RIDHA PUTRA. E 24070043. Optimization for Wooden Door Products : Case Study at PT Profilindah Kharisma (PiK), District of Ngoro, Mojokerto Regency, East Java. Under the guidance of Ir. Bintang C.H Simangunsong, MS, PhD.

During the period 2000-2009, export quantity of wooden door was decreased from 103.3 millions m³ in year 2000 to 59.6 millions m³ in year 2009, a decrease of 58%. This was due to a diminishing log supply from natural forest, the low development realization rates of lumber industrial forest plantation (HTI) and production inefficiencies.

One effort to deal with these problems is to apply optimization technique such as integer programming in allocating resource efficiently and diversifying product so that profit is maximized.

The results showed a production cost per unit wooden door ranging from Rp 0.75 millions to Rp 2.39 millions and a profit per unit ranging from Rp 63 thousands to Rp 1.6 millions. At optimum condition, total profit would be 16.6% higher than actual condition. Moreover, there would be 5.9% saving in resource used.

Keywords: wooden door, the cost of production, optimization, integer programming.