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Phosphate dust pollution in Aqaba causes environmental concern

By Monika Warich

Special to the Jordan Times

AQABA — Many visitors to Aqaba in the past few years could not help to notice the increasing pollution of the sea when swimming, diving or taking trips on a glass-boat. On the one hand, there is a lot of garbage in the water such as empty cans, tyres and the like and on the other, visitors might wonder whether the white phosphate layer that covers the seabed in some areas along the coast could not cause harm to marine life.

This may well be true, says Dr. Fuad Hashwa, professor and microbiologist at Jordan University, who completed a study on the pollution of the coastal region of Aqaba three years ago, financed through the Ford Foundation and the then National Planning Council (NPC) and by the Jordan Phosphate Mines Company. At that time only one million tons of phosphate were exported yearly while this amount has increased to 6-7 million tons today and the spillage of phosphate during the loading process went up accordingly. The loading facilities which are used in Aqaba harbour consist of uncovered conveyor belts from which some phosphate regularly drops on the ground and into the sea.

Effects of phosphates

Various effects are caused by the phosphate dust, Dr. Hashwa explains. Apart from permanent clouds of dust in the air, it forms a white thick layer on the ground in the 1,000 square metre loading area which is hostile to any vegetation, while in the water it causes turbidity and poor visibility before settling down to cover the ground up to a depth of 15 metres below sea level. Underneath this layer of white dust, a black sediment has developed which does not support life for aquatic animals or plants, he said.

These conditions have been prevailing for many years and although the amount of phosphate exported has increased by more than 600 per cent, no improvement of the loading facilities has taken place to date, he added.

In an interview with the Jordan Times, Dr. Hashwa pointed out that the phosphate deposited in the Gulf of Aqaba is thought to be

relatively harmless to the existing marine life as it is not easily soluble in the sea water. But follow-up research has shown that in longer periods of time, some dissolving is taking place and that the water is slowly getting enriched with phosphates, which constitute a major nutrient for marine plants, particularly algae.

Today, three years after the completion of the study, increased and abundant growth of algae in the coastal region near the phosphate loading berths can be noticed. Algae consume a great amount of oxygen when decomposing and diminish the amount of sunlight that can penetrate through the water. This may lead to damage or even the disappearance of corals and the marine plant and animal colonies associated with them as they both need a lot of oxygen and light.

The crystal-clear waters of the Gulf of Aqaba offer perfect conditions for rich coral reefs and they are believed to be unique in the northern hemisphere. But as is well known, coral reefs are very sensitive to pollution and deterioration of the water quality of any kind.

Sewerage discharge

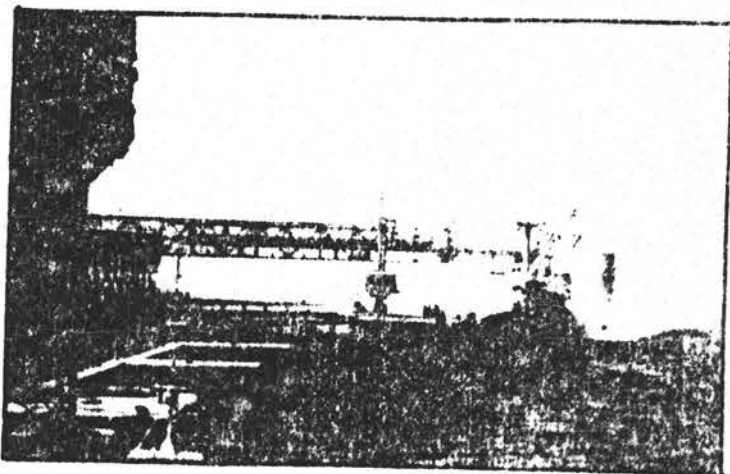
Dr. Hashwa and his colleague, Dr. Adel Mahasneh, also studied the effects of the discharge of sewerage into the sea and their findings were published in the Jordan Medical Journal of Nov. 1983. The rapid growth of the population of Aqaba (now about

25,000) and the increasing number of tourists has led to a significant rise in the discharge of untreated raw sewerage into the sea. The report says: "The main source of faecal matter is the partially functional treatment plant located at the seaside... from which the sewerage is discharged regularly after primary treatment only."

Some hotels and residential areas also discharge smaller amounts of untreated sewerage at irregular intervals. However, the sewerage plant is located far away from the tourist hotels and their beaches are not affected. Only in the very rare cases of a southwind, a higher concentration of bacteria which are indicators of pathogenicity, could be measured in these areas," the study says. The cleanest water, free from pollution of any kind was found south of the Marine Research Station, where the most beautiful and rich coral reefs can also be observed.

Considering the importance of the Jordanian coast as a region for tourism, fishing and as a unique natural environment, Dr. Hashwa calls for improved techniques at the phosphate loading berths and to check possible pollution by other industrial wastes. He also suggests monitoring the bathing areas for contamination and to take immediate action to prevent the disposal of untreated domestic wastewater into the sea.

At the moment, construction work is being carried out to extend and improve the sewerage treatment facilities, and they should be functional in the near future.



A ship being bulk-loaded with phosphates at Aqaba port. The clouds of phosphate dust, which obscure the background, have been causing concern to environmentalists who fear they may harm marine life in the Gulf (J.T. file photo)