

INVESTIGATION OF CLEANER PRODUCTION OPTIONS IN LATEX DIPPING INDUSTRIES

A dissertation submitted to the

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

In partial fulfillment of the requirements for the award of the
Degree of Bachelor of Science in Export Agriculture

By

NILANKA HARSHANI WEERASINGHE

Export Agriculture Degree Programme

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

2012

ABSTRACT

Sustainable development, waste minimization, resource utilization are the major concepts discussing today. This research project approaches the concept of Cleaner Production in an industry of rubber dipped products. Cleaner production is defined as, the continuous application of an integrated, preventive, environmental strategy applied to processes, products and services to increase overall efficiency and reduce risks to humans and the environment. The assessment was started and formed cleaner production team, understood the process flow diagram, identified the waste streams, quantified the wastes and the possible options were given to the identified waste causes. Significant latex wastages were identified from the process as latex sample leftovers, latex retention sample keeping. And also the coagulated rubber in the tanks and pump wash overs were considerable. The water wastages from the process tanks were significantly noticed as they are totally used for a single use. Resource consumption can be reduced by optimizing the processes like water reusing and recycling. Large amount of water can be recycle for the same process activities or can reuse for any other purpose without searching for completely pure water. Waste generation can be minimized largely by adopting new technologies and by improving operating efficiencies. The minimization of wastes at the point of generation is the most valuable option under cleaner production.

Key words: Sustainable development, Cleaner production technology, Dipping industry, Latex, Water