Title: **A descriptive analysis of the kilning techniques and types of day used by the traditional potters of Lyamagale village in Western province of Kenya, with view to suggesting improvements**

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Abstract: This study was concerned with finding out what causes pottery wastage in Lyamagale village, Western province of Kenya, when traditional techniques are employed. In an attempt to determine the specific cause (s) several tests were done. Ten clay samples were collected from different places within the province and analyzed. This was done in order to find out the chemical composition, physical properties and whether they were appropriate for potter making. The pottery-making processes from the collection of the clay to the firing and even selling of the ware, were observed and analyzed. This clay plus two other clays namely, a Nyeri and a Modified Nyeri clay used in the ceramics studio at Kenyatta University, were experimented with to find out whether the type of clay used, the building or kilning techniques or a combination of any of the techniques contributed to wastage. With this in mind, a total number of 240 experimental pots was moulded from the three clays. Two buildings techniques, the coil (hand built) method and throwing on the wheel (machine made) methods were employed. The pots were then fired by using four different kilning techniques namely the Bonfire, Sawdust, Gas and Raku methods. From each of the clays, 80 pots were moulded, 20 being fired in each of the four kilning techniques. Of these 20 pots, 10 were built by the coil method and the other 10 thrown on the wheel. The total number of pots therefore fired in each of the kilns was 60 (30 handbuilt and 30 machine made). The results of the chemical and physical analyses showed that the clays were basically similar in terms of elemental composition and that they were appropriate for pottery making, both in composition and in physical properties. The results of the firings which were analyzed by simple percentage showed that: (i) There is a difference in wastage between pots made from Lyamagale clay, the Nyeri and the Modified Nyeri clay; (ii) There is a difference in wastage between pots built by the coil method and those thrown on the wheel (iii) There is a difference in wastage between pots fired by the Bonfire, Sawdust, Gas and Raku Kilning techniques. In the case of the Lyamagale clay it was observed that the best combination was the coil method and the Bonfire firing which produced 0 percent wastage. The second best combination was the Gas and Raku methods which both had 10 percent wastage with equal wastage from both building techniques. The worst kilning technique was the Sawdust firing which produced 100 percent wastage. It was further observed with the Lyamagale clay that both the building techniques produced 30 percent wastage, suggesting that the kind of building technique employed does not contribute to wastage. The best combination in the Lyamagale clay is apparently the combination the traditional potters used: yet, unlike the results of the experiments, it produced 23.5% wastage. The wastage, it was assumed, occurred because of factors such as: (i) The time allowed for drying the raw ware was not sufficient. (ii) The method of drying the raw ware was not appropriate. (iii) The kiln construction and firing procedure were not appropriate. The researcher gave suggestions on ways of preventing wastage and possible kiln constructions that would not only retain heat but also attain a temperature high enough to vitrify the ware.