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## IMPACT OF MECHANISATION ON SOCIO-ECONOMIC CONDITION OF DONKEY GUARDIANS OF DISTRICT SANGLI, MAHARASHTRA, INDIA

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### ABSTRACT

The state of Maharashtra is the leading bricks producing state in India. The usual brick making season is from November/December to May/June. Raw bricks moulding work is done manually in the majority of brick kiln units and transport of these raw bricks from the place where they are moulded to the furnace on the back of donkeys by their owners/guardians. Donkeys and their guardians work in harsh environment of brick kiln which affect the health of animals as well as their guardians and hence suffer from serious health issues. Overloading on donkeys with raw bricks is the major factor for health deterioration of animals and donkey guardians have to work for longer hours with animals in harsh conditions. Hauling heavy loads on donkeys back is directly associated with higher income being earned by their guardian's, which is an economic requirement. This review emphasises on the change in lives of donkey guardians who have begun to use tractors instead of donkeys for hauling the raw bricks resulting in more income in less time. Study found positive impact on the socio-economic status of donkey guardians and such mechanisation process may lead to sustainable change in lives of donkey guardians and this will also save the sentient donkeys from the hardships of brick-kiln work.

**KEYWORDS:** Mechanization, Donkey, Brick Kiln, Donkey's guardian, Socio economic status

### INTRODUCTION

Maharashtra has over 15,000 brick kilns, producing around 17 billion bricks annually. They are located in rural areas in and around Thane, Palghar, Pune, Navi Mumbai, Nagpur, Nasik, Kolhapur and Sangli districts (1). In traditional kilns, moulding of wet clay is done using wooden or iron casks manually and then these raw bricks are transported from the place of moulding to the furnace on the back of donkeys, mules or horses. These animals suffer with serious health and welfare issues due to working in harsh situation of brick kilns, as well as due to poor management practices & improper nutrition due

to low income of donkey guardians and their ignorance. Extreme temperatures, lack of proper sheds, long working hour, difficult terrain and overloading causes various diseases and injuries to the donkeys. The traditional working arrangement at brick kiln in Maharashtra follows these steps:

1. Mining of soil and preparation of wet clay: Soil is excavated from agriculture field or river bank. Then coal dust is mixed in clay along with water manually.
2. Moulding and drying of wet clay: Moulding of wet clay is done by hand using wooden or iron casks. After moulding, wet bricks are dried out in sunlight for two to four days depending on day temperature.
3. Loading, unloading and stacking of dry bricks: After drying in sunlight, bricks are loaded on donkey's back on the pack saddle and transported to the baking area. Here bricks are unloaded and arranged in layers.
4. Baking and finished bricks: Bricks are baked and finally become ready to use. Baked bricks are transported to final destination by using tractors or by other mechanised means.

Background: Animal Rahat, an animal welfare organization provides free treatment services to working animals in 180 villages, 26 sugar factories and around 300 brick kilns of Western Maharashtra i.e. in Solapur, Sangli, Satara and Kolhapur districts. Every year thousands of animals are being treated for various ailments by veterinary teams of Animal Rahat. Approximately 250 brick kilns are situated in Sangli district of Maharashtra. Animal Rahat is working with about 1400 donkeys at Sangli district during the brick kiln season. The working conditions of donkey is quite wretched during brick kiln season i.e. the donkeys are forced to work for 9 to 10 hours daily without any break and they are made to haul the heavy bricks on their back under the hot sun causing injuries and lameness. Other prevalent issues are unavailability of the health services and theft of their donkeys. Animal Rahat (AR) decided to intervene in above mentioned situation through awareness activities and provision of free treatment to the needy donkeys working at the brick kiln. But the condition of donkeys and their guardians could not improve even after so many years' intervention. Later on Animal Rahat team realised that only mechanisation process can help in improving the life of these donkeys by saving them from hardship at brick kilns and also improve the condition of their guardians too. Here, mechanisation means mechanisation of the process where donkeys are involved in work, i.e. step 3 as mentioned above.

### **Major stake holders:**

As ensuring animal welfare is the prime concern of Animal Rahat; donkeys are the first and primary stake holder for Animal Rahat but after initial discussion and intensive observations we have identified donkey guardians as major stake holder. Brick kiln owner is also an important stake holder as he is the final authority who decides what kind of traction power to be used at the brick kiln. So, we started to work with both the stake holders at the same time.

a. Donkey guardians/owners: Donkey guardians are marginalised section of society and they are totally dependent on brick kiln work for their livelihood. They get an advance from the brick kiln owner and

get into an informal contract (verbal) for the next brick kiln season. Brick kiln owners also help the donkey guardians during the time of financial crisis and problems. Most of the donkey guardians were in debt of about INR 2 to 2.5 lakhs. Due to this they were unable to invest any amount for mechanisation (tractor). Mentally, they were comfortable with donkeys and did not want to change their tradition.

b. Brick kiln owner: Brick kiln owners are in a bit better position than the donkey guardians. They are not wealthy but are in position to manage few lakhs of rupees for their business. Every year these brick kiln owners have to take permission from government regarding production of bricks and they are not very sure whether they will get the permission from government or not and hence they do not want to invest any further until getting sure. They also think that tractor will occupy more space for movement while carrying the raw bricks to the brick kilns and may also cause scarcity of labour.

As donkey guardians are major stake holder & belongs to marginalized society, hence Animal Rahat facilitated five donkey guardians in 2017-18 for getting tractors/tempo for transportation of bricks instead of using donkeys and made five brick kilns, donkey free. After three season in July 2021 we did an impact assessment of Animal Rahat's mechanisation project and found positive impact on the donkey guardians socio-economic status.

**Method of assessment:**

We used structured interview method using questionnaire which was a mix of close and open ended questions for assessment for donkey guardians. The questionnaire for brick kiln owners was completely open ended. We have done one to one interview with donkey guardians and focus group discussion for brick kiln owners. In this assessment we have used key identification number (A, B, C, D, & E) for each beneficiary in place of their original names.

The theme of question for donkey guardians was:

Sl. no	Theme	Sub-Theme
1.	General Information	Name of beneficiary
		Working place (address of brick kiln)
		Year of mechanisation
2.	Economic condition (before and after)	Daily working hour (during brick kiln season)
		Months when you are working (in a year)
		Type of house (Kachha or Pucca)
		Number of mobile phones (in family)
		Type of television (new or changed)
		Refrigerator (new or changed)
		Income during brick kiln season
		Income other than brick kiln season
		Any debt
3.	Social status (Open ended)	Change observed
		Did you do any work that makes you feel proud in society?
4.	Compassion towards animal	Any work done in favour of animals?
5.	Propagation of mechanisation	Discussed with anyone about the mechanisation?

The theme of questions for brick kiln owners:

- a. Do you observe any benefit in term of money, time and production?
- b. Have you shared your experience with anyone? If yes, what was their reaction?
- c. Any suggestion, who can increase your economy?
- d. Anything you want to share?

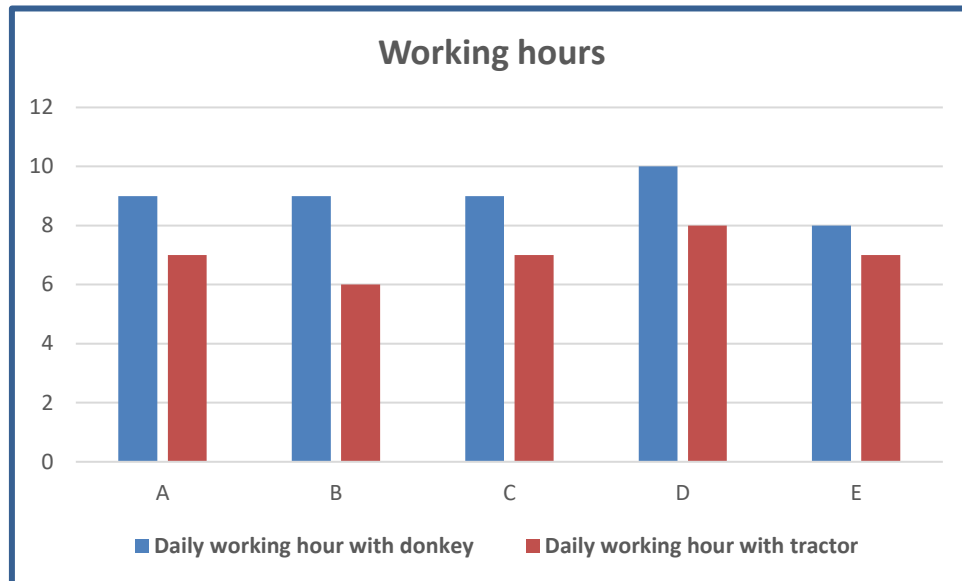
**Data analysis and Results:**

Daily working hour is an important factor which directly affects the quality in their life. Now they spend their time, which they save due to mechanisation, with their family and friends. On an average they save 2 hours daily during the brick kiln season. Graph-I. illustrates difference of working hour when they were working with donkey and with tractor after mechanisation.

Case Study-I:

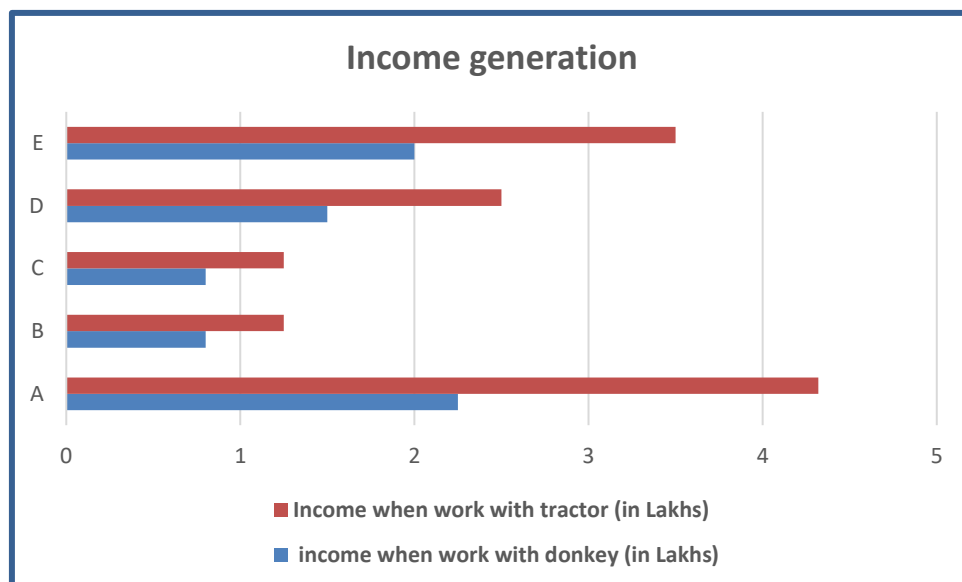
*“Due to Tractors, during brick kiln seasons we are able to finish our work earlier. We spend our saved time with family, mostly watching television and sometimes, we also go to the Park for relaxing.”*

- B



Graph-I

The earning during brick kiln season has increased. But, it depends on the capacity of brick kiln owners. Some brick kiln owners increase the number of raw bricks. It gives tractor owners (ex- donkey guardians) more income. But the main point considered by all is that, it is due to the increment in rate for transportation of the bricks. Below given Graph-II gives the difference in income during brick kiln season using tractor and donkeys.



Graph-II

The donkey guardians find mechanisation more beneficial than earlier work pattern in respect of yearly work involvement. When they worked with donkeys; they were completely involved with them for the

whole year i.e. for grazing them, ensuring their safety from getting stolen as well as safeguarding them from road accidents. Involvement with donkeys throughout the year restricted their guardians for doing any other work. Now i.e. after replacing their donkeys with the eco tractors, they do not have any such type of engagement and hence, they can work for the whole year. Earlier they were dependent on the advance taken from brick kiln owner for the next season. In other words, they always indebted. Now, they aren't indebted any more to the brick kiln owner or anyone else and are earning on an average INR 7000/- per month even during the non-brick kiln season.

Economic growth made their lives better. When we discussed with them about their house and other household stuffs, it was clearly evident that they spent their earnings to make their lives more comfortable. Below given Table – I give an idea about this perceived changes in their lives.

Sub - Theme	Before Mechanisation	After Mechanisation	Beneficiary
Type of house	Tin shed (temporary), two rooms	Pucca (permanent), three rooms	A
	Two rooms	Three rooms	B
	Two rooms	No change	C
	Tin shed (temporary), two rooms	Pucca (permanent), three rooms	D
	Rented house	Own house	E
Number of mobile phones per family	1	2	A
	2	4	B
	1	2	C
	1	2	D
	1	1	E
Television	No	Yes	A
	Yes	Yes (Same)	B
	Yes	Yes (Same)	C
	No	Yes	D
	No	Yes	E
Refrigerator	No	Yes	A
	Yes	Yes (Same)	B
	No	No	C
	No	No	D
	No	No	E

When we asked them that if they feel any change in their status within society, all of them revealed that they feel a great change. Now they can proudly tell to others about their work with tractors at brick kiln.

Case Study-II:

*"I spent time to look after the donkeys for the whole year. We cannot leave donkeys free as our house is on road side. So, even during non-brick kiln season we cannot participate in relative's ceremony. Now, I can maintain the social relationships. Family members also enjoy social gathering."*

-A

Case study-III:

*"The people who are in better condition than us, do not wish to marry their daughters with the sons of our status. Many times they do not invite us in their social gatherings too. But, now situation is different. My younger brother got married in a better society."*

-C

Building a new house, buying a new motorcycle is the matter of proud for all. But the two things which make themselves delighted are; firstly, they are not begging from anyone else to meet their house hold expenses. Secondly, they can introduce themselves to any one at any time with proud.

All of the beneficiaries also exhibited their compassion towards animals i.e. they give financial assistance to other donkey guardians for the treatment of their donkeys. In case of emergency, they call Animal Rahat without wasting time or waiting for the permission of donkey guardians.

They have also shared the benefits of mechanisation with other donkey guardians too. Many of them are convinced for mechanisation but they cannot do that due to their economic constraints.

**Interview with brick kiln owners:**

Brick kiln owners did not observe a huge benefit due to mechanisation. Their benefit solely depends on the demand of ready to use bricks. Due to recent floods and then the Covid-19 outbreak for last two years, market has gone down. Even in normal situation they cannot earn more because permission for quantity of mining the soft earth is almost fixed. Despite these reasons they are happy with the mechanisation process. The reasons are:

- a. Previously they had to give money to donkey guardians for treatment of their donkeys during illness and/or purchase of new donkeys and also for other reasons from time to time. Due to this they were completely engaged and now, they feel free from burden of such type of untimely demands from the donkey guardians.
- b. Most of the time the donkeys use to graze the agricultural crops of nearby fields, which was the cause of indulging into fight with farmers. Most of the time such fights were settled with financial compensation which was paid by the brick kiln owners. Now, they are free from all such disputes.



- c. They can save time from day to day issues of brick kiln site and can manage and think of managing their resources in better way.

They think if government exceeds the limit of excavating the soft earth, then they will get more financial benefits. They always discuss with their friends regarding the benefits of mechanisation process. Most of them agreed with it. But they hesitate to initiate and further investment.

### **DISCUSSION:**

Donkey guardians are least paid for transportation of raw bricks in India as they get paid according to the number of bricks the animals have carried in a day and the animal handlers can be different from the guardians and are the lowest in the pay hierarchy (2) and in India, most (53 per cent) of workers of all ages reported having taken an advance, with brick makers most likely to be bonded. (4)

Workers and their families have been found to be food insecure and cannot afford a nutritious diet, leading to micronutrient deficiencies which is particularly detrimental to children's development. (7)

Low income of donkey guardians does not afford protective clothing and sufficient bedding which are needed to combat during extreme climates which lead to frequent illness in winters and also expose to extreme high temperature during summer. (6)

Working animals including donkeys face various welfare issues like animal neglect, abuse such as beating, pain from ill-fitted harnesses, inadequate or poor nutrition, disease, parasites, and injured or diseased animals forced to work (8). The donkeys are hit and goaded to haul enormous loads of bricks in the unrelenting sun, without breaks for food, water, or rest. Bearing these burdens leads to painful chafing wounds, injured joints, exhaustion, dehydration, and even collapse. Donkeys are forced to work for 9 to 10 hours daily and they are made to haul the heavy bricks on their back causing injuries and lameness. Over working and overloading have been reported as the most important issue in the working horses and donkeys. Overloading leads to lameness and alteration of behaviour. For working equids, carrying heavy loads is associated with increased income for their guardians, leading to overloading by economic necessity (3). Donkey rearing communities suffered because their income which came from using their donkeys for brick kiln is only seasonal. Mechanisation gives them opportunity to work for entire season and enhance their economic condition without doing cruelty on donkeys.

Workers at mechanized kilns do not have debt burden whilst conventional workers have significant debts. Workers at the conventional brick kiln borrow money to offset seasonal variation in income, to address health needs and to spend on occasions (marriages, child birth, and religious festivities). Mechanization alone will not address the socio-economic challenges faced by the workers. Government has to formalize this industry so that workers would also get their rights protected by law. (9)



### CONCLUSION:

Results of the present study shows that:

- a. Mechanization can rescue donkeys from hardship of brick kiln and provide them free and better life.
- b. Mechanization enhances economic condition and social status of donkey guardian who works at brick kiln.
- c. Financial assistance to donkey guardians will accelerate the mechanization project.

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