
**Study Guide - Environment and Radiation Exposure:
External and Internal Radioactive Contamination
Chernobyl and Fukushima: Consequences of Radiological Catastrophes
for People and the Environment – Including: The Calamitous, Long-term
Health Effects and Environmental Degradation of Depleted Uranium Use.
– Developing an Appropriate Ethic and Vision for Future Generations –**

**Scientific Information, Perspectives and Insights for Further Study and Analysis,
Historical Understanding, Clarification, and the Advancement of Global Bioethics**

**The scientific process demands complete transparency across all branches of science.
This working document is intended as an informative, reliable educational resource
for open, transparent, and constructive dialogue.**



May 10, 2011 - Elementary school students walked toward their evacuation center after school in the tsunami-devastated town of Otsuchi. The nation has pledged to revamp its energy policy.
(Courtesy: Toshifumi Kitamura/AFP/Getty Images)

SCIENCE AND RESEARCH BACKGROUND

The Chernobyl Radioactive Plume Reconstruction: Modelling atmospheric dispersion of caesium-137 across Europe following the Chernobyl accident

In 2005, **L'Institut de Radioprotection et de Sûreté Nucléaire (IRSN)**, the French Government's official agency on radiation and nuclear matters produced a simulation of the path traveled across Europe by the radioactive cloud following the Chernobyl accident.

This simulation was produced using a new generation of operational atmospheric dispersion models developed for use in case of nuclear emergency. It is based on weather patterns for the time period April 26 to May 6 [1986] when the fire was burning inside the stricken reactor. To qualify this new long-distance dispersion model, IRSN experts applied it to the atmospheric release of caesium-137 caused by the Chernobyl accident, based on a reconstruction of the meteorological conditions observed in Europe in the days following the accident. The model calculated the distribution of air contamination at ground level on a European scale at 15-minute intervals, from 26th April to 10th May 1986. The computed results were then compared with actual measurements taken throughout Europe over the same period, showing satisfactory agreement between calculations and measured data.

This updated simulation of March 2011 (French with English subtitles) explains the path of the radioactive cloud over Europe between 26th April and 6th May 1986.

http://www.irsn.fr/EN/Library/in-depth/Pages/indepth_The-Chernobyl-Plume.aspx

(Our thanks for this URL to **Dr. Gordon Edwards**, President
Canadian Coalition for Nuclear Responsibility (CCNR)
Regroupement pour la surveillance du nucléaire (RSN)
<http://www.ccnr.org/>



March 2011 - Video

Radiation Risk from Nuclear Power Station in Japan (06:20)

Prof. Ian Fells, Ph.D., Emeritus Professor of Energy Conversion, University of Newcastle upon Tyne, and **Prof. Chris Busby, Ph.D.**, Scientific Secretary of the European Committee on Radiation Risk speak to BBC News about potential dangers following the hydrogen gas explosions at the Fukushima nuclear power plant.

http://www.dailymotion.com/video/xhlgks_radiation-risk-from-nuclear-power-station-in-japan_news



October 2004 Report

Special Report on Examining Radiation Risks Committee Examining Radiation Risks of Internal Emitters (CERRIE) The Report Calls for Precautionary Approach to Internal Radiation

Abstract: Tougher action is needed to allow for new information about the risks from internal radiation. Uncertainties about the risks mean that in some cases we might be exposed to 10 times the risk previously thought, while in other cases the risk may be almost zero. Uncertainties in current methods of estimating risks from internal radiation require policy makers and regulators to adopt a precautionary approach when dealing with exposures to internal radiation. The Report warns also that newly discovered effects of radiation, genomic instability (ongoing, long-term increase in mutations within cells and their offspring), bystander effects (cells next to those that were irradiated can also be damaged), and minisatellite mutations (inherited germline DNA changes) are real biological events that need further research.

In 2001, **Michael Meacher, M.P.**, the then Environment Minister of the UK Government, announced the establishment of a group with the remit

“to consider present risk models for radiation and health that apply to exposure to radiation from internal radionuclides in the light of recent studies and to identify any further research that may be needed”.

The Committee thus formed, operated between October 2001 and October 2004. It held 16 meetings, during which it examined evidence from radiobiology and epidemiology. In June 2003, the Committee prepared

a Preliminary Report that was considered by a Workshop of invited delegates in Oxford in July 2003. The Committee forwarded its Final Report to the UK Government's Committee on the Medical Aspects of Radiation in the Environment (COMARE) for their consideration and for their advice to Government. It was expected that COMARE would wish to inform Ministers of its views. Although the Committee's work was funded by the Department of Health and the Department for Environment, Food and Rural Affairs (DEFRA), the Committee operated independently of COMARE and the Government Departments.

The Final Report was not vetted by any Government agency.

"The main finding of the Committee's Report is that we have to be particularly careful in judging the risks of radioactive sources inside the body. The uncertainties in these internal radiation risks can be large and these need to be taken properly into account in policy and regulatory decisions."

"There is much public debate about the risks to health from ionising radiation, with widely differing views being held. This is particularly so with radiation from radioactive materials taken into the body, whether from nuclear discharges or natural sources of radioactivity in air and food. The CERRIE Committee was set up to reflect these differing views." Dudley Goodhead

CERRIE Membership: Chair: Prof. Dudley Goodhead OBE,
MRC Radiation and Genome Stability Unit, Harwell, Oxford
Richard Bramhall, UK Low Level Radiation Campaign
Dr. Chris Busby, Green Audit; Dr Roger Cox, NRPB
Prof. Sarah Darby, University of Oxford; Dr Philip Day, University of Manchester
Dr. John D Harrison, NRPB; Dr Colin Muirhead, NRPB
Peter Roche, Formerly Greenpeace UK;

Prof. Jack Simmons, Formerly University of Westminster
Dr. Richard Wakeford, BNFL; Professor Eric Wright, University of Dundee

FINAL REPORT http://www.cerrie.org/pdfs/cerrie_report_e-book.pdf (162 pages)

For a Scientific Briefing on the CERRIE Report please view Press Release <http://www.cerrie.org/>



March 2011 - Video

**Japan in Full Meltdown Evacuation Now!
US Media Blackout as Fukushima Full Meltdown
Accelerates - sarcophagus "tomb" next? (05:50)**

Prof. Chris Busby, Ph.D., Scientific Secretary of the European Committee on Radiation Risk speaks to RT News about potential dangers following the hydrogen gas explosions at the Fukushima nuclear power plant. In Japan, radiation levels in the seawater near the Fukushima plant continue to rise. They're now more than 3.5 thousand times higher than normal. Radioactive material has also been detected in soil at the facility. Japan's government described the situation as serious and unpredictable. Workers have been unsuccessfully trying to restore the plant's cooling system, in what is now the worst atomic crisis since Chernobyl.

There's been some debate over whether there are any similarities between the two events.

<http://www.youtube.com/watch?v=AgJdk05eGfY&feature=related>



March 2011

**"Long Since Passed the Level of Three Mile Island"
The Fukushima Crisis in Comparative Perspective**

As the crisis in Fukushima grows more serious international scientific organizations have begun painting an increasingly dire picture of radiation releases from the plant. We are primarily writing in Japanese right now, due to the need to provide information less available to people in Japan on the Fukushima nuclear crisis. Please join us on Facebook and Twitter, where we continue to provide updates in both languages. See **The Asia-Pacific Journal: Japan Focus** www.japanfocus.org for latest articles and in-depth analysis on Asia-Pacific issues, including quake/tsunami and nuclear crisis.

MEDICAL VOICES

March 2011

Unsafe at Any Exposure

There's no safe level of radiation exposure

"As the radioactive contamination of food, water, and soil in Fukushima, Japan worsens, the media is continuously reassuring us that these levels are "safe." But there is no safe level of radiation. Yes, at lower levels the risk is smaller, but the National Research Council of the National Academies of Science has concluded that any exposure to radiation makes it more likely that an individual will get cancer."

Ira Helfand, M.D., http://www.otherwords.org/articles/unsafe_at_any_exposure

Dr. Ira Helfand is an internist and a member of the board of

Physicians for Social Responsibility www.psr.org



What Next for the WHO and IAEA? Chernobyl, 25 Years Later

By Janette D. Sherman, M.D.

(March 9, 2011) "April 26, 2011 will mark the 25th Anniversary of the Chernobyl catastrophe, and for more than 50 years, the World Health Organization (WHO) and the International Atomic Energy Agency (IAEA) have abided by an agreement that in essence, covers each other's back – sometimes at the expense of public health. It's a delicate balance between cooperation and collusion."

Signed on May 28, 1959 at the 12th World Health Assembly, the agreement states:

"Whenever either organization proposes to initiate a programme or activity on a subject in which the other organization has or may have a substantial interest, the first party shall consult the other with a view to adjusting the matter by mutual agreement," and continues: The IAEA and the WHO "recognize that they may find it necessary to apply certain limitations for the safeguarding of confidential information furnished to them. They therefore agree that nothing in this agreement shall be construed as requiring either of them to furnish such information as would, in the judgment of the other party possessing the information to interfere with the orderly conduct of its operation."

The WHO mandate is to look after the health on our planet, while the IAEA is to promote nuclear energy. In light of recent industrial failures involving nuclear power plants, many prominent scientists and public health officials have criticized WHO's non-competing relationship with IAEA that has stymied efforts to address effects and disseminate information about the 1986 Chernobyl accident, so that current harm may be documented and future harm prevented.

On the 20th Anniversary of Chernobyl WHO and the IAEA published the Chernobyl Forum Report, mentioning only 350 sources, mainly from the English literature while in reality there are more than 30,000 publications and up to 170,000 sources that address the consequences of Chernobyl.

After waiting two decades for the findings of Chernobyl to be recognized by the United Nations, three scientists, Alexey Yablokov from Russia, and Vasily Nesterenko and Alexey Nesterenko from Belarus undertook the task to collect, abstract and translate some 5000 articles reported by multiple scientists, who observed first-hand the effects from the fallout. These had been published largely in Slavic languages and not previously available in translation. The result was Chernobyl – Consequences of the Catastrophe for People and the Environment, published by the New York Academy of Sciences in 2009.

The greatest amount of radioactivity fell outside of Belarus, Ukraine and European Russia, extending across the northern hemisphere as far away as Asia, North Africa, and North America, while the greatest concentrations continue to affect the 13 million living in Belarus, Ukraine, and European Russia.

Immediately after the catastrophe, release of information was limited, and there was a delay in collecting data. WHO, supported by governments worldwide could have been pro-active and led the way to provide readily accessible information, but did not. These omissions resulted in several effects: limited monitoring of fallout levels, delays in getting stable potassium iodide to people, lack of care for many, and delay in prevention of contamination of the food supply.

The number of victims is one of the most contentious issue between scientists who collected data first-hand and WHO/IAEA that estimated only 9000 deaths. The most detailed estimate of additional deaths was done in Russia

by comparing rates in six highly contaminated territories with overall Russian averages and with those of six lesser-contaminated areas, maintaining similar geographical and socioeconomic parameters. There were over 7 million people in each area, providing for robust analysis. Thus data from multiple scientists estimate the overall mortality from the Chernobyl catastrophe, for the period from April 1986 to the end of 2004, to be 985,000, a hundred times more than the WHO/IAEA estimate.

Given that thyroid diseases caused such a toll, Chernobyl has shown that nuclear societies – notable Japan, France, India, China, the United States, and Germany - must distribute stable potassium iodide (KI) before an accident, because it must be used within the first 24 hours.

Key to understanding effects from nuclear fallout is the difference between external and internal radiation. While external radiation, as from x-rays, neutron, gamma and cosmic rays can harm and kill, internal radiation (alpha and beta particles) when absorbed by ingestion and inhalation become embedded in tissues and releases damaging energy in direct contact with tissues and cells, often for the lifetime of the person, animal or plant. To date, not every living system has been studied, but of those that have - animals, birds, fish, amphibians, invertebrates, insects, trees, plants, bacteria, viruses and humans - many with genetic instability across generations, all sustained changes, some permanent, and some fatal. Wild and domestic animals and birds developed abnormalities and diseases similar to those found in humans.

It takes ten decades for an isotope to completely decay, thus the approximately 30 year half-lives for Sr-90 and Cs-137 will take nearly three centuries before they have decayed, a mere blink of the eye when compared to Pu-239 with a half-life of 24,100 years.

The human and economic costs are enormous: in the first 25 years the direct economic damage to Belarus, Ukraine, and Russia has exceeded \$500 billion. Belarus spends about 20% of its national annual budget, Ukraine up to 6%, and Russia up to 1% to partially mitigate some of the consequences.

When a radiation release occurs we do not know in advance the part of the biosphere it will contaminate, the animals, plants, and people that will be affected, nor the amount or duration of harm. In many cases, damage is random, depending upon the health, age, and status of development and the amount, kind, and variety of radioactive contamination that reaches humans, animals and plants. For this reason, international support of research on the consequences of Chernobyl must continue in order to mitigate the ongoing and increasing damage. Access to information must be transparent and open to all, across all borders. The WHO must assume independent responsibility in support of international health."

Janette Sherman is the author of *Life's Delicate Balance: Causes and Prevention of Breast Cancer and Chemical Exposure and Disease*, and is a specialist in internal medicine and toxicology. She edited the book **Chernobyl: Consequences of the Catastrophe for People and the Environment**, below. Her primary interest is the prevention of illness through public education. She can be reached at: toxdoc.js@verizon.net and <http://janettesherman.com/> (including the interview, March 17, 2011 with the Canadian Broadcasting Corporation (CBC)

Chernobyl: Consequences of the Catastrophe for People and the Environment

By **Alexey V. Yablokov** (Center for Russian Environmental Policy, Moscow, Russia), **Vassily B. Nesterenko**, and **Alexey V. Nesterenko** (Institute of Radiation Safety, Minsk, Belarus). Consulting Editor **Janette D. Sherman-Nevinger** (Environmental Institute, Western Michigan University, Kalamazoo, Michigan).
© 2009 New York Academy of Sciences. This volume is now out of stock and will not be reprinted.

This volume, written by leading authorities from Eastern Europe, outlines the history of the health and environmental consequences of the Chernobyl disaster. Although there has been much discussion concerning the impacts of nuclear accidents, and Chernobyl in particular, never before has there been a comprehensive presentation of all the available information concerning the health and environmental effects of the low dose radioactive contaminants that were emitted from the Chernobyl Nuclear Power Plant. The official discussions emanating from the IAEA and associated UN agencies (e.g. the Chernobyl Forum reports) have largely downplayed or ignored many of the findings reported in the Eastern European scientific literature and as a consequence these reports have erred on the side of negative findings simply because much of what was known was not included in their assessments. This new book provides a complete and extensive summary of all known research, including that published in Russian and Ukrainian, and provides new insights to the likely long term health and environmental consequences of nuclear accidents.

(Please see this preview. The total pages displayed will be limited)

<http://books.google.com/books?id=g34tNIYOB3AC&printsec=frontcover#v=onepage&q&f=false>

(If the link does not work in this pdf, please copy and paste in your browser)

**Health Consequences of Chernobyl: The New York Academy of Sciences
Publishes an Antidote to the Nuclear Establishment's Pseudo-Science**

By **Alison Rosamund Katz**, *International Journal of Health Services*, Volume 40, Number 4, 2010

"In February 2010, the New York Academy of Sciences published the most complete and up-to-date collection of evidence, from independent, scientific sources all over the world, on the health and environmental consequences of the Chernobyl accident. For 24 years, through a high-level, internationally coordinated cover-up of the world's most serious industrial accident, the nuclear lobby has deprived the world of a unique and critically important source of scientific information.

<http://paep.ca/doc/Alison%20R.%20Katz%20-%20Health%20Consequences%20-%20Chernobyl%20-%202010.pdf>



March 2011 – Video (04:09)

On the Health Risks of Nuclear Energy

Dr. Alex Rosen, International Physicians for the Prevention of Nuclear War
and sends his personal message on the health risks of nuclear energy.

http://www.youtube.com/watch?v=WL_Oew16vlg



The Chernobyl Catastrophe And Health Care

By Michel Fernex, M.D., Professor emeritus, Medical Faculty of Basel, former member of Steering Committees of Scientific working groups on malaria and filariasis, WHO Geneva

http://www.independentwho.info/Documents/M_Fernex/ChernobylCatastrophe_Fernex_EN.pdf

SELECTED DOCUMENTS AND ARTICLES

29 April 2011

**Toshiso Kosako, Former Special Advisor to the Cabinet,
Professor, Nuclear Professional School, Department of Nuclear Engineering and Management,
Graduate School of Engineering, University of Tokyo,**

Specializing in Radiation Safety, Radiation Dosimetry and Radiation Shielding

"Our radiation safety researches are developed in the fields of atomic energy, accelerator facility, medical facility and bioscience etc. aiming contributions to society through the findings. We have many research themes, such as studies on radiation protection at nuclear reactors and large accelerators, dose assessment of Hiroshima/Nagasaki A-bomb, dose assessment of astronauts, internal dose assessment, safety criterion of radioactive wastes and environmental radioactivity (radiation) etc. We have good partnerships with overseas research institutes (UK, USA, France, Australia, Russia, China, Korea and Southeast Asian countries, etc.) and many researchers come from these institutes. Students enjoy their student life through active participations in activities of academic society as well as in international internship programs."



**Regarding my resignation as a Special Advisor to the Cabinet
(Declaration of Resignation)**

"On 16 March 2011, I, Toshiso Kosako, was appointed as a Special Advisor to the Cabinet and, on the same day, started to participate in activities aimed at resolving this nuclear emergency [in Fukushima]. It is already a month and a half since the emergency started, and various measures have been taken so far for resolving the situation, I have decided to cease my activities as the Special Advisor to the Cabinet after 30 April and today I have been to see the Prime Minister to notify him of my intention. I have recorded my activities so far as the Special Advisor in

a report "Regarding the measurements for the accident at Fukushima Daiichi Nuclear Power Plant". I have already sent this document to the Prime Minister and to those who have been involved with the matter.

My duty was "to provide information and to give advice to the Prime Minister". Since I do not want a repetition of what the government has already been doing, I have reviewed the activities of the Nuclear Emergency Response Headquarters, Nuclear Safety Commission, Nuclear and Industrial Safety Agency, Ministry of Education, Culture, Sports, Science and Technology one by one, and whenever I found any incomplete or inappropriate elements in their response, I have provided information and advice or proposals [to the Prime Minister] . . .

We need to stick to international common sense and humanism

At times of emergency, we cannot do without exceptions to standard rules and we are indeed capable of setting them up, but in any case, international common sense ought to be respected. It is wrong to forcibly push through conclusions that happen to be convenient only for the administrative authorities but which are utterly unacceptable by international standards. Such conclusions are bound to draw criticism from the international community.

This time, upon discussing the acceptable level of radiation exposure for playgrounds in primary schools in Fukushima, they have calculated, guided and determined a level of "3.8 μ Sv per hour" on the basis of "20mSv per year". It is completely wrong to use such a standard for schools that are going to run a normal school curriculum, in which case a standard similar to usual radiation protection measurement (1mSv per year, or even in exceptional cases, 5mSv) ought to be applied, and not the one used in cases of exceptional or urgent circumstances (for two to three days, or at the most, one to two weeks). It is not impossible to use a standard, perhaps for a few months, of 10mSv per year at the maximum, if the public is rightly notified of the necessity of taking caution, and also if special measures are to be taken. But normally it is better to avoid such a thing. We have to note that it is very rare even among the occupationally exposed persons (84,000 in total) to be exposed to radiation of 20mSv per year. I cannot possibly accept such a level to be applied to babies, infants and primary school students, not only from my scholarly viewpoint but also from my humanistic beliefs."

URL link for complete text: <http://www.japanfocus.org/events/view/83>

May 16, 2011, **TEPCO, Credibility, and the Japanese Crisis:**<http://japanfocus.org/events/view/52>

April 29, 2011

Save the Children: Radiation Exposure of Fukushima Students Back By Editors, The Asia-Pacific Journal: Japan Focus (APJ)

Despite the fact that Japan has in the past set the maximum radiation exposure for citizens at 1 millisievert, the government has now increased that amount to 20 millisieverts for Fukushima school children. Defending this twentyfold increase, the Japanese Ministry of Education, Culture, Sports, Science and Technology argues that 20 millisieverts is still within the recommended range of 1-20 millisieverts set by the International Commission on Radiological Protection for exposure in emergency situations. Others question the wisdom of using maximum guidelines for children in areas that may be impacted for years to come. A petition has been launched to urge the Japanese government to repeal this decision as experts write about the potential risks.

Professor Tilman Ruff is an infectious diseases and public health physician; the immediate past president of the Medical Association for Prevention of War (Australia); Member of the Board of Directors of International Physicians for the Prevention of Nuclear War (IPPNW, Nobel Peace prize 1985); Chair of the International Campaign to Abolish Nuclear Weapons, and associate professor at the Nossal Institute for Global Health at the University of Melbourne, writing in English for Japan's Kyodo news service, outlines the risk to Fukushima's children. Special areas of interest: Nuclear weapons, biological weapons, nuclear power and the links between civil and military nuclear industries. Iraq.

Children of Fukushima Need Our Protection

By Dr. Tilman Ruff

Melbourne, April 26, Kyodo

"I was dismayed to learn that the Ministry of Education, Culture, Sports, Science and Technology earlier this week increased the allowable dose of ionizing radiation for children in Fukushima Prefecture. The dose they set, 3.8 microsieverts per hour, equates to more than 33 millisieverts (mSv) over a year. This is to apply to children in kindergartens, nursery, primary and junior high schools. Let me try to put this in perspective.

Widely accepted science tells us that the health risk from radiation is proportional to the dose -- the bigger the dose the greater the risk, and there is no level without risk. The International Commission on Radiological Protection recommends that all radiation exposure be kept as low as achievable, and for the public, on top of background radiation and any medical procedures, should not exceed 1 mSv per year.

For nuclear industry workers, they recommend a maximum permissible annual dose of 20 mSv averaged over five years, with no more than 50 mSv in any one year. In Japan the maximum allowed annual dose for workers, 100 mSv, was already higher than international standards.

This has been increased in response to the Fukushima disaster to 250 mSv.

The U.S. National Academy of Sciences BEIR VII report estimates that each 1 mSv of radiation is associated with an increased risk of solid cancer (cancers other than leukemia) of about 1 in 10,000; an increased risk of leukemia of about 1 in 100,000; and a 1 in 17,500 increased risk of dying from cancer.

But a critical factor is that not everyone faces the same level of risk. For infants (under 1 year of age) the radiation-related cancer risk is 3 to 4 times higher than for adults; and female infants are twice as susceptible as male infants. Females' overall risk of cancer related to radiation exposure is 40 percent greater than for males. Fetuses in the womb are the most radiation-sensitive of all.

The pioneering Oxford Survey of Childhood Cancer found that X-rays of mothers, involving doses to the fetus of 10-20 mSv, resulted in a 40 percent increase in the cancer rate among children up to age 15.

In Germany, a recent study of 25 years of the national childhood cancer register showed that even the normal operation of nuclear power plants is associated with a more than doubling of the risk of leukemia for children under 5 years old living within 5 kilometers of a nuclear plant.

Increased risk was seen to more than 50 km away. This was much higher than expected, and highlights the particular vulnerability to radiation of children in and outside the womb.

In addition to exposure measured by typical external radiation counters, the children of Fukushima will also receive internal radiation from particles inhaled and lodged in their lungs, and taken in through contaminated food and water.

A number of radioactive substances are concentrated up the food chain and in people. As a parent, as a physician, the decision to allow the children of Fukushima to be exposed to such injurious levels of radiation is an unacceptable abrogation of the responsibility of care and custodianship for our children and future generations."

URL link for this article in **English and Japanese**: <http://www.japanfocus.org/events/view/81>



10 May 2011

Deadly Silence on Fukushima

Vivian Norris, Ph.D., based in Paris, focuses on Globalization and Media

I received the following email a few days ago from a Russian nuclear physicist friend who is an expert on the kinds of gases being released at Fukushima. He wrote:

About Japan: the problem is that the reactor uses "dirty" fuel. It is a combination of plutonium and uranium (MOX). I suspect that the old fuel rods have been spread out due to the explosion and the surrounding area is contaminated with plutonium which means you can never return to this place again. It is like a new Tchernobyl. Personally, I am not surprised that the authority has not informed people about this.

" . . . Now the Japanese government has moved to crack down on independent reportage and criticism of the government's policies in the wake of the disaster by deciding what citizens may or may not talk about in public. A new project team has been created by the Ministry of Internal Affairs and Communication, the National Police Agency, and METI [Ministry of Economy, Trade and Industry) to combat "rumors" deemed harmful to Japanese security in the wake of the Fukushima disaster."

One reason no one is reporting on this nor allowed to go inside the exclusion zone nor even measure the waters off of Japan is because of the following compiled by Makiko Segawa, a staff writer at the Shingetsu News Agency. She prepared this report from Fukushima and Tokyo for www.japanfocus.org:

Freelance journalists and foreign media are pursuing the facts, even going into the radiation exclusion zone. However, surprisingly, the Japan government continues to prevent freelance journalists and overseas media from gaining access to official press conferences at the prime minister's house and government.

We need to demonstrate and write to our representatives and demand that measuring be done around the world continuously. Fukushima's nuclear disaster is still going on. People need accurate information to protect themselves. Here is how after Hiroshima and Nagasaki and Chernobyl doctors worked with those who had been contaminated to decontaminate them (Sources: Tatsuichiro Akizuki, M.D., Nagasaki 1945 (London: Quartet Books, 1981); Tatsuichiro Akizuki, "How We Survived Nagasaki," East West Journal, December 1980):

"Macrobiotic Diet Prevents Radiation Sickness Among A-Bomb Survivors in Japan - In August, 1945, at the time of the atomic bombing of Japan, Tatsuichiro Akizuki, M.D., was director of the Department of Internal Medicine at St. Francis's Hospital in Nagasaki. Most patients in the hospital, located one mile from the center of the blast, survived the initial effects of the bomb, but soon after came down with symptoms of radiation sickness from the fallout that had been released. Dr. Akizuki fed his staff and patients a strict macrobiotic diet of brown rice, miso soup, wakame and other sea vegetables, Hokkaido pumpkin, and sea salt and prohibited the consumption of sugar and sweets. As a result, he saved everyone in his hospital, while many other survivors in the city perished from radiation sickness. I gave the cooks and staff strict orders that they should make unpolished whole-grain rice balls, adding some salt to them, prepare strong miso soup for each meal, and never use sugar. When they didn't follow my orders, I scolded them without mercy, 'Never take sugar. Sugar will destroy your blood!'"

This dietary method made it possible for me to remain alive and go on working vigorously as a doctor. The radioactivity may not have been a fatal dose, but thanks to this method, Brother Iwanaga, Reverend Noguchi, Chief Nurse Miss Murai, other staff members and in-patients, as well as myself, all kept on living on the lethal ashes of the bombed ruins. It was thanks to this food that all of us could work for people day after day, overcoming fatigue or symptoms of atomic disease and survive the disaster" free from severe symptoms of radioactivity. URL to this article:

<http://www.globalresearch.ca/index.php?context=viewArticle&code=NOR20110510&articleId=24702>

Remembering Hiroshima and Nagasaki

Canadian International Youth Letter

<http://www.paep.ca/en/CIYL/2008/doc/CIYL2008hiroshima.pdf>

David Krieger, J.D., Ph.D., President

Nuclear Age Peace Foundation

<http://wagingpeace.org/>

11 May 2011

NOTE: The information below has been appended to the article "Deadly Silence on Fukushima" in light of the fact that a special project team has been established by the Japanese Ministry of Internal Affairs and Communication, the National Police Agency, and the Ministry of Economy, Trade and Industry (METI) to combat "rumors" deemed harmful to Japanese security in the wake of the Fukushima disaster."

In view of the Fukushima tragedy, the German Federal Government has appointed an Energy Ethics Commission to study current nuclear power plant situations within Germany. According to the draft report the Commission reckons that Germany could be nuclear power-free in ten years without any electricity supply problems. The commission is chaired by Prof. Dr. Klaus Töpfer, former Federal Minister for the Environment, Nature Conservation and Nuclear Safety (1987-1994), former Under Secretary General of the United Nations, Executive Director of the United Nations Environment Programme (1998-2006). In 2009, Prof. Töpfer was appointed founding director of the Institute for Advanced Sustainability Studies (IASS). (Submitted to Chancellor Angela Merkel [Ph.D., Physics] the report was accepted. Monday, 30 May 2011 Germany announced plans to become the first major industrialised power to shut down all its nuclear plants, with a phase-out due to be completed by 2022).

Its draft report stated that the country's seven oldest nuclear power stations and the problem-hit Krümmel station, which were shut down in the wake of Japan's Fukushima disaster, could easily remain off-line without endangering supply. The remaining nine German nuclear power stations could be shut down by 2021, or even sooner. The paper, called 'Germany's Energy Consensus', said that those, "stations which according to safety standards are regarded as 'safe' should be closed down as soon as possible, in order of their remaining risk and their significance to the electricity network."

They should only be allowed to be operated until their capacity could be replaced by low-risk energy provision, the commission said, quoting experts saying that 2021 should be the limit. This date could even be pushed forward, the commission suggested. Progress on the exit strategy must be subjected to regular and transparent checks, and compared against price development, electricity supply, the stability of the system, carbon dioxide emissions and imports.

New institutions should be established to do this, including a parliamentary commissioner for energy change and a national forum for energy change. The biggest ethical responsibility is finding an acceptable final storage place for highly-radioactive waste. Social acceptance of this will depend on a definite date for the end of nuclear energy being named and adhered to, the commission said.

The commission recommended that radioactive waste be stored in such a manner that it can be recovered and moved. And it insisted, "the storage of nuclear waste which is generated in Germany must also happen in Germany." The government's carbon dioxide reduction goal – to be down by 40 percent by 2020 and 80 percent down by 2050 – would remain untouched, the commission wrote.

"We think that secure energy provision without lowering our sights in climate protection, and with an increase in jobs in the industry and craft, and no electricity shortage, and without importing electricity generated from nuclear sources, can be achieved if it can be made into a large national communal effort."

URL to this article: <http://www.thelocal.de/national/20110511-34935.html>

Tokyo, May 10, 2011 - Prime Minister Naoto Kan announced that Japan would abandon plans to build more nuclear reactors, stating that his country needed to create a new energy policy: "We need to start from scratch. We need to make nuclear energy safer and do more to promote renewable energy."

Please see segment **Developing An Appropriate Ethic and Vision For the Future**, page 18, including:
The United Nations Environment Programme (UNEP) Green Economy Report - 2011
Towards a Green Economy: Pathways to Sustainable Development
and Poverty Eradication - A Synthesis for Policy Makers

◆
UNEP Report 2008
Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World

March 2011

From Hiroshima to Fukushima

"The horrible and heartbreaking events in Japan present a strange concatenation of disasters. First, the planet unleashed one of its primordial shocks, an earthquake, of a magnitude greater than any previously recorded in Japan. The earthquake, in turn, created the colossal tsunami, which, when it struck the country's northeastern shores, pulverized everything in its path, forming a filthy wave made of mud, cars, buildings, houses, airplanes and other debris. In part because the earthquake had just lowered the level of the land by two feet, the wave rolled as far as six miles inland, killing thousands of people. In a stupefying demonstration of its power, as the New York Times has reported, the earthquake moved parts of Japan thirteen feet eastward, slightly shifted the earth's axis and actually shortened each day that passes on earth, if only infinitesimally (by 1.8 milliseconds)."

By Jonathan Schell, Ph.D., Yale Center for the Study of Globalization
<http://www.thenation.com/article/159238/hiroshima-fukushima>



March 2011

The Lessons of Fukushima

"As an anthropologist, I am always interested in what humans learn from their mistakes. Can humans change their behavior, thereby improving their chances of survival, not just through natural selection, but also through cultural learning? Or are we hardwired to repeat our mistakes over and over, like humanoid lemmings? More to the point, what lessons will we learn from the nuclear accident at Fukushima, an accident thought to be impossible just two weeks ago?" **Hugh Gusterson, Ph.D.**, Professor, Sociology and Anthropology,

George Mason University, **Bulletin of the Atomic Scientists**
<http://www.thebulletin.org/web-edition/columnists/hugh-gusterson/the-lessons-of-fukushima>



March 2011

A Warning from Japan

“ . . . Japanese officials have prevaricated, fumbled and have now largely retreated; the distressed plant is just too hot. Their understanding of the crisis is fragmentary. What they tell the public is even more limited. In total desperation they bombed the site with water dropped from helicopters but aborted that plan when radiation exposure proved too dangerous. Radioactive fallout is already sickening people. And this is just the beginning.”

Christian Parenti, Ph.D., Sociologist, Nation contributing editor, fellow at The Nation Institute and visiting scholar at the City University of New York (CUNY), Graduate Center
<http://www.thenation.com/article/159300/warning-japan>

March 2011

Citizens' Nuclear Information Center (CNIC)

based in Tokyo, is a network of scientists, activists, and common citizens, working to create a nuclear free world.

Statement Concerning Evacuation from Area Surrounding the Fukushima Daiichi Nuclear Power Plant (No. 3)

<http://www.cnic.jp/english/> Email: cnic@nifty.com

Fukushima Nuclear Earthquake Disaster

Links to CNIC's press releases and Ustream Press Conferences

<http://www.cnic.jp/english/topics/safety/earthquake/fukushima.html>

March 2011

All Things Nuclear - Insights on Science and Security Transcripts of Press Briefings on Fukushima by UCS Technical Experts by Union of Concerned Scientists (UCS)

Citizens and Scientists for Environmental Solutions

http://allthingsnuclear.org/tagged/Japan_nuclear?utm_source=SP&utm_medium=head&utm_campaign=sp-nuke-head-3%2F13%2F2011-pm



March 2011

Nuclear Apocalypse in Japan

Lifting the Veil of Nuclear Catastrophe and cover-up

By Keith Harmon Snow, Centre for Research on Globalization

URL of this article: www.globalresearch.ca/index.php?context=va&aid=23764



March 2011

Nuclear Nightmare

“The unfolding multiple nuclear reactor catastrophe in Japan is prompting overdue attention to the 104 nuclear plants in the United States—many of them aging, many of them near earthquake faults, some on the west coast exposed to potential tsunamis.” **Ralph Nader**

<http://www.commondreams.org/view/2011/03/19-0>



Regulators Aware for Years of Understated Seismic Risks to Nuclear Plants.

Despite six years of study, industry collaboration, and a missed deadline, no decision on reactor fixes.

“Nearly six years before an earthquake ravaged Japan’s Fukushima Daiichi nuclear power plant, U.S. regulators came to a sobering realization: seismic risks to nuclear plants in the eastern two-thirds of the country were greater than had been suspected, and engineers might have to rethink reactor designs. Thus began a little-noticed risk assessment process with far-reaching implications despite its innocuous-sounding name: Generic Issue 199. The process, which was supposed to have been finished nearly a year ago, is still under way. It is unclear when it will be completed. GI-199, as it is known, was triggered by new geophysical data

and computer models showing that, as the Nuclear Regulatory Commission put it in an August 2010 summary document, "estimates of the potential for earthquake hazards for some nuclear power plants in the Central and Eastern United States may be larger than previous estimates."

**By Jim Morris and Bill Sloat, The Centre for Public Integrity
Investigative Journalism in the Public Interest**

<http://www.iwatchnews.org/2011/03/18/3700/regulators-aware-years-understated-seismic-risks-nuclear-plants>

Potential April 6th Fukushima Fallout Forecast Shows U.S. West Coast Under Threat

http://www.youtube.com/watch?v=JqJ-M47ntNg&feature=player_embedded (00:24)



March 2011



Nuclear Disaster and Obama's Disastrous Response

"President Barack Obama's support this week for the construction of more nuclear power plants in the United States, amid the ongoing nuclear power plant disaster in Japan, must be considered -- against stiff competition -- as one of the most wrong-headed and irrational positions ever taken by a U.S. president.

As a candidate for president, Obama knew about the deadly dangers of nuclear power. "I start off with the premise that nuclear energy is not optimal and so I am not a nuclear energy proponent," Obama said at a campaign stop in Newton, Iowa on December 30, 2007. "My general view is that until we can make certain that nuclear power plants are safe...I don't think that's the best option.

I am much more interested in solar and wind and bio-diesel and strategies [for] alternative fuels."

Karl Grossman, Professor of journalism at the State University of New York/College at Old Westbury, specializes in investigative reporting on nuclear technology

<http://www.commondreams.org/view/2011/03/31-1>



April 2011

Nuclear Dead End: It's the Economics, Stupid

"... Nuclear power is simply not going to sweep in over the next handful of years and change the energy mix and save us from these tipping points. The catastrophically tight timeframe of climate tipping points means we must scale up actually existing clean technology. That will take massive investments and serious planning—but that project has already begun. Alternatives are slightly cheaper than nukes, come online faster and are growing robustly. In other words, nuclear power is not only physically dangerous; it is also economically wasteful and slow, especially when built in market economies. Quite simply, it is a stupid way to address climate change."

Christian Parenti, Ph.D., Sociologist, Nation contributing editor, Fellow at The Nation Institute, and visiting scholar at the City University of New York (CUNY), Graduate Center

<http://www.thenation.com/print/article/159997/nuclear-dead-end-its-economics-stupid>



April 30, 2011

Same Old from the Nuclear Gang after Fukushima

Wishful thinking about energy generation has apparently induced both temporary blindness and long-term amnesia. The nuclear industry has promised the world cheap, safe, and clean energy for over 60 years. As the Japanese government continues to extend its nuclear evacuation zone around the Daiichi nuclear complex in Fukushima, the pushers of nuclear power—including President Barack Obama--still demand that Congress approve ever-larger subsidies for new reactors.

Wishful thinking about energy generation has apparently induced both temporary blindness and long-term

amnesia about the history of nuclear "mishaps." In 2009, the government subsidized the nuclear industry with \$18.5 billion in loan guarantees, which failed to anticipate the total costs of "the next generation of plants." The Nuclear Energy Institute--the industry's lobbying group--now wants \$20 billion more in loan guarantees to get the so-called "nuclear renaissance" underway.

Saul Landau, Professor Emeritus, California State University, Pomona;
Senior Fellow, Vice Chair Fellow, Institute for Policy Studies; **Jack Willis**, Co-founder of Link TV.
Winner of a 1980 Emmy Award for their documentary Paul Jacobs and the Nuclear Gang.
http://www.otherwords.org/articles/same_old_from_the_nuclear_gang_after_fukushima



7 April 2011

Time to Rethink Japan's Energy Future **J. Matthew Roney, Earth Policy Institute**

Nearly four weeks after a 9.0-magnitude earthquake and tsunami devastated northeastern Japan, emergency personnel are still struggling to stabilize the disabled Fukushima Daiichi nuclear power plant. Beyond the immediate need to minimize further radioactive leakage and protect public health, the government is beginning to reconsider its long-term plans for nuclear power expansion. International media coverage has typically assumed that Japan must expand its electricity generation from coal, oil, and natural gas if nuclear is no longer an option. But the leaders in Tokyo do not have to be restricted to just these choices. A review of Japan's geothermal, wind, and solar energy potential shows that domestic renewable resources could easily power the world's third-largest economy.

http://www.earth-policy.org/plan_b_updates/2011/update94

March 2011

Nuclear Energy Time Out

"Sometimes chaos comes along as a wake-up call to humanity. The double-whammy of the earthquake-tsunami in Japan this week is overwhelmingly sad. To be at the total whim of the elements -- to be wiped out by a wave of water from the sea -- is an insult to the arrogance of modern humanity that thinks it can insulate and protect itself with technological know-how from the calamities visited on our earth by Mother Nature."

Alice Slater, New York director, Nuclear Age Peace Foundation
Foreign Policy in Focus http://www.fpif.org/articles/nuclear_energy_time-out
Nuclear Age Peace Foundation <http://wagingpeace.org/>



April 2011

Remarks by Ralph Nader on the 25th Anniversary of the Nuclear Meltdown at Chernobyl, Ukraine

"The disaster at Chernobyl's reactor on April 26, 1986 continues to expose humans, flora and fauna to radioactive lethality especially in, but not restricted to, Ukraine and Belarus. Western countries continue to reflect an under-estimation of casualties by the International Atomic Energy Agency (IAEA).

IAEA's figures top off at 4000 fatalities since 1986 that is highly questionable given IAEA's conflict of interest between its role of promoting nuclear power and monitoring its safety. An agreement between the IAEA and the World Health Organization (WHO) provides for WHO's deference to IAEA's casualty figures which has compromised WHO's priority of advancing health in the world. The United Nations naturally adopts the IAEA figures and the West's nuclear regulatory agencies, similarly committed to promotional functions, ditto these under-estimations.

The position that the level of mortality and morbidity from Chernobyl over the past quarter century is much larger comes from a compendium of 5000 scientific studies, mostly in the Slavic languages edited by Alexey Yablokov, Vassily Nesterenko and Alexey Nesterenko titled Chernobyl: Consequences of the Catastrophe for People and the Environment. Dr. Yablokov, a biologist, is a member of the prestigious Russian Academy of Sciences. The translated edition was published under the auspices of the New York Academy of Sciences.

At a press conference at the National Press Club in Washington, D.C. on March 25, 2011, attended by C-SPAN, CNN and independent media, but not the mainstream media, Dr. Yablokov summarized these studies and estimated the death toll over nearly twenty five years at about one million and mounting.

Because of the mainstream media, including the major newspapers, blackout on the Yablokov report since its translated edition came out in 2009, I asked Dr. Yablokov this question at the news conference:

"Dr. Yablokov, you are a distinguished scientist in your country, as reflected in your membership in the Russian Academy of Sciences, what has been the response to your report by corporate scientists, regulatory agency scientists and academic scientists in the West? Did they openly agree in whole or in part or did they disagree in whole or in part or were they just silent?"

Academician Yablokov replied that the compilation of these many reports has been met with silence. He added that science means critical engagement with the data and implied that silence was not an appropriate response from the scientific community.

Silence, of course, is not without its purpose. For to engage, whether to rebut, doubt or affirm, would give visibility to this compendium of scientific studies that upsets the fantasy modeling by the nuclear industry and its apologists regarding the worse case scenario damage of a level 7 or worse meltdown. It would require, for example, more epidemiological studies ranging into Western Europe, such as the current review of 330 hill farms in Wales. It would insistently invite more studies of the current health and casualty data involving the 800,000 liquidators-workers passing through since 1986 who have been exposed in and around the continuing emergency efforts at the very hot disabled Chernobyl reactor. And much more.

Public silence has not excluded a sub silentio oral campaign to delegitimize the Yablokov compendium. A quiet grapevine of general dismissals-unavailable for public comment or rebuttal-has cooled members of the press and other potential disseminators of its contents, including the National Academy of Sciences, the science advisers to the President and any other thinking scientists who decide that there isn't enough time or invulnerability to justify getting into a contentious interaction over the Yablokov report.

The ability of corporate science and its regulatory apologists to inflict sanctions on dissenters is legion. There is a long history of censorship leading to self-censorship by those who otherwise might have applied Alfred North Whitehead's characterization of science as "keeping open options for revision" to the ideology of atomic power.

I call for an open rigorous public scientific-medical debate on the findings and casualty estimates of the Yablokov report, to determine its usefulness for necessary programs of compensation, quarantine, accelerated protective entombment of the still dangerous reactor, and expanded studies of the past and continuing ravages issuing from this catastrophe and its recycling of radioactivity through the soil, air, water and food of the exposed regions. Such a public review is what the science adviser to the President and the National Academy of Sciences should have done already and should do now. The continuing expansion of the Fukushima disaster in Japan provides additional urgency for this open scientific review."



The Calamitous, Long-term Health Effects and Environmental Degradation of Depleted Uranium Use

NOTE: Collective military activities, military and nuclear waste are major contributors to long-term environmental degradation of plant, animal and human life, as well as the destruction of biodiversity, cultural diversity, intangible and tangible world heritage.

*"Today, we are at a turning point in our history. We can no longer continue to accept tradition for tradition's sake. **We can no longer go on playing the same old war games without eventually becoming conscious of the dimensions of the destruction involved.** We have no other choice but to become fully conscious of the darker aspects of our own cultural heritage. Only then will we cease to pass them blindly on to future generations.*

Victims of a devastating trauma may never be the same [again] biologically. It does not matter if it was the incessant terror of combat, torture, repeated abuse in childhood, or a one-time experience."

Dennis S. Charney, M.D., Dean of Mount Sinai School of Medicine, Professor of Psychiatry and Neuroscience

Developing an appropriate ethic and advancing moral progress does largely depend upon the growth of scientific, factual knowledge both of human behaviour, mental health and human affairs, and of the world in which we live.

Resolving environmental issues does not so much involve the need for novel technologies and new legislation as an entire change of collective consciousness.

Militarizing development, research and science and maintaining an arms economy for corporate and private gain has clearly become a morally unacceptable and economically unsustainable concept. It is very likely that the much needed conversion or the demilitarization of science cultures and institutions will stimulate different directions and content in our knowledge systems. Re-channeling the obsession with militarism, deconstructing the cult of war as an institution in society is of paramount importance. Teaching and deepening awareness of the collective immaturity, the psychopathology and inhumanity involved in the warring mind-set through an open, transparent and constructive dialogue, concerned with ecological integrity and the future of humanity, and actively dealing with the issues that matter through an Education For A Sustainable Future is a moral imperative.

From: Minding Our Future ♦ Safeguarding UNESCO's Founding Values ♦ <http://www.paep.ca/statement.php>



Oct 16-19, 2003

World Uranium Weapons Conference

University of Hamburg, Germany

Science Panel: Presentations/papers by:

Professor Yagasaki Katsuma, Japan; Chris Busby, Ph.D., UK;
 Dr. Souad Al-Azzawi, Iraq; Dr. Jawad Al-Ali, Iraq;
 Dr. Jenan Hassan, Iraq; Heike Schröder, molecular biologist, FRG;
 Professor Siegwart-Horst Günther, FRG;
 Dr. Eisuke Matsui, Japan; Professor Al-Aboudi Kadhum, Algeria;
 Professor Yuri Bandashevsky (article on his imprisonment in Belarus);
 Professor Huda Ammash, Iraq; Professor Alim Yacoub, Iraq.

Papers: http://www.grassrootspeace.org/wuwc_reader2_science.pdf

A new term, "atomicity", was introduced at the Conference.

Prof. Katsuma, Physicist Ryukyus University, Okinawa, calculated that 800 tons of **depleted uranium (DU)** has the radioactive equivalent of 83,000 Nagasaki bombs. The amount of DU used in Iraq (320 tons in 1991; 2400 tons after the invasion of 2003 (a total of approximately 5.5 million pounds) carries the radioactive equivalent to 250,000 Nagasaki bombs.

The papers above include Depleted Uranium Shells, The Radioactive Weapons - Perpetuation of War Damage by Radiation -

Group of Peace Education Against Nuclear Weapons, University of Ryukyus
<http://www.ratical.org/radiation/DU/KYagasakiOnDU.pdf>



Depleted Uranium Shells, The Radioactive Weapons - Perpetuation of War Damage by Radiation -

Prof. Katsuma Yagasaki, Ph.D., Physicist, University of the Ryukyus,

Dept. of Physics and Earth Sciences, Group of Peace Education Against Nuclear Weapon, Okinawa, Japan

Abstract: *"Depleted uranium shells are "steel-penetrating arrows" made of uranium metal. Upon impact, they would punch a hole through the target, while uranium burns itself into tiny particles spreading out in the atmosphere. Inhaled or ingested, they would enter human bodies, causing disastrous damage due to internal radiation exposure and heavy metal poisoning. Radioactive contamination of the environment by DU would remain almost indefinitely, producing Hibakusha among the residents in the area over the generations.*

The heartbreaking image of Iraqi children suffering from illness caused by DU exposure is A prelude to a tragedy we will encounter in the days ahead.

If humankind wishes to treasure civilization it has created, it must forever renounce the use of force as means of conflict resolution. It is of great importance in human history that each individual voices "No" to the path toward war and to the mobilization of science in arms development. Above all, sinister weapons must be banned without

a moment's delay. DU shells are atrocious radioactive weapons, which must never be allowed to use.

Let us hand over a green earth with abundant human wisdom and rich cultural heritage to our descendants in the 22nd century. For this, I do hope that this article will be found informative."

(This article was written for an educational text of depleted uranium munitions for Japanese general citizens and is translated to English for the World Uranium Weapons Conference, August 2003).

<http://www.ratical.org/radiation/DU/KYagasakiOnDU.pdf>



27 and 28 November 2009, Okinawa, Japan,

UNEP International Civil Society Workshop on Environmental Norms and Military Activity

Organized by: United Nations Environment Programme (UNEP)

Okinawa International University (OKIU)

Okinawa Environmental Network (OEN)

PAEP/IYNet Workshop Segment - Environmental Degradation in Iraq

Collective military activities and military waste are major contributors to long-term environmental degradation of plant, animal and human life, as well as the destruction of biodiversity, cultural diversity, intangible and tangible world heritage.

PAEP/IYNet's segment includes the devastating effects of the use of depleted uranium.

<http://paep.ca/doc/Environmental%20Degradation%20%28Iraq%29.pdf>

Environmental Degradation in Iraq - Excerpts

Crimes of the Century: Occupation & Contaminating Iraq with Depleted Uranium

Dr. Souad N. Al-Azzawi, Associate Professor in Environmental Engineering, Iraq

<http://www.brusselstribunal.org/pdf/DU-Azzawi2.pdf>

Depleted Uranium Radioactive Contamination In Iraq: An Overview

Dr. Souad N. Al-Azzawi, August 2006

Mamoun University for Science & Technology

<http://www.brusselstribunal.org/pdf/DU-Azzawi.pdf>

Crime of the Century: Iraq's Occupation and Depleted Uranium Contamination

Prof. Dr. Souad N. Al-Azzawi

http://www.internazionaleleliobasso.it/public/contributi/Multiple_Impacts.pdf

Iraq's War Disfigured Babies

Association of Muslim Scholars in Iraq, March 2009

<http://heyetnet.org/eng/reports/3964-iraqs-war-disfigured-babies-.html>

Overview Okinawa Workshop Summary

(For PAEP/IYNet segment: see pages 74,75,76)

<http://www.unep.org/law/PDF/ReportofIntlcivilsocietyworkshopmilitary.pdf>

August 2010 – Video (05:31)

Iraq & Depleted Uranium

Dr. Omar Al-Kubaisy, one of Iraq's leading heart specialists and human rights activist answers questions from the audience in Stockholm about Depleted Uranium.

The study "**Cancer, Infant Mortality and Birth Sex-Ratio in Fallujah 2005-2009**", published in July 2010 by the **International Journal of Environmental Studies and Public Health (IJERPH)**, shows terrifying facts

URL link to video - <http://www.uruknet.de/?p=m69410&hd=&size=1&l=e>
or <http://vimeo.com/14605866>

URL to the study: <http://www.mdpi.com/1660-4601/7/7/2828/pdf>



April 2005

Horror of U.S. Depleted Uranium in Iraq Threatens World

American Use Of DU is "A crime against humanity which may, in the eyes of historians, rank with the worst atrocities of all time." U.S. Iraq Military Vets "are on DU death row, waiting to die." **By James Denver**

During the current Iraq War the U.S. use of radioactive DU weapons increased from 375 tons used in 1991 to 2200 tons. Geiger counter readings at sites in downtown Baghdad record radiation levels 1,000 and 2,000 times higher than background radiation. The Pentagon has bombed, occupied, tortured and contaminated Iraq. Millions of Iraqis are affected. Over one million U.S. soldiers have rotated into Iraq. Today, half of the 697,000 U.S. Gulf War troops from the 1991 war have reported serious medical problems. During the current Iraq War the U.S. use of radioactive DU weapons increased from 375 tons used in 1991 to 2200 tons. Geiger counter readings at sites in downtown Baghdad record radiation levels 1,000 and 2,000 times higher than background radiation. The Pentagon has bombed, occupied, tortured and contaminated Iraq. Millions of Iraqis are affected. Over one million U.S. soldiers have rotated into Iraq. Today, half of the 697,000 U.S. Gulf War troops from the 1991 war have reported serious medical problems and a significant increase in birth defects among their newborn children. The effects on the Iraqi population are far greater. Many other countries and U.S. communities near DU weapons plants, testing facilities, bases and arsenals have also been exposed to this radioactive material which has a half-life of 4.4 billion years. There is significant increase in birth defects among their newborn children.

<http://www.rense.com/general64/du.htm>



Silent Nuclear War

"The term "depleted" seems to give the impression that DU is uranium that does not contain radioactivity any more, which is not the case. DU ammunition can cause serious radioactive contamination and is no less atrocious than nuclear weapons. DU dust-like particles can enter human bodies, and once taken into the body, they will become tens of millions times more hazardous. Newly released data indicate that low-level radiation is more likely to cause biochemical abnormalities than intensive high-level radiation. It is wrong to make light of the hazard of low-level radiation." Dr. Katsuma Yagasaki

DU is a little different than other forms of radioactive material. It only emits alpha and beta radiation. A piece of paper will stop it. So the military feels comfortable lying about its danger. However, when it is in the lungs or elsewhere in the body, it is in contact with living tissue, bombarding that tissue with low level radiation for the rest of your life. That radiation will lead to cancers, genetic damage, a list of chronic diseases and eventual death. When uranium burns into particles, it will enter human bodies ingested with drinking water and food, or inhaled with air. In this case, the whole radiation and chemical toxicity will be released in the body.

International Medical Veritas Association

<http://imva.info/index.php/radiation-medicine/silent-nuclear-war/>

23rd March 2006

U.S. Weapons Poison Europe Share Radiation From Iraq War Detected In UK Atmosphere

<http://www.rinf.com/columnists/news/us-poison-europe>



**Health and Environmental Issues Linked to the Nuclear Fuel Chain
Biological Effects of Ionizing Radiation - Radiation Burns and Cancer Therapy**
by Gordon Edwards, Ph.D., prepared under contract to the Canadian Environmental Advisory Council
http://www.ccnr.org/ceac_B.html#b.1



Uranium: The Deadliest Metal

by Dr. Gordon Edwards, President
Canadian Coalition for Nuclear Responsibility (CCNR)
http://www.ccnr.org/uranium_deadliest.html#bombs



Depleted Uranium: Uses And Hazards

By Doug Rokke, Ph.D., Former Director of the U.S. Army's Depleted Uranium Project
This article is an updated version of the paper presented in the British House of Commons; London, England; on December 16, 1999. This paper contains information that may be disturbing because it reflects the harsh reality of environmental and health consequences of war.

<http://www.iacenter.org/depleted/duupdate.htm>

May 24-25, 2001, Athens, Greece

The Scourge of Depleted Uranium

Presented during "The Child: A Victim of War and a Messenger of Peace"
United Nations – UNESCO International conference

Abstract: Depleted uranium munitions have been used in combat because they are extremely effective. However, in winning these battles we have contaminated air, water, and soil. Consequently, children, women, and men have inhaled, ingested, or got wounds contaminated with uranium. Uranium is a heavy metal and radioactive poison. In this paper Dr. Rokke, who was the health physicist originally tasked by the United States Army to clean up the DU mess, will discuss: What is DU? How is DU used by the military? Where and when has DU been used? What did we find immediately after Operation Desert Storm friendly fire and combat incidents? How did the Depleted Uranium Project get started and what were its objectives? What adverse health effects have been observed, recognized, treated, and documented? Based on all previous research and the Depleted Uranium Project what were the recommendations? What has occurred? What should happen next?

Doug Rokke, Ph.D., Former Director of the U.S. Army's Depleted Uranium Project.

<http://grassrootspeace.org/DuRokkeGreece.pdf>

2008

Radioactive Waste From Iraq Wars Dumped in U.S.

Doug Rokke, Ph.D., Former Director of the U.S. Army's Depleted Uranium Project

http://www.americanfreepress.net/html/waste_from_iraq_143.html



February 2008

Chris Busby Explains Why Uranium Is Bad For You

Prof. Chris Busby, Ph.D., explains how uranium including natural, enriched, and depleted uranium - causes health problems.

The presentation was made in February 2008 as part of the public interventions in the environmental assessment of AREVA's proposed Midwest uranium mine in northern Saskatchewan, Canada.

Part 1 (09:23)

<http://www.youtube.com/watch?v=42hJR1fX5VU&feature=related>

Part 2 (08:36)

<http://www.youtube.com/watch?v=FfNyZ9Kryb8&feature=related>



Developing an Appropriate Ethic and Vision for Future Generations

April 2000

Sustaining Life on Earth

Secretariat of the Convention on Biological Diversity (CBD)

How the Convention on Biological Diversity Promotes Nature and Human well-being

FOREWORD

The natural environment provides the basic conditions without which humanity could not survive.

Life on the blue planet is contained within the biosphere, a thin and irregular envelope around the Earth's surface, just a few kilometres deep around the radius of the globe. Here, ecosystems purify the air and the water that are the basis of life. They stabilise and moderate the Earth's climate.

Soil fertility is renewed, nutrients are cycled and plants are pollinated.

Although scientists are now able to appreciate the complexity of this web of interacting natural processes, we are still a very long way from understanding how they all fit together. What we do know is that if any part of the web suffers breaks down, the future of life on the planet will be at risk.

Biological diversity – the variability of life on Earth – is the key to the ability of the biosphere to continue providing us with these ecological goods and services and thus is our species' life assurance policy.

However, as a species we are degrading, and in some cases destroying, the ability of biological diversity

to continue performing these services. The 20th century saw a fourfold increase in human numbers and an eighteen-fold growth in world economic output. With these came unsustainable patterns of consumption and the use of environmentally unsound technologies. There are now more than six billion of us and we are placing unprecedented strains on the planet's ability to cope. Worse, the fruits of this growth are extremely unequally divided. Whilst some enjoy better standards of living than at any time in history, nearly half the world's population is unjustifiably poor, making do on less than \$2 a day. Worse still, the poor suffer disproportionately from the damage done to the environment.

In the 21st century, we will stand or fall on our ability to collectively eradicate poverty, guarantee human rights and ensure an environmentally sustainable future. Freedom from want, freedom from fear and sustaining our future are all part of the same equation. The world community has recognised this. Over the last ten years the United Nations has convened a series of summit meetings and negotiations to adopt legal instruments and programmes for action on key issues: education, the rights of children, environment and development, human rights, population and development, social development, the advancement of women, human settlements and food security. The legal and policy instruments are, by and large, in place. What is needed now is to ensure that they are implemented.

The Convention on Biological Diversity is one of these instruments. The Convention was opened for signature at the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992. It came into force at the end of 1993 and has now been ratified by the overwhelming majority of countries, for whom it is now a legally binding commitment to conserve biological diversity, to sustainably use its components and to share equitably the benefits arising from the use of genetic resources.

This Guide provides an introduction to the Convention, the issues it addresses and the action that needs to be taken. Action by Governments alone will not be enough. We will reverse the trends of environmental degradation and guarantee environmental sustainability for ourselves and for future generations only when we all ensure that our actions and behaviour, individually and collectively, are sustainable.

I hope you will read this Guide with this in mind and urge you, your family and your community to take an active part in achieving the objectives of the Convention on Biological Diversity.

Klaus Töpfer, Executive Director, UNEP [1998-2006]

PREFACE

In a world of increasing globalization and environmental degradation, management of its most precious living resource, biological diversity, is one of the most important and critical challenges facing humankind today.

Biological diversity is the resource upon which families, communities, nations and future generations depend. It is the link between organisms, binding each into an interdependent community or ecosystem in which all living creatures have their place and role. It is the very web of life.

Despite its importance, our heedless actions are eroding this resource at a perilous rate. The world is impoverished, even threatened, by this loss. Every gene, species and ecosystem lost erodes the planet's ability to cope with change. For the poorest in the world this flexibility is a matter of life and death.

For all of humankind it diminishes the quality of life.

A major cause of this erosion is that individuals, communities and nations take the resource for granted. There is an assumption, based on thousands of years of development, that living resources and biological diversity are limitless. Despite isolated instances of where communities, even civilizations, have ignored this responsibility and suffered dramatically as a result, for most of us the idea that we might be reaching the limits of its endurance is beyond our experience and comprehension. An important step to address our overuse of the biosphere lies in educating people. An education that empowers and enables people to seek collective ways to overcome current destructive trends is critical component of any successful strategy for achieving a sustainable future.

The Convention represents an important part of the effort to address this issue. Yet few people understand what is the term "biodiversity" actually means, let alone the goals and processes of the Convention. This is part due to the fact that we have not used language that is relevant or intelligible to the public: we have not explained ourselves clearly enough. Given the important role that the public has in achieving the aims of The Convention this is a significant barrier to its implementation. I am confident this Guide will make an important contribution addressing this barrier by explaining the somewhat arcane practices and terminology of this important endeavor in a simple and clear way.

On a more personal note, as people and the public have been at the centre of my efforts to build a better future I am especially pleased to have the chance to support this Guide.

Hamdallah Zedan, Executive Secretary, CBD

CBD Report: <http://www.cbd.int/doc/publications/cbd-sustain-en.pdf>



Green Economy Report - 2011

Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication - A Synthesis for Policy Makers

Investing just 2% of global GDP into ten key sectors can kick-start a transition towards a low-carbon, resource-efficient economy. The new UNEP report demonstrates that a transition to a green economy is possible by investing 2% of global GDP per year (currently about U.S.1.3 trillion) between now and 2050 in a green transformation of key sectors, including agriculture, buildings, energy, fisheries, forests, manufacturing, tourism, transport, water and waste management. However, such investments must be spurred by national and international policy reforms. Conducted by global experts and institutions from both developed and developing countries, this timely report confirms that under a green economy scenario economic growth and environmental sustainability are not incompatible. On the contrary, a green economy creates jobs and economic progress, while at the same time avoiding considerable downside risks such as the effects of climate change, greater water scarcity and the loss of ecosystem services.

[Summary of Conclusions](#)

[\[Arabic | Chinese | German | French | Japanese | Portuguese | Russian | Spanish\]](#)

Copyright © United Nations Environment Programme, 2011

<http://www.unep.org/greeneconomy/GreenEconomyReport/tabid/29846/Default.aspx>



United Nations Environment Programme Report 2008

Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World
Changing patterns of employment and investment resulting from efforts to reduce climate change and its effects are already generating new jobs in many sectors and economies, and could create millions more in both developed and developing countries.

http://www.unep.org/PDF/UNEPGreenJobs_report08.pdf (376 pages)



National Film Board of Canada's newly minted Green Channel, containing 30 films about the environment and sustainability, to celebrate International Earth Day.

http://www.nfb.ca/channels/the_green_channel/?ec=en20110420

Of particular relevance to the UNEP Green Economy Report from the NFB series, is the Terre Nash/Marilyn Waring 1995 documentary (1:34:03)

Who's Counting? Marilyn Waring on Sex, Lies and Global Economics

http://www.nfb.ca/film/whos_counting

Summary of Main Points which are notably absent from public discussion:

Gross Domestic Product figures, which form the basis of macroeconomic policy throughout the world, recognize no value but money and are unrelated to the well-being of people and communities.

Unpaid work, largely done in subsistence economies, and in addition by women and the earth's ecosystems in all economies, is discounted and often disrupted by economic policy decisions.

Destructive activities such as war, pollution, and sexual slavery are valued as long as they generate money flow. There is no debit side in the accounting procedures. Non-monetary human values such as peace, community, and environmental preservation are not recognized in economic policy-making.

"The system cannot respond to values it refuses to recognize. The international trade in arms is the biggest growth industry of all. The five permanent members of the United Nations, [China, France, Russian Federation, United Kingdom, United States], are also the leading arms exporters in the world.

Killing people, or preparing to kill them, is considered valuable in the international economic system. Arms exports account for more than half of the trade surplus of the developed economies. The death, homelessness, injury, poverty and starvation caused by the use of these weapons is not even registered as a deficit.

If a country develops an economic system that is based on how to pay for the war, and if the amounts of fixed capital investment that are apparent are tied up in armaments, and if that country is a major exporter of arms and its industrial fabric is dependent on them, then it would be in that country's interests that it always had a market.

It is not an exaggeration to say that it is clearly in the interests of the world's leading arms exporters to make sure that there is always a war going on somewhere." Marilyn Waring, Ph.D., Professor, Institute of Public Policy, Auckland University of Technology, New Zealand



May 5, 2011 Draft Paper

What's Dangerous, Earth's Imbalance, and The Case for Young People

The Case for Young People and Nature: A Path to a Healthy, Natural, Prosperous Future

By Professors: James Hansen, Pushker Kharecha, Makiko Sato, Paul Epstein, Paul J. Hearty, Ove Hoegh-Guldberg, Camille Parmesan, Stefan Rahmstorf, Johan Rockstrom, Eelco J. Rohling, Jeffrey Sachs, Peter Smith, Konrad Steffen, Karina von Schuckmann, James C. Zachos,

Abstract. We describe scenarios that define how rapidly fossil fuel emissions must be phased down to restore Earth's energy balance and stabilize global climate. A scenario that stabilizes climate and preserves nature is technically possible and it is essential for the future of humanity. Despite overwhelming evidence, governments and the fossil fuel industry continue to propose that all fossil fuels must be exploited before the world turns predominantly to clean energies. If governments fail to adopt policies that cause rapid phase-down of fossil fuel emissions, today's children, future generations, and nature will bear the consequences through no fault of their own. Governments must act immediately to significantly reduce fossil fuel emissions to protect our children's future and avoid loss of crucial ecosystem services, or else be complicit in this loss and its consequences.

http://www.columbia.edu/~jeh1/mailings/2011/20110505_CaseForYoungPeople.pdf



2010 Quadrennial Report to the United Nations Environment Programme (UNEP) by Public Awareness Education Programs

<http://paep.ca/doc/A1%20-%20UNEP%20-%20PAEP%20Quadrennial%20Report.pdf>

EXCERPTS

*"Everyone has the responsibility to shape the future of humanity. The way in which ideas are formed is what gives character to the human mind. We must become more truthful and active in life – there is so much to articulate and to set into motion. Our single most important enterprise is an education that creates a common network of rational thought across the globe." Louanne Smrke (1951-1991) Journalist, Publisher; **The Rt. Hon. Jeanne Sauvé** (1922-1993), Governor General of Canada (1984-1990); Minister of State for Science and Technology (1972-1974), Minister of the Environment; Minister of Communications (1975-1979).*

**Writing Award Projects: Alternative Energy Resources – The Bridge to the Future:
Environmental Science and Equitable, Sustainable Development for the New Millennium.**

<http://www.paep.ca/writingawards.php>



The Role of the Humanities

"The surest way to destroy freedom is to destroy the capacity to articulate freely . . . The vast majority of things that we hear today are prejudices and clichés, simply verbal formulas that have no thought behind them but are put up as a pretence of thinking. It is not until we realize that these things conceal meaning, rather than reveal it, that we can begin to develop our own powers of articulateness. The teaching of humanities is, therefore, a militant job. Teachers are faced not simply with a mass of misconceptions and unexamined assumptions. They must engage in a fight to help the student confront and reject the verbal formulas and stock responses, to convert passive acceptance into active, constructive power. It is a fight against illiteracy and for the maturation of the mental processes, for the development of skills which once acquired will never become obsolete."

H. Northrop Frye (1911-1991), Literary Critic, Chancellor of Victoria University in the University of Toronto (1978-1991)
<http://www.paep.ca/en/CIYL/2006/doc/The%20Role%20of%20the%20Humanities%20-%20Northrop%20Frye.pdf>

March 2000

**The Earth Charter Initiative
Promoting Change for a Sustainable Future**

"We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognise that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations."

http://www.unesco.org/education/tlsf/TLSF/theme_a/mod02/uncom02t05s01.htm



Living Planet Report 2010 - Biodiversity, Biocapacity, and Development

New analyses on the health of our only planet. It shows populations of tropical species are plummeting while humanity's demands on natural resources are sky-rocketing.

We are currently using 50% more natural resources than the earth can sustain.

<http://assets.panda.org/downloads/lpr2010.pdf>



February 2011

World on the Edge: How to Prevent Environmental and Economic Collapse

"We are facing issues of near-overwhelming complexity and unprecedented urgency.

Our challenge is to think globally and develop policies to counteract environmental decline and economic collapse.

The question is: Can we change direction before we go over the edge?"

Lester R. Brown, Founder and President, Earth Policy Institute - Providing a Plan to Save Civilization

http://www.earth-policy.org/images/uploads/book_files/wotebook.pdf (174 pages)

Online Book: Courtesy of W.W. Norton & Company

World Policy Institute - <http://www.earth-policy.org/books/>



Globalization with a Human Face – Benefiting All - Tokyo, July 30, 2003

"However impersonal the forces shaping our world may seem, in practice they occur through the actions of people - as they live, work, think, choose and decide . . . In many areas of life, the ethical ground is shifting beneath our feet due to the very rapidity of scientific and technological change, which is outstripping our capacity to devise appropriate ethical, political and social responses . . . The very nature of globalization requires the development of knowledge, values, skills and behaviours that enable young people to cope with complexity and change."

Koïchiro Matsuura, Director-General, UNESCO (1999-2009)

http://www.paep.ca/en/CIYL/2003/doc/matsuura_globalization.pdf



This Canadian International Youth Letter (CIYL) is part of a new series with an emphasis on science and human affairs.

The series incorporates cultural and youth studies as well as research-based information on the science of human behaviour, including the effects of war, destructiveness and violence on youth development, global mental health and the environment. Under the theme '**Exploring New Ways of Knowing – A Meeting of Minds, Science and Human Experience**' it is part of the new project of the **International Youth Network for the Advancement of the Sciences, Humanities and Global Bioethics (IYNet)**

© 2011 Public Awareness Education Programs of the Sciences & Humanities – Technology & Global Bioethics (PAEP/HFS)

As an NGO member of Forum UNESCO and UNEP, PAEP takes grassroots initiatives, working with and for youth to advance the universal values of the United Nations Educational, Scientific and Cultural Organization and UNEP: To understand and respect cultural diversity as the common heritage of humanity; Foster a new transdisciplinary educational, scientific, environmental and inter-cultural dialogue towards a universal code of ethics for the benefit of future generations; Build awareness and mutual understanding; Strengthen international co-operation in the protection of the world's natural, cultural, intellectual and scientific heritage.

Contact: Hans F. Schweinsberg – Tel: 416-486-9333 – Fax: 416-483-0002 – paep.utm@utoronto.ca – <http://www.paep.ca>
