This paper analyses the intermediation efficiency and productivity of Kenyan commercial banks between 2001 and 2011. It is anchored on the research evaluating the intermediation efficiency and productivity of commercial banks in Kenya. The study adopts a non-parametric approach Data Envelopment Analysis (DEA) to analyze intermediation efficiency in the banking sector and Malmquist Productivity Index (MPI) to measure productivity growth of banks in Kenya. The study finds that while the 2007/2008 post-election violence and the Global Financial Crisis caused a short-term increase in efficiency in 2008 primarily due to cost-cutting, increases in non-performing loans in 2009 after the crisis caused a more sustained decline in bank efficiency. It is also found that in 2009 there was high technological improvement in the banking industry with large banks showing increase in technological innovations by the largest percentage as compared to medium and small banks. Nonetheless the large decline in bank output in the same period resulted into a decline in bank productivity. In general the results show that though the banks in Kenya have a high efficiency score they is need to improve in their scale of operations so as to be fully efficient.