Cassava is the fifth most important food crop in the world. Cassava's importance in Africa and South America can't be overstated. As a drought-tolerant crop that does well in poor soils, it enhances household food security and is a source of income that provides livelihood to 800million people globally. Annual global production of cassava is estimated at 232 million tonnes; an average yield of 12.5 tonnes per hectare. Diseases and pests are the greatest biotic problems to cassava production across the East" and Central Africa (ECA) sub-region causing yield losses. Cassava bacterial blight (CBB) caused by *Xanthomonas axonopodis* pv. *manihotis (Xam)* is the most destructive bacterial disease in all cassava growing areas of the world causing yield losses of about 50% to 75%. Cassava is vulnerable to at least 20 different viral diseases, cassava brown streak disease (CBSD), being one of the most important viral diseases in Africa. CBSD is more lethal than other cassava viral disease because it causes severe necrosis within the edible storage roots. Crop improvement efforts through conventional breeding have aimed at attaining CBSD and CBB resistance, however these efforts have been largely unsuccessful due to the nature of the cassava plant for example poor flowering and low pollen fertility. This study aims at generating CBB and CBSD resistant plants through genetic engineering. Hypersensitivity response assisting protein *(Hrap)* gene will be used for transforming cultivar 60444. The constitutive expression of the *Hrap* in plants generates durable resistance against plant bacterial pathogens. This study seeks to use the *Hrap* gene to generate CBB resistance in cassava. There is no robust genotype-independent transformation protocol that has been developed for African farmer preferred cultivars. Through this study :;t protocol for transformation of three farmer preferred cultivars (TME 14, Mkombozi, Albert) using friable embryogenic callus (FEC) as the explant will be optimized, then transform one of the cultivars for resistance against CBSD using the optimized protocol. Post-transcriptional gene silencing (PTGS) offer significant potential for controlling RNA plant viruses like CBSD. Therefore this study aims at using the RNA interference (RNAi) approach in developing CBSD resistant lines. The presence, integration and expression of the transgenes will be confirmed by PCR, Southern blot and RT-PCR analysis followed by screen house evaluation to gauge resistance. Data on different stages of optimization during transformation and regeneration will be collected and analysed by ANOV A ($p<0.05$) and means will be separated using LSD ($p<0.05$). For FEC and cotyledon induction a completely, randomized design (CRD) will be used for all experiments with the FEC as the observation unit and the plate as the replicate. At list three replicates will be set per experiments. The regeneration Frequency (RF) and transformation frequency (TF) of all the cultivars will be determined