

# *ENVIRONMENTAL DISASTERS - ITALY*



# ENVIRONMENTAL DISASTER

An environmental disaster is a catastrophic event regarding the environment due to human activity.

This distinguishes it from the concept of a natural **disaster**. It is also distinct from intentional acts of war such as nuclear bombings

The **disasters** range from wars to nuclear explosions, chemical spill, toxic gas leaks, and oil spills.

In most cases environmental disasters are caused by human error, lack of foresight, greed, or by simple incompetence.



# WHAT DO WE MEAN BY ENVIRONMENT?

**Environment** is everything that is around us. It can be living (biotic) or non-living (abiotic). It includes physical, chemical and other natural forces.

Living beings live in their **environment**. They constantly interact with it and adapt themselves to conditions in their **environment**.



# WHAT IS THE DIFFERENCE BETWEEN A NATURAL DISASTER AND AN ENVIRONMENTAL DISASTER?

## NATURAL DISASTER

- A **natural disaster** is a major adverse event resulting from **natural** processes of the Earth, it is completely unpreventable but we can take steps to reduce the amount of damage caused and loss of lives.

## ENVIRONMENTAL DISASTER

- An **environmental disaster** is one in which a major disruption occurs **in the natural environment** due to human cause, for example, toxic gas leaks.

***HERE ARE 8  
ENVIRONMENTAL  
DISASTERS FROM THE  
PAST 50 YEARS THAT  
WREACKED HAVOC ON  
HUMANS, ANIMALS AND  
ENVIRONMENT:***

SEVESO  
DISASTER  
1976

A cloud containing a kilogram of TCDD, a carcinogenic byproduct of the trichlorophenol used to produce hand soaps, leaked from a chemical plant in Meda, Italy, in 1976, settling over the towns of Meda and Seveso.

LOVE CANAL  
1978

From 1942 to 1953, the Hooker Chemical Co. used a canal in Love Canal, New York, to dispose of 21,000 tons of toxic chemical waste. In 1978, The New York Times reported that chemicals from the canal had leaked into people's homes, yards, and school playgrounds after years of heavy rainy seasons created toxic puddles.

BHOPAL GAS  
LEAK 1984

The Bhopal disaster has been called the worst industrial accident in history. In 1984 45 tons of poisonous methyl isocyanate gas leaked from an insecticide plant in Bhopal, India. Thousands of people died immediately.

CHERNOBYL  
DISASTER  
1986

On April 26, 1986, a nuclear reactor in the town of Chernobyl, Ukraine, blew up, leaving nuclear remnants that affected people in a 200-mile radius for decades to come, Business Insider previously reported. The Chernobyl nuclear disaster forced 350,000 people to be evacuated over fears of radiation poisoning. It's still considered one of the worst nuclear-reactor disaster in history.

**EXXON  
VALDEL OIL  
SPILL 1989**

When the Exxon Valdez oil tanker hit the coast of Prince William Sound, Alaska, 11 million gallons of oil spilled across 1,300 miles and devastated wildlife populations in the area.

**ASBESTOS IN  
LIBBY,  
MONTANA  
1990**

Since 1919, 400 people have died and almost 3,000 have become sick because of toxic asbestos dust from vermiculite mining in Libby, Montana (USA). The mining company W.R. Grace and Co. had also distributed vermiculite, often used as insulation for the construction of buildings, around playgrounds and backyards in Libby.

**GULF WAR  
OIL SPILL 1991**

The Gulf War oil spill was the largest oil spill. Between 5 and 10 million barrels of oil spilled into the Persian Gulf, killing 30,000 birds and reducing the breeding (reproduction) success of some species by half, according to CNN.

**JILIN PLANT  
EXSPLOSION  
2005**

Chemicals seeped into China's Songhua River, then into the Amur River at the China-Russia border, where benzene levels were measured at 108 times as high as standard safety levels, and eventually into the Pacific Ocean.



# *ENVIRONMENTAL DISASTERS IN ITALY*

Sicily, Puglia and Campania are the regions with the highest number of environmental crimes recorded, where environmental damage means significant and measurable deterioration caused to species and habitats, rivers and lakes, ground.





# SEVESO DISASTER 1976

The **Seveso disaster** was an industrial accident that occurred around 12:37 pm on July 10th 1976, in a small chemical manufacturing plant approximately 20 kilometres (12 mi) north of Milan in Lombardy (one of the northern region of Italy).

It resulted in the highest known exposure to TCDD (it is the best known and **most dangerous of the dioxins**) in residential populations, which gave rise to numerous scientific studies and standardized industrial safety regulations.

While residents of Seveso and the surrounding area were tending their gardens, running errands or watching their children play, one of the buildings in **the chemical plant was getting dangerously hot** as cooling mechanisms were turned off.



When the temperature inside one of the plant's tanks reached a **critical level**, a pressure release valve opened, and about six metric tons of toxic gas were emitted from the facility. The resulting gas cloud that drifted over the Seveso area contained an estimated **one kilogram of TCDD**, technically known as 2,3,7,8-tetrachlorodibenzodioxin.

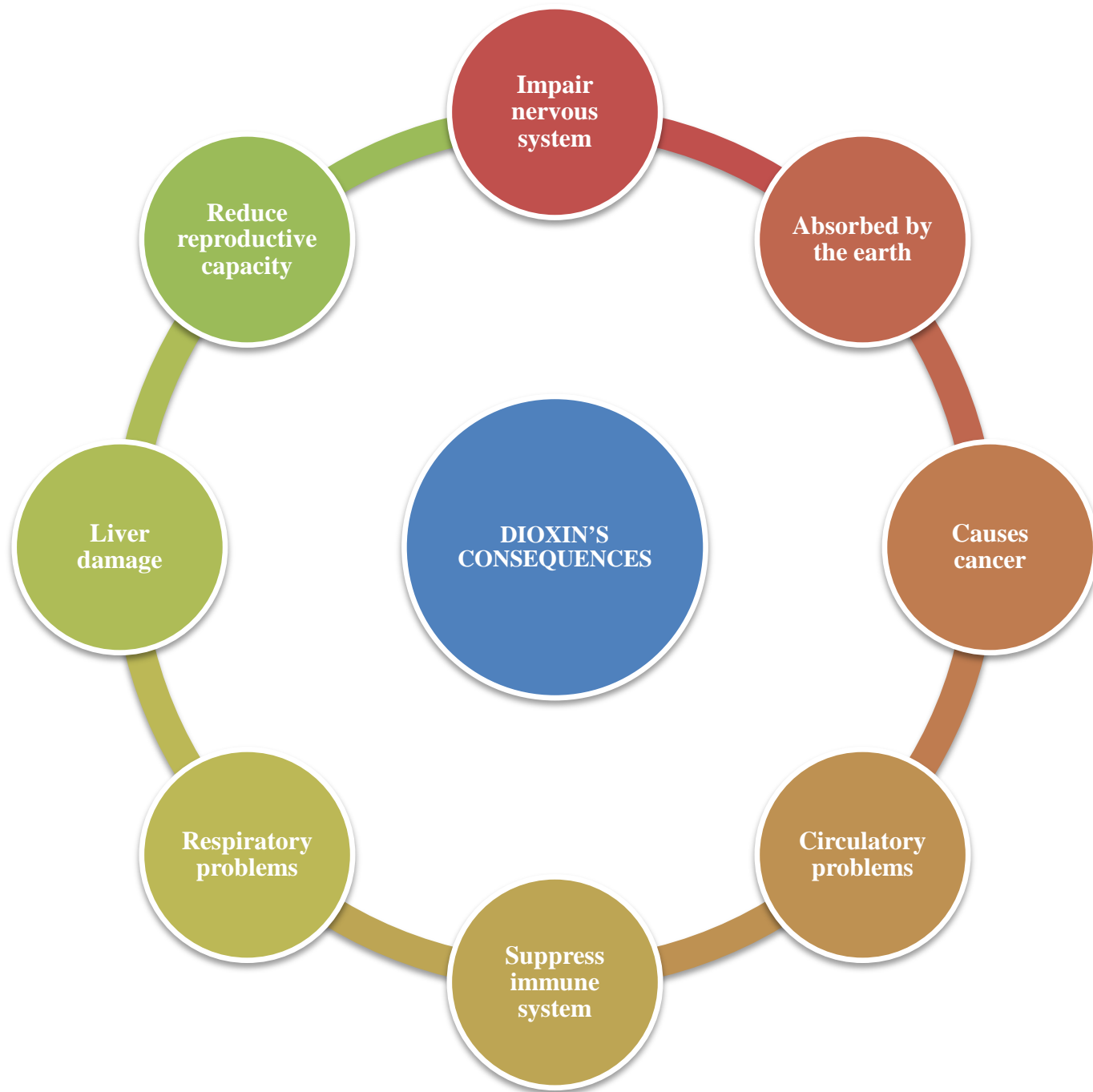
## WHAT IS TCDD?

TCDD is one type of dioxin universally recognized as a **carcinogen** (a cancer-causing agent). It's also known to cause reproductive, immune and developmental effects in mammals.

Within a few hours after the ICMESA facility gas release, over 37,000 people throughout the Seveso area were exposed to unprecedented levels of dioxin.

**Consequences:** it was a few days before people began to feel the effects: nausea, blurred vision, skin lesions and the development of severe chloracne, particularly among children. As a result of the slow development of symptoms, the area around Seveso was not immediately evacuated.





# FARMOPLANT 1988

## OUR LOCAL DISASTER

It is remembered as one of the most serious environmental disasters in the central Italy.

### What is Farmoplant?

Farmoplant (former Montedison-Diag) was the name of a subsidiary of Montedison (today Edison) founded in 1976 with headquarters in Milan and specialized in the production of pesticides.

The plant was well known in the province of Massa Carrara, hundreds of people worked in it.

It was inaugurated in 1976 by Montedison under the strong push of the government which wanted to limit the already high levels of unemployment and deindustrialisation in the area.

Already in the first years of activity, however, there were shortcomings regarding the safety management not only of workers but also for the population of areas adjacent to industry.





# What happened?

It was 6:10 a.m on 17th July 1988. In the plant for the liquid formulations of Farmoplant there was a large explosion followed by another one 5 minutes later, in a tank containing over 50 thousand liters of insecticide dimethoate (Rogor). Immediately a fire occurred which released toxic fumes and vapors into the air.

The temperature of the system gradually increased and led to a series of other fires.

The first civil protection releases were reassuring, indicating the toxic cloud as a foul-smelling but non-polluting and requiring no special monitoring.

Carried by the winds, however, the cloud spread over 2 thousand square kilometers.

The USL of Massa (Local Health Care Service) recommended not to consume fruit and vegetables harvested in the area and a bathing ban was ordered near the Lavello stream, not far from the Farmoplant, while the government decreed the closure of the plant for 6 months pending technical checks.

During the visit of some ministers to Massa there were clashes in the main town squares. Production in Farmoplant did not resume and in 1991 the factory was closed by Montedison.



## CONSEQUENCES

At the end of the 1980s, a commission was set up to evaluate the area's reclamation plan, which was criticized for being very rough. The reclamation however began in 1991 and lasted until 1995, managed by the Cersam company. The quality of the water and its contaminations were put in the foreground and at the end of the 90s it was decided that the waters could again flow into the Lavello stream.



Despite several interventions, the area in which the Farmoplant activity took place still remains polluted. An unsuitable disposal of liquid waste was authorized which led to new contaminations, while solid waste was buried in different areas of the plant, leading to further risks. Massa is, among Italian cities, one with the highest number of people with cancer.

In 2010, a refund was proposed by the industry which the province and municipalities involved accepted despite the fact that many believed it was totally inadequate to the damage suffered. Respectively, 600 thousand Euros were given to the municipality of Carrara, 750 thousand to that of Massa and 250 thousand to the Province.



# TODAY

Today the data collected in 149 wells of Massa and Carrara on behalf of Sogesid (in-house company of the Ministry) in the Arpat laboratories, say nothing good. Those poisons are still there and they are right there, where people live and work.



Among the poisons present are ammonia, pesticides, arsenic, benzene, vinyl chloride, chromium, total hydrocarbons, manganese, paraxylene, pcb, sulphates and zinc. For example, hexavalent chromium in some wells is present in percentages from 12 to 42 milligrams per liter when the legal limit is 0.2. Now environmentalists are calling for the immediate closure of the wells and the start of further remediation.



# “THE LAND OF FIRES”

## WHAT IS THE “LAND OF FIRES”?

The Romans called the green plains of Naples *campania felix*, the happy countryside. Today, though, it’s notoriously known as the *Terra dei Fuochi*, the Land of Fires, because of the noxious and criminal burning of trash and toxic waste that has come to define this once-beautiful countryside of vineyards, orchards and gardens.

This term is used to indicate some areas of the municipalities of Qualiano, Villaricca and Giugliano in the province of Naples.

## WHAT’S BEHIND THE “LAND OF FIRES”?

The environmental mess taking place here goes well beyond **illegal** trash fires. Criminal groups associated with Naples’ version of the Mafia, the **camorra**, ran lucrative operations in which they illegally buried **toxic** industrial waste.





## HEALTH CONSEQUENCES:

The images of **waste** burned, scattered, or abandoned in **illegal** landfills in the **Land of Fires**, even near inhabited areas, have been associated with the perception of a **greater health risk** for people living in the area, with particular reference to **tumors**, an impressive number of people, including hundreds of children, get cancer and die

It is characterized by the illegal spillage of waste, even toxic. In many cases, heaps of waste, illegally poured into the countryside, or at the edges of the roads, are set on fire resulting in fires whose fumes diffuse toxic substances, including **dioxin**, into the atmosphere and surrounding lands.

## WASTE PROBLEMS:

Trash festers on the sides of roads, along country lanes, in fields and abandoned buildings.

Waste is one of Italy's most glaring and **alarming environmental problems**, affecting small towns and cities alike up and down the peninsula even though the country has one of the **highest rates of recycling** in the world.



It's here in the countryside of Campania where the seriousness of Italy's **waste problem** is stunning and **horribly** plain to see. Campania has become emblematic of a country drowning in waste, exacerbated by what's become known as the ecomafia — criminal groups that take profit from environmental problems, including waste disposal.

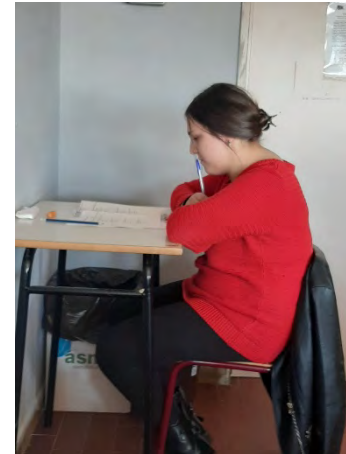


The Italian government has made cleaning up the “Terra dei Fuochi” a **priority**, but progress is slow even though large sums are spent on remediation and enforcement.





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*Presentation realised by Martina Ippolito – Student at IIS A. Meucci, Massa – 4BLSA*  
*Supervised by Alessandra Mazzi – English Teacher at IIS A. Meucci, Massa*



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