

## **CHAPTER V**

### **CONCLUSIONS**

The mechanical properties of rice husk-filled and burning husk-filled HDPE blends were investigated as compared to tapioca starch-filled HDPE blend. The tensile and flexural modulus of all cases of the blends increased as filler content increased. While the tensile, flexural and impact strength of all cases of the blends showed a similar trend of decreasing with increasing filler content except for flexural strength of burning husk-filled HDPE blend. However, the mechanical properties of the blends did not reduce to less than 80% as, compared to pure HDPE, when the loading of fillers was 10% with 53 micron in sizes. Moreover, there was significant improvement in flexural strength when burning husk were added to HDPE matrix. In addition, the improvement in mechanical properties of rice husk and burning husk could be achieved by reducing particle sizes of the fillers. In conclusion, this research showed that it is possible to use rice husk and burning husk as alternative fillers of starch for HDPE blends.