

THE DEGREE OF POLLUTION IN CHINA

Anca Laura ROTMAN, Camelia SLAVE

University of Agricultural Sciences and Veterinary Medicine Bucharest; email:
camelia_slave@yahoo.com, Bd. Marasti, 59, Sector 1, Bucharest, Romania

Abstract

Environmental pollution has become one of the most debated issues of the contemporary and one first order for the company management. Man and environment are inseparable entities, human existence is dependent on the environment, and environmental factors (air, water, soil) may change as a result of their use by humans. Such pollution occurs, dimension of life, in the course of which some products resulting from physiological processes and human activity and animal residues are likely to interfere with the welfare of the nature and quantity. With the great scientific advances, the amount and nature has changed dramatically. In recent decades, the degradation of the environment from all over the planet has fared increasingly worrying amount of pollutants reaching in excess of imagination. Removing pollution is a problem that causes error correction

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Introduction

Environmental pollution has become one of the most debated issues of the contemporary and a first order for the company management. The man and the environment are inseparable entities, human existence is dependent on the environment, and environmental factors (air, water, soil) can change as a result of their use by humans. Such pollution occurs, dimension of life, conduct which some products of physiological processes and human and animal activity are residues that may interfere with the welfare, depending on the nature and quantity.

Environment, the space in which we operate daily, the place where we want to develop and progress, or to relax, is the vast sphere that must defend the implementation of all levers and environmental policies and updating environmental legislation, both internal and international. Considering that the environment is "all elements of physical, chemical or biological, natural and artificial, which makes human life, animal or plant, or species" (Le Petit Larousse). or an essential factor for the continuity of the human race, Michel Prieur shows that the environment is now a "**chameleon concept**" with specific meanings and dimensions.

Man, in his daily activity, did a serious damage to the environment. Environmental protection had become a priority in the last decades, after the human activity had extended and diversified.

At present, the world is aware that it should increase its activity rate by any key factor and environmental policies to take into account the fundament of a durable development but also the other fundaments held by international declarations and protocols.

Pollution, as phenomena that brings changes to natural components, produces noxious health effects, creates discomfort or impedes the use of some environmental elements, essential for life (Stockholm and Rio Declaration).

Air pollution can affect the upper region of the atmosphere called the stratosphere. As a result, the exposure to sun's harmful rays affect terrestrial life and threatens the health of people from all over the globe.

Pollutants are those chemical compounds, harmful to the environment. Depending on the concentration of the same substance found in nature, it can be pollutant or contaminated.

The contaminant is the chemical compound, found in the environment in small concentrations so that it doesn't produce noxious effects on the ecosystem.

The Smog from the big cities makes difficult, the running circadian activities, people suffering of a great stress coming in contact with open spaces!

Smog reacts with oxygen and organic acids and the sulfur condenses into drops' shapes, maintaining the fog.

In general the urban pollution, and also the rural air pollution or the smog represents that mixture of carbon monoxide and organic compounds from incomplete combustion of fossil fuels such as coal and sulfur dioxide from fuel impurities.

Above the big cities we can speak about the photochemical smog. This reduced the air quality. Sun' rays do not manage to break through the layer created by pollution, make nitrogen oxides and hydrocarbons to combine and transform oxygen into ozone, a chemical highly toxic and aggressive agent. Hydrocarbons are oxidized in condensed substances and forms a visible and pervasive fog.

Air pollution

Air pollution is a big problem of the century that has just begun, the Chinese territory as one of the most tragic examples today (fig 1).

Air pollution harms all activities on Earth. Regarding the Chinese space, we can appreciate that life is affected, aquatic and terrestrial life are harmed, people's health is already at risk.

Being air pollution arises, therefore, the problem of transboundary pollution is taken into account. Thus, the pollution cause severe problems in China, determining the authorities to take urgent action to avoid the serious consequences on the health of inhabitants of the cities, and not only; but toxic clouds from China crosses the Pacific Ocean, reaching the west coast of U.S..

In this sense, the effects of this type of pollution can be considered in space and time.

Acid rain met occasionally, made of burning fossil fuels in China, may be up to a quarter of sulfur pollution in the western U.S.

As an urgent measure, China has set new air pollution limits to be observed in the provinces and of reducing the harm of between 5 and 25 %.

Chinese authorities issued a regular basis, guidelines for controlling air pollution in big cities, but they have limited effects.

Thus, under the new regulations, Beijing, Tianjin and Hebei Province are going to reduce the number of particles PM 2.5 u 25 % per year. PM 2.5 are dust particles with the smallest diameter and are the most dangerous, as they can reach the lungs.

Similarly, China's commercial capital, Shanghai, Jiangsu province, Zhejiang, Shandong and Shanxi have to reduce pollution by 20%. Other provinces have targets of 15% and 10% (fig 2 and 3).

Chinese scientists consider that this serious and unprecedented phenomenon will be felt in the long term.

In the same time, it had been found that the usage of plant is slowed down, normally, and the food production of the whole country (Beijing area and much of the six northern provinces of the country) is threatened.

Since air quality conditions multiple daily activities, there were found serious economic effects: many flights were canceled, highways were closed, tourists were adviced to stay home.

Appreciable radius that is centered Beijing has been found an increase in the concentration of particles that can enter into the lungs and circulatory system. This concentration of dangerous particles in Beijing is at 505 micrograms per cubic meter of air, while WHO recommends a "safe" 25 level.

Therefore, this difference is particularly serious and alarming.

He Dongxian, a professor at China Agricultural University, Department of Water Resources and Civil Engineering, showed that new studies suggest "that if smog that blocks part of the country continues, agriculture will suffer" similar conditions of a nuclear winter."

Air pollutants stick to greenhouse surfaces and reduce the amount of light inside by 50%, which hinders photosynthesis, the process by which plants convert light into energy. In a study conducted by the teacher, the growth of those plants from greenhouse normally was extended from 20 days to two months and the plants exposed to pollution are more fragile.

Earlier this month, the Shanghai Academy of Social Sciences has revealed in a report that pollution in Beijing made the city almost "uninhabitable by humans."

Therefore, efforts to reduce pollution will be monitored, that extreme situation created in China is to reduce the effects in a short time.

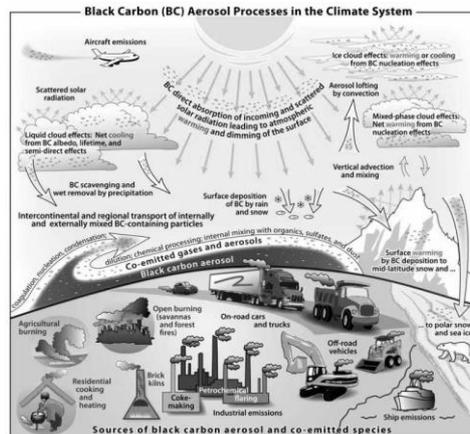


Fig 1. Black carbon aerosols processes in the climate system

Nuclear winter - pollution unprecedented

China's economic growth has led to an exponential increase in pollution.

Regarding the actions taken by the Chinese government to reduce pollution, we can appreciate that this is a pure country. Toxic waste, spilled into rivers, affects fauna and flora, and worse, ends up in the ocean, where prejudices entire oceanic ecosystem.

The largest country in the world in terms of the number of inhabitants has known for several years unprecedented economic boom.

These increases/ developments have also a risk: the pollution.

Of course, if you had invested in modern technology, you would have reduced the cost per finished product but it would have increased exponentially with facilities. Therefore, it was chosen a production as large and as cheap. In addition, the country obtains 70 percent of its energy from coal, making it the world's leading producer of greenhouse gases.



Fig 2 Beijing has more than four million private cars, considered to be a major source of the city's air pollution



Fig 3 Aspects of Shanghai pollution

In China, pollution has taken proportions so that it warns the authorities of making great efforts to reduce the unprecedented pollution degree.

In Beijing, people wore gas masks, and the government banned students to attend outdoor sports classes (Ziua News, 2014).

Regarding the smog, it resembles the effects of a nuclear winter. In the area, the biggest polluters are heavy industry and thermo power station using coal. In this way, Beijing has promised that these huge sources of pollution will be closed. At the same time, according to Greenpeace, 570 new such power stations will be built in China (fig 3).

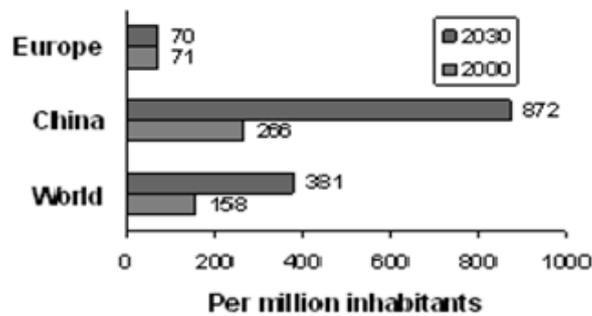


Fig 4. Premature deaths from particulate matter air pollution in cities



Fig 5. Aspects of Beijing pollution

Conclusions

In the last decade, China has pursued rapid economic growth without taking into account the problems that may appear and otherwise they have occurred connected to pollution.

In perspective, it aims to implement radical measures to solve environmental problems.

China declared war to pollution. Thus, it is shown that Nature sent an urgent signal, regarding to this it is to take place multiple programmes for getting out of the immense crisis of pollution already settled on Chinese territory. The Chinese government has decided that follow the closure of 50,000 small coal-fueled furnaces, the increase energetic efficiency and reduction of pollutant emissions. China recognizes the existence of “cancer villages”. Minister of Environment in China recognized existence "cancer villages" only a few years after statements were made on polluted areas where the disease appeared.

As a result of pollution, there is a gradual global warming. Canadian physicist David Keith has developed commercial devices, designed to capture the dioxide of carbon from the atmosphere. If, by this method does not achieve significant results, it would be no variation, the scattering sulphates into the stratosphere to reflect sunlight into space and to induce

global cooling. Another method would be the installation of the vent air gun with a solution of sodium hydroxide to absorb carbon dioxide.

Particularly serious situation in China brings a warning to all states on five continents. Thus, people who live near busy roads in Europe are still very exposed to excessive levels of air pollution. In 2010, there were harmful levels of nitrogen dioxide (NO₂) over the legal limit values for 44 % of road traffic monitoring stations. In addition, levels of particles (PM10) exceeded the limit of 33% of these stations. These pollutants can affect the cardiovascular system, lungs, liver, spleen and blood.

As a warning to the new situation created by the Chinese space, Europe must further reduce energy consumption involved in transport, whereas the level was only 4.3 % lower in 2011 than the peak in 2007. Energy consumption in the transport sector industries was radically influenced by economic fluctuations in last year's. The carriage transport demand is particularly close to economical fluctuations, because after a sudden decline between 2008 and 2009, it increased by 5.4% in 2010.

The passengers transport demand fell by almost 1% between 2009 and 2010. This seems to contradict the long-term trend, as the passengers transport demand grew steadily throughout the European Union in the mid 90s, when there is an early evidence. Also, the use of personal vehicle remained more or less constant, despite of the economic downturn and large fluctuations in fuel prices over the past decade.

In most cases, prices influence people to make choices that are harmful to the environment. The findings stated that the mid- 90s, buying a car is becoming cheaper in real terms, while traveling by train and passengers transport on water became more expensive

However, new cars become more and more efficiently. On average, vehicles sold in 2011 were 3.3 % more efficient than those sold in the average year.

The transport sector has to reduce carbon dioxide emissions by 68% between 2010 and mid-century to meet the EU target. Emissions of greenhouse gases from transport fell by 0.4 % between 2009 and 2010, and early estimates indicate a similar decline between 2010 and 2011. The Union's passed legislation to reduce greenhouse gas emissions by 20 % between 1990 and 2020. Recent numbers show that EU emissions fell by 16.5 %, while the EU is to meet this goal. If international aviation is excluded, as is the case of the Kyoto Protocol, emissions in the EU fell by 17.5 % from 1990 to today. Not neglecting the fact that emissions in the European Union will continue to decrease to 19 % below 1990 levels by 2020, with the implementation of policies and measures currently in force.

Most EU Member States should intensify their efforts to reduce emissions of greenhouse gases by accelerating the implementation of environmental policies.

Increasing pollution in China and other Asian economies can contribute to intensifying cyclones in winter in the Pacific.

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