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**IN THE TROPICS AND SUBTROPICS**

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Master Thesis  
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Improvement of Traditional Methods of Palm Oil Processing in Cameroon

This thesis was sponsored by  
Eiselen-Stiftung, Ulm

## 9 ABSTRACT

This master thesis concentrates on the improvement of the traditional palm oil processing in the north west of Cameroon and has the aim to give a proposal for a project. To justify this intention, it was necessary to analyse different levels of mechanisation of palm oil processing. The analysis was done first, on the traditional-, second, on the small scale processing method, and thirdly, in a mini mill for palm oil production. The traditional palm oil processing was analysed in a small village called Numba, the small scale processing, on a farm working with a spindle press, and the third processing method was analysed in a mini mill working with a screw press, which is powered by a water wheel. The results show an obvious difference between the traditional and the small scale processing method, which has a better output due to higher pressure applied. The results of the mini mill were not as good as expected, and show the climatic difference of this region. Therefore, it was necessary to analyse the oil content of palm fruits, to find out whether the quality is the same in the three locations analysed. A quantitative analyse was done following the extraction method by Soxhlet. It was the intention to find the mean palm oil content of this region, but a small number of samples collected, could not give a clear answer to this question.

After having pointed out the advantage of the small scale processing compared with the traditional processing method, it was necessary to find manufacturers who can construct a spindle press of good quality. Therefore six important towns of this area were visited to find manufactures and workshops for oil presses. The result of this analysis provides a small directory of oil press manufacturers in Cameroon.

The work on the directory pointed out that many manufacturers do not have a useful construction design for a press. Therefore, it was necessary to design a spindle press, which takes into account technical restrictions of manufacturers in Cameroon. On the other hand, this spindle press has to be adapted to the needs of women who are considered to work with the press.

Finally, a new processing method, which integrates a spindle press into the traditional processing method, was created in cooperation with the women's group of the village Numba. This method is a synthesis of tradition and improved techniques, and is presented in a proposal for the village Numba.