Complementary feeding involves feeding infants and young children with semi-solid and solid foods in addition to breast milk to ensure adequate nutrition. Mother's or principal caregiver's practices however determine the success of complementary feeding. This is affected by many socio-economic and socio-cultural factors among others. A descriptive survey study on the complementary feeding practices and the nutritional status of children aged 6 to 24 months was carried out in Athi-river Division of Machakos District, a district that has continually reported high cases of childhood malnutrition. Athi-river is an industrial town in the district and therefore mothers move from other areas to Athiriver in search of employment. The major objective was to assess the complementary feeding practices and the nutritional status of children. A sample of 132 mothers and their children were randomly selected to form the study sample. Data were collected using an interview schedule, anthropometry, focus group discussions, observations and laboratory analysis. The data were analyzed using SPSS, Nutri-survey, Epi-info computer packages and expressed in descriptive and inferential statistics. A P-value of <0.05 was considered significant. Pearson Product Moment Correlation (PPMC) was used to determine the magnitude and direction of the relationship between complementary feeding practices and the nutritional status of the children. Multiple regression was used to determine whether the various complementary feeding practices predict the nutritional status. About half of the respondents (49.2%) were aged between 19 - 25 years while 61.4% and 69.7% of them had primary school education and were casual labourers respectively. Slightly less than half of the respondents (41.7%) left their children with neighbours when they went to work. Although, majority of the study children (77.7%) were being breastfed at the time of the study, exclusive breastfeeding was only done for at most 2 months of life, hence complementary foods were introduced at an early age than the recommended. Slightly more than two thirds (69.2%) of the mothers did not use commercial foods, which are fortified. Majority of the respondents (78.8%) used feeding bottles instead of the recommended cup or bowl and spoon. All the mothers did not sterilize the feeding equipment. Slightly more than half (51.5%) of the mothers did not treat the water they use to prepare the child's food. Majority of the children did not consume adequate amounts of nutrients such as vitamin A (77.2%), vitamin 132 (85.6%), B3 (85.7%), 136 (60.6%), B12 (73.5%), Magnesium (98.4%), zinc (79.6%) and selenium (73.5%). More than half of the children did not also consume vegetables (82.6%), fruits (64.5%) and animal products (59.1%) regularly as recommended. Financial constraints limited the complementary feeding of the children. The proportion of the 6 to 24 months old children that was stunted, wasted and underweight was 25.0%, 24.9% and 19.7% respectively. Majority of the children (72.8%) had been ill for the past two weeks. The number of meals consumed and amount of kilocalories taken were found to affect the nutritional status of children significantly. The number of meals consumed per day, amount of kilocalories and income earned were found to contribute to 21.0% of the children's nutritional status. It was recommended that mothers be empowered and educated on complementary feeding practices.