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| Title | Solid waste disposal and its impact on surrounding environment of Matuail landfill site, Dhaka, Bangladesh | | |
| Author(s) Name | Md. Faruque Hossain, Esrat Jahan, Zakia Parveen, **S. Mosaddeq Ahmed** and Md. Jamal Uddin | | |
| Contact Email(s) | [mfhossain@aiub.edu](mailto:mfhossain@aiub.edu), smahmed@aiub.edu | | |
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| Abstract |  |
| An investigation was conducted to assess the impact of solid waste disposal on surrounding environment of Matuail landfill site of Dhaka city. Three different locations such as current dumping, abandoned and its surrounded agricultural areas of Matuail landfill were selected for soil and plant samples, leachate from active dumping and fish samples from treated leachate pond. The Cu, Zn and Pb concentrations were high in the dumping (360 µg g-1 Cu, 806 µg g-1 Zn and 382 µg g-1 Pb) and abandoned (199 µg g-1 Cu, 452 µg g-1 Zn and 519 µg g-1 Pb) areas that exceeded the permissible limits. The heavy metal concentrations in plant samples did not show any significant contamination except Cu, Zn and Pb that also exceeded the permissible limits. On the other side, the organic matter and nutrient concentrations such as N, P, K and S of both soil and plant samples are within desirable value in the studied area. The concentrations of DO, BOD, COD and TDS of the untreated leachate were found 1.34 mg L-1, 96 mg L-1, 1343 mg L-1 and 7120 mg L-1, respectively that exceeded inland surface water standard but after treatment the concentrations of DO, BOD and TDS in the treated leachate pond were found within the permissible limit. The presence of heavy metal in leachate is not contaminated as it is below the toxic limit. The bioaccumulation of fish from treated pond is extremely high of Fe, Mn, Pb and Ni that exceeded the WHOs permissible limit. | |