



Report

INTERNATIONAL WORKSHOP
ADVANCES IN CLEANER PRODUCTION

“CLEANER PRODUCTION TOWARDS A SUSTAINABLE TRANSITION”

A Multidisciplinary Approach Towards the Introduction of Cleaner Production in Higher Education Curricula: A Case Study from TEC de Costa Rica

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Abstract

During the execution of the project “Pathways to Cleaner Production in the Americas through the integration of Business, Engineering and Environmental Education”, the Instituto Tecnológico de Costa Rica (ITCR) established a multidisciplinary team including 6 professors from 4 departments (Environmental Engineering, Industrial Production Engineering, AgriBusiness, and Business Administration). Some courses of the above mentioned career programs originally included contents covering principles and concepts from Cleaner Production (CP) from a specific field perspective disregarding a multi and transdisciplinary approach of the CP. The academic profiles in terms of capacities and competences were analyzed to evolve towards a multidisciplinary approach by converging different professional capacities to achieve an improved implementation of CP in industries through a practicum.

Presently, a pilot plan is being carried out using a multidisciplinary team of 6 advanced student from different programs. The methodology proposed includes short training in CP principles and concepts, data collection through visits to industries, data analysis in group sessions, improvement opportunities identification, and financial analysis. The recruitment of students for the pilot plan was carried out under voluntary and extracurricular terms, and supervised by the professors contributing in the Pathways project. The pilot plan will work with agrochemical formulation and distribution businesses located in Cartago. It is foreseen that in the near future, the methodology of CP implementation described in this paper could be formalized as an alternative modality to fulfill the professional practice required for most of ITCR programs. It is expected that the students would not only improve their CP knowledge and professional profile but also team work capacity.

This paper presents the results of the project as a case study for ITCR.

Keywords: *Cleaner Production, Multidisciplinary Education, Higher Education*