

# Contemporary problems in the agri-food chain

## Editorial

Among the contemporary risks to consider are the problems related to the soil, forests, water, air and climate change in general, generated by the exploitation model based on the indiscriminate use of hydrocarbons as a fundamental energy source, alongside intensive monocultures supported by agrochemicals, which together lead to relative vulnerability in food safety, quality and safety, with repercussions on human health in particular.

While the complexity of the agro-food socioeconomic chain is affected at its origin, from its production processes to those of circulation and distribution, thereby harming consumers in their quality of life, by reducing their health conditions closely linked to food sustenance and consumption patterns.

Among the theoretical reflections of institutional and international organizations are the following: "Desertification not only means hunger and death in the developing world, but also poses a greater danger to the global security of all of us. The consequences of resource scarcity can be wars, social unrest, political instability and migration. Stopping desertification is a matter of life and death for millions of people".<sup>1</sup>

Climate change is a radical and abrupt alteration of environmental balances, which the United Nations (UN) defines as: "A change in climate attributed directly or indirectly to human activity that alters the composition of the world atmosphere and that it adds to the natural variability of the climate observed during comparable periods of time".<sup>2</sup> of climate change defines greenhouse gases (GHG) as "those gaseous components of the atmosphere, both natural and anthropic, that absorb and emit infrared radiation."<sup>2</sup> The greenhouse gases covered by the Kyoto protocol are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF<sub>6</sub>) (PK 1997,3), "produced mostly by the countries with greater economic development due to the expansion of an industrial production and consumption model based on fossil fuels (oil, gas and coal) mainly for power generation, agro-industrial food system and a wild urbanization"<sup>3</sup> Climate change: setting the trap. (<http://www.etcgroup.org/es/content/cambio-climatico-armando-la-trampa>).

The Kyoto Protocol, Japan, is a binding document that "sets the mandatory targets regarding GHG emissions for the main world economies that have accepted it. These individual targets range from a reduction of 8 percent to a maximum growth of 10 percent with respect to base year emissions, which has been set in 1990". (Abstract PK 1997, 3).

The alternative proposal of geoengineers, to build artificial volcanic clouds over the Arctic to cover the sun, is that below these geoengineering proposals are companies, especially energy, oil, mining, which implies that they can continue polluting as up to now and apart by creating a technology that they themselves can sell to counteract what they have caused themselves. (Silvia Ribeiro, interview conducted on December 5, 2016, in Cancun, Quintana Roo, during the United Nations Conference on Biological Diversity.)

The purpose of this research aims to show the risks in the sustainability of the agri-food chain and the degrees of vulnerability

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to which its competitiveness is exposed, alongside the population that unequally receives the impacts of the phenomenon, reducing their quality of life.

Regarding the impact of this project on the competitiveness and sustainability of the agri-food sector, it can be said that the analysis and evaluation are aimed at determining, as a hypothesis, that the resolutions of the great environmental summits, from Rio to that of Stockholm, have not been enough and have not given the results that were expected in relation to the control and reduction of greenhouse gases, which increase climate change and its consequences, so that as the summits, post-Paris, propose anti-climate change policies could have results in the transition from a dirty industry to a white and softer industry, with respect to the depredation of natural resources, however trends indicate that the roads that are being followed, as the US withdraws from the summit and that China and the EU will adopt measures within 30 years, not only will negative trends persist but they will become more acute, with which the expectations of alleviating the problems are postponed and those of continuity will accelerate, impacting on the competitiveness and sustainability of the agri-food sector and therefore aggravating the health of large sectors of the world population.

Among the contemporary Risks to consider are the problems related to the soil, forests, water, air and climate change in general, generated by the exploitation model based on the indiscriminate use of hydrocarbons as a fundamental energy source, alongside intensive monocultures supported by agrochemicals, which together lead to relative vulnerability in food safety, quality and safety, with repercussions on human health in particular.

Regarding the quality of the soil, it is estimated that approximately 25 percent of the earth's surface is desertified, that is to say, that a quarter of the planet's surface is barren land where nothing can be cultivated. It is believed that the most serious effects of this phenomenon will be experienced in Latin America, because according to studies, by 2050, 50 percent of the soil will be subject to desertification and that is very serious because it is the region in which they produce most of the food consumed in the world.

The forests have been declining. In 2015 there are 129 million hectares of forest less than in 1990, equivalent to an area like that of South Africa. As more forests are lost, less carbon dioxide can be captured, so global warming is on the rise.

Freshwater sources are polluted, in such a way that most rivers in Africa, Asia and Latin America contain microorganisms and waste that endanger the lives of millions of people.

Without the ability for soils, forests, fresh water and oceans to absorb greenhouse gases, the planet's temperature increases and climate change, such as a radical and abrupt temperature alteration, generates environmental imbalances that are manifested in the thawing of the eternal snows, extreme rains on some sides of the planet and absolute scarcity on others. In some places the cities are flooded by melting ice or by relentless rains and in others the land and life is dying due to lack of water.<sup>4,5</sup>

### Acknowledgments

None.

### Conflicts of interest

No conflicts of interests exist.

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