



### • New water network to decrease waste and pollution General Fertiliser Company, chemical industry, Syria

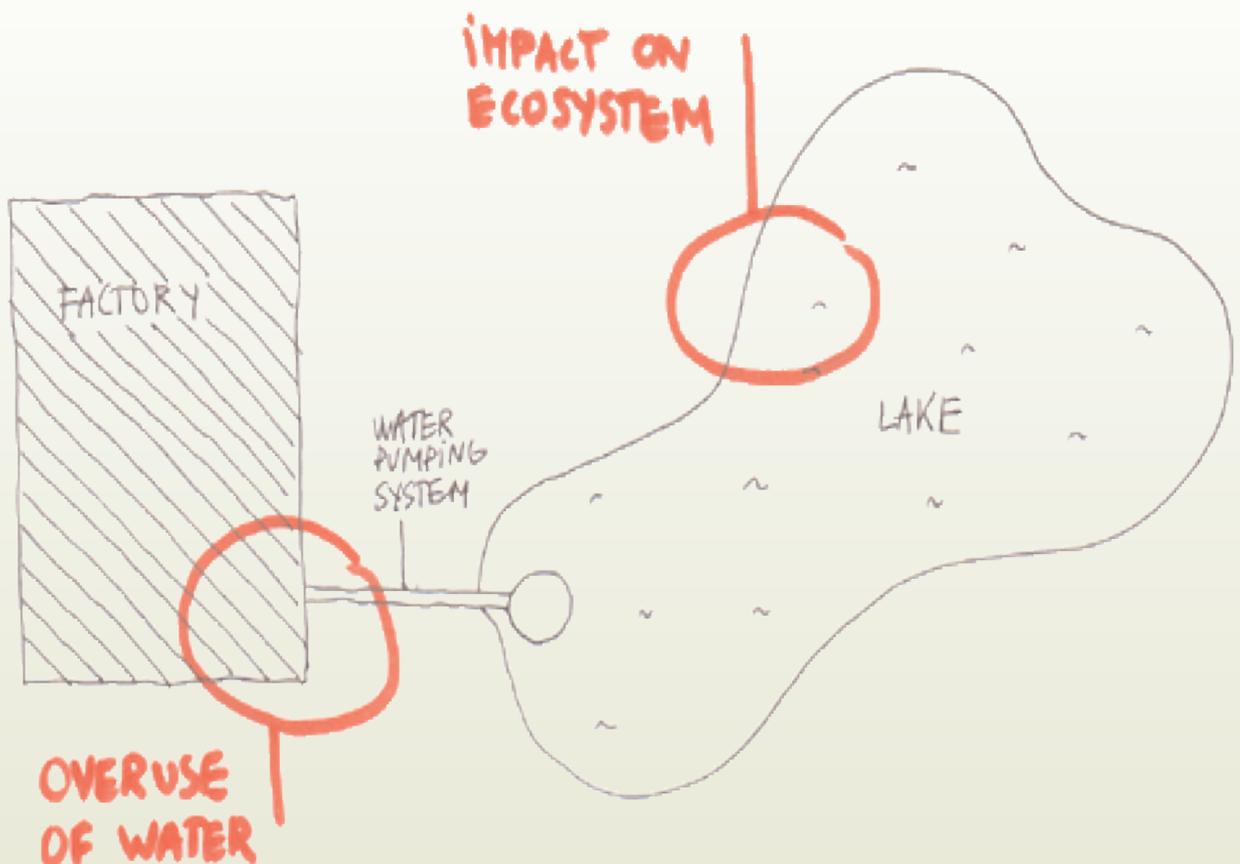
#### In brief

With approximately 1000 workers, Triple Super Phosphate (TSP) is the biggest plant of General Fertiliser Company (GFC) which is constituted of several units that produce fertilisers in large quantities (1500 tonne/day of granulated triple super phosphate, 1800 tonne/day of sulphuric acid, 580 tonne/day of phosphoric acid). Being so big, the management of GFC focused at first its efforts on the one plant. Triple Super Phosphate plant was built next to a lake because water is an extremely important resource for the production of fertilisers. However, the water network of the company was very old and inefficient. In order to comply with international standards, the management decided to take serious measures to upgrade the water network.

#### Application

The consumption of water was much too high (40 m<sup>3</sup>/tonne) and the liquid effluents from the phosphoric acid and other TSP units were contaminated with oxyde phosphore (P<sub>2</sub>O<sub>5</sub>) and fluorides. The management decided to renew the whole water and rainwater network with more efficient materials reducing the consumption of water by 37.5% to 25m<sup>3</sup>/tonne and preventing the polluted wastewater from leaking to the surface water. The company also built new pipes, a new basin and a water-pumping unit to reduce the discharge of polluted effluents in the neighbouring ecosystem from 350m<sup>3</sup>/h. to 150m<sup>3</sup>/h. In addition, new filters were fixed to reduce air pollution and minimise loss of raw material in the phosphate-grinding unit.

### • Ecomaps



## • Action plan

Environmental aspect	Corrective measures	Investment	Annual savings
Water	Building a new water network that conveys the water from the treatment unit to all the units of the plant	400'000 US\$	250'000 US\$
Water	Building a new line, a basin and a water-pumping unit for wastewater treatment	100'000 US\$	50'000 US\$
Water	Renewing the rainwater network	200'000 US\$	0 US\$
Air	Installing new filters	1'200'000 US\$	1'250'000 US\$

## • Mini audit \*

In spite of the large number of employees, the results of the mini audit confirmed that there was a problem in the management of water. The workers were aware that it was not used properly and that some of their activities were not environmentally safe.

Use of water and wastewater

Air pollution, dust

Health and safety

## • Lessons learned

Applying the Ecomapping Guide encouraged the management to give high importance and priorities to implement corrective measures. They undertook fast procedures to prevent more pollution and helped to increase environmental awareness among the management and the workers through the eco-efficiency principle. Thus, the management was able to clarify their environmental position. The company realised the importance of studying and solving environmental problems by reducing production costs, water consumption and wasting, and improving the working conditions and professional safety in the plant.

## • For further information

### • WHO IS SBA?

SBA, Sustainable Business Associates is an international non-governmental organisation (NGO) working to engage industrialists in 'eco-efficiency' with the aim of minimising environmental impact and improving business productivity. To pursue this aim, SBA has initiated the DELTA Programme to sensitise industrialists to new business risks and opportunities, and to provide them with the management tools and training to move towards sustainable development.

### • WHERE ARE THE DELTA NETWORKS?

The DELTA Networks are operating in: Algeria, Egypt, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Syria, Tunisia and Turkey.

### • SUPPORT TO DELTA



### • WHAT IS DELTA?

DELTA stands for Developing Environmental Leadership Towards Action. Chapter 30 of Agenda 21 (an outcome of the 1992 United Nations 'Earth Summit') indicates that business & industry have a critical role to play in achieving sustainable development goals. After an initial awareness-raising phase, the DELTA Programme focused on structuring industrialists in 'business & environment' networks (DELTA Networks) in 11 countries of the Mashrek & Maghreb. These Networks are composed of key industrialists interested in taking a proactive role and leadership on environmental issues. The DELTA Networks are practical, working structures for industrialists to obtain information & contacts, exchange experiences, develop environmental know-how, and gain access to practical management tools that can offer 'win-win' options based on eco-efficiency.

### • SBA

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The Ecomapping Guide, elaborated by the Association Belge des Eco-Conseillers (ABECE, Belgium), is a visual tool that enables managers and their staff to assess the environmental performance of a micro-company or workshop. By drawing a set of maps (water, soil, risk, air, etc.) of the plant, the main environmental risks and sensitive areas of the factory can be identified. See <http://www.ecomapping.org>

\*The mini audit is a 120-second audit done by the workers to assess the company's environmental performance. The results of all staff are then consolidated in a table that is analysed and graphically interpreted.