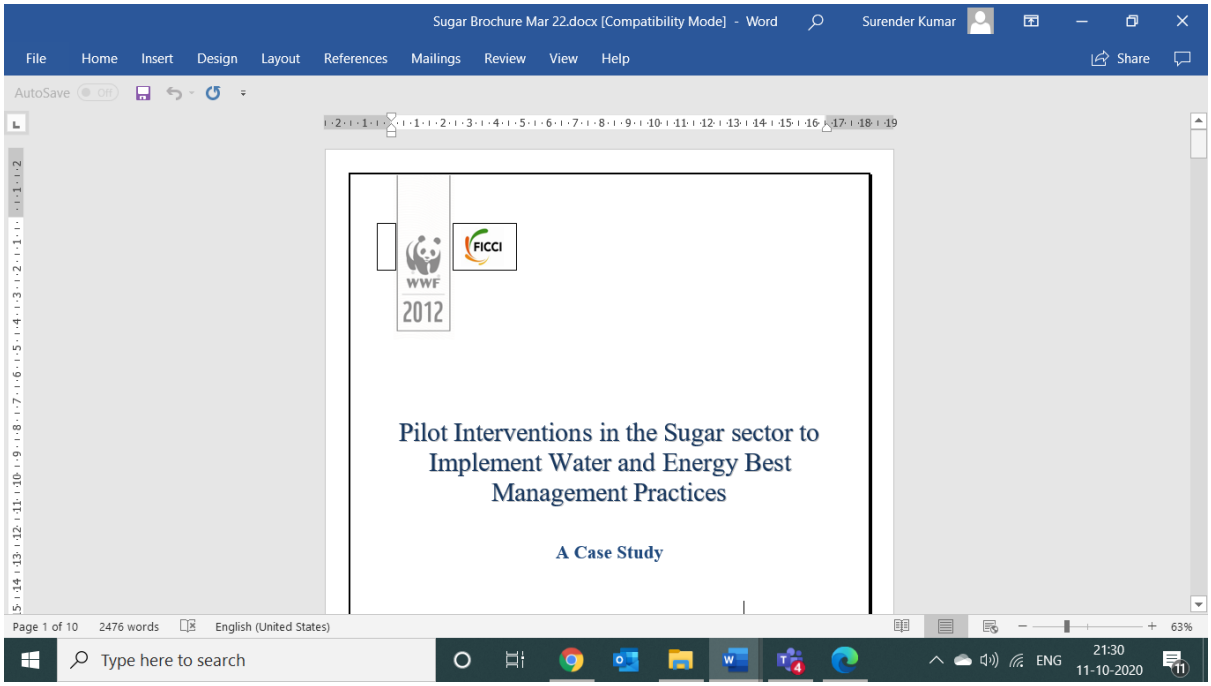
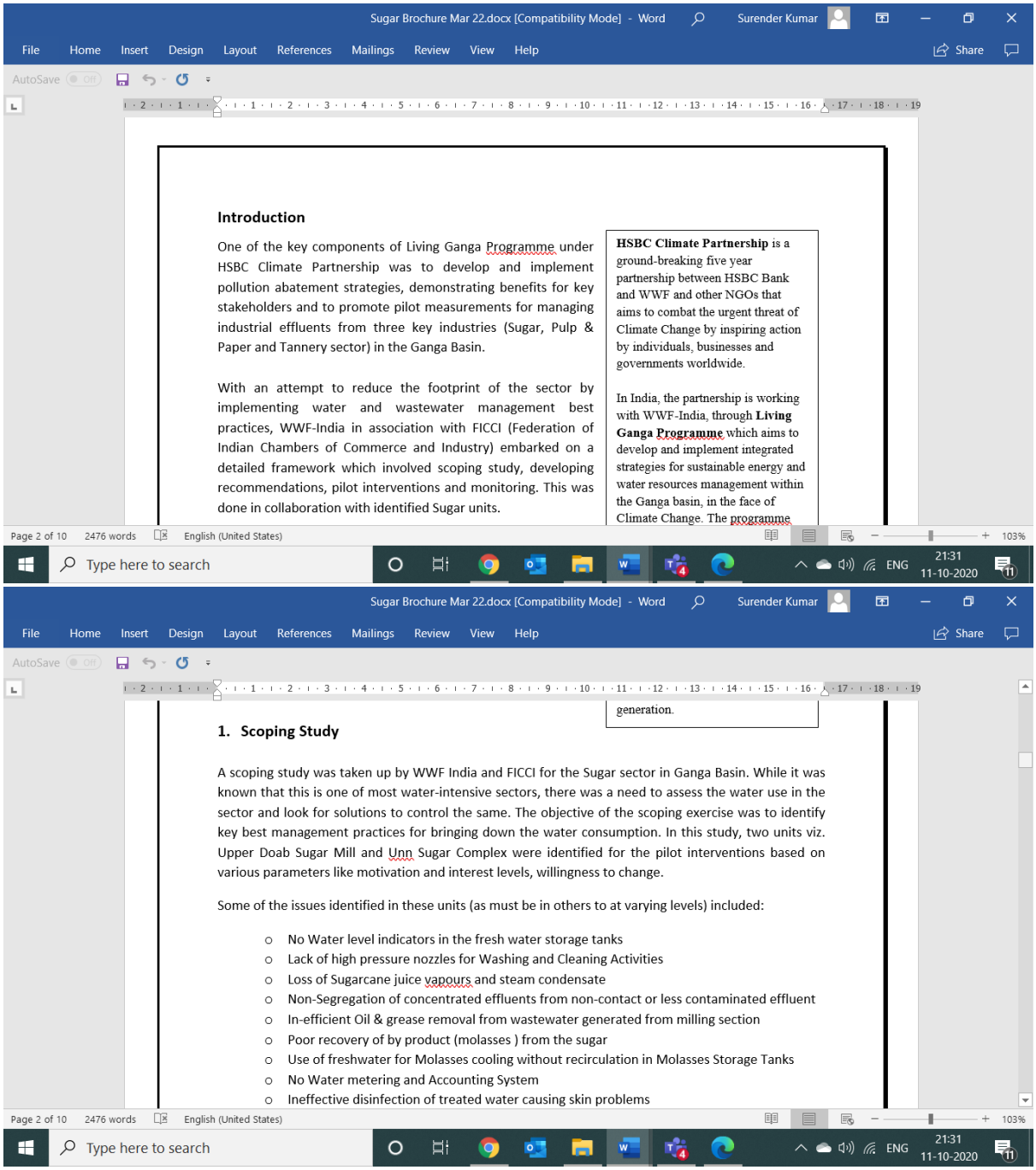
Managing Industrial Effluents from Three key Industries (Sugar, Pulp & Paper and Tannery Sector) in the Ganga Basin




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Introduction
One of the key components of Living Ganga Programme under HSBC Climate Partnership was to develop and implement pollution abatement strategies, demonstrating benefits for key stakeholders and to promote pilot measurements for managing industrial effluents from three key industries (Sugar, Pulp & Paper and Tannery sector) in the Ganga Basin.
With an attempt to reduce the footprint of the sector by implementing water and wastewater management best practices, WWF-India in association with FICCI (Federation of Indian Chambers of Commerce and Industry) embarked on a detailed framework which involved scoping study, developing recommendations, pilot interventions and monitoring. This was done in collaboration with identified Sugar units.
HSBC Climate Partnership is a ground-breaking five year partnership between HSBC Bank and WWF and other NGOs that aims to combat the urgent threat of Climate Change by inspiring action by individuals, businesses and governments worldwide.
In India, the partnership is working with WWF-India, through Living Ganga Programme which aims to develop and implement integrated strategies for sustainable energy and water resources management within the Ganga basin, in the face of Climate Change. The programme
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generation.
1. Scoping Study
A scoping study was taken up by WWF India and FICCI for the Sugar sector in Ganga Basin. While it was known that this is one of most water-intensive sectors, there was a need to assess the water use in the sector and look for solutions to control the same. The objective of the scoping exercise was to identify key best management practices for bringing down the water consumption. In this study, two units viz. Upper Doab Sugar Mill and Unn Sugar Complex were identified for the pilot interventions based on various parameters like motivation and interest levels, willingness to change.
Some of the issues identified in these units (as must be in others to at varying levels) included:
No Water level indicators in the fresh water storage tanks
Lack of high pressure nozzles for Washing and Cleaning Activities
Loss of Sugarcane juice vapours and steam condensate
Non-Segregation of concentrated effluents from non-contact or less contaminated effluent
In-efficient Oil & grease removal from wastewater generated from milling section
Poor recovery of by product (molasses) from the sugar
Use of freshwater for Molasses cooling without recirculation in Molasses Storage Tanks
No Water metering and Accounting System
Ineffective disinfection of treated water causing skin problems
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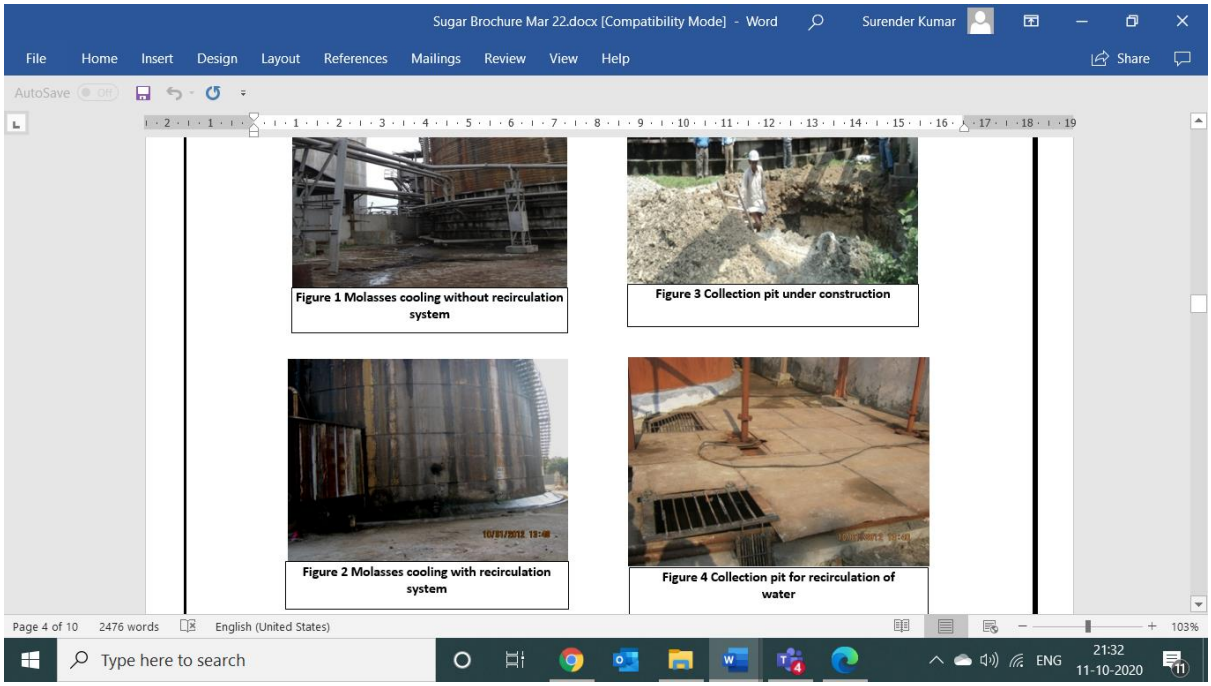
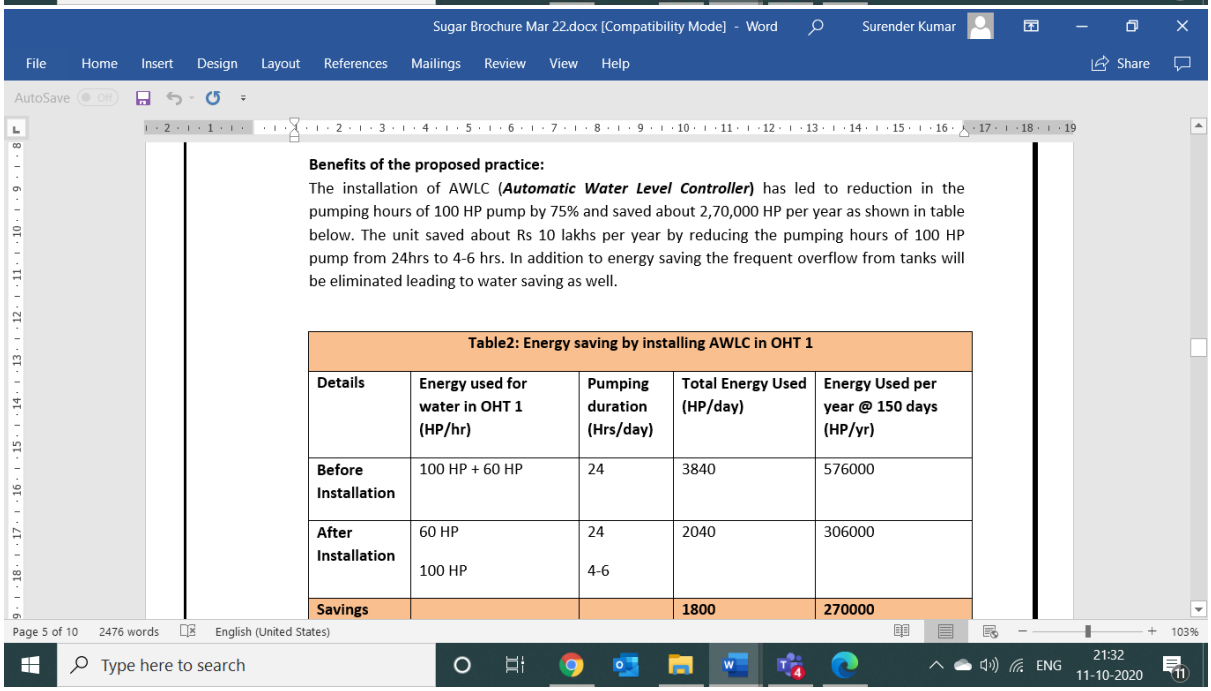


Figure 1 Molasses cooling without recirculation system

Figure 3 Collection pit under construction

Figure 2 Molasses cooling with recirculation system

Figure 4 Collection pit for recirculation of water



Benefits of the proposed practice:

The installation of AWLC (***Automatic Water Level Controller***) has led to reduction in the pumping hours of 100 HP pump by 75% and saved about 2,70,000 HP per year as shown in table below. The unit saved about Rs 10 lakhs per year by reducing the pumping hours of 100 HP pump from 24hrs to 4-6 hrs. In addition to energy saving the frequent overflow from tanks will be eliminated leading to water saving as well.

Table2: Energy saving by installing AWLC in OHT 1

Details	Energy used for water in OHT 1 (HP/hr)	Pumping duration (Hrs/day)	Total Energy Used (HP/day)	Energy Used per year @ 150 days (HP/yr)
Before Installation	100 HP + 60 HP	24	3840	576000
After Installation	60 HP 100 HP	24 4-6	2040	306000
Savings			**1800**	**270000**