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# Comparison of Chinese and Danish Methods for the Characterization of Soil Contamination: Case Study in Sichuan, China

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For historic reasons, the legislation, quality criteria and technical guidelines for soil pollution, prevention and control between Denmark and China have both many similarities and differences. Denmark has already established comprehensive laws and technical guidelines while China is still in the process of passing legislation and establishing guidelines. The methods used to characterize soil contaminated by heavy metals and an analysis of samples between China and Denmark, which are based on respective regulatory policies and technical guidelines, were compared and performed in a case study of two kinds of soil contaminated sites in Luxian County, Sichuan Province, China. Site A is a farmland reclaimed from a previous pig farm with 25000 m̃2. Site B was a paper mill with area of 4000 m̃2 between a county road and a residential building. It will also be used as farmland after reclamation within 2020. Six sampling points were selected from each site, from which the soil samples in the depths of 0 to 0.5m, and 0.5 to 1.0 m, respectively were collected and tested for heavy metal and volatile organic compound contents. By comparing Chinese laboratory analytical methods and Danish in-situ rapid detection methods, the difference of between the results obtained by two methods was found to be statistically significant. The rapid detection method is convenient and inexpensive, but resulted in an over-estimation of pollution in this study. The rapid detection method commonly used in soil pollution characterization in Denmark may be used as a supplementary tool for a quick screening of pollutants prior to laboratory analysis for a characterization of the contamination. According to Chinese legislations, the testing results for reclaimed farmland showed safety for agricultural productions' growing.