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## **Analysis of the production of residual vegetable oils from the food and culinary industry in the city of Cuenca (Ecuador) using GIS tools**

Katerine Elizabeth Ponce Ochoa<sup>1</sup>, María Elena Rodrigo-Clavero<sup>2</sup>, and **Javier Rodrigo-Illarri**<sup>3</sup>

<sup>1</sup>Universidad Politécnica Salesiana, Cuenca, Ecuador (kponce@ups.edu.ec)

<sup>2</sup>Instituto de Ingeniería del Agua y Medio Ambiente (IIAMA) Universitat Politècnica de València (UPV), Valencia, Spain

<sup>3</sup>Instituto de Ingeniería del Agua y Medio Ambiente (IIAMA) Universitat Politècnica de València (UPV), Valencia, Spain

Current population growth has generated an increase in the food and culinary industry production, which has resulted in an increase in the consumption of vegetable oils on large restaurant chains as well as on small food stalls. This situation justifies the increasing generation of large amounts of residual vegetable oils that lead to serious problems in their purification due to their slow degradation.

This research is focused in the city of Cuenca (Ecuador) where a program for the collection of residual vegetable oils run by the company ETAPA – EP is being developed. It must be taken into account that this program has been implemented for a selected number of large restaurants but does not include other waste production sources, such as small restaurants, food carts and fast-food stalls that are usually quite frequent in the city and do not integrate an adequate management control over this type of residual waste.

This work explores for the first time the possibility of turning residual vegetable oils management into a source of income and job positions while protecting the environment. In order to carry out this study, information about the location of waste generation points and the amount of residual oil has been collected and processed using GIS tools.