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Technology used in Clay Brick Making Process in India on Brick Kiln Investment and Business Feasibility and Sustainability in View of Environment Condition

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Abstract: Brick Kiln and Technology are seems to be vice versa of each other when we saw practically in plant visit. It is highly traditional method which consists of different mechanical process from moulding, drying, staking, firing and cooling of bricks. Every process is highly labour oriented and traditional which is used by brick kiln owner since last decade. As government of India is concerned just one technology implemented that is "High Draft Brick Kiln" which is somehow similar to old "Bull Trench Kiln" technology. It increases the efficiency of kiln but fuel used in it same as old kiln which cause pollution to environment.

I. INTRODUCTION

First process of brick making require good quality of soil which have minimum quantity of sand and silica in it. Little bite more proportion of black soil result high strength of brick from initial process to the last. An earthmover is used to make clay to mud, which dig a big trench near clay stock. Then it dumped with dry clay and filled with salted water. Now it left for a day so that water and clay mix properly.

Next day earthmover mix mud and dump in mud mixture machine which is toe with tractor of 50hp. This mixture machine has a big screw driver which is attached to tractor PTO shaft. Tractor took mud to the labour field and unloads the mud to labour (pathera). Just after some hour a labour start shaping mud to clay brick form. At one brick kiln approximate two hundred person perform this moulding process by hand using a simple mould made of steel/wood. These freshly moulded brick are known as GREEN BRICK. Now these green bricks left to dry in facing sun light which depends on weather of location. Sometimes rain causes hug loss to brick kiln owners at this stage. Here rainy weather make all green bricks as mud or heavy rain melt these green brick to mud again.



Now green brick stack in lane to dry more and more. These lanes of bricks are picked up by a group of approximate twenty other labour which traditionally done by Porter (kumhar). Each group of Porter uses one horse cart which pick up 500-600 brick and send these green brick to the Kiln. Six skilled workers called BELDAR took brick from cart and stack it in kiln in zig-zag pattern.

In kiln stacked bricks are cover with brick sand so that while firing heat loss remain minimum. While stacking holes are left to pour the fuel likes coal/hey in such a way that fuel spread equally in the firing zone. High calorific fuel increases the efficiency of brick kiln.

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Two gang of ten labours work on kiln who continuously feed the fuel in the kiln alternatively shift wise. Approximate 40-50 thousand bricks fired in 24 hours and then left for cooling.

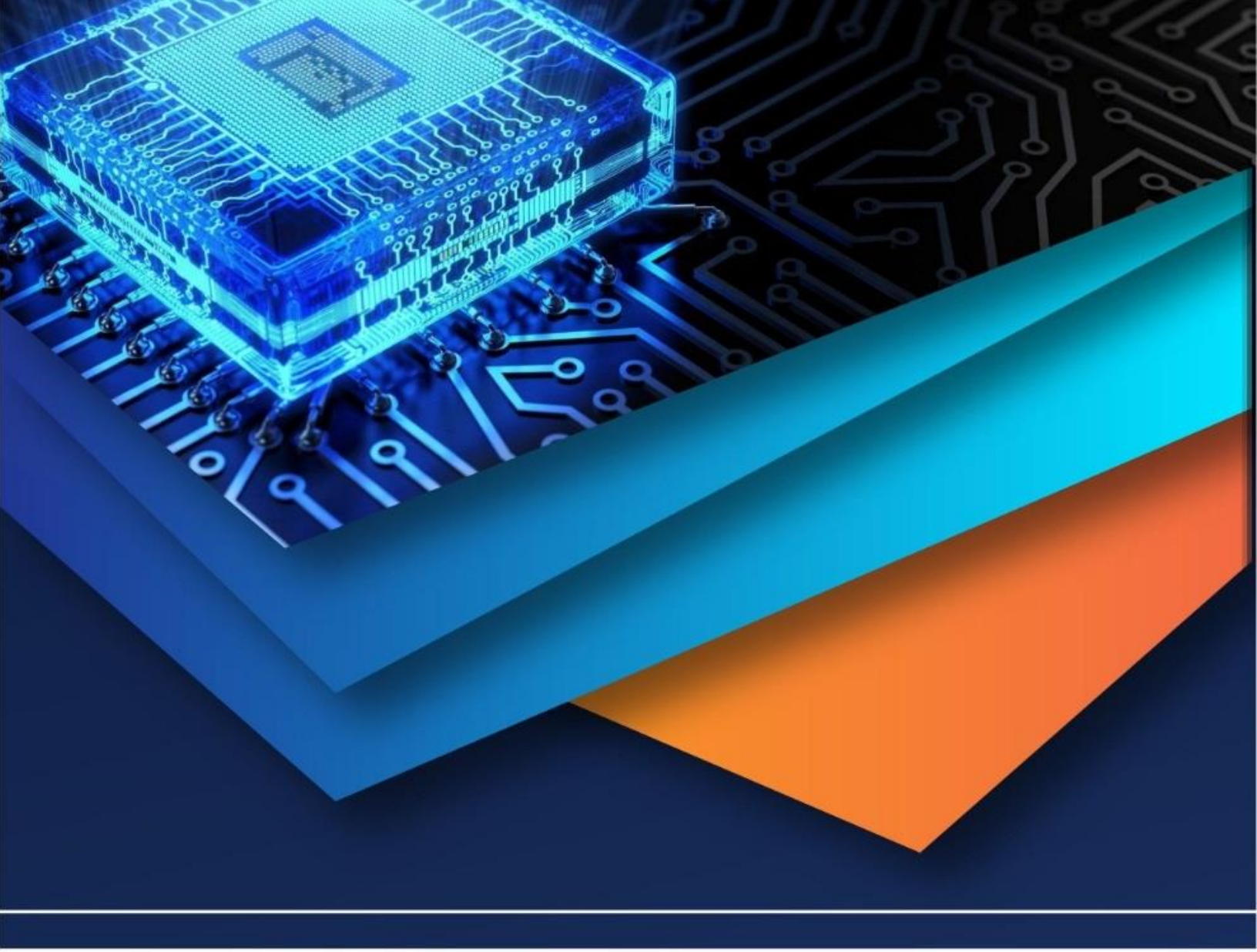
After cooling to normal temperature a group of more than 60 labours sort out different grade of bricks and stack according to grade of bricks. Now bricks are ready for sale they loaded in trolleys and send to customers. Two-three tractors are sufficient for sale of one brick kiln.

II. CONCLUSION

Highly labour based working. Technology does not exist. Small Scale Industry. 500 people work here.

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