C416949 : MAJOR ENVIRONMENTAL ENGINEERING
KEY WORD: TANNERY/ WASTE UNIT GENERATION/ WASTE VOLUME/ CHROMIUM/ POLLUTION
PATHAN BANJONGPROO : POTENTIAL OF POLLUTION FROM TANNING INDUSTRY IN THAILAND. THESIS ADVISOR : PROF. THONGCHAI PANSWAD, Ph.D. 185 pp.
ISBN 974-582-547-6

This report was aimed to conclude the results obtained from both qualitative and quantitative wastewater survey in six of Thailand's tanning factories; two of them small sizes, two of medium and another two of large scale, with the tanning production of 1.3, 3.6 and 15 tons of raw hide, respectively. All of them were located at 30 Km mark on Sukumvit road, Samut Prakan Province. About seven working days were consecutively surveyed for each factory.

Five out of the six factories employed the chrome tanning process while the remaining one used vegetation tanning procedure. Eighty percent of raw hides were buffalo hides and the rest were cow skins. The tanning technology involved dehairing, cleaning, shaving, chemical tanning, dyeing, drying and finishing processes, resulting in discharged pollutants, namely, BOD, Chromium, SS, TDS and TKN.

The survey indicated that the volume of the wastewater disposed was 28.6, 31 and 12.5 m^3 per ton of raw hide for small, medium and large-scaled factories, respectively. this corresponded to the average unit waste generation of 27.54 kg BOD, 1.41 Kg Cr, 40.3 Kg SS, 218 Kg TDS and 7.16 Kg TKN per ton of raw hides. It was also observed that for larger scale factory, the wastewater's unit volume generation was lower and the flowrate fluctuated less.

Moreover, it was calculated that tanning industry in Thailand discharged the wastewater with the total annual volume of 2.73 million m^3 (or equivalent to 37,400 people), BOD load of 4,131 ton (or a population equivalence of 323,400) and chromium worth 29.7 million Baht.