

Plan to bring back woolly mammoth

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In news- Recently a company named Colossal, announced that it has started a landmark de-extinction project to resurrect the woolly mammoth, which went extinct roughly 10,000 years ago.

More information-

- The team of scientists led by George Church, a geneticist at Harvard Medical School, will use genetic engineering to develop a cold-resistant elephant or an **'Arctic elephant'**.
- The team has selected over 50 traits that will enhance the cold-resistant ability of an Asian elephant.
- These include shaggy coats, smaller ears, cold-adapted forms of haemoglobin and excess adipose tissue production.
- The idea is to use these genes and with the help of **CRISPR technology insert them into the Asian elephant's genome.**
- The team will then create an embryo that carries the traits of a woolly mammoth.
- The **embryo will be implanted into a surrogate African elephant.**
- The gestation in the elephant's womb will take place for around 18-22 months and a hybrid 'Arctic elephant' would be born.
- One of the core goals for reviving the mammoth is to revert the now-overshrubbed forests into natural arctic grasslands, which will help with carbon emissions.
- The grazing mammoths would help re-establish the grassland ecosystem and prevent the thawing and release of greenhouse gases that are now trapped in the arctic permafrost.

About Woolly mammoth-

- The woolly mammoth (*Mammuthus primigenius*) is a species of mammoth that lived during the **Pleistocene** age.
- Its closest extant relative is the Asian elephant.
- It was identified as an extinct species of elephant by **Georges Cuvier in 1796.**
- It was roughly the same size as modern African elephants and was well adapted to the cold environment during the last ice age.
- It was covered in fur, with an outer covering of long guard hairs and a shorter undercoat.
- The ears and tail were short to minimise frostbite and heat loss.
- It had long, curved tusks and four molars and it used its tusks and trunk for manipulating objects, fighting, and foraging.
- The **diet of the woolly mammoth was mainly grasses and sedges.**
- Individuals could probably reach the age of 60.
- Its **habitat was the mammoth steppe, which stretched across northern Eurasia and North America.**
- It coexisted with early humans, who used its bones and tusks for making art, tools, and dwellings, and hunted the species for food.
- A juvenile specimen nicknamed "Yuka" is the first frozen mammoth with evidence of human interaction.
- It is the **third-most depicted animal in ice-age art, after horses and bison,** and these images were produced between 35,000 and 11,500 years ago.
- Most woolly mammoth populations **disappeared during the late Pleistocene and early Holocene,** alongside most of the Pleistocene megafauna including the Columbian mammoth.

Hunting and climate change, which led to the shrinkage of its habitat, were the main factors that contributed to its

extinction