

Assam Gas Leak

Why in news?

Since 27^{th} May 2020, natural gas has been continuously flowing out of a gas well in Assam following a blowout.

Where is the oil rig?

- The Baghjan 5 well is a purely gas-producing well in Tinsukia district.
- It is at an aerial distance of 900 metres from the Dibru-Saikhowa National Park.
- It was drilled by Oil India Limited (OIL) in 2006.
- It is one of the most prolific gas reservoirs owned by OIL.
- It produces around 80,000 standard cubic metres per day (SCMD) of gas from a depth of 3,870 metres.
- The current discharge is at 90,000 SCMD at a pressure of 4,200 PSI, far higher than the normal producing pressure of around 2,700 PSI.

Why do blowouts happen?

- Sometimes, the pressure balance in a well may be disturbed leading to 'kicks' or changes in pressure.
- If these are not controlled in time, the 'kicks' can turn into a sudden, uncontrolled release of gas/oil or blowout.
- The possible **reasons** behind blowouts include simple lack of attention, poor workmanship, bad maintenance, old age, sabotage, morpho-tectonic factors, etc.
- A device called a **blowout preventer** is usually installed in wells.

Why was there a blowout at Baghjan?

- The gas well at Baghjan was being **serviced**, and a new sand was being tested at another depth in the same well.
- The existing well-head (the exposed top portion) was also being repaired.
- For repairing the well-head, the well was temporarily killed or the producing zone was shut down.
- The **blowout preventer** was also **removed**.
- But suddenly, gas started to ooze out of the exposed well.
- Before anyone could do anything, it broke through our cement barrier.

• The inquiry is going on regarding how and why it happened, how the gas came out of the 'killed zone'.

Why is it so difficult to control?

- The control of a blowout depends on two things:
 - 1. The size of the reservoir and
 - 2. The pressure at which the gas/oil is flowing out.
- This reservoir was particularly difficult to control since it was a gas well and ran the risk of catching fire at any point.
- While many blowouts automatically collapse on their own, it can take up to months.
- To control a blowout, the first step is to pump in water, so that the gas does not catch fire.

What is being done?

- A crisis management team from OIL and ONGC intend to create a water umbrella to protect workers while they hook up the blowout preventer.
- For that, a temporary reservoir, channel cables or temporary pipelines have to be built from the Dangori river nearby.
- With very limited space and non-availability of open space above the well head, placement of the BOP is a huge challenge and entails a huge risk.
- It is planned to place the BOP on the well head through a hydraulically driven mechanical transporter.
- Drilling mud will have to be pumped in immediately after capping the well by the BOP.
- OIL has reached out to Singapore-based firm Alert Disaster Control.

How serious is the impact to the neighbourhood?

- As many as **1,610 families** with 2,500-3,000 people have been evacuated to relief camps.
- There are reports of deaths of a river dolphin, and a variety of fish.
- While the administration has kept an **ambulance** with paramedical staff on standby, locals have complained of symptoms like headache, etc.
- The gas (a mix of propane, methane, propylene and other gases) is flowing with the wind, towards the northeast.
- That is a radius up to 5 km and condensate is mostly falling on bamboo, tea gardens, banana trees and betel nut trees.
- Since the gas is moving through the air, the condensate is falling into **Dibru-Saikhowa National Park** too.
- \bullet Also close is the ${\bf Maguri\text{-}Motapung}$ wetland —an Important Bird Area

notified by the Bombay Natural History Society.

- The park is famous for its birds, butterflies, wild cats, and feral horses.
- The impact is visible in the sense that one can see,
 - 1. Traces of condensate on the water bodies,
 - 2. The numbers of birds have decreased, not because they have been killed but because they have flown away.

Source: The Indian Express

