

*Practical Instruction - part 1
Cleaner Production Implementation
On the Palm Oil Industry*

THE IMPLEMENTATION OF
CLEANER PRODUCTION
TECHNIQUES



In Co-operation with:
The Ministry of Environment - Republic of Indonesia
NORAD - Norwegian
Indonesia Oil Palm Research Institute



Why does Cleaner Production need to be implemented on the palm oil industry?

What are the benefit and advantages from Cleaner Production implementation?

How to implement a Cleaner Production concept in the Palm Oil Industry?

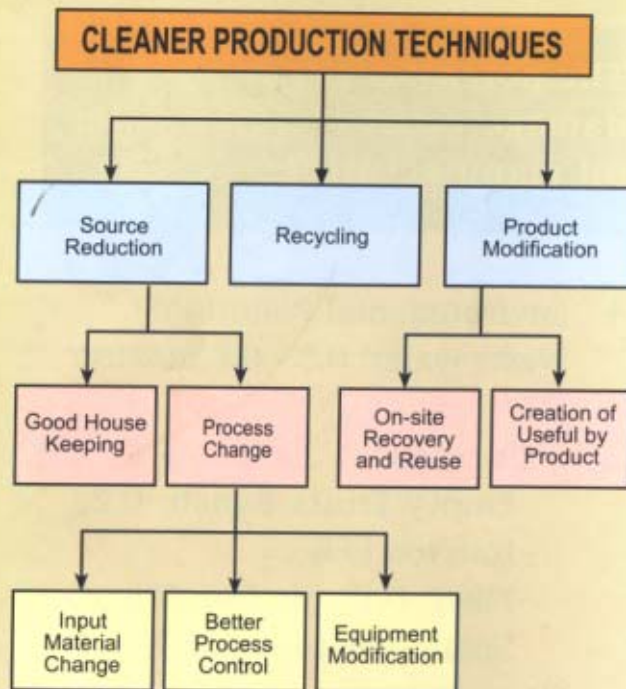
2 (two) advantages from the Cleaner Production implementation:

1. Economic, to optimize and increase the efficiency on raw material usages and natural resources (water, energy etc.)
2. Environment, to prevent and minimize a waste at sources

The potential environmental damage caused by the palm oil manufacturing:

- Environmental Pollution:
Waste water: 0.5 - 0.8 m³/ton FFB
Solid waste:
 Empty Fruits Bunch: 0,23 ton/ton FFB
 Fiber: 0,13 ton/ton FFB
 Shell: 0,06 ton/ton FFB
Gas emission
- Environmental damage caused by land extensification





Waste that formed by the Palm Oil Manufacturers could be prevented *at sources* by conduct several activities as follows:

- Good House Keeping
- Control equipment installation
- Water channel and storm water segregation
- Turbine water cooler Recycling
- Condensate liquor Reuse



WHY DOES THE CONDENSATE LIQUOR IS NEEDED TO BE RE-USE?

- 15% of the wastewater is the condensate liquor
- Condensate liquor could be re-use as the water dilution
- Avoid the oil losses
- Reduce the fresh water consumption for water dilution

EQUIPMENT MODIFICATION

DECANTER

- Solid could become separated from the waste water
- The waste water is more thin
- Smaller the volume of waste pond that needed
- Higher investment cost

SLUDE SEPARATOR

- Solid mix with the waste water
- The waste water is more thicken
- Bigger pond
- Lower investment cost
- Low maintenance cost

Further Information :

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