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Municipal wastewater treatment and biomass production through a Short rotation coppice system in India using willows, poplars and bamboo**Mirko Hänel***University of Applied Science, Germany*

Wastewater fertigated Short rotation coppice (wfSRC) have been used successfully to treat different sources of industrial and municipal wastewater and at the same time produce valuable biomass in an economic and sustainable way. To evaluate the performance of a wfSRC system under Indian conditions a vegetation system based on willow, poplar and bamboo has been set-up in Aligarh (UP) and will be evaluated over a 3-year period in terms of pollutant removal capacity and biomass production. Municipal wastewater is conducted, screened and grit removed, stored in an equalisation tank and applied to the wfSRC without primary treatment. The chemical compositions of wastewater and drainage water has been regularly monitored. Surface soil and biomass samples at the beginning and on a yearly base have been also collected. The chemical parameters monitored in the raw wastewater and drained waters include DOC, COD, TN, NO₃-N, NH₄-N, PT, PO₄-P, eC, pH OD following standard methods. Electrical conductivity, organic matter content (%), NO₃-N, available P, cation exchange capacity, cations, heavy metals, field capacity and hydraulic conductivity were analysed for the soil.

Biography

Mirko Haenel is Research Director at the Technology Transfer Centre at the University of Applied Science (Bremerhaven, Germany) where he has been working for more than 21 years. Currently, he is also enrolled in the PhD Programme of the Department of Biology, Aquatic Biology, at Aarhus University. He has extensive experiences in applied research projects focusing on innovations in the field of Sustainable Water, Energy and Landscape Management. His key expertise is the development and promotion of water and wastewater treatment and reuse as well as waste management concepts. He has been responsible for the Scientific Coordination and Management of more than 45 national and international R&D projects in FPVI, VII and H2020. Currently, he is coordinating as European coordinator the EU-INDIA project "PAVITR": 821410 – H2020 which deals with innovative and nature-based water and wastewater treatment solutions.