system

War, Empire and Environment

War, Empire, and Environment

Why war?

United States as Imperial Power

- control over labor and resources

- Tropical agricultural companies and mining

- Environmental and social impacts

- role of US military: invasions and occupations

War and environmental destruction

Environmental warfare

- Examples from 1930s China

War and new machines/technology (industrial revolutions)

- Examples of mass environmental destruction

War technology and other economic activities

- Examples

US Dept of Defense and climate change

Vietnam war and environment



Scotia Sea

South
Atlantic

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How and why has warfare become more destructive of humans and environments?

- War as control over livelihoods, of means of subsistence
- Industrial revolution □ machinery and chemicals that could be used in war, designed for war
- War as state of exception, immense destruction possible
- Examples of industrialization of warfare





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Examples of war technology and research being recycled for other economic activities

- Pesticides and fertilizers
- Dynamite
- Sonar and GPS
- bulldozers



GYPSY MOTH PROGRAM
AIRPLANE SPRAYING WITH D.D.T. SOLUTION

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

PENNSYLVANIA DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
NORTHEASTERN PENNSYLVANIA
ESTABLISHED 1949

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The United States, Agent Orange, Napalm, and the Vietnam War

1959-1975

Vietnamese and national Liberation

US, anti-communism and the Cold War

US invasion and bombing

<https://www.nytimes.com/video/us/10000002872288/agent-orange.html>

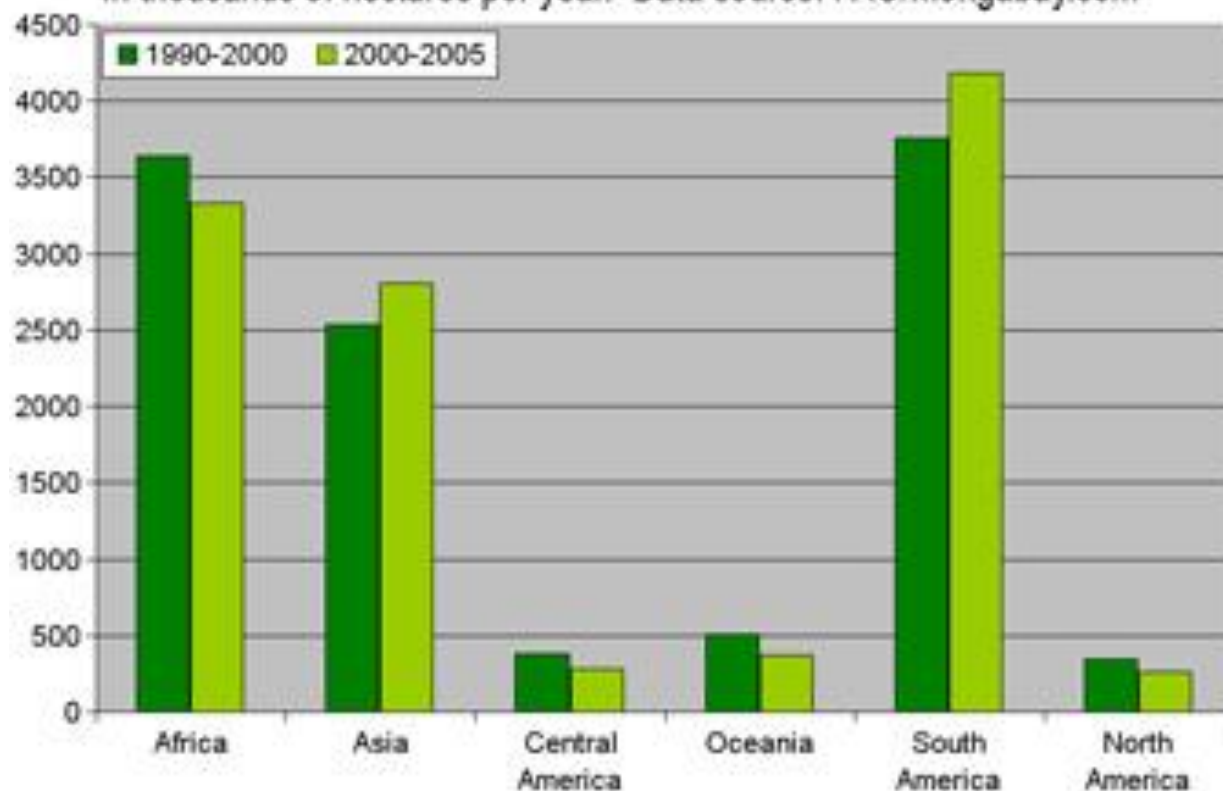
1. Air Pollution
2. Water Pollution
3. Deforestation
4. Soil depletion and contamination
5. 6th Extinction
6. Environmental Injustice

All these environmental problems are aggravated by climate change



TROPICAL DEFORESTATION BY REGION, 1990-2000 & 2000-2005

In thousands of hectares per year. Data source: FAO/mongabay.com



World Forest Cover, 1990-2010

Region	Total Forest Cover		
	1990	2000	2010
	Million Hectares		
Africa	749	709	674
Asia	576	570	593
Europe	989	998	1,005
North and Central America	708	705	705
Oceania	199	198	191
South America	946	904	864
World	4,168	4,085	4,033

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization, **Forest Resources Assessment 2010: Global Tables** (Rome, 2010), www.fao.org/forestry/fra/fra2010/en/.



1kg beef
needs :

121,8 m² arable
land

1500 litres
water

7 litres
petrol

This is equivalent to :

160 kg potatoes



1 year's daily
shower



Cows emit 80 times the greenhouse gases for the equivalent of 1kg of wheat.





2050

IS THE YEAR EXPERTS SAY WORLD FISHERIES EXPECT TO COLLAPSE



\$50B

1/5 OF FISH ARE CAUGHT ILLEGALLY RAKING IN AN EST. \$50B A YEAR



80%

THE WORLD'S FISH STOCKS ARE ALREADY FULLY EXPLOITED



90%

OF PREDATORY FISH: TUNA, SHARKS, SWORDFISH, COD & HALIBUT ARE GONE!



300,000

WHALES AND DOLPHINS ARE KILLED EACH YEAR VIA BY-CATCH



8M SQUARE MILES

THE GREAT PACIFIC GARBAGE PATCH IS 2X LARGER THAN THE UNITED STATES!

In your estimation, what is the most threatening environmental problem humanity faces today (apart from climate change)

- A. The 6th extinction
- B. Soil loss and pollution
- C. Environmental Injustice
- D. Deforestation
- E. Water and/or air pollution

Global Environmental Problems
Climate Change

Others?