Hooch Tragedy

Why in News?

Recently, a <u>tragic hooch</u> incident in Bihar has claimed eight lives, drawing attention to the severe consequences of <u>illicit liquor consumption</u>.

Key Points

Hooch Formation Process:

- **Hooch, also known as illicit or spurious liquor, i**s typically made by fermenting and distilling cheap raw materials **like** molasses or grains.
- Often, dangerous chemicals like <u>methanol</u> **are added** to speed up production or increase potency. Methanol can cause fatal poisoning even in small amounts.
- Contributing Factors:
 - Despite strict prohibition laws, the underground liquor trade continues to thrive in Bihar. Poor enforcement and high demand for alcohol contribute to recurring hooch incidents.
 - Public health experts point to the need for better regulation and stronger policing to prevent the sale of toxic alcohol.
- Prohibition Laws:
 - Bihar has enforced a total prohibition on alcohol since 2016 under the <u>Bihar Prohibition and</u> <u>Excise Act, 2016</u>. However, loopholes and weak enforcement allow the illegal trade to flourish.
 - The law includes stringent punishments for those involved in the production and sale of illicit liquor, including heavy fines and imprisonment.

Methanol

- Methanol, chemically represented as CH3OH, is a simple alcohol molecule consisting of one carbon atom bonded to three hydrogen atoms and one hydroxyl group (OH).
- Regulations:
 - Methanol is classified under Schedule I of the Manufacture, Storage and Import of Hazardous Chemical Rules 1989 in India.
 - Indian Standard IS 517 specifies how the quality of methanol should be determined.

Industrial Production:

- Methanol is primarily produced industrially by combining carbon monoxide and hydrogen in the presence of copper and zinc oxide catalysts, typically at pressures of 50-100 atm and temperatures around 250°C.
 - Historically, methanol was also produced through the destructive distillation of wood, a method known since ancient times, including in ancient Egypt.
- Industrial Uses:
 - Methanol serves as a crucial precursor in the production of acetic acid, formaldehyde, and various aromatic hydrocarbons. It is widely used as a solvent, antifreeze, and in various industrial processes due to its chemical properties.
- Effect on Human Body:

• Metabolic Acidosis:

• Methanol in the body is broken down into toxic byproducts, primarily formic acid. This acid disrupts the body's delicate pH balance in the blood, leading to a condition called metabolic acidosis (production of excessive acid that cannot be flushed out by kidneys).

• This makes the blood more acidic, hindering its ability to function properly.

• Cellular Oxygen Deprivation:

• Formic acid also interferes with an enzyme called cytochrome oxidase, which is crucial for cellular respiration. This disrupts the cells' ability to use oxygen, leading to a buildup of lactic acid and further contributing to acidosis.

• Vision Impairment:

• Methanol can damage the optic nerve and retina, causing methanol-induced optic neuropathy. This condition can lead to permanent vision problems, including blindness.

• Brain Damage:

• It can cause cerebral edema (fluid buildup in the brain) and hemorrhage (bleeding). These can lead to coma and death.

The Vision

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