

DESIGN AND FABRICATION OF PANICLE SEPARATOR



VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnanasangama, Belgaum

In partial fulfillment of the requirements for the award of the Degree of

BACHELOR OF ENGINEERING

In

MECHANICAL ENGINEERING

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2014-2015

ABSTRACT

Paddy is the most important and extensively grown food crop in the World. It is the staple food of more than 60 percent of the world population. Rice is mainly produced and consumed in the Asian region. India has the largest area under paddy in the world and ranks second in the production after China. Country has also emerged as a major rice consumer.

Threshing and dust removal is an integral part of postharvest activities for cereal and legume crops. In many developing countries, threshing and dust separation is carried out manually by farmers that lead to low quality of paddy rice and grain loss. When the rice production increases, consequently the manual threshing and dust separation becomes arduous.

In order to mechanize this process, a machine named as "Panicke separator", was designed with threshing, major dust removal and fine dust removal chambers and tested. The machine was modified after testing to enhance threshing and dust removal quality. Also, in place of welding the whole machine is joined by bolts, nuts and rivets for easy assembling and disassembling. Output capacity from the performance test on the machine was 150 kg/hr. The overall results are impressive and it will help improve drudgery and threshing and dust removal challenges with small scale farmers.