

# Maintenance and repair of the Biogas plant

**Talk to a Teacher**

**<http://spoken-tutorial.org>**

**National Mission on Education through ICT**

**<http://sakshat.ac.in>**

**Spoken Tutorial and Rural ICT Project  
IIT Bombay**

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# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**We will learn different techniques to maintain and repair-**



# Maintenance and repair of the Biogas plant

We will learn different techniques to maintain and repair-

- **the Biogas plant**



# Maintenance and repair of the Biogas plant

We will learn different techniques to maintain and repair-

- the Biogas plant
- the Biogas burner



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**Periodic partial and complete cleaning of the plant is a must-**



# Maintenance and repair of the Biogas plant

**Periodic partial and complete cleaning of the plant is a must-**

- **Biogas plant runs smoothly**



# Maintenance and repair of the Biogas plant

**Periodic partial and complete cleaning of the plant is a must-**

- **Biogas plant runs smoothly**
- **Ensure efficient working of the Biogas plant for many years**



# Maintenance and repair of the Biogas plant





# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

- **How often should one carry out maintenance of the Biogas plant?**



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**Maintenance should be daily by doing the following-**



# Maintenance and repair of the Biogas plant

**Maintenance should be daily by doing the following-**

- **Always, mix the bio-waste with water in the proper ratio**



# Maintenance and repair of the Biogas plant

Maintenance should be daily by doing the following-

- Always, mix the bio-waste with water in the proper ratio
- Ensure smooth flow of bio-waste from mixing tank to digester tank



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

- **Plant waste should be crushed and chopped up to 1-4 cms**



# Maintenance and repair of the Biogas plant

- Plant waste should be crushed and chopped up to 1-4 cms
- **Do not feed too much straw into the digester tank**



# Maintenance and repair of the Biogas plant

- Plant waste should be crushed and chopped up to 1-4 cms
- Do not feed too much straw into the digester tank
- **Sticks and branches of trees should be avoided**





# Maintenance and repair of the Biogas plant

- **Soap, oil, chemical, insecticide and pesticides should not be added**



# Maintenance and repair of the Biogas plant

- Soap, oil, chemical, insecticide and pesticides should not be added
- Soil, sand or stone should also not be added



# Maintenance and repair of the Biogas plant

- Soap, oil, chemical, insecticide and pesticides should not be added
- Soil, sand or stone should also not be added
- **They will accumulate at the base of the digester and hinder gas production**



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

- **Quantity of bio-waste to be supplied depends upon the size of the plant**



# Maintenance and repair of the Biogas plant

- Quantity of bio-waste to be supplied depends upon the size of the plant
- **Too much bio-waste should not be fed into the digester**



# Maintenance and repair of the Biogas plant

- Quantity of bio-waste to be supplied depends upon the size of the plant
- Too much bio-waste should not be fed into the digester
- **This will lead to shorter retention time**



# Maintenance and repair of the Biogas plant

- Quantity of bio-waste to be supplied depends upon the size of the plant
- Too much bio-waste should not be fed into the digester
- This will lead to shorter retention time
- **Fermentation won't be completed**



# Maintenance and repair of the Biogas plant





# Maintenance and repair of the Biogas plant

- If less bio-waste is fed into the digester, gas production will be low
- **Water condensation should be checked-**

**as water in the pipeline blocks the passage of gas**





# Maintenance and repair of the Biogas plant

- **Lift the gas pipe so that the water can run back into the digester tank**



# Maintenance and repair of the Biogas plant

- Lift the gas pipe so that the water can run back into the digester tank
- Check that the slurry is being pumped out smoothly into the slurry tank



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

- **Ensure that slurry is emptied out of the slurry tank when it is full**



# Maintenance and repair of the Biogas plant

- **Ensure that slurry is emptied out of the slurry tank when it is full**
- **No inflammable items should be brought near the outlet pipe of the dome**





# Maintenance and repair of the Biogas plant

**Another important thing to be done is that-**



# Maintenance and repair of the Biogas plant

**Another important thing to be done is that-**

- **Slurry in the digester tank should be removed once in three years**



# Maintenance and repair of the Biogas plant

**Another important thing to be done is that-**

- **Slurry in the digester tank should be removed once in three years**
- **This is done by the mason**







# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

- **Wait for a few minutes and light the burner**



# Maintenance and repair of the Biogas plant

- **Wait for a few minutes and light the burner**
- **This is to ensure that the gas inflow has stopped**



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**Apart from what is mentioned-**



# Maintenance and repair of the Biogas plant

**Apart from what is mentioned-**

- **Periodic inspection of the plant is necessary**



# Maintenance and repair of the Biogas plant





# Maintenance and repair of the Biogas plant

- **Inspection helps locate cracks on the surface of the digester tank**
- **Else, Biogas can escape into the atmosphere through these cracks**



# Maintenance and repair of the Biogas plant

- Inspection helps locate cracks on the surface of the digester tank
- Else, Biogas can escape into the atmosphere through these cracks
- **Hence, these cracks need to be sealed quickly**



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**Once in three years-**



# Maintenance and repair of the Biogas plant

Once in three years-

- **The mason repaints the inner wall of the digester tank**



# Maintenance and repair of the Biogas plant

Once in three years-

- The mason repaints the inner wall of the digester tank
- Using White cement and synthetic resin adhesive mixture—  
to seal cracks, if present



# Maintenance and repair of the Biogas plant



# Maintenance and repair of the Biogas plant

**To make this mixture use the following-**



# Maintenance and repair of the Biogas plant

To make this mixture use the following-

- **2 Ltrs of water**



# Maintenance and repair of the Biogas plant

To make this mixture use the following-

- 2 Ltrs of water
- **250 gms of Synthetic Resin Adhesive**



# Maintenance and repair of the Biogas plant

To make this mixture use the following-

- 2 Ltrs of water
- 250 gms of Synthetic Resin Adhesive
- 2 kgs of White cement



# Summary



# Summary

**We have learnt different techniques to maintain and repair-**



# Summary

**We have learnt different techniques to maintain and repair-**

- **the Biogas plant**



# Summary

We have learnt different techniques to maintain and repair-

- the Biogas plant
- the Biogas burner



# Acknowledgements

- This video was created by Spoken Tutorial Project with inputs from Rural-ICT Project, IIT Bombay.
- More information on these projects can be found at these links

[http://spoken-tutorial.org /NMEICT-Intro](http://spoken-tutorial.org/NMEICT-Intro)

<http://ruralict.cse.iitb.ac.in>







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Courtesy of:**



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