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RESISTANCE NUMBER 56
OILWATCH NETWORK BULLETIN
September 2005
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FROM THE OIL-BASED CIVILIZATION TO A POST-OIL SUSTAINABLE SOCIETIES

Oilwatch

Dear friends:

Oilwatch want to begin a debate on the civilization based on oil, which dominated the live of most of the societies in the XX Century and continue its domination until now.

This is the first bulletin that we devote to this subject. We would like to identify some of the impacts of this civilization in the economy, health, environment, sovereignty of the nations…

We hope to continue the debate in future bulletins, in order to think on which sort of societies we want to build.

OILWATCH SECRETARIAT
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CONTENT

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1. A CIVILIZATION BASED ON OIL

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The twentieth century civilization has been marked by oil. Industrial production in general and its agricultural model in particular, are largely dependent on fossil fuels. Oil-based civilization has given birth to a new urban model where the automobile becomes the determining factor in its design. An entire new range of highly contaminating products derived from oil have been generated, these products are highly contaminating not only in their production process but also when being disposed of.

Oil is the responsible for overexploitation of human work, because it created nocturnal work, and with that the excision of the family concept as it was known before.

Oil production has allowed the development of capitalist globalization and also has accelerated its growth.

In oil production countries, especially those of the Third World, oil extraction has meant environmental destruction, serious affectations to health, human rights violations not only to the people who live by the oil fields zone of influence, but also to the industry workers.

In Southern countries oil reserves have forced them, in the big majority of cases, to fall on the evil circle of foreign debt, since they have oil, they become subjects of international credit, the same, which in many cases is invested in the development of the oil industry. This dependency on an economy based on oil exports, has meant the rupture of local economies, due to the so called “Holland’s sickness”, that is to say, that the financial flow generated by oil exports, stimulates imports, in many cases of sumptuary objects at the expense of local production.

Paradoxically, foreign debt, which has become the foundation for the building of an oil civilization, has created rich societies based on wasting, on the over consumption of trivial goods; and on the other hand, societies which live in conditions of extreme poverty, indebted and with such a level of environmental impacts that make them creditors of an accumulated and growing ecological debt, which should be recognized as a fundamental element for the building of post-oil sustainable societies.

But over all, current oil civilization is based upon the control of oil reserves, through physical occupation of the countries rich in oil, through direct wars as in the case of Iraq and Afghanistan, through military presence in strategic zones around the world or through commercial treaties, in each case depending on the conditions of each country.

Oil industry has changed as well as war tactics. Because oil energy allows the motility of troops at the sea, ground, or air level, as well as the invention of new weapons, which has given place to a military and industrial complex controlled by few countries.

Oil has attempted against the sovereignty of the independent States which posses this resource, because of the creation of big oil transnational companies. These companies are supported by their governments, to ensure them a cheap and secure access to the countries,

which have been their colonies and which now they consider their neo-colonies. This is been done through commercial agreements, blackmailing made possible by the foreign indebtedness, or simply through military occupation.

Oil has created a society of waste which is taking the planet to the verge of collapse due to phenomena like global warming, the impossibility of getting rid off petrochemical waste, the generation of a food system highly dependent of fossil fuels, and which make us vulnerable to possible depletion of the oil resource.

In spite of all of that, all the predictions point out towards an increase in energy demand for the next decade, and oil will play a prevailing role. These predictions do not take in account that societies demand changes, that climate change impacts, produce by the excessive fossil fuel burning, each day are more frequent and more severe, and that this is already attacking the heart of the oil model, like in the case of the U.S, Gulf of Mexico zone, also that many movements are demanding the building of sustainable societies, which in many cases is being gestated at the local level. That the number of people poisoned by pesticides (which raw material is oil) has already provoked to work for alternative non-agricultural models. That the Planet needs changes.

But in order to do that, it is essential that we become actors of change, that we think in post-oil and sustainable societies, where the replacing of oil for other materials do not become the only issue, while the transnational companies prevalence over the energy and food systems, which are supported by multilateral banking, remains; but rather on the contrary we could build a sustainable world, where human communities would be the main actors.

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2. ON THE ORIGENS OF THE OIL INDUSTRY

Oilwatch

The father of the modern oil industry is John D. Rockefeller, through his company Standard Oil. He marked some of the methods which the oil industry maintains to date: unequal competition, industrial espionage, fiscal take over of countries and regions, change in life style of the local population, etc.

John D. Rockefeller started out as owner of books for the oil industry in Cleveland Ohio. Within 7 years he was owner of the tenth part of the oil industry in his country.

When the oil industry was starting up, towards the end of the XIX century, the law of the jungle governed. Under these circumstances, Rockefeller designed a series of strategies for his benefit. For example, he created a series of companies related to the industry, apparently without any relationship between them, which allowed him to secretly control all the companies. Also secretly he bought up all competitor companies, using industrial espionage.

Standard Oil had its own espionage service; its strategy was to transfer detailed information in relation to the operations of its competitors, combined with a total closure of its own operations. One of the most effective secretes was in relation to the rail companies which refused to transport crude oil, without concern over what price the operators of the fields or refineries were willing to pay. However, Rockefeller managed to obtain extraordinary reductions, though it never became apparent how he achieved this.

Allun Nevins who wrote an official bibliography on Rockefeller, mentioned a contract between Rockefeller and the rail company on the 17th of October of 1877 and says that the commission that Rockefeller paid for the services was excessive, all with the aim of eliminating his competitors. The additional cost he transferred to the competitors.

When legal cases appeared the employees of Standard Oil acted with impunity, they did not assist the audiences, or they refused to give declarations. In a legal investigation in 1880, it was found that Standard Oil had violated social law due to its monopoly agreements with the rail company.

Towards the end of the XIX century, John D. Rockefeller controlled the oil market. He was the owner of the patent design of the metal oil tankers that were transported via rail. This type of tankers implied a huge saving for the owners of the new oil fields, since before crude oil was transported in wooded uncovered barrels. There was a lot of loss of oil due to leakages or evaporation, leaving only bitumen. With the metal tankers the old system became obsolete.

Via his company Union Tanker Car, Rockefeller hired his tankers to the owners of the oil fields when the metal tankers had recently been discovered to transport crude oil to the refineries. When the oil industry reached its peak he broke all the contracts and removed his tankers. There was now no other way of transporting crude oil, which meant that both the owners of the fields, and those that controlled the refineries went into bankruptcy. Then through another of his companies, Standard Oil bought both the oil fields and the refineries at an infamous price. Eventually he also became owner of the railways.

Since he did not have direct experience of the oil fields he hired the same people he had ruined to work for him. Between 1900 and 1910, repeating similar methods he became owner of all the oil fields in California, Texas, Arkansas, New Jersey, Ohio and other states; and controlled 90% of the energy business of the United States.

In 1911 an anti monopoly law was dictated and the company was forced to divide into the seven famous sisters.

Between 1910 and 1914 there was in the world only 3 large oil companies:
Standard Oil and its daughter (of the United States), the British-Persian Petroleum Company that operated in what is today Iran (British) and Royal Shell (British-Dutch) which operated in what is today Indonesia (previously Dutch colony) and others of the South East Asian region.

Rockefeller resolved to buy them with the aim of eliminating competition and completely dominate the world oil business. In 1911 he decided to buy the 12 banks that made up what is now known as the Private Federal Reserve system and sell it to his countries Congress, he achieved it in 1913. All the taxes collected in the United States from 1913 go through the Private Federal Reserve System. Once a year these banks report and transfer a quantity of money collected through taxes, without paying the federal government, the interests that this money has generated. The federal private banks do not pay taxes and do not have to report to anybody.

With this huge flow of money, John Rockefeller could buy British Petroleum and Royal Dutch Shell, even if his own company Standard Oil had been divided.

In conversations maintained between the companies in 1910 they decided to act as an oil cartel to fix the international price of crude oil. The referential price was established as "Western Texas Sweet Crude". This system functioned from 1910 to 1975. They also came to an agreement in deciding how to divide up the world in relation to were their oil fields and markets were found. For this it was necessary to eliminate all the small companies and take ownership of all the oil fields in each country, including French, Portuguese and German colonies.

This was one of the reasons why the United States got involved in the first World War between 1914 and 1918 and in the negotiations of the "Treaty of Versailles" in which nearly all the ex colonies were eliminated. Standard Oil participated in the writing of this treaty. From the "Treaty of Versailles", Germany lost all its oil fields in its ex colonies and areas of influence.

However not all turned out as planned, because Russia did not take part in the Treaty and its giant oil reserves were left out of the influence of the three large oil companies and the international oil price could not be controlled by only these three companies. Rockefeller could not buy out his competitors.

During the decade of the 1930's a project lead by Standard Oil changed the urban concept of the cities of the United States, destroying all the existing trams. The project was known as the National City Lines and was launched in conjunction with Firestone Tire and Rubber Company, Phillips Petroleum Co, Mark Truck and General Motors. The idea was to create highways and with them a high demand for vehicles. General Motors itself without considering the rest was responsible for destroying 100 urban trams. By the end of that decade, a federal judge found the consortium guilty of anticompetitive practices. A fine of US$ 5.000 was imposed, which in no way compares to the profits that were generated from the conversion of only one tram. The project was later expanded continentally.

The successors of John D. Rockefeller maintained the idea of eliminated their competitors. Towards the end of the II World War, Standard Oil controlled a large number of the oil fields of the Royal Dutch Shell in the Pacific. During the US occupation of Japan, David Rockefeller was one of the US government representatives. From there oil prospections were carried out in what is today Indonesia and Vietnam. Years later Mobil managed

important reserves in Sumatra (that they still have today) and whilst the war with Vietnam took place, Mobil was carried out research in the seas of Southern Vietnam.

The Rockefeller Foundation promoted the Green Revolution in third world countries, in other words an agriculture based on the oil industry. Today they promote agrobiotechnology, that is to say the incorporation of genetically modified organisms into the agricultural package.

The Rockefeller Foundation was also involved with the Summer Linguistics Institute, which was made up of a group of evangelical missionaries that worked within indigenous tribes where important oil reserves existed to weaken resistance from the local population to the entry of the industry into their territories.

From its financial sector the Rockefeller group maintained control of the United States federal reserves.

The most important descendants of Standard Oil are today, ExxonMobil product of the fusion of Standard Oil New Jersey (Exxon) and Standard Oil Company of New York (Mobil), Chevron is the product of the fusion of Standard Oil California (Chevron) and Texas Company (Texaco).

Sources:
Tony Gosling. THE OIL INDUSTRY AND DESTRUCTION OF PUBLIC TRANSPORT , Rockefeller and Standard Oil... Rags to riches... greed posing as philanthropy.
www.bilderberg.org
Marshall Douglas Smith, BLACK GOLD HOT GOLD. The Rise of Fascism in the American Energy Business (Pre-publication online)
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3. ENERGY IN THE UNITED STATES OF AMERICA

United States is the country with the biggest dependency on oil in the world. Total energy consumption is projected to increase 36 percent by 2025.

The United States averaged *total net oil* (crude and products) imports of an estimated 11.8 million bbl/d during January-October 2004, representing around 58% of total U.S. oil demand.

Overall, the top suppliers of crude oil to the United States during January-October 2004 were Canada (1.6 million bbl/d), Mexico (1.6 million bbl/d), Saudi Arabia (1.5 million bbl/d), Venezuela (1.3 million bbl/d), and Nigeria (1.1 million bbl/d). Crude oil imports from Persian Gulf sources averaged 2.4 million bbl/d during that period.

During 2003, the United States produced around 7.8 million barrels per day (bbl/d) of oil, of which 5.7 million bbl/d was crude oil, and the rest natural gas liquids and other liquids. U.S. total oil production in 2003 declined sharply (around 2.8 million bbl/d, or 26%) from

the 10.6 million bbl/d averaged in 1985. U.S. crude production, which averaged 5.4 million bbl/d during the first ten months of 2004, is now at 50-year lows.

DEPENDENCE ON FOREIGN OIL IS GROWING

Net imports represented 56% in 2003 and are expected to reach 68% by 2025.

Even energy efficiency is increasing the U.S. will still need 32 percent more energy to support economic growth through 2025.

The proved oil reserves as of January 1, 2005 were 21.9 billion barrels, the eleventh highest in the world. These reserves are concentrated overwhelmingly (over 80%) in four states. As of December 31, 2003, Texas had 22% of total US oil reserves (rate of extraction:1.1million bbl/d), Louisiana had 22% (244,000 bbl/d), Alaska 20% (949,000 bbl/d), and California 18% (683,000 bbl/d). Additionally, we have Oklahoma (178,000 bbl/d), and Wyoming (143,000 bbl/d) and the Gulf of Mexico (1.6 million bbl/d).

U.S. proven oil reserves have declined some 17% since 1990, with the largest single-year decline (1.6 billion barrels) occurring in 1991.

The United States contains over 500,000 producing oil wells, the vast majority of which are considered "marginal" or "stripper" wells, generally producing only a few barrels per day of oil. Generally speaking, Lower-48 onshore production, particularly in Texas, has fallen in recent years, while offshore (mainly Gulf of Mexico) production is rising.

Energy-efficiency improvements have played a major role in meeting national energy needs since the 1970s, relative to new supply.

ENERGY SUPPLY AND DEMAND

The demand for energy of all forms is likely to increase significantly, according to the Energy Information Administration. By 2025, even with expected dramatic gains in efficiency, total energy consumption is forecasted to increase by 36 percent, petroleum by 39 percent, natural gas by 40 percent, coal by 34 percent, electricity by 49 percent, and renewable energy by 38 percent.

ENERGY INFRASTRUCTURE: NATURAL GAS TRANSMISSION PIPELINES

In 2003, the U.S. consumed 22.0 Trillion cubic feet (Tcf) of natural gas. Demand is expected to grow to 30.7 Tcf by 2025—a 40-percent increase. The current network of natural gas transmission pipeline is not adequate to meet this growing demand.

NATURAL GAS DISTRIBUTION

Many miles of new natural gas distribution pipelines must be constructed to serve new customers and to connect existing customers.

PETROLEUM REFINERIES

In 2003, net imports of petroleum accounted for 56 percent of domestic consumption. U.S. imports are expected to grow to 68 percent in 2025. With the last hurricanes, several oil refineries have being affected in the Golf of Mexico (see below)

Sources: (EIA *Annual Energy Outlook 2005*)
http://www.eia.doe.gov/emeu/cabs/usa.html
Alliance for Energy and Economic Growth. Energy to Secure America´s future

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4. SUBSIDIES IN THE OIL AND ENERGY SECTOR IN USA

Every year, the federal government spends billions of dollars to subsidize the use and production of polluting forms of energy. These subsidies include tax breaks, government funded research and development, exemptions from paying taxpayers for extracting resources from public lands, and insurance schemes that cap the fiscal liability of the nuclear power industry in the case of an accident.

These subsides are going to some of the nation's wealthiest and dirtiest companies, leaving a trail of pollution in their wake. Every year the United States burns more than 900 million tons of coal, releasing more than 51 tons of mercury and two billion tons of carbon dioxide into the air. According to the Union of Concerned Scientists, the oil industry spills 31,000 gallons of oil into U.S. waterways every day. Meanwhile, nuclear power has left a legacy of 41,000 metric tons of highly irradiated nuclear waste, for which there is no safe disposal option.

The bulk of government assistance in the energy sector has been directed to the nation's most profitable and dirtiest energy sources. For example, between 1948 and 1998, the federal government spent $111.5 billion on energy research and development programs. Of this amount, 60 percent, or $66 billion, was dedicated to nuclear energy research, and 23 percent, or $26 billion, was directed to fossil fuel energy research.

The oil industry is soaking up billions of dollars in tax breaks, government funding, and indirect subsidies that pay for oil related environmental damage.

Even as they reap these benefits, they are spending millions on slick lobbying campaigns and political contributions to put the brakes on California's growing electric and clean vehicle industry.

In two reports produced by the Union of Concerned Scientists (UCS) and the California Public Interest Research Group (CalPIRG), they concluded that that the oil industry profits from preferential treatment in tax laws and government support. While the non-oil industries are taxed at a rate of 18 percent, the oil industry is taxed at a mere 11 percent. This reduced rate equates to $2 billion in federal corporate income tax benefits per year. They also benefit from low state and local sales tax rates on gasoline, an indirect subsidy

exceeding $4 billion a year. Direct government funding of oil and motor vehicle infrastructure and services tops off at $45 billion a year. And taxpayers, not the oil industry, are left to pay the cleanup bill for oil-related health and environmental damage, which could be as high at $232 billion annually.

The industry had collected $150 billion in subsidies from the federal government between 1918 and 1978, according to the U.S. Department of Energy. Many of the existing subsidies, continue to drain tax dollars even though their original purpose has long been fulfilled or forgotten. The elimination of $5 billion in annual subsidies will reduce U.S. greenhouse gas output 30%.

The16 Worst Subsidies related with the oil industry are:

Immediate Expensing of Exploration and Development Costs – $200 million/year

Allowance for Oil and Gas – $600 million/year

Full Coal Firm Support for the Black Lung Fund – $350 million/year
Designed to internalize the health-related costs of coal mining, this fund requires government support to pay for work-related disabilities of coal miners, which should be paid by the companies

Intangible Drilling Costs – $500 million/year. Integrated oil and gas companies can immediately deduct 70 percent of "intangible" drilling costs. Most other businesses deduct such expenses over time and therefore receive less of a tax benefit.

Passive Loss for Oil and Gas – $100 million/year. This tax shelter for investors in oil and gas allows certain owners to offset "passive losses" against income to pay lower taxes.

Non-Conventional Fuel Production Credit – $1.3 billion/year. This tax credit for certain types of fuel extracted from "non-conventional" sources was intended to provide incentives for petroleum alternatives, but most of the credit has gone for oil and gas production.

Tax Breaks for Enhanced Oil Recovery – $100 million/year. Expensing (writing off) tertiary injectant costs and the tax credit for enhanced oil recovery encourage extraction of difficult to reach and expensive oil deposit remnants.

Clean Coal Technology Program – $250 million/ year. This program helps finance private companies to develop cleaner burning coal technologies by providing up to 50 percent in federal matching funds.

Coal R&D – $100 million/year. The Department of Energy supports research in technology programs for producing, refining, and burning coal products.

Other Fossil Energy R&D – $100 million/year. The federal government provides subsidies for oil and natural gas research and development.

Multilateral Development Bank Loans for Fossil Fuel – $80 million/year. The U.S. federal government supports several multilateral development banks, which provide loans for fossil fuel development in other countries.

Export Import Bank Guarantees for Fossil Fuel – $300 million/year. The Export Import Bank provides federal loan guarantees for investments in unstable countries. A portion of these loans are used for fossil fuel development.

Capital Gains Treatment of Royalties on Coal – $15 million/year. Individual owners (as opposed to corporations) who lease out their coal mining rights are able to pay capital gains taxes on these royalties, rather than the higher top individual income tax rate.

Income Tax Exemption for Publicly Owned Utilities – $200 million/year. Publicly owned utilities and cooperatives are not subject to federal income tax on their profits or retained earnings. Some of these utilities use fossil fuels.

Rural Utilities Service Loans – $900 million/year. The federal government provides low-interest loans to rural-electrification cooperatives. These cooperatives have invested heavily in energy plants using fossil fuels.

Tax Exemption for Publicly Owned Utility Bonds – $550 million/year. Publicly owned utilities (POUs) can issue tax-exempt bonds. A significant portion of POUs have invested in energy sources using fossil fuels.

Oil Royalty Exemptions - $802 million

Sources: http://greenscissors.org/energy/petroleum.htm
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5. PETROCHEMICALS AND THE OIL CIVILIZATION
Oilwatch

Various production chains that are based on the conversion of hydrocarbons into chemical products make up what is known as the Petrochemical industry. This is one of the key stone of the industry and technology of society from the XX and beginnings of the XXI century.

This industry has made possible the development of many products which today are considered normal and indispensable, such as computers, textiles, unbreakable toys and a large quantity of other products which do not exist in nature and that did not exist before the mass use of oil.

It is precisely the belief that these oil derived products are what assure an acceptable quality of life, that it is impossible to live without them, which has converted the XX century society into a society addicted to oil. The growth in demand of these petrochemical products has taken place due to the displacement of traditionally primary products by synthesized materials, which have in turn enabled mass consumption.

Therefore in the textile industry, synthetic fibres, replace wool and cotton. The first fiber that was commercialized was nylon, in 1938. From then, the growth in demand has not stopped growing. By volume it represents the second most important Petrochemical material after plastic.

The rubber industry uses new products with similar properties and sometimes superior to natural rubber.

The packaging industry has substituted polyethanol as an alternative to glass, and cellophane plastics for construction due to its resistance to corrosion and its lightweight and flexibility.

The food industry uses benzoic acid, a derivative of toluene in its tin products as a preservative.

END PRODUCTS

The huge variety of end products of the petrochemical industry can be classified into five main groups: plastics, synthetic fibers, synthetic rubber, detergents and nitrogen fertilizers.

The common name for plastics comes from its property of deformability in relation to plasticity (elasticity) under the influence of heat, pressure or both. There are three important plastic families: the thermo plastics, the thermoresistant plastics the polyuretanes. Thermoplastics constitute approximately 50% of the consumer plastic of the world, it includes photographic films, plastic bags, pipes, furniture, construction material, toys, electronics, PVC's, valves, flowers, boots, etc.
The thermoresistant plastics are used in electronics, decorative panels, domestic utensils, etc. The polyuretanes plastics are products with transparent glass appearance, extra-light foams…..

Synthetic fibers include polyamides for fine lingerie, carpets, curtains, swim suits, etc.

Polyesters are used in suits, ties, water resistant clothing, carpets…..
Acrylic fibers substitute, wool.

Synthetic rubber is the principle suppliers of the automobile industry, since it is the fundamental element of tires. It is also used in some of its varieties in shoes and materials for terraces and roofs.

Detergents are products soluble in water, whose property is the ability of being able to modify liquid surface tension, reducing or eliminating contained dirt. Its main uses are in the home in the form of powder, or liquids.

Industrial fertilizers for agriculture include sulphuric acid. The phosphates and synthesized ammoniums have placed in circulation a variety of chemical fertilizers. Via the petrochemical industry the supply of hydrogen at a low cost has promoted the mass use of

ammonium products as nitrogen that can be assimilated in its three variants: nitrates, sulphates and urea and the infinite number of complex fertilizers.

Also through the petrochemical industry a great quantity of agro-toxins have been created such as herbicides, fungicides, insecticides, etc.
But the petrochemical industry has also generated a large quantity of new contaminants. On the one hand we have secondary products in the production chain and on the other the products themselves which as opposed to natural products are not biodegradable.

The local populations that live with the area of influence of petrochemical plants face serious health problems, due to the presence of the contaminants generated by the industry.

Among the contaminants typical of the industry are included:
The polyaromatic hydrocarbons (PAH), considered as the most toxic hydrocarbons together with the monoaromatics. Once PAH's are liberated into the aquatic environment the degradation via microorganisms is often very slow, which leads to its accumulation in sediments, soils, aquatic and land plants, fish and invertebrates. The PAH's can affect human health; individuals exposed to a mixture of these components via inhalation or touch for prolonged periods of time, develop cancer.

The alkalibenzines are very resistant to degradation and can accumulate in sediments. In toxic terms, the acute exposure to these products can cause depression to the Central Nervous System, leading to alterations in speech.

The heavy metals which include lead, mercury, zinc and copper all are toxic to humans as to wild life.

Oil is therefore more than just energy. Via the petrochemical industry 5 million different products can be obtained and due to this the XX century society was transformed. It made us a civilization dependent on oil and on the transnationals that control oil exploitation and the petrochemical industry.

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6. ENERGY, TRANSPORT AND THE FOOD SYSTEM

One indicator of the unsustainability of the contemporary food system is the ratio of energy outputs - the energy content of a food product (calories) - to the energy inputs.

The latter is all the energy consumed in producing, processing, packaging and distributing that product. The energy ratio (energy out/energy in) in agriculture has decreased from being close to 100 for traditional pre-industrial societies to less than 1 in most cases in the present food system, as energy inputs, mainly in the form of fossil fuels, have gradually increased.

However, transport energy consumption is also significant, and if included in these ratios would mean that the ratio would decrease further. For example, when iceberg lettuce is

imported to the UK from the USA by plane, the energy ratio is only 0.00786. In other words 127 calories of energy (aviation fuel) are needed to transport 1 calorie of lettuce across the Atlantic. If the energy consumed during lettuce cultivation, packaging, refrigeration, distribution in the UK and shopping by car was included, the energy needed would be even higher. Similarly, 97 calories of transport energy are needed to import 1 calorie of asparagus by plane from Chile, and 66 units of energy are consumed when flying 1 unit of carrot energy from South Africa.

Just how energy inefficient the food system is can be seen in the crazy case of the Swedish tomato ketchup. Researchers at the Swedish Institute for Food and Biotechnology analysed the production of tomato ketchup. The study considered the production of inputs to agriculture, tomato cultivation and conversion to tomato paste (in Italy), the processing and packaging of the paste and other ingredients into tomato ketchup in Sweden and the retail and storage of the final product. All this involved more than 52 transport and process stages.

The aseptic bags used to package the tomato paste were produced in the Netherlands and transported to Italy to be filled, placed in steel barrels, and then moved to Sweden. The five layered, red bottles were either produced in the UK or Sweden with materials form Japan, Italy, Belgium, the USA and Denmark. The polypropylene (PP) screw-cap of the bottle and plug, made from low density polyethylene (LDPE), was produced in Denmark and transported to Sweden. Additionally, LDPE shrink-film and corrugated cardboard were used to distribute the final product. Labels, glue and ink were not included in the analysis.

This example demonstrates the extent to which the food system is now dependent on national and international freight transport. However, there are many other steps involved in the production of this everyday product. These include the transportation associated with: the production and supply of nitrogen, phosphorous and potassium fertilisers; pesticides; processing equipment; and farm machinery. It is likely that other ingredients such as sugar, vinegar, spices and salt were also imported. Most of the processes listed above will also depend on derivatives of fossil fuels. This product is also likely to be purchased in a shopping trip by car.

...is dependent on oil...

One study has estimated that UK imports of food products and animal feed involved transportation by sea, air and road amounting to over 83 billion tonne-kilometres. This required 1.6 billion litres of fuel and, based on a conservative figure of 50 grams of carbon dioxide per tonne-kilometre resulted in 4.1 million tonnes of carbon dioxide emissions. Within the UK, the amount of food transported increased by 16% and the distances travelled by 50% between 1978 and 1999.

It has been estimated that the CO2 emissions attributable to producing, processing, packaging and distributing the food consumed by a family of four is about 8 tonnes a year.

..and is unnecessarily contributing to carbon emissions.

It is not that this transportation is critical or necessary. In many cases countries import and export similar quantities of the same food products. A recent report has highlighted the instances in which countries import and export large quantities of particular foodstuffs. For example, in 1997, 126 million litres of liquid milk was imported into the UK and, at the same time, 270 million litres of milk was exported from the UK. 23,000 tonnes of milk powder was imported into the UK and 153,000 tonnes exported. UK milk imports have doubled over the last 20 years, but there has been a four-fold increase in UK milk exports over the last 30 years.

Britain imports 61,400 tonnes of poultry meat a year from the Netherlands and exports 33,100 tonnes to the Netherlands. We import 240,000 tonnes of pork and 125,000 tonnes of lamb while exporting 195,000 tonnes of pork and 102,000 tonnes of lamb.

This system is unsustainable, illogical, and bizarre and can only exist as long as inexpensive fossil fuels are available and we do not take significant action to reduce carbon dioxide emissions.

Even organic agriculture use energy in an unsustainable fashion when it goes global.

SHOCKS TO THE SYSTEM

As already stated, the three main purposes for which oil is used worldwide are food, transport and heating. Modern agriculture is almost entirely dependent on reliable supplies of oil for cultivation and for pumping water, and on gas for its fertilisers; in addition, for every calorie of energy used by agriculture itself, five more are used for processing, storage and distribution.

Through its dependence on oil, contemporary farming is exposed to the whole question of the sustainability of our use of fossil fuels. It took 500 million years to produce these hydrocarbon deposits and we are using them at a rate in excess of 1 million times their natural rate of production. On the time scale of centuries, we certainly cannot expect to continue using oil as freely and ubiquitously as we do today. Something is going to have to change.

The same applies more widely to every natural resource on which industrial civilisation relies.

Almost every current human endeavour from transportation, to manufacturing, to electricity to plastics, and especially food production is inextricably intertwined with oil and natural gas supplies.

* Commercial food production is oil powered. Most pesticides are petroleum- (oil) based, and all commercial fertilisers are ammonia-based. Ammonia is produced from natural gas
* Oil based agriculture is primarily responsible for the world's population exploding from 1 billion at the middle of the 19th century to 6.3 billion at the turn of the 21st
* Oil allowed for farming implements such as tractors, food storage systems such as refrigerators, and food transport systems such as trucks

* As oil production went up, so did food production. As food production went up, so did the population. As the population went up, the demand for food went up, which increased the demand for oil. Here we go round the Mulberry bush
* Oil is also largely responsible for the advances in medicine that have been made in the last 150 years. Oil allowed for the mass production of pharmaceutical drugs, and the development of health care infrastructure such as hospitals, ambulances, roads, etc.

REFERENCES

Andersson, K. Ohlsson, P and Olsson, P. 1996, Life Cycle Assessment of Tomato Ketchup. The Swedish Institute for Food and Biotechnology, Gothenburg.
Cowell, S., and R. Clift., 1996. Farming for the future: an environmental perspective. Paper presented at the Royal Agricultural Society of the Commonwealth, July 1996,CES, University of Surrey.
Data for shipping and airfreight from Guidelines for company reporting on greenhouse gas emissions. Department of the Environment, Transport and the Regions: London, March 2001. Data for trucks is based on Whitelegg, J., 1993. Transport for a sustainable future: the case for Europe. Belhaven Press, London; and Gover, M. P., 1994. UK petrol and diesel demand: energy and emission effects of a switch to diesel. Report for the Department of Trade and Industry, HMSO, London.
Lobstein, T, and Hoskins, R, The Perfect Pinta. Food Facts No. 2. The SAFE Alliance, 1998.
FAO, 2001. Food Balance Database. 2001. Food and Agriculture Organisation, Rome at www.fao.org
Green Party USA, 2001. World crude oil reserves - Statistical information. Based on data from the Oil and Gas Journal and the Energy Information Agency. At http://environment.about.com/library/weekly/aa092700.htm
Medea: European Agency for International Information, 2001. Oil Reserves. at - http://www.medea.be/en/ 11 David Fleming, 2001. The Great Oil Denial. Submission to the UK Energy Review. At http://www.cabinetoffice.gov.uk/innovation/2001/energy/submissions/Fleming
RCEP, 2000. Energy - The Changing Climate. The Royal Commission on Environmental Pollution, Twenty-second Report, June 2000, HMSO, London.
DETR, 2001. The draft UK climate change programme. DETR, 2001. HMSO, London.

Based on: Norman Church. Why Our Food is So Dependent on Oil
Published on 2 Apr 2005 by Powerswitch (UK)
Norman (at) noidea.me.uk
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7. TRUE COSTS OF INDUSTRIAL FOOD PRODUCTION SYSTEM

1 000 tonnes of water are consumed to produce one tonne of grain
10 energy units are spent for every energy unit of food on our dinner table
1 000 energy units are used for every energy unit of processed food

17% of the total energy use in the United States goes into food production & distribution, accounting for more than 20% of all transport within the country; not including energy used in import & export.
12.5 energy units are wasted for every energy unit of food transported per thousand airmiles
20% of all green house gases come from current agriculture
US$318 billion of taxpayer's money was spent to subsidize agriculture in OECD countries in 2002, while more than 2 billion subsistence farmers in the Third World try to survive on $2 a day
90% of the agricultural subsidies benefit corporations and big farmers growing food for export; while 500 family farms close down every week in the United States
Subsidized surplus food dumped on the Third World create poverty, hunger and homelessness on a massive scale

8. SOME BENEFITS OF SUSTAINABLE FOOD PRODUCTION SYSTEMS

7 to 10 fold energy saving on switching to low-input/organic agriculture
5 to 15% global fossil fuel emissions offset by sequestration of carbon in organically managed soil
5 tonnes of carbon dioxide emission disappear with every tonne of nitrogen fertilizer phased out
Small farms are 200 to 1 000% more productive than larger farms
Buying food in local farmers' market generates 200% more for the local economy than buying food in supermarkets chains
Money spent with a local supplier is worth 400% more than money spent with non-local supplier
Source: ISIS 2005
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9. THE HEALTH EFFECTS OF AGROCHEMICALS AND OTHER CONTAMINATS DERIVED FROM OIL

It is calculated that the number of deaths annually due to intoxication from agro toxics, especially pesticides, is around 200.000 people.

Pesticides are those chemical, organic or inorganic substances that are used to combat pests or weeds. They are used to eliminate, insects, fungi, rodents, snails, worms, etc. Also as defoliants, drying agents, reduction in density agents, to avoid the dropping or deterioration of fruits, among others uses.

They are grouped according to use: Insecticides, fungicides, herbicides, defoliants, etc.

Other agronomic fossil fuel derived compounds are fertilizers. The use of fertilizers is changing coastal ecosystems producing dangerous growth of algae, muscles and the death of fish.

All these compounds change the quality of the air, water and soil, and also produce changes the food chain, since they are accumulated in all levels of the ecosystem, beginning from small microorganisms, small vertebrates, mammals, to human beings. It had being found residues of insecticides like DDT in breast-feeding milk.

Another of the toxic contaminants is the sulfur dioxides, the suspension particles (ash, soot, smoke), carbon monoxide from vehicle emissions and lead, from those vehicles that burn fuels containing lead.

The human exposure to persistent organic pollutants (POPs) occurs in various forms, for example, with foods especially as residues from pesticides, such as hexaclorobenzene or biphenol polychlorines (BPC); due to occupational hazards, such as agricultural workers that use pesticides on crops; and due to accidents such as spillages.

The POPs are organic complexes of long life in the environment that through time experience biological alterations and are therefore highly dangerous since they tend to accumulate in the fatty tissue of animals and humans. They accumulate in the food chain, each time in greater concentration as one organism eats another, reaching humans at the end of the chain and in the end chain predators such as polar bears, wolfs, etc. Once in the human body they imitate the steroid complexes such as hormones, which lead to the alteration of the endocrine system. This perturbation can damage reproductive health causing infertility, congenital malformations, cancer, and abortions, among other effects.

Some ecologists use the term “environmental alteration syndrome” to identify environmental conditions in deterioration and threats to health. Paul Epstein, form the Medical faculty of Harvard, numerated four symptoms of this syndrome:

The resurgence of infectious illnesses, such as typhoid fever, cholera, pneumonia, and the appearance of new illnesses such as resistant tuberculosis and reproductive alterations in humans linked to industrial chemical substances.

Another impact is the loss of biological diversity and consequent loss of possible sources of new pharmaceuticals and crop plants.

The decline in pollinators such as bees, birds, bats, butterflies and beetles, that are indispensable to the reproduction of flowering plants.

The proliferation of damaging algae along the worlds coasts which leads to a deadly bouts of illnesses such as paralyzing poisoning due to the ingestion of sea food.

Source: Effects Of Agrochemicals And Other Contaminants On Health. Sandra Miguez. Article published in Ecoportal.com

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10. DO BIOFUELS REPRESENT AN ECOLOGICAL ALTERNATIVE TO OIL?

Oilwatch

Given that the countries which have ratified the Kyoto Protocol have to fulfill certain obligations in relation to CO2 emissions, and that in other international forums they having committed to replace 20% of gasoline and diesel with other sustainable sources by the year 2020 (this is the case of countries members of the European Union), a series of industries have appeared, consultants and specialized firms working to convert these obligations into business.

What is foreseen for the future is that even though fossil fuels will slowly be replaced by other forms of energy the oil industry will continue to play a central role in its substitution, and the use of the infrastructure that they have today with some adaptations, for example in the distribution of fuels for vehicles and other forms of transport that require this form of energy.

Identified as alternatives to the motorized transport are the following forms of fuel: Natural gas, hydrogen, bio fuels, biomass liquid fuels (BTL) and liquid gas.

BIOFUELS

Various European countries have established goals that increasing use biofuels as a substitute to gasoline and diesel.

Biofuels include ethanol and biodiesel that are obtained from conventional agricultural crops such as sugar cane, cereals and oilseeds.

The European Union has established that by the year 2010, 6% of fuels will be biofuels and hopes that by 2020 the percentage will increase to 8%.

However it is unlikely that Europe will dedicate its soils to the growth of these types of crops.

In this new world scenario, the Third World Countries are playing an important role: they will provide the land and their fertility, cheap labour and will retain all environmental effects caused by large plantations from which the biofuels and refining.

In the same manner as occurs with the oil industry, the increasing European demand for biofuels means that countries of the Third World become the sources of supply of this new industry.

In effect currently the main supplier of bioetanol to the United Kingdom is Brazil.

Companies dedicated to the business of biodiesel have placed their sights on Latin American, African, Asian and Pacific countries, since they consider that these countries can obtain raw material at competitive prices. According to declarations made by the CEO of the DI Oils, they are working with plantations of crops known as Jatropha for the

production of biodiesel from Ghana to the Philippines, passing through India, Madagascar and South Africa. Up till now they have established 267.000 Ha and have the intention of expanding to 9 million Ha in the future.

According to the British Counsel for Protection of Crops (BCPC) the use transgenic crops for the biofuel industry will be inevitable.

Currently President Lula of Brazil has declared transgenic soya to be used for biofuels and good soya for human consumption. Argentina is also advancing plans to transform transgenic soya into biodiesel.

The industry considers the for the processing of biofuels, large refining plants need to be constructed close to agricultural areas or forests which is where the raw material is found. This will depend on whether the biofuel is sold in its pure form or as a mixture. Generally biofuels are mixed with gasoline or conventional diesel. The forms of transport are similar to those used in the oil industry.

It is predicted that the oil industry with the aim of maintaining control over the distribution of fuels, will enter an agreement with these new companies since in many cases the production chain can be very complex.

To refine biodiesel a transesterification method is needed via a catalytic breaking of the acid oily chain of crude oil to transform it into alcohol ester (biodiesel) and glycerin.

IS THIS A BUSINESS IN WHICH ALL WIN?

Apparently this is a business in which everybody wins. The European emissions of CO2 decreases, third world countries increase their exports increasing the quality of life of rural populations.

However the reality is different.

In relation to climate change, it is said that during the growth of the crop, these absorb CO2. This is true only in relation to what was growing before the plantation was established. Since the industry has plans of growing exponentially, it is possible that they occupy primary or secondary forested areas, as already occurs with the plantations of soy in Argentina (where slowly forests of el Chaco have been displaced), Paraguay (where soy has replaced Pantanal, Atlantic Forest and Chaco areas) and even more dramatically in Brazil where Amazon forests, Pantanal, Atlantic forests have been replaced by soy. In this case the CO2 balance is negative.

On the other hand the moment in which the biodiesel is burnt CO2 is regenerated as product of the combustion.

Additionally other green house gases are generated as a product of the crop itself, the refining and distribution of the fuel. Therefore we can say that the use of biofuels generates CO2 and other green house gases.

In relation to the benefits to the producers of the raw material these can be extremely negative.

Firstly we have the destruction of forest and other original vegetation, as has been seen, but if we include the mass expansion of these crops it could threaten food sovereignty of local populations, because they would stop producing food crops for the population with the aim of producing “clean fuels” for European countries.

Argentina for example has planned to increase the production of soya to 100 million tons, which implies a huge environmental and social cost to the Argentinean people, such as the displacement from rural lands, growing deforestation and desertification of soils and therefore greater hunger and social inequity.

Large scale agriculture, such as is needed to comply with the demand for biofuels is highly dependant of oil derivates which apart from producing CO2 emissions are highly contaminant.

The predictions for Brazil are alarming, since this country could become the world leader in the substitution of fossil fuels for sources of renewable energy, with all the impacts this implies. Even though in Brazil biofuels have been obtained from sugar cane the increase expansion of soy (transgenic?) will make the substitution of this crop inevitable.

Recently the Spanish government of Zapatero announced that Repsol will install a biodiesel plant in Leon. It is predicted that the raw material will be obtained from oily crops and will come from regions where labour and land is cheap and where transgenic crops are permitted. This is in the Southern Hemisphere.

To look for solutions to the current energy model, it is not enough to think of technological solution or substitute one source of energy for another, but instead we need to think of new sustainable decentralized and just.societies,

Sources:
Grupo de Reflexión Rural. 2005. Argentina
Energy Institute. Petroleum Review. Suplemento Especial sobre nuevos combustibles. Septiembre 2005.
ASAJA León. 2005. 'Aquejados por la fiebre del biodiesel'. El anuncio de Zapatero de traer de la manos de Repsol una planta de biodiesel a León ha generado no pocas expectativas dentro y fuera del mundo agrario.
http://www.agricultura.org/noticias/noticias.asp?IdNoticia=11704

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11. IS NANOTECHNOLOGY A VIABLE ALTERNATIVE IN A POST OIL SUSTAINABLE SOCIETY?

A post oil society implies not only a change in materials, but a total civilization change. In this section we want to concentrate on nanotechnology, which could be considered as a clean solution to various problems of our current society.

Nanotechnology is the coming together of techniques used to manipulate material at an atomic and molecular level.

It is said that this technology can solve the problems of poverty and under development; however it could profoundly affect society, especially the poorest and marginalized communities. It would open up new work and raw material markets and would change forever the way in which we live, eat, produce, face wars and define life.

In the last decades we have seen the growing power of a few companies and the ever increasing privatization of science. The manipulations at a nanoscale constitute an unimaginable potential to achieve an unprecedented monopoly of the fundamental processes for the creation of life and natural resources and form part a corporate control strategy of the manufacturing, food, agricultural and health industry since the 21st century.

Of the 500 largest companies in the world, according to the magazine Fortune, nearly all have investments in the development of nanotechnology. In other areas of technologies the companies preferred to see the risks before they invested.

Sources of the industry estimate that by 2014 the market of commercial products that incorporate nanotechnology will represent 15 percent of the total value of the manufacturing industry, equaling in combined volume that of the information and telecommunications industry and multiplied by 10 that of the biotechnology industry.

Currently together with 1.200 new small companies of the nanotechnology industry, others are found such as Exxon Mobil, IBM, Dow Chemicals, Xerox, 3M, Alcan Aluminium, Johnson & Johnson, Hewlett-Packard, Lucent, Motorola, Sony, Toyota, Hitachi, Mitsubishi, NEC, Toshiba, Phillips, Eli Lilly, DuPont, Procter & Gamble, Kraft Foods, General Mills, Nestle, PepsiCo, Sara Lee, Unilever, ConAgra, L'Oreal, Bayer, BASF.

If the products that are currently on the market alarm us due to their possible negative impacts on our health and environment, those with economic impacts and formation of new trans-sector monopolies should alarm us even more.

It is predicted that the control via patents will be greater with nanotechnology than has occurred with other forms of technologies.

If we review the history of technology in the last 500 years we can see that all new technology implies in principle instability of the lives of the poor and most vulnerable, because it implies the sudden demand of new technical abilities and different raw materials. On the other hand it creates new economic opportunities for the rich.

Four large problems are identified in relation to nanotechnology:

1: The control of technology at a nano scale is in the hands of corporations. As soon as manipulations start to become generalized at an atomic level, patents of this technology, processes and products will occur.

2: Convergence. On the bases of the "unit of material at the nano scale" (that is to say, all material can be reduced to atoms and molecules), scientists and governments in the United States and Europe are developing a strategy to fuse the sciences (information, biotechnology, nanotechnology, and cognitive sciences). Since all materials and processes can be operated "from small to large" (we start of at the atom that combines to form molecules and major structures), it is believed that events can be controlled at a macro scale manipulating events at a nano scale. For example at the nano scale we can already synthesize artificial DNA molecules. DNA controls the formation of proteins that ultimately determines our health and the behaviour of the entire organism.

3: Nanobiotechnology which is the convergence of the biotechnoloby, biology and chemistry, constitutes the principle interest of investors in technology at a nano scale. Their objectives are:
Incorporate non living materials into living materials (for the administration of medicines, sensors that monitor blood chemical levels, etc).
The creation of new synthetic materials with biological components (such as plastics with proteins thinking in relation of the autoregeneration of the material).
Creation of artificial life to fulfill industrial activities (such as microorganisms that feed of industrial wastes, etc). Some of these organisms incorporate artificial synthetic material designed at a nano scale.

Particles at a nano scale behave differently to those macro particles of the same material. Only changing the size without changing the substance can alter the materials making them stronger or lighter or more soluble in water or more resistant to heat or better electrical conductors. A material that is red when measures 1 meter maybe green if we convert it to a nano particle; something that is soft and pliable at the macro scale, can be stronger than iron at the nano scale.

The industry is exploiting the changes in properties of materials at the nano scale to create new products for new markets.

The potential impact of the nano particles in the environment and to human health is enormous. A study conducted in May 2004 revealed that carbon molecules at a nano scale can cause cerebral damage to fish. A study carried out in 2003 carbon nano tubes in the kidneys of lab rats revealed that these tubes are more toxic that quartz dust. Other scientists have presented different results but equally disturbing in relation to the toxicity of nano tubes.

However nano particles are not regulated by no government in the world!!

Sources: ETCGroup
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12. WHAT KATRINA ANNOUNCES IN NEW ORLEÁNS
(QUÉ ANUNCIA LA CATRINA EN NUEVA ORLEÁNS)
Andres Barreda
September, 2005

With Hurricane Katrina, the "oil civilization" seemed to have closed a long cycle, as the terribly destructive effects of the hurricane -ironically concentrated in the major oil-producing region of the empire- give the impression of being closely related to global warming, which is based on global production and consumption of hydrocarbons, led by the United States for more than 150 years.

The Gulf of Mexico is known for its important oil wealth. However, few are aware of the fact that the devastated area is home to the world's most important complex of maritime oil and gas platforms and submarine pipelines, producing oil at a rate of 1.3 million barrels a day and representing 16% of the US gas production.

Until a few days ago, New Orleans was also a strategic part of the wide mouth with which the US absorbs its enormous oil, gas and coal imports, to supply the East coast. Katrina forced Louisiana's *Off Shore* oil port to shut down, as well as the most important oil import terminal in the US (through which 10% of overall US energy imports enter the country, or 12% of overall oil imports and 9% of natural gas). "Port Fourchon (South of New Orleans), which funnels 17% of the US oil and gas, will take several weeks to recover."

The coastal region is also a key area of the empire's gasoline refineries and petrochemical and chemical transformation. It is known that the storm destroyed a 230,000-square-kilometer surface, resulting in, among other things, severe damage of over 20 maritime oil platforms, others left floating adrift, several broken pipelines (including two large capacity gas and oil pipelines), as well as rendering 13 refineries and petrochemical plants useless. Those plants were strategic to gasoline and agrochemicals supply for the East and the Midwest. Some 46% of the overall gasoline refineries located in the Gulf of Mexico (10% of the US overall gasoline refining) were left useless.

The combined destructive force of water and wind washed away several cities and 150,000 rural estates, similar to the Indonesian tsunami. Water was severely polluted by broken sewage systems, and animal and human corpses left rotting, until it was finally pumped out and evaporated in a suffocating heat. Add to this an enormous amount of poisonous gasoline and oil that drained into the water, as well as gas leaks and fires that occur in any urban facilities.

The provisional suspension of 92% of oil production and 83% of gas production in the Gulf of Mexico, but most of all, the huge destruction of all kinds of infrastructure and cities, was assessed at a loss of 100 billion dollars.

The increased gasoline and oil prices were quickly neutralized by Europe and Japan by sending their energy reserves to the market (2 million barrels of oil a day), with the goal of preventing oil prices from exceeding $70 a barrel.

Besides the sudden economic and ecologic crisis, the hurricane uncovered the fact that next to the strategic wealth of capital, there has been a long history of deep poverty and scandalous social insecurity in the region, which in a matter of days, turned into death by the thousands and the indescribable misery of hundreds of thousands of blacks and Latin American immigrants.

The hurricane seemed to have opened a huge sewer in which it is possible to see how only the upper and upper-middle segments of the population could afford to escape the hurricane in their cars, risking the loss of their assets in the likely lootings, and how those who could not leave were the working people and the marginalized population, black and Latinos, the poorest people in the area.

In this first world territory, scandalous sights that we are used to seeing several times a year in marginalized areas of the world appeared: the perversity of the way in which the modern social production of risk increases, as a result of neoliberal systematic devastation of conditions for public wealth distribution, of the peoples and the environment, as well as the general and systematic abandonment of the prevention principle in all sectors.

13. POETRY

FROM THE DOORSTEP TO HEAVEN
Muhammad al – Maghut *

Now,
With the sad rain
Drenching my sad face,
I dream of a ladder of dust,
Collected from hunched backs
And hands clinging onto knees,
To mount to highest heaven
And discover
What becomes of our prayers and sighs.
O my beloved,
All the prayers and sighs,
All the laments and cries for help,
Springing from
Millions of lips and hearts,
Through thousands of years and centuries,
Must be gathered somewhere in heaven,
Like clouds.
And maybe
These words of mine
Are now close to those of Jesus.
So let us await the tears of heaven,
O beloved.

* Syrian poet