



UNIVERSITE D'ABOMEY-CALAVI

Created on 08 October 1995, the "Chair" focus on the training of students in the field of water, sanitation and the environment. The topics addressed concern the pollution of water due to anthropogenic pressure, the effects on water resources and the related risks for aquatic environment. The Chair has elaborated several projects which have been submitted to the government of Benin, which financed a good number of research works including the valorisation of solid waste by methanization and composting. As a future perspective, the Chair will promote the creation of environmental cells in the different entities of the Universities and government agencies to take into account the environmental dimension in all decision-making processes.

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Development of methods adapted to developing country specificities to solve water and environment problem



DEVELOPMENT OF METHODS FOR DRINKING AND WASTEWATER TREATMENT, PRESERVATION AND MANAGEMENT OF AQUATIC ECOSYSTEMS

DEVELOPMENT OF METHODS FOR DRINKING WATER AND WASTEWATER TREATMENT.



Despite the more than 70% access to drinking water in Benin, maintaining the quality of this water at house level remains a challenge due to conservation methods and the strong cultural use of wells. Current research is aimed at the development of methods for the treatment of drinking water in the home. The approach used is based on improvement of traditional and cultural filtration techniques used by the population. This is ceramic filtration. The first results obtained allow to increase the area of contact of the filters with the water.

Over the past 7 years the chair assessed the performance domestic wastewater treatment with floating macrophytes. Thus a panel of domestic waste water treatment system has been developed for Benin cities. The chair also contributed to the installation of wastewater treatment plant in the country. However, industrial wastewater treatment remains unexplored in Benin. To this end, current research focused on the elimination of organic matter from leachates and abattoir effluent by the electrocoagulation process. The results obtained in the first phase showed a better yield compared to chemical coagulation.

PRESERVATION AND MANAGEMENT OF AQUATIC ECOSYSTEMS

The north of Benin is home to the majority of the country's springs but also the majority of agricultural land cultivated. This implies an increasing contamination of surface water upstream and a spread of this

pollution along the flow of these rivers. In view of this situation, the objective of the research is to contribute to a better knowledge of the quantitative and qualitative data on the degree of pollution of water reservoirs caused by the use of plant protection products in cotton environments. Current studies aim to develop GC-MS physico-chemical methods to determine the concentrations of these active component of the pesticides used. The presence of ambdacyhalothrin and acetamiprid at the Ouémé River have been confirmed.

Downstream of the river Ouémé is Lake Nokoué, the largest and most productive Lake of Benin and supports the livelihoods of more 500.000 people through fish production and sand mining. The health of the lake, however, is jeopardized by eutrophication and excessive growth of the invasive water hyacinth. An important management question is whether the removal of water hyacinth would significantly reduce

eutrophication problems through the removal of nutrients. Therefore current research compared the amount of nutrients that were contained in water hyacinth biomass to the amount of nutrients coming from tributaries and other external sources. The biomass estimation of the weed is based on coupled remote sensing and field measurement approaches. The preliminary results suggest that water hyacinth removal could significantly help to reduce eutrophication in Lake Nokoué.

In all its activities the Chair emphasizes the transfer of competence to the young researcher and to the communities

