CLIMATE CHANGE:

A CLIMATE FOR PEACE OR FOR CONFLICT?

A discussion paper for the International Peace Bureau

By David Hay-Edie

Introduction

This paper looks at how military establishments are using the challenges of climate change to adapt their security strategies and institute new spending programmes. Often, as few offsetting reductions are made elsewhere in military budgets, overall military spending increases. Meanwhile, significant disarmament is stalled. The paper seeks to help make peace campaigners aware of this new dimension to militarism. It tackles in turn:

THE PROBLEMS

- It considers the environmental challenges themselves.

THE RESPONSES

- It shows how the military co-opt these challenges to bolster their political support.
- It outlines the non-military, human security, approaches which civil society (including environmental and peace campaigns), governments, and business are taking.

THE CONCLUSION

- In summary, the paper aims to contribute to meeting climate change in a non-military, peaceful, and sustainable way – to secure a "Climate for Peace".

THE PROBLEMS : (A) Global Warming

The whole world is affected by rapid climate change. No country is immune from the rapid warming of the earth's atmospheric temperature and the consequences of this.

The main cause of global warming and correlated climate change is the uncontrolled rise in greenhouse gases (GHG) caused by carbon dioxide (CO2) emissions from the ever increasing burning of fossil fuels (oil, coal, gas, wood) for industrial, transportation, agricultural and domestic heating purposes. This is compounded by deforestation, which at current unsustainable rates also contributes to global warming by diminishing trees' beneficial role as a "carbon sink" for the earth(s atmosphere.

The latest data show that CO2 levels are now higher than for at least 650,000 years. The current temperature is 0.76C higher than in 1875, and probably higher than at any time in the last 1,300 years. (1) Future scenarios project GHG increases of between 25% and 90% between 2000 and 2030,

with our current pattern taking us towards the upper end of the range. The predicted temperature in 2100 will be between 1.1C and 6.4C higher than in 1990. (2)

The main damaging effects of global warming are more frequent and widespread droughts; rising sea levels – the sea level has risen by 17cm over the 20th century; "extreme weather events" such as floods and hurricanes; and sharpened competition for scarcer water, food, and land. Earthquakes may also be partly triggered by global warming.

All these effects are accompanied by sharpened competition for mineral resources including fossil fuels, and all are aggravated by rapid population growth. The poorest, especially in developing countries, are most affected and social tensions (and international conflicts) are increased. Forty-six countries are now at a high risk of violent conflict, and 56 countries are at high risk of political instability. (2)

A recent World Health Organization (WHO) Study estimated that in 2000 there were 150,000 deaths due to climate change. (3) It has been argued that instability due to climate change may also make populations more tolerant of autocratic governments, especially "nationalist-capitalist" ones like Russia and China, whose political, economic and military sectors combine in pursuit of assertive strategies to exploit existing resources and to secure new ones.(19) The same behavior can of course also be attributed to the US and other western governments, whose economic growth is dependent on fossil fuels from the Middle East, Central Asia and other regions.

Military forces aggravate global warming by producing substantial CO2 emissions. US forces are estimated to have emitted 60 million tonnes of CO2 in 2005,(1% of total US emissions and similar to Finland's total emissions). UK military forces in the same year are estimated to have emitted 5 million tonnes, 1% of total UK emissions and similar to Senegal's total emissions. The war in Iraq was estimated in 2008 to have emitted 141 million tonnes of C02 since 2003, a total similar to Peru's annual emissions. (4)

At the same time, the military are large-scale polluters of the environment. The US military " …poses a substantial environmental threat both domestically and overseas. In addition to the potential

effects of the tens of thousands of rounds of nuclear, chemical and biological weapons that remain in US, Russian, British, French and Chinese arsenals today, military activities have an enormous environmental impact. Today, the US military produces more hazardous waste annually than the five largest international chemical companies combined. The US military controls more than 25 million acres of land (larger than either the state of Tennessee or the Netherlands), contained in 1,800 domestic and about 500 overseas installations. In the US, domestic installations are contaminated with over 20,000 toxic sites." (5)

Moreover, the world's militaries are heavy consumers of oil. They "depend on oil products for nearly three quarters of their energy use and consume approximately 25% of all global jet fuel. The global petroleum consumption for military purposes is about half of the total consumption of all developing countries combined…..It is estimated that world-wide military-related carbon release could be as high as 10% of the global total. A significant consideration with regard to sustainable use of resources is military diversion of fuel resources from environmental applications. For example, the Pentagon uses enough energy in 12 months to run the entire US urban transit system for almost 14 years" (6)

THE PROBLEMS : (B) Droughts, Floods, Land and Water Scarcity

Recent extreme weather events have helped to concentrate the minds of politicians and commentators on the urgency of climate change. Most dramatic are the floods in Pakistan, China and West and Central Africa, though lack of water has also been a challenge.

Sharply reduced rainfall and steep rises in temperatures are producing water and land scarcity, as well as food shortages, in several parts of the world. Sub-Saharan Africa, parts of the Middle East (eg Yemen, Jordan, Iraq) and parts of India, Pakistan, and Australia. Southern parts of Europe (Spain, Portugal, France, Italy, the Balkans) are becoming hotter and drier. Some parts of Russia are similarly affected. For example, in July-August 2010 Russia deployed thousands of troops into rural areas East of Moscow to help fight forest fires sparked off by record high temperatures of over 40C. Whole villages were destroyed, and scores of people died. Meanwhile parts of China are suffering increasingly from drought, damaging Chinese agriculture and water supply. The Gobi desert is advancing southwards.

Miguel Menonça, a campaigner for the World Future Council, has recently reviewed a book by Rupert Wright entitled "Take Me to the Source : In Search of Water". Mendonça writes : "….Wright's journey allows us to contrast the fortunes of those living in Manhattan, who are getting a new US$2 billion water tunnel, with those dying of cholera in Africa in their thousands for lack of similarly well-designed and well-maintained infrastructure. Following this general line of thought, Wright mulls over what has been done with the estimated US$3 trillion which the Iraq war will cost. Securing oil for wealthy people and securing water for poor people are clearly not in the same league when it comes to international priorities. Another rather ugly reality check." (7)

In affected areas, groundwater is being rapidly depleted, with the level of underground aquifers decreasing steadily. Water scarcity brings declining agricultural production and increased hunger, poverty and famine, aggravating social strains, encouraging political extremism and increasing rural migration to cities and other countries in search of employment. Meanwhile health problems are

aggravated due to overcrowding in urban slums, often accompanied by dirty water-related and unhygienic conditions that lead to more infectious diseases.

Meanwhile the continued reliance on fossil fuel energy is sharpening the demand for oil and gas worldwide. This is leading to greater use of land, including deforested land, for fuel crops, aggravating the shortage of land for other agricultural purposes. Some "land hungry" countries such as China and South Korea are buying or renting large areas of Brazil, Ethiopia, Laos, Cambodia and Indonesia to produce food for their own people. Developing countries' agricultural production of, for example, rice, corn and wheat is being increasingly diverted from Western markets to land hungry countries such as China, or kept at home to feed hungry populations. This will drive up food prices worldwide.

Some parts of the world, notably in South Asia, Europe, and both North and South America are affected by sharply increased rainfall leading to dislocations similar to those caused by drought. For example, several regions of Pakistan experienced in August 2010 some of the worst floods in its history, leading to thousands of deaths, many millions made homeless and the spread of infectious diseases.

THE PROBLEMS : C : Rise in Sea Levels, Melting Glaciers and Changing Ocean Currents

The melting of polar ice-caps and of glaciers around the world increases sea levels, alters ocean currents, and disrupts river systems. The thawing of permafrost in sub-Arctic land areas releases methane gas that is harmful to the atmosphere, and exacerbates global warming. Less ice and snow reflection due to Arctic ice melting, may create a "positive feedback" mechanism that accelerates global warming. This could mean current temperature rise estimates will need to be revised upwards by up to 50%.

The regions particularly affected are the Arctic regions of Canada, US, Greenland, Norway, and Russia; the Indian Ocean and Pacific Island States; low-level littoral states such as Bangladesh; countries or regions with glaciers (North and South Poles regions, Alps, Andes, Himalayas); and many coastal cities, towns and villages.

Vandana Shiva, in a recent article on "Climate Justice", writes that "In industrialized countries, the polluters continue to pollute with impunity, whilst people thousands of miles away bear the brunt of their actions. This is the cruel face of climate injustice." She continues "……..Glacial melt in the Himalaya is the largest source of fresh water for northern India and is also the source of the Ganges, Indus, Brahmaputra, Mekong, Irrawaddy, Yellow and Yangtze rivers. According to the International Panel on Climate Change (IPCC), "Glaciers in the Himalaya are receding faster than in any other part of the world and if the present rate continues, the likelihood of them disappearing by the year 2035 and perhaps sooner is very high if the Earth keeps warming at the current rate". According to the IPCC report the total area of glaciers in the Himalaya will shrink from 193,051 square miles to 38,000 square miles by 2035…..That is why we have started a participatory process for Himalayan communities to engage in the discussion on climate change, including issues of climate justice, adaptation and disaster preparedness. In terms of numbers of people impacted, climate change at

the 'Third Pole" is the most far-reaching. And no climate change policy or treaty will be complete without including the Himalayan communities." (8)

The massive development of a key renewable energy – solar power – could be a key factor for the countries affected by declining water flow due to the melting of Himalayan glaciers. China is already developing its solar power programme rapidly. As an article in "Time" magazine recently reported, for the countries neighbouring the Himalayas, "…Solar power, radiating from China, can become an alternative, sustainable source of energy. China can be a good neighbor, help the environment, and make money – all at the same time". (9)

The consequences of rising sea levels and melting glaciers include:

- coastal flooding and disappearance of coastal zones and mangrove swamps;
- infrastructure damage to roads, buildings, pipes etc in Arctic regions;
- damage to marine biology and fish stocks due to rising sea temperatures and acidification of oceans;
- decline of coral reefs, one of whose consequences will be to reduce some low level islands' protection against rising sea levels;
- inundation and dislocation of cities and settlements on coastlines;
- changing river and ecosystems;
- threat to the habitat of wildlife such as polar bears;
- human and animal migration;
- enlargement of glacial lakes;
- changes in weather patterns, including through changed ocean currents; and
- the opening of Arctic seas for oil exploration and year-round sea passages north of Russia and Canada, resulting in international tensions. The Arctic sea, when opened for oil and gas exploration, could contain up to 40% of undiscovered oil and gas reserves. If Siberian oil and gas fields are exploited, Siberia could have as much oil as the Middle East.(19)

THE RESPONSES : (A) Military Responses

Many national defense strategies are now being adjusted to perceive climate change as adding to the threats to national security, and thus requiring new types of military responses. This is leading to increased military spending, and heightening the dangers of military conflict. As the Stockholm International Peace Research Institute (SIPRI) has said (2 June 2010) in presenting its 2010 Yearbook: "Worldwide military expenditure in 2009 totalled an estimated $1531 billion, according to new figures released today. This represents an increase of 5.9% in real terms compared to 2008 and an increase of 49% since 2000. ……The far-reaching effects of the global financial crisis and economic recession appear to have had little impact on world military expenditure. The US, with a real-terms

increase of $47 billion, accounted for 54% of the world increase in military expenditure. Although the US led the rise, it was not alone. Of those countries for which data was available, 65% increased their military spending in real terms in 2009. In an analysis by region, Asia and Oceania showed the fastest real-terms increase with 8.9%."

SIPRI added "Many countries were increasing public spending generally in 2009, as a way of boosting demand to combat recession. 'Although military spending wasn't usually a major part of the economic stimulus packages, it wasn't cut either', explains Dr Samuel Perlo-Freeman, Senior Researcher at the SIPRI Military Expenditure Project. 'The figures also demonstrate that for major or intermediate powers such as the US, China, Russia, India and Brazil military spending represents a long-term strategic choice which they are willing to make even in hard economic times'. (10)

The US government's reaction to climate change, like that of many other governments, has two aspects. On the one hand, it has a range of non-military policies (see below). On the other hand, there is the US defense establishment's reaction, with climate change now seen as a "threat multiplier".

In an article "Pentagon to Rank Global Warming as Destabilizing Force", featured in the Guardian newspaper (UK) on 31 January 2010, Susanne Goldenberg writes: "…The Pentagon will for the first time rank global warming as a destabilizing force, adding fuel to conflict and putting US troops at risk around the world. The Quadrennial Defense Review, prepared by the Pentagon to update Congress on its security vision, directs military planners to keep track of the latest climate science, and to factor global warming into their long-term strategic planning….even though polls last week showed the public increasingly less concerned." (11)

"……Military planners will have to factor climate change into war game exercises and long-term security assessments of badly affected regions such as the Arctic, Sub-Saharan Africa, and South Asia." Christine Parthemore, an analyst at the Center for a New American Security, is quoted as saying that the Pentagon "….are considering climate change on a par with political and economic factors as the key drivers that are shaping the world." More and more military planners see also that US dependence on imported oil is environmentally damaging and undermines national security. For example, the US Navy Secretary, Ray Mabus, has said "….In the end, it is a matter of national security. Our dependence on foreign sources of petroleum makes us vulnerable in too many ways. The stakes are clear and the stakes are high. Our response has to be equal to that challenge." (12)

Parthemore adds, however, that not all US defense officials have got on board, and it could take some time to truly change the military mindset to more environmental awareness. The Pew Report referred to by her adds that climate change challenges "…..could increase US military missions as troops are called on to support civil authorities, as they did during Hurricanes Andrew and Katrina. Abroad, the military's capabilities could be required for a range of humanitarian and security missions, from responding to natural disasters to assisting nations stressed by hunger and drought."

On the environmentally positive side, there is some "greening" of military forces and physical infrastructure through the use of more fuel-efficient, "clean" technologies. The Pentagon is seeking to cut GHG emissions from non-combat operations by 34% from 2008 levels by 2020, in line with

similar cuts by the rest of the US federal government. The US Air Force is building up America's biggest solar battery array in Nevada, and is testing jet fighter engines on biofuels. (11)

Meanwhile in countries severely affected by climate change, some countries are increasing military spending to deal with internal disturbances, and for possible use in armed conflicts with neighbours over disputed water supplies (eg India, Pakistan, River Tigris countries such as Syria, Turkey and Iraq). There is also increased spending on naval forces in some countries to intercept the increasing number of illegal immigrants, often "climate refugees" escaping climate-related hardships or conflicts at home.

Regarding the rise in sea levels, military bases will probably be affected. According to the Center for a New American Security Report referred to by Goldenberg, the Pentagon predicts that "….even modest increases in sea level rise and extreme weather events are likely to flood military installations on low-lying islands and atolls such as Diego Garcia and Guam, and even US bases such as those located around Norfolk, Virginia. (11)

The military reinforce their influence and power through their frequent participation in natural disaster relief related to weather disturbances or earthquakes and tsunamis. To take just a few recent examples, in response to Hurricane Katrina in Louisiana in 2005, thousands of US National Guard troops were deployed to assist in relief and in maintaining law and order and preventing pillaging. In severe flooding in Cumbria, England in 2009, the British armed forces assisted in relief efforts. Following the Haiti earthquake in 2010 the US allocated a Joint Task Force totaling 22,000 at its peak. The Pakistan armed forces have been deployed at full stretch during the current flooding disaster. This pattern is found around the world. However, a strong argument can be made that it is not an intrinsic role of the armed forces to provide such relief. Their raison-d'être is to fight in armed conflicts, to defend their fellow-citizens. Civilian duties are best left to civilian organizations (police, fire and ambulance services, search and rescue/coastguards and frontier officials, humanitarian and development bodies, construction sector, etc). However the corollary to this argument is that such organisations need to be trained and equipped accordingly – which implies major budgetary adjustments.

THE RESPONSES : (B) Non Military Responses

The US Government, after years of denial, skepticism and inaction under the Bush Administration, has at last embarked with the Obama Administration on a serious human security response to climate change. The US State Department Special Envoy for Climate Change, Dr Jonathan Pershing, testified to the US House Committee on Foreign Affairs on 15 April 2010 (13) that the "Copenhagen Accord" of December 2009 "…..represents a significant milestone in our collective effort to address the critical problems of climate change. For the first time, it gives forma recognition to the level of effort needed to address the climate change problem, calling for countries to limit GHG emissions to a level that will hold global temperature fries to less than 2 degrees celcius. It calls for both developed and major developing countries (and others who wish to do so) to list, or inscribe, the specific actions or targets they intend to take to cut or limit their emissions……It sets landmark financing provisions for total prompt start financing among international partners approaching $30

billion over the next three years, and a goal of jointly mobilizing $100 billion a year by 2020 from public and private sources…..It calls for a Transparency Mechanism, a new climate fund, enhanced action on adaptation, and creates new incentives for forest protection." Later, Dr Pershing adds "….I want to commend the House of Representatives for moving our country down the right path by passing the American Clean Energy and Security Act."

Although the Copenhagen Accord is widely seen as falling far short of environmentalists' objectives, it did signal the need to seriously strengthen the action begun in the earlier Kyoto Protocol, and to secure the commitment of the US Government to further progress. However, the Obama Administration's proposed major Climate Change legislation is struggling to obtain Congressional approval.

There is an urgent need to reallocate more resources from military expenditure to tackling environmental needs and to reducing the dangers of military conflict. But this is not happening. For example, while President Obama promised in December 2009 that US power would be applied more through non-military instruments such as diplomacy, development and 'soft power', he has committed at the same time the US to "modernizing" the US nuclear weapons complex to the tune of $180 billion over the next ten years, and has approved the highest military budget in history. Meanwhile, "….military planners in all states with nuclear weapons remain deeply committed to advocating the value of nuclear weapons and appear unwilling to emphatically endorse disarmament progress." (14)

In the United Kingdom, the new Conservative-Liberal Democrat coalition government, while it asserts that defence must bear its share of the current round of cuts, it may well renew the Trident nuclear missile programme, to the tune of between £76 to £100 billion. As Caroline Lucas, the newly elected Green Party Member of Parliament has said "…Every pound spent on Trident is a pound not spent on appropriate responses to the real threat we face – climate change. The multi-billion price tag for Trident replacement is desperately needed elsewhere, for energy efficiency, energy conservation, and renewable energy, making us more secure by reducing the impacts of climate change, and by ending our dependence on foreign oil – a key root of global terrorism." (15)

The Guardian newspaper has reinforced this message in a recent editorial article, stating that "…Britain spends too much money - £40 billion a year - on defence. A smaller budget and smaller ambitions could be good for the country, if managed in the right way and coordinated with allies, especially in Europe." It refers to Trident replacement as "the most pointless and expensive project of all, and excluded from the defence review". (16)

Civil responses to the problems of water scarcity and hunger need urgent strengthening. Greater cooperation over water sharing in river systems is needed, eg between the Tigris River countries – Turkey, Syria, and Iraq; between Syria, Jordan and Israel over the Jordan River waters; and between the Indus River countries, India and Pakistan, where water issues aggravate the serious long running problem of Kashmir which poisons Indian – Pakistani relations, fuelling tensions over Afghanistan and Taliban/Al Qaida terrorism and spurring the nuclear arms race between the two countries. Negotiation is the key to the solution of these problems, not arms races and military posturing.

While more food aid is needed forhungry and water starved countries in the short term, in the longer run better agricultural policies and environment-friendly land use is needed. More desalination plants are needed, along with more effective water-saving techniques, better infrastructure and redesigned sewage systems.

“Agrofuels” as an answer to the world’s energy needs are however an impediment to tackling the food crisis. As Henk Hobbelink says in an article entitled “Smokestacks and Smokescreens” in “Resurgence” magazine (UK - March/April 2008) (17) ”….To understand what is really going on, it is important to emphasise that the “agrofuels agenda” is not being drafted by policymakers concerned to avert global warming and environmental destruction. Those in control are some of the most powerful corporations in the world: in the oil and car industries, and among the world’s food traders, biotechnology companies, and global investment firms…..Despite the rhetoric of the agro-fuel-pushers, it is clear that most of it will actually come from plantations in tropical countries where crops can be grown more cheaply and efficiently. One study calculates that together, sub-Saharan Africa, Latin America and Eastern Asia can in the future provide more than half of all the required agrofuels, but only if “the present inefficient and low-intensive agricultural management systems are replaced by 2050 with best practice agricultural management systems and technologies”. In other words, replace millions of hectares of local agricultural systems, and the rural communities working in them, with large plantations. Substitute biodiversity-based indigenous cropping, grazing and pasture farming systems with monocultures and genetic engineering, and put in control multinational corporations that manage these kind of systems best.

Hobbelink continues: “To address climate change, we don’t need agro-fuel plantations to produce fuel energy. Instead, we need to turn the industrial food system upside down. We need policies and strategies to reduce the consumption of energy and to prevent waste. Such policies and strategies already exist and are being fought for. In agriculture and food production, they mean orienting production towards local rather than international markets; they mean adapting strategies to keep people on the land; they mean supporting sustained and sustainable approaches to bringing biodiversity into agriculture; they mean diversifying agricultural production systems, using and expanding on local knowledge; and they mean putting local communities back in the driving seat of rural development….They also require a head-on confrontation with the global agro-industrial complex, now stronger than ever, that is driving with its agrofuel agenda in exactly the opposite direction.”

In the Arctic region, there is a need for some “global governance” ensuring environmental protection and demilitarization. This could involve a nuclear-free régime, and an international treaty on the lines of the 1959 Antarctic Treaty. Without that, the Arctic region could become a new theatre for military confrontation associated with oil and gas exploitation that will only prolong the environmentally damaging addiction to fossil fuel energy.

One big advantage of a massive global switch to renewable energies, apart from its benefit in terms of climate change, would be to reduce the demand for scarce mineral deposits such as the uranium required to manufacture the plutonium needed for nuclear weapons and nuclear energy. Some may argue that expanded use of nuclear energy is a more realistic immediate energy route while renewable energies are developed, which will inevitably be too slow to cope with demands for

industrial growth. But a range of public fiscal and other incentives could greatly hasten the development of renewable energies. At present, governments shrink from these as powerful vested interests (including the military) oppose them.

In any case, nuclear energy is not the answer. As Helen Caldicott writes "Nuclear is not the solution", "…In fact, the nuclear fuel cycle utilizes large quantities of fossil fuel at all its stages: the mining and milling of uranium, the construction of the nuclear reactor and cooling towers, robotic decommissioning of the intensely radioactive reactor at the end of its operating lifetime, and transportation and long-term storage of massive quantities of radioactive waste…….Vulnerable to terrorist attack during storage and transportation, high-level nuclear waste includes hundreds of radioactive elements that have different biological impacts on the human body, the most important being cancer and genetic diseases…..Nuclear power clearly leaves a toxic legacy. It produces global warming gases, it is far more expensive than any other form of electricity generation and it can trigger proliferation of nuclear weapons."

CONCLUSIONS

Even with the military's efforts to "green" their activities which we have seen above, the military continue to damage the environment and aggravate climate change by:

I. Their heavy use of petroleum, adding considerably to GHG emissions.

II. Protecting and safeguarding the extraction and transport of the fossil fuels that produce GHG emissions, diverting resources from developing renewable energies.

III. Polluting the environment, eg through dumps at military bases and contamination of freshwater and seawater.

IV. Maintaining a heavy demand for environment-hostile technology and weapons instead of developing environment-friendly products and technologies.

V. Diverting massive financial resources which could otherwise be used to mitigate or adapt to climate change.

Continued reduction of military expenditures, discontinuation of weapons development and production, and conclusion of new disarmament agreements are all urgently needed to help tackle climate change, to lessen the military burden on the environment, and to improve human security and well-being.

It is difficult to escape the conclusion that the struggle for the world's security is a holistic one, where human security is confronted with powerful opponents in the form of inter-linked complexes – the military one that pushes for more military spending and weapons development; the financial complex that drives speculation and profits for the elite few at the expense of the disempowered many; and the agro-industrial complex that aggressively promotes chemicals-based agriculture, agrofuels and biotechnology. Those pressing for human security are waging a struggle to free populations from the sway of these complexes and their supporting mindsets, and to transfer power

back to the people, to local communities, and to time-honoured cultures and practices that work with the earth and preserve it. This is a struggle that must be won to save the world from disaster.

David Hay-Edie

International Peace Bureau consultant

With editorial assistance from Colin Archer

Sept. 2010

REFERENCES

(1) International Panel for Climate Change (IPCC), 2007

(2) International Alert, 2008

(3) World Health Organization, 2003

(4) "Climate Change and Military Conflict" – Presentation by Dr Stuart Parkinson to the Annual General Meeting of the Movement for the Abolition of War (UK), 9 November 2008

(5) Arc Ecology (Environment, Economy, Society, and Peace) : http://www.arceology.org/Military.shtml

(6) Weapons Pollute : http://weaponspollute.org

(7) "Water Explorations" – Miguel Mendonça, "Resurgence", UK, March/April, 2009 : http://www.resurgence.org

(8) "Climate Justice" – Vandana Shiva, "Resurgence, November/December 2009

(9) "Seeing the Light – China should make the Tibetan Plateau its linchpin in the development of solar power" – Laurence Brahm, "Time", US, 2 August 2010

(10) "World military expenditure increases despite financial crisis – Launch of SIPRI Yearbook 2010" http://www.sipri.org

(11) "Pentagon to Rank Global Warming as Destabilizing Force" – Susanne Goldenberg, Center for a New American Strategy, "Guardian", UK, 31 January 2010

(12) "On Energy and Climate, the Military acts, while Conservatives obstruct" – Pew Report on National Security, Energy, and Climate Change", National Security Network, US, 21 April 2010

(13) Testimony by US Deputy Special Envoy for Climate Change, Dr Jonathan Pershing, to US House Committee on Foreign Affairs, April 15, 2010

(14) Global Security Institute (GSI) – enewsletter, Summer 2010

(15) Campaign for Nuclear Disarmament (CND), UK, CND Magazine, Summer 2010

(16) "Guardian", UK, 22 July 2010

(17) "Biofuel – Smokestacks and Smokescreens" – Henk Hobbelink, "Resurgence", March/April 2008

(18) "Nuclear is not the Solution : Pushing nuclear power as a panacea for the reduction of global gases is pure propaganda; don't fall for it" – Helen Caldicott, "Resurgence", May/June 2010

(19) Global Warring, Cleo Paskal, Palgrave Macmillan, 2010.