Sonic Weapons

Why in News?

Protesters in Serbia are accusing the government of using a sonic weapon to disperse and intimidate them during a recent anti-government rally in Belgrade.

- Sonic weapons or sound cannon are devices that deliver ***very loud sounds*** over long distances.
- This technology is used for ***crowd-control purposes*** by emitting loud and painful levels of noise.
- These weapons fire sound waves instead of bullets to emit extremely loud noises.
- These devices can also be used to act like ***voice amplifiers*** to deliver voice messages or other sounds.
- The acoustic signals from sound cannon can be heard loudly up to a kilometer (0.62 miles) away, because the sound waves are fired at a high-pressure rate.
- **Types**

LRAD (Long Range Acoustic Device) brand	The Mosquito	Infrasonic Weapon
It has a range of 8,900 meters for intelligible speech and a maximum output of 162 decibels at one meter. It can cause pain (110-130dB) at 20 meters.	A high-pitched sound weapon that is audible and painful to younger people, while leaving older people (30s and older) unaffected.	This newer technology is under investigation. It would deliver very low frequency sounds that would be inaudible but could cause pain and disorientation.

A normal conversation takes place at roughly 60 decibels, while a crying baby can crack 80 or even 100 decibels.

- **Working -** These weapons usually comprise hundreds of modern transducers, an electronic device that converts energy from one form to another.
- It creates highly concentrated and amplified sound can focus on specific targeted areas.
- The sound is designed to be controlled by police officers who can alter the frequency, level, quality, and duration of the alarm.
- **Effects on Humans -** Sounds higher than 90 or 100 decibels are uncomfortable to hearing people.
- The sound waves hit the eardrum at high pressure and can cause significant damage as a result.
- Permanent hearing damage or tinnitus can also occur after short exposure.
- Psychological damage can also occur.

- It also has fatal consequences when the sound waves rupture internal organs, including the lungs, in people within the immediate vicinity of the blast.

Reference

NDTV - Sonic Weapon

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