

Impacts of Releasing Treated Industrial Wastewater to the Natural Waters in Biyagama Area

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The Board of Investment of Sri Lanka (BOI) was established to develop industries in the country through different zones. Biyagama Export Processing Zone (BEPZ) established in 1979 is one of such zones. Several industries located in BEPZ treat their wastewater to a predetermined quality prior to discharge into the central wastewater treatment plant maintained by the BEPZ. The discharged wastewater passes through villages and several agricultural areas, and thought to be creating positive and negative impacts on the communities. A study was conducted in two Grama Niladari (GN) divisions (Biyagama West - 280 D – Kottunna and Biyagama North - 280 Kolambahena) that are affected due to treated wastewater from the central wastewater treatment plant of BEPZ with the objectives of assessing the impacts and uses of wastewater or diluted wastewater downstream of the BOI wastewater treatment plant and assessing the impacts of wastewater on different aspects such as health, agriculture, household, groundwater recharge etc. Thirty one farmers and 52 non-farmer villagers were randomly selected to represent both GN divisions. A questionnaire was developed after a preliminary data collection using a sub sample. The developed questionnaire was used to collect data from the respondents and the experts were also interviewed.

The study shows that the majority of the farming community has given up agricultural activity mainly due to unavailability of good quality water and availability of other income sources. Only some of the farming community still uses the stream or water recharged from the stream into adjacent dug wells to irrigate their crops. Non farming community uses other sources of water for their needs. Farming community complains that the polluted water negatively affect the paddy cultivation reducing yields and quality of the yield. No one of the upstream uses stream water for washing or bathing due to poor water quality but at Kottunna some of the farming and non-farming community use stream water for washing and bathing purposes. According to the respondents, the major types of pollutants that have polluted the stream are dyes, chemicals and heated water. The downstream respondents did not consider heated water as a major problem. Non-farmers and upstream Kolambahena community are more aware on the adverse impacts of the polluted stream than the farmers and the downstream Kottunna community.

Key words: Wastewater, pollutants, farming community, water quality