

Guns and Global Warming: War, Peace and the Environment

Web version of a presentation given by Dr Stuart Parkinson, SGR, at the Network for Peace AGM, London, 10 February 2007

Main themes

- Two key environmental dimensions of war:
 - Conflict over environmental resources
 - Conflict causes environmental impacts
- The two can combine and cause a cyclical effect - conflict causing environmental impacts can damage the resource base and lead to further conflict

Conflict over environmental resources

- Roots of conflict often include environmental factors (although these often combine with other factors such as race, religion, ideology, poverty, population growth)
- Environmental factors can be basic resources (generally scarce locally):
 - Water - eg Israel, Jordan, Syria in 1950s/60s, also in Africa
 - Fertile land (including farmland and forests) - numerous recent cases, especially internally in countries in South America, SE Asia, Africa
- Environmental factors can be resources for industrial society (generally scarce globally, and thus have a high monetary value):
 - Fossil fuels, especially oil
 - Middle East - Gulf war (1991; Kuwait has 4th largest oil reserves) and Iraq war (2003 until present; Iraq has 2nd largest oil reserves) - although Western governments deny that oil was a factor, many commentators have argued this was important
 - civil war in Sudan (not Darfur) (~1983-2005)

- uprisings and eventual independence of East Timor from Indonesia (mainly 1990s up to 2002)
- unrest over many years in Nigeria
- Metal ores & other minerals
 - copper, zinc, diamonds (and others) - civil war in Democratic Republic of Congo (~1998-2003) - 7 other countries became involved in conflict (Rwanda, Uganda, Burundi, Angola, Chad, Namibia, Zimbabwe) - estimated 3.8 million people died
 - diamonds, gold - civil war in Sierra Leone (~1991-2002)

References: SBS (2004); Nur (2006); Gleick (2006); Wikipedia (2007a)

Case study: Oil and future potential for conflict

- Annual discovery of new oil reserves peaked in 1960s. The Association for Study of Peak Oil & Gas (ASPO) argues that the peak of annual production will occur within the next few years (or has possibly just occurred), with global demand outstripping production soon after. Prices are likely to quickly rise, and the current price shocks are argued to be an early indication of that. (The oil industry argues that the oil peak is still decades away but there is growing scepticism of their figures).
- Remaining global oil reserves concentrated in small areas - eg Middle East states hold ~65% of reserves - and there is growing concern that they have exaggerated the size of their reserves.
- Domestic consumption outstripping domestic production in major countries
- Projected growth in consumption is huge

Country	Actual Production 2004	Actual Consumption 2004	% import 2004	Projected Consumption 2025 (baseline)	% increase from 2004
USA	3,200	7,600	58%	9,500	25%

China	1,300	2,300	43%	4,800	109%
India	300	900	67%	1,500	67%
World	30,300	30,100	-	40,500	35%

Table: Oil production and consumption figures - selected

NB Production and consumption figures in million barrels

- With the oil supply concentrated in a politically unstable region of the world and the possibility of demand exceeding supply in the near future - economic problems are likely, increasing the possibility of conflict.
- We urgently need to move away from our high dependence on oil - even George W. Bush has acknowledged the need to break "the oil addiction" in his 2006 and 2007 State of the Union addresses

References: Energy Information Administration (2006); ASPO (2006); Nur (2006); Wikipedia (2007b); The White House (2007)

Conflict causes environmental impacts

- Environmental impacts of war are frequently under-reported - can have major knock effects on human population
- War can jeopardise, for example:
 - water supplies - damage to clean water and sanitation infrastructure can lead to water shortages and spread of disease
 - food supplies - agriculture can be curtailed through unexploded ordnance (UXO), eg landmines; soil pollution from ordnance; and food distribution networks can be disrupted - all can contribute to food shortages and famine
 - air quality - fires resulting from conflict can pollute air
- Military forces often target infrastructure to intentionally create the problems above
- War also causes major damage and destruction of wildlife and whole ecosystems
- Can also contribute to climate change through accelerated burning of fossil fuels by military forces

Reference: Majeed (2004)

Case study: regional environmental impacts of 1991 Gulf war

- Detailed assessments carried out by UNEP (other more recent conflicts still to be assessed in detail)
- Damage to infrastructure allowed disease and ill-health to spread - tens of thousands of Iraqis died of the health effects of the war
- Damage to water purification facilities (and related electricity supplies) caused major shortages of clean water
- Chemical/ biological/ nuclear weapons plants bombed - toxic/ radioactive releases may be a cause of Gulf War syndrome
- Damage to sewerage plants caused serious pollution
- Oil well fires - more than 600 wells set ablaze, some burning for 9 months - smoke blocked sun - temperature fell by 10C; approx 1000 people died due to acrid smoke; 300 million tonnes CO₂ released contributing to climate change
- Oil polluted groundwater - 60 million barrels leaked into ground poisoning 40% of groundwater (Kuwait has less water per head than any other country)
- Oil spills into sea - at least 6 million barrels of oil leaked into sea causing largest ever oil slick - devastated local bird, mammal, fish populations - prawn fisheries decimated
- Landmines and other UXO, eg cluster bombs - 1.6 million landmines laid by Iraqi forces in Kuwait; approx 5% of bombs do not explode on impact (higher % in desert) - many people killed/ injuries
- Depleted Uranium (DU) - super-dense metal used in armour piercing weapons - approx 290 tonnes spread across Gulf - source of low-level radioactivity and toxicity
- Damage to desert ecology - obvious bomb damage, but also movements of armoured vehicles broke up fragile soil surface - approx 50% of Kuwait's land area damaged

References: UNEP (2003); Additional info from: New Scientist (2003); Friends of the Earth (2003); Medact (2002)

Case study: the military contribution to climate change

- Oil consumption by military forces
 - USA - 133 million barrels in 2005
 - 2% of total USA oil consumption
 - similar to Sweden's total consumption
 - only 2 out of 56 African countries consume more oil than US military
 - true figure could be as much as double due to accounting errors overseas
 - UK - 7 million barrels in 2004
 - 1% of total UK oil consumption
 - similar to Namibia's total consumption
- Emissions of CO2 from military forces
 - USA - ~60Mt in 2005
 - 1% of total USA emissions
 - similar to Finland's total emissions
 - UK - ~5Mt in 2005
 - 1% of total UK emissions
 - similar to Senegal's total emissions
- Large military forces are making a significant contribution to the depletion of oil resources and to climate change - both are likely to increase the risk of conflict which military forces are claimed to be there to prevent!
- Climate change could increase the risk of conflict, especially in developing countries:
 - Water shortages will increase with rising temperatures (and with population increases) - number of people living in "water-stressed" areas expected to rise from 1.7 billion in 2000 to 5 billion in 2025
 - Sea-level rise and increased storminess will increase risk of flood damage, especially to heavily populated coastal areas - tens of millions more people are likely to be affected by 2080s
 - Disruption to agriculture is likely
 - Together these factors could lead to a large increase in numbers of "environmental refugees"

References: Military consumption/ CO2 emissions figures estimated by SGR based data from DESC (2006) & MoD (2006). Additional info from: IPCC (2001), Karbuz (2006), UNEP (2007)

Key changes needed

- Urgent need to reduce consumption of fossil fuels, especially oil, through:
 - lifestyle change - eg greater use of public transport, using smaller cars, car-sharing, holidaying closer to home
 - energy efficiency technologies - eg more fuel-efficient vehicles, better home insulation
 - renewable energy technologies - wind, solar, biomass, water (hydro, wave, tidal), geothermal
 - government policies and measures to support these changes, eg eco-taxes, carbon trading, regulation, R&D support
 - strengthening of the UN Framework Convention on Climate Change, especially binding targets on the biggest emitters (the largest being the USA) based on "Contraction and Convergence" principles
- Urgent need to stem the global flow of weapons, especially small arms in poorer countries whose environmental resources are under stress and conflict may occur
 - need strengthening of UN programme of action on eradicating illegal small arms
 - need countries to agree a UN arms trade treaty
 - USA, which has highest levels of small arms in private hands and is world's largest arms exporter, is resisting these efforts
- Urgent need to support post-conflict reconstruction and conflict prevention activities
 - Only receives a small amount of funding
- In 2005, the world spent over \$1.1 trillion (\$1,100,000,000,000) on its military forces - continuing a rising trend. Diverting at least some of this spending could help achieve the aims above, reducing the likelihood of conflict.
- Reducing dependence on military forces as a way of dealing with international problems will also help reduce their carbon emissions!
- The power of corporations, especially military corporations, with their ability to lobby for favourable policies needs to be curbed.

References: United Nations (2006, 2007); Control Arms Campaign (2007); SIPRI (2006)

For campaigners

- it is key to work closely across the different issues. Environment and development campaigners are starting to work together on issues such as climate change – more alliances are needed between peace campaigners and environment and development groups

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(NB all URLs correct as of 10/02/07)

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