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NASA's Double Asteroid Redirection Test gives hope that the technological advancement can prevent extraterrestrial threats. Explain (2020/2021)

NASA successfully diverted the path of the asteroid ^{Dimos} using a small spacecraft DART (Double Asteroid Redirection Test).

Double Asteroid Redirection Test (DART) is a NASA space mission aimed at testing a method of planetary defence against near-Earth objects (NEOs)

The kinetic impactor technique is used in the DART. The reason for this test is to learn how to use the kinetic impactor techniques to nudge earth-bound asteroids out of way years before impact

Purpose

Thus in this way, we can prevent

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प्रश्न संख्या
(Question No.)

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recurrence of disaster which took place 66 million year ago resulting Chicxulub crater in Spain, which is attributed the extinction of dinosaurs

- ↳ Lonar crater lake in Maharashtra, India is attributed to meteorite strikes

Potential Benefits

- ↳ Protection of the Earth from the against NEOs such as asteroids
- ↳ To harvest rich minerals from these asteroids

Challenges

- ↳ All asteroids are not similar, so more tests have to be done to perfect this technique
- ↳ Global collective efforts are not in offing to prepare these type of mission

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Way forward

- ↳ Apart from USA, China is also planning to deflect a 90m wide, earth crossing asteroid named 2020 PN1 by 2028
- ↳ India must also invest in such projects as the potential benefits are promising and also to ensure India's capabilities in space projects.