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## Industrial Pollution of Asopos River Basin in Viotia/East Attica Districts/Greece. The View of the Greek Greens.

### 1. Background Information

Asopos river basin covers a total surface area of **450 km<sup>2</sup>** (East Attica and Viotia Districts), and extends to Evoikos Gulf. Seven Municipalities, a population of some 200.000 inhabitants, are located in the broad Asopos area, which is the **largest industrial region** of Greece, supporting 1300 Industrial facilities: Metal processing agrochemical, and food/beverage industries among others. In 1979, the river was appointed by the Regional Authorities (Prefectures of Attica and Viotia) as receiver of industrial sewage, this treaty is still in effect. As a result, the river and groundwater have been subject to long-term industrial pollution.

In August 2007, important findings came into light regarding the **severe pollution of surface and groundwater of the broad Asopos area, in Viotia/East Attica districts**. In particular, **a highly toxic heavy metal, hexavalent chromium** (or chromium 6) was traced at **high concentrations (ranging from 10 ppbs to 330 ppbs)** in both surface and groundwater samples from the area. All scientific studies carried out so far, demonstrate that the presence of hexavalent chromium in surface and groundwater is **clearly and indisputably linked to industrial contamination** of soils and waters from **illegal discharge of industrial, hazardous waste and sludges..** The area LACKS an industrial waste treatment plant. According to the Ministry for Environment many industries discharge their raw sewage (untreated effluents) either directly to the river or through illegal wells.

Despite the fact that so many industries are located in the area, **there was lack of a monitoring system for the quality of surface and groundwater – and there still is**. The pollution problem came into light as a result of the **action of concerned citizens** of the area (many of them are here with us today). **Father Giannis Oikonomides** was alerted by his own observation that the number of deaths due to cancer had increased dramatically during the last decade.

### 2. The Response of the Greek Administration - Failure to Enforce Community and Greek Law – Lack of Transparency

One would expect that as soon as the problem was well known and documented, and considering the various uses of groundwater resources for **drinking, crop irrigation and industrial production (including food production)** and the **major risks imposed on human health and ecosystems, the Greek competent Authorities, would take actions to effectively tackle the problem** in order to

**protect human health and the ecosystems.** Unfortunately **this is not the case.** The problem has become **more intense** today as the groundwater **contamination plumes are spreading, the concentration of pollutants, in particular of hexavalent chromium, is on the rise,** and because of its likely bioaccumulation/biomagnification throughout food chains it may affect a greater portion of Greek population along with ecosystem health. It is very likely that lacking a **response plan** on behalf of the competent Authorities may result in the **damage caused to the environment and human health being irreversible.**

According to a **detailed report** issued by the **General Inspector of the Public Administration**, in March 2007, the pollution problem of Asopos river basin **has NOT been dealt with effectively by the regional and local authorities and the Ministries for Environment and Development. This –extremely important-report stresses the need for immediate action from Administration in order to ensure that the environmental licences of the industries incorporate NEW TERMS and CONDITIONS so as to ensure compliance with the existing EU and Greek legislation. This means that there is a need for REVIEW of environmental licences of all facilities. Unfortunately, this has not been implemented yet. As a result, according to this report, there is continuous violation of the EU and Greek Legislation. The following EU directives are violated:**

**1. The Water Framework Directive 60/2000/EC** which requires that member states shall establish **river basin management plans, with public participation,** having the overall objective to achieve **good ecological status of all waters (surface, groundwaters and coastal waters) by the year 2015.** In order to establish the management plan for Asopos river basin one should have **clear data** with regard to quantity and Ecological/physical/chemical quality of all waters (surface, groundwater and coastal water) **Such data is lacking** because there is **STILL** lack of a **monitoring network** of surface and groundwaters.

**2. The Groundwater Directive 2006/118/EC** which requires **pollution trend studies** to be carried out **using existing (baseline) data as the WFD requires,** and measures to prevent or limit input of pollutants into groundwater, so that WFD quality objectives can be achieved by the year 2015. There is **lack of pollution trend studies** and lack of complete baseline data as mentioned previously. The Ministry for Environment in conjunction with the **Institute of Geology and Mineral Exploration** conducted a **preliminary investigation** of surface and groundwater quality in the Asopos area, in February 2007. According to this study both surface and groundwaters are characterized “at risk” and there are high concentrations of nitrates, nitrites, ammonia, chlorine ions, phosphates and heavy metals including **hexavalent chromium, nickel, arsenic and lead.** Considering the findings of this investigation, one would expect that the Ministry for Environment would immediately proceed to a detailed **SITE CHARACTERIZATION** study in order to have a full assessment of the polluted sites, the types of pollutants and their migration rates in groundwater. This has not been the case! **The Administration remains indifferent and inactive!**

**3. The Directive 2004/35/CE on Environmental Liability,** which requires **that the prevention and remediation of environmental damage** should be implemented through the application of **“the polluter pays principle”.** **The industries whose activities have caused the damage must bear the cost of the**

necessary preventive or remedial measures, the assessment of the damage and the assessment of imminent threats of the damage.

So far, the Environmental Inspectorate has performed a certain number of environmental inspections at the broad Asopos area and, as a result of non-compliance to the approved environmental terms, several penalties have been imposed to industries. **However the polluters have not been clearly identified and they have not been held liable for the damage they have caused.** As the director of the Inspectorate informed on radio interview, since Summer 2007 the inspectorate has conducted 180 environmental inspections at the broad Asopos area, imposing penalties (a total amount of 4.100.000 euros) to **107 activities** that failed to comply with their approved environmental terms. (For comparison purposes consider that a **single industry** in Belgium agreed to pay 12 million euros for the remediation of groundwater contaminated by cadmium in the company's industrial site) We must also underline that a) we have not been informed whether those penalties have been paid by the polluting industries and if this money is used for the remediation of the area, b) we are not informed whether the polluting activities are re-checked and what are the consequences in the event of non-compliance for second time.

**4, The Directive 91/689/EEC on Hazardous Waste** which requires that the industrial facilities that are **producers of hazardous waste** must provide **inventories of all their hazardous waste and specific hazardous waste management plans to the competent Authorities** The hazardous waste management plans are considered **prerequisites** in order to receive **licence** from the authorities. **However, a great number of industries are currently operating without licence, as they have failed to submit management plans for their waste. Other industries have got licences based on false data with regard to waste inventories and production processes involving use of hazardous materials. They have submitted untrue Environmental Impact Assessments and they have therefore fake environmental terms.**

**5. Violation of Aarhus convention/ Lack of Transparency.** There is also an important **violation of the Directive 2003/4/EC**, concerning **freedom of access to information on the environment**. For instance the Hellenic Environmental Inspectorate does not make available to the public the detailed reports of environmental inspections, and this information is accessed **only after continuous pressure from concerned citizens**. On the other hand the Inspectorate has not drawn up a **concrete inspections plan** on the local level, nor a coordination plan between different inspecting authorities aiming at effective implementation of 2001/331/EC Recommendations (on minimum criteria on environmental inspections). As a conclusion, there is a serious **lack of transparency**, and lack of coordination.. It is important to underline that every time that citizens asked for information, the Environmental Inspectorate did not provide swift answers.

**3. Parliamentary Questions:** The case of Asopos Contamination has been subject to discussions in the Greek Parliament through many parliamentary questions raised by Deputies of different political parties, which **have also questioned the Commission** and the European Parliament. For instance, the Commission's answer to Question E-4904/07 (and similarly E-5602/07 and E-5920/07) on the detection of chrome in the Asopos river and on drinking water in the regions of Oinofyta and

Chasia states that : **the Commission has launched an own-initiative investigation** case and has requested information to the Greek authorities in order to investigate whether the obligations arising from EC environmental legislation, i.e. Directive 2006/11/EC on pollution caused by certain dangerous substances discharged into the aquatic environment; Council Directive 80/68/EEC on the protection of underground water; Council Directive 91/689/EEC on the management of hazardous waste; Council Directive 98/83/EC on drinking water, have been complied with. The investigation is ongoing'. **Unfortunately, we have not been informed in what stage this investigation has reached or what the Commission's conclusions are.**

**And we ask NOW: Does the Commission consider that the Greek authorities took the appropriate measures to deal with the river watershed pollution and restore the region's ground water? If not, what measures does the Commission intend to take to protect the environment and the health of the region's inhabitants?**

**What actions does the Commission intend to take in order to enforce Community Law? Is it justifiable that the Greek administrative and audit mechanisms have failed, so far, to enforce the Greek and Community Law?**

#### **4. Priorities Today. The Proposals of the Greek Greens and the Civil Society for Combating Pollution and Achieving Sustainability in the wide Asopos area.**

**The Greek Greens STRESS that:**

##### **A. The Only Sustainable Solution is Clean Production**

The broad Asopos area is facing **an intense environmental crisis with direct impacts on human health, social welfare and the economic activities of the area** (agriculture, fisheries, tourism, food production, industrial production). The effects of this crisis are well understood today by **farmers who are NOT selling their products in markets and fishermen who are losing their jobs. The solution is NOT to cover up the pollution issue and continue the "business as usual" senario. There is only one long-term sustainable solution for the area: TO IMPLEMENT CLEAN INDUSTRIAL/AGRICULTURAL PRODUCTION. The Greek Greens propose that all stakeholders of the society, the industries, the Administration, groups of citizens, NGO's , the fishermen and farmers, aided by the scientific community, must agree on and implement a CLEAN PRODUCTION PLAN based on pollution prevention rather than pollution control.** Such a plan will benefit not only the environment and human health but also the economy of the area because it achieves sustainable use and protection of the local natural resources (water, land) vital for industries and farming. The industries can achieve clean production aided by green technologies, the application of Green Chemistry, through elimination or minimization of their hazardous raw materials. The Clean production can only be implemented with use of strong economic tools and incentives and by setting specific measurable targets.

The greening of agricultural production can be achieved through adoption of good agricultural practices, minimization of fertilizer/pesticide use and organic farming. **The pollution cost must not be transferred to the society and the future**

**generations.** Getting the product prices right ensures that the hidden environmental cost of pollution is incorporated in product price.

**B. There is an urgent need for a Remediation plan of the Contaminated sites. The Remediation Cost must be Allocated to Polluters. True Enforcement of the “polluter pays principle”.**

**A remediation plan of the area is the responsibility of the Greek Administration (Ministry for Environment).** Such a remediation plan must be based on site characterization which includes mapping the contamination plumes, the extend of pollution and polluted sites, full evaluation of the types of pollutants and the respective migration rates in groundwater. There must be an assessment of the available remediation technologies and a selection of the most cost-effective technology. **A true enforcement of the “polluter pays principle” means that there must be a full assessment of the remediation cost and allocation of the total cost to the polluters, depending upon the damage they have caused.** **The Greek Greens demand that the Ministry for Environment provides a complete list of polluting industries which are to be held liable for the remediation cost.**

**We demand true enforcement of the “polluter pays principle”**

**C. There is a need for Integrated Control of Industrial Pollution, Review of the Environmental Licences of industries in the area, Implementation of the Directives on Hazardous Waste Management and Groundwater Protection, Stronger Audit Mechanisms.**

It is the responsibility of the competent Authorities (Ministry for Environment Prefectures of East Attica and Viotia, and Regional Authorities) **to ensure that the environmental licences of the industries incorporate NEW TERMS and CONDITIONS so as to comply with the existing EU and Greek legislation with regard to the Management of Hazardous Waste and Protection of Groundwater.** This means that there is a need for **REVIEW of environmental licences** of all industrial activities, as suggested by the General Inspector of Public Administration. The failure of law enforcement is actually a failure of the audit mechanisms. No matter how good legislation is, it often proves a “blank paper” if it is not accompanied by strong audit mechanisms.

**D. Implentation of the Water Framework Directive 2000/60/EC** which requires that member states shall establish **river basin management plans, with public participation**, having the overall objective to achieve **good ecological status of all waters (surface, ground and coastal waters) by the year 2015.** **Prerequisite** for the management plan is the establishment of a **monitoring network and clear data** regarding water quality and quantity for all waters (surface, ground and coastal waters).

**E. Protection of Human Health, Provision of Safe Drinking Water**

**The citizens must not suffer adverse health effects** from exposure to hexavalent chromium and other pollutants in water, air and food. **Provision of safe drinking water is a fundamental citizens’ right.** **The clean-up cost of the polluted groundwater must be allocated to the polluters**, as imposed by the “polluter pays principle”. The health effects must be evaluated through epidemiological studies. There must be integrated quality control of food products/crops from the contaminated sites.