

IMPACT AREA OF ENERGY CRISES

- Manufacturing Industry
- Agriculture
- Service Sector e.g. Hospital
Educational institute

Flour Mill - A source of energy conservation

Population of Maharashtra = 12 crore

Per 1 lakh population - 200 flourmills

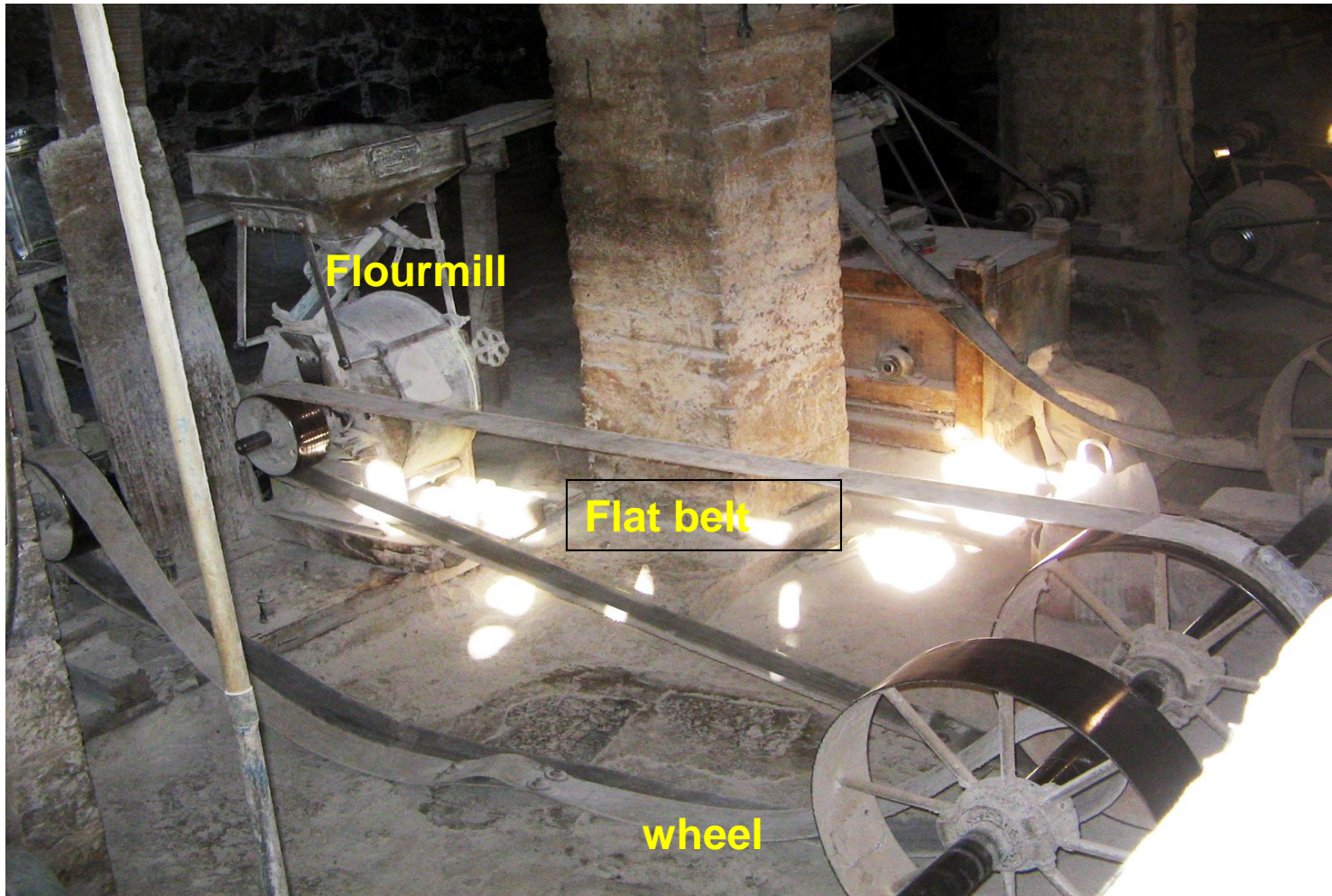
Present no. of flourmills in Maharashtra = 24,000

Capacity Of Motor (H.P)	Qty. of flourmill
10	14,000
7.5	6,000
5	4,000



Types Of Existing Flour Mills

Flat Belt Drive



'V' Belt Drive



ENERGY CONSUMPTION RATE OF EXISTING FLOURMILL

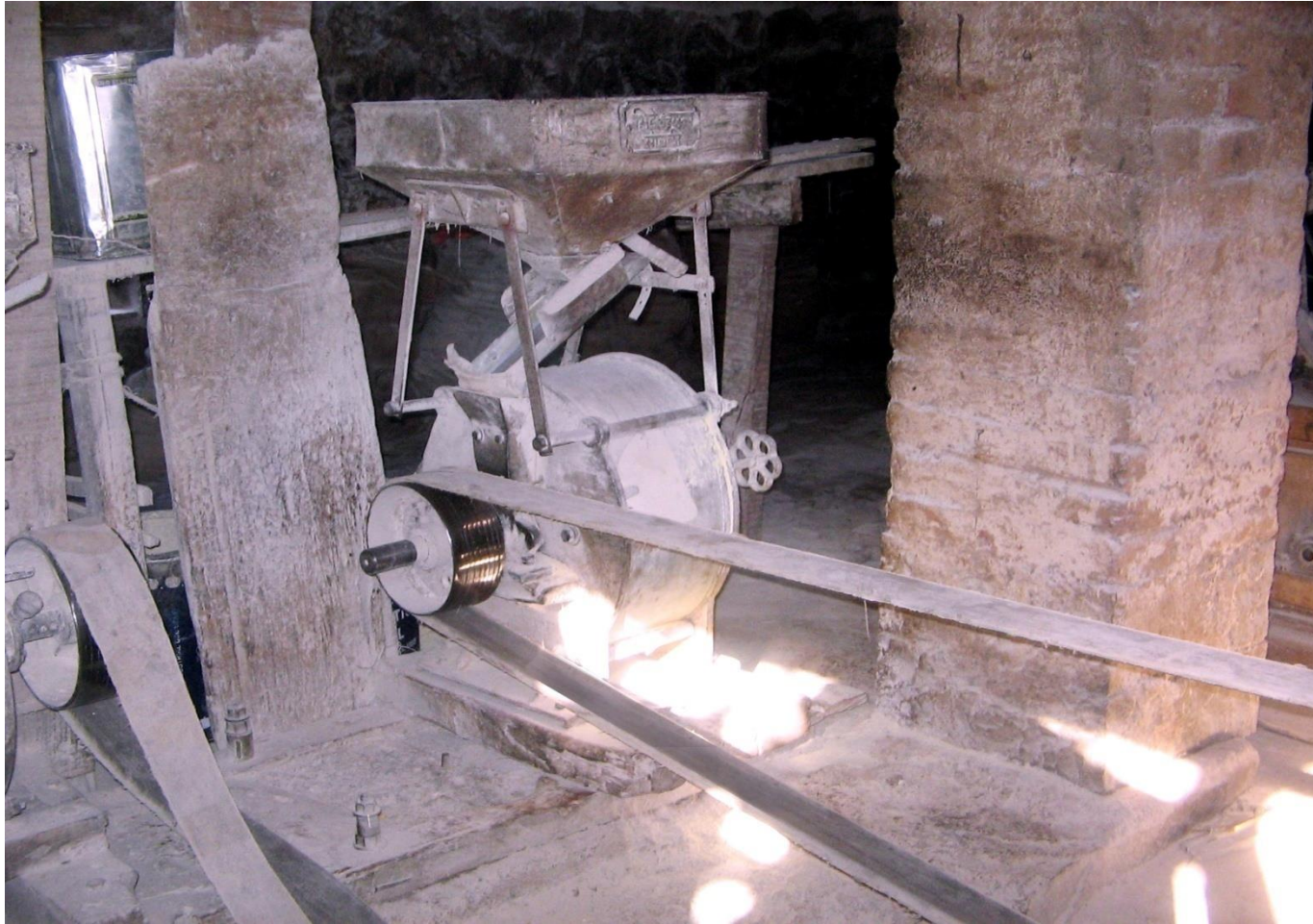
For 60 kg Grains

Motor capacity (H.P.)	Hr.	Unit	Cost in Rs. (5Rs/Unit)
7.5	1	7	35/-



Reason For Loss of Energy Consumption in Exisisting Flourmill

1) Belt Drive



2) Emery Stone



3) Small Opening





Modified Design for arresting avoidable loss

I) Compact Size



2) Coupled Shaft



3) Balanced Emery Stone



4) Modified Emery Stone



5) Large Opening



Energy Reqd. For New Model

Motor capacity (H.P.)	Hr.	Unit	kg	Cost in Rs.
3	1	3	60	15/-

Total Energy Conservation

For 60 kg Grains

Motor capacity (H.P.)	Hr.	Unit	Cost in Rs.
10	1	10	50/-
7.5	1	7	35/-
3	1	3	15/-

Observations No.1

- 12 Crores (Population Of Maharashtra)
- 6 Kg . (Requirement of Flour / Head /Month)
- $6 * 12 \text{ crores} = 72 \text{ crores Kg. Flour Req'd./Month}$
- Unit of electricity required = 11-12 crore unit
- New modified design required
= 3.5 - 4 crores unit
- Saving of unit = 8 crores
- *Saving of 8 crores unit is equal to generating 12 crores of unit*

Conti.....

Observations No.2

	'V' Belt	Flat Belt	Coupled
Out Put in Kg.	8-10 kg.	6-8 kg	18-20 kg
Electricity reqd. in unit per out put	1	1	1

Result

Characteristic	Flat Belt	'V' Belt	Coupling
Pulley & Belt	Reqd .	Reqd .	Not Reqd.
Motor Capacity	10 H.P.	7.5 H.P.	3 H.P.
Per Unit Output	6-8 Kg.	8-10 Kg.	18-20Kg.
Flour Temperature	60-70 C	60-70 C	30-40 C
Foundation	Reqd.	Not Reqd.	Not Reqd.
Energy saving	-	-	63 %

Conclusion

1. Saving of 8 crores unit per month.
2. Saving of 8 crores is equal to generation of 12 crores of unit.
3. So flourmill is a *Emerging source* of energy conservation.



Thank You

Any Question Please?