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## 1. Ambitious Upper Siang Project

### The Upper Siang project

The Upper Siang project is a proposed 11,000 megawatt hydropower project on the Siang river in the Upper Siang district of Arunachal Pradesh.



The Siang originates near Mount Kailash in Tibet, where it goes by the name of Tsangpo. It traverses more than 1,000 km eastward, before forming a horseshoe bend around the towering Namcha Barwa peak, and enters Arunachal Pradesh as the Siang. Further downstream, in Assam, the river becomes the mighty Brahmaputra.

According to a November 2022 report by the Central Electrical Authority, there are 29 hydroelectric projects (installed capacity of over 25 MW) in the Siang river basin, with a combined installed capacity of 18,326 MW. The proposed Upper Siang project's installed capacity is roughly 60% of this figure.

### Counter China's Super dam

But more than its hydropower potential, the dam is being projected as a strategic imperative to counter China's hydel projects on the Tsangpo.

Officials have highlighted in particular the plan for a 60,000 MW 'super dam' in Tibet's Medog county, right on the border with Arunachal Pradesh. The super dam's installed capacity is

almost three times that of the largest hydropower station on the planet — the Three Gorges Dam on the Yangtze river in China’s Hubei province. It will be used to divert water to China’s water-scarce northern regions.

## COUNTER-CONTINGENCY PLAN

**CHINESE DAMS**

- > China plans to construct a **60,000 MW hydropower project on the Yarlung Tsangpo at Medog** on Arunachal Pradesh’s border ostensibly to push for carbon emission reduction & attain carbon neutrality by 2060
- > Dams also to **utilise the freshwater** in water scarce southern China
- > It has also been reported that **China plans to divert Brahmaputra water** from the project to its northern arid region
- > Construction underway – **360 MW hydro project at Gyatsa & 560 MW hydro project at Jiexu**
- > 3 more – **640 MW project at Dagu, 710 MW project at Bayu & 800 MW project at Zhongyu** – in advance stage of planning

**CONCERNS**

- > Dam planned at Medog at Arunachal Pradesh border may **adversely impact the lower riparian states**, particularly India, including environmental consequences & creating artificial floods
- > Diversion of water could **strain India’s agricultural need in the northeast region**
- > Mismanagement could lead to **overflows and floods in India**
- > Dams on Himalayan rivers before they reach India may **cause losses & difficulties for India & Bangladesh**

Officials have stated that the Upper Siang project will act as a reservoir to counter the effects of a potentially-reduced flow.

### Displacement concerns

Activists are concerned about the communities that will be displaced due to the project, which they say will submerge more than 300 villages belonging to the Adi tribe, including the Upper Siang district headquarters of Yingkiang.

Relevance: GS Prelims & Mains Paper I; Geography

Source: Indian Express

## 2. What is a divorced Muslim woman’s right to maintenance under the CrPC?

### Why in News?

Petitioner Mohd Abdul Samad challenged a 2017 family court order directing him to pay maintenance of Rs 20,000 per month to his former wife. The Telangana High Court, on appeal, refused to set aside the order of the family court.

The Supreme Court dismissed an appeal by a Muslim man against a Telangana High Court order allowing his ex-wife to seek maintenance under the Code of Criminal Procedure, 1973 (CrPC).

The Supreme Court bench reiterated that a Muslim woman is entitled to seek maintenance from her husband under Section 125 of the CrPC — a secular legislation — even if they were divorced under religious personal law.

While the ruling follows a 22-year-old landmark precedent, it sparked a discussion on the chequered legal and political history of the right to maintenance of Muslim women.



### **The present case**

Petitioner Mohd Abdul Samad challenged a 2017 family court order directing him to pay maintenance of Rs 20,000 per month to his former wife. The Telangana High Court, on appeal, refused to set aside the order of the family court.

Section 125 CrPC places an obligation on “any person having sufficient means” to maintain “his wife” or “his legitimate or illegitimate minor child” if they are unable to maintain themselves — typically through monetary support at regular intervals. The explanation in the section clarifies that the word “wife” also includes a divorced woman who has not re-married.

This position was first taken in the landmark 2001 ruling in *Danial Latifi & Anr v. Union of India*.

### **Shah Bano decision**

In 1978, a woman named Shah Bano Begum filed a petition seeking maintenance from her husband under Section 125 for herself and her five children. Divorcing Shah Bano via ‘irrevocable talaq’ later that same year, her former husband, Mohammed Ahmad Khan, argued that he is only required to provide maintenance during the iddat period following divorce — three months under ordinary circumstances during which she cannot marry another man — according to Muslim personal law.

After Shah Bano’s plea was granted by Madhya Pradesh High Court in 1980, the matter reached the Supreme Court. The All Indian Muslim Personal Law Board argued that the court was bound to apply Muslim personal law as per The Muslim Personal Law (Shariat) Application Act, 1937.

A five-judge Constitution Bench upheld the High Court’s decision. Then Chief Justice of India Y V Chandrachud held that provisions such as Section 125 CrPC “cut across the barriers of religion”, and “whether the spouses are Hindus or Muslims, Christians or Parsis, pagans or heathens, is wholly irrelevant”. The court also held that the divorced wife was entitled to maintenance under Section 125 even after the iddat period “if she is unable to maintain herself”.

### **The Muslim Women (protection of rights on divorce) act, 1986**

The government of Prime Minister Rajiv Gandhi then enacted the MWPRD Act, which effectively overturned the Shah Bano verdict. Under the Act, the obligation to pay maintenance

after the iddat period was placed on the relatives or children of the divorced wife and, in their absence, on the State Wakf Board.

### **Challenge to 1986 Act**

Soon after the MWPRD Act was enacted, Shah Bano's lawyer, Danial Latifi Nafess Ahmad Siddiqui, challenged its constitutionality before the Supreme Court.

He argued that Section 125 is meant to protect women of all religions from "destitution or vagrancy", and that the MWPRD Act discriminates against Muslim women, violating their right to equality (Article 14) and right to life with dignity (Article 21).

The Centre argued that personal law is a legitimate basis for discrimination and does not violate the right to equality.

The All India Muslim Personal Law Board argued that the Act takes care of Muslim women and prevents "vagrancy" while being in tune with Muslim personal law, which only places an obligation for maintenance on the husband during the iddat period.

### **SC view on MWPRD Act**

In an endeavour to uphold the constitutionality of the law while securing maintenance for a divorced Muslim woman beyond the iddat period, the five-judge Constitution Bench in its judgment creatively interpreted Section 3(a) of the MWPRD Act, which requires the former husband to provide "a reasonable and fair provision and maintenance to be made and paid to her within the iddat period".

The court interpreted this to mean that the husband "is required to contemplate the future needs (of the divorced wife) and make preparatory arrangements in advance for meeting those needs" within the iddat period. In contrast, the actual payment would not be limited to this period and could "extend to the whole life of the divorced wife unless she gets married for a second time".

As a result, the court held, a Muslim husband is responsible for paying maintenance even beyond the iddat period, and upheld the constitutionality of the MWPRD Act.

Relevance: GS Prelims & Mains Paper I; Social Issues

Source: Indian Express

## **3. ISRO wants to venture into planetary defence**

### **Why in News?**

Indian Space Research Organisation (ISRO) Chairman S Somanath said last week that "we should be able to go and meet" the asteroid Apophis when it passes by Earth at a distance of 32,000 km in 2029. However, "it is yet to be decided in what way [ISRO] should participate".

The Indian space agency might send its own spacecraft, or collaborate with other space agencies. A NASA mission has already been confirmed.

Somanath's remarks reveal ISRO's intent to develop capabilities in planetary defence — an area it has so far not entered. A mission to study an asteroid would be the first step towards building a programme aimed at preventing celestial bodies from colliding with Earth with potentially catastrophic consequences.

### **An alarming asteroid**

When Apophis was discovered in 2004, scientists thought there was a 2.7% chance of a collision with Earth — the highest probability of any large asteroid hitting Earth in the recent past. Initial observations showed that if not in 2029, Apophis could hit Earth in 2036 or 2068. Given the asteroid's size — it measures about 450 m at its widest — a collision with Earth could cause large-scale damage. Some scientists compared the potential impact to the event that wiped out dinosaurs and most other extant life some 66 million years ago.

Subsequent observations showed these initial fears to have been unfounded — the Earth did not face any risk from Apophis in 2029, 2036, or 2068. The asteroid will come the closest to Earth in 2029, when it flies by at a distance of 32,000 km. This is close enough to be visible to the naked eye, and at a distance at which some communication satellites operate.

#### **SPACE OBJECTS**

**ASTEROID:** Rocky/metallic objects moving around Sun, mostly leftovers from the formation of solar system. Asteroids less than 1 metre in diameter are called meteoroids.

**METEOR:** The streak of light produced when an asteroid/meteoroid encounters friction of Earth's atmosphere.

**METEORITE:** Unburnt fragment of asteroid that falls to Earth

#### **HOW BIG?**

**APOPHIS:** About 450 m at its widest

**CHELYABINSK,** which exploded over Russia in 2013: about 20 m at its widest

**ASTEROID THAT ELIMINATED DINOSAURS:** 10-15 km wide

### **Threats from space**

Apophis may not pose a threat, but asteroids are headed towards Earth all the time. In fact, thousands enter the Earth's atmosphere every day. Most are very small and burn up in the atmosphere due to friction — some of the larger ones burn spectacularly, and show up as fireballs in the sky. In some cases, unburnt fragments make it to surface, although they are not large enough to cause much damage.

Once in a while, however, asteroids do cause damage. In 2013, a 20-metre wide asteroid entered the atmosphere and exploded about 30 km above a Russian town, releasing energy equivalent to the blast yield of 400-500 kilotons of TNT — 26 to 33 times the energy released by the atom bomb that detonated over Hiroshima. While most of this energy was absorbed by the atmosphere, shock waves travelled to the ground, flattened trees, damaged buildings, and injured 1,491 people, according to the Russian Ministry of Health.

Worryingly, the asteroid was detected only after it entered the atmosphere. This was in part because it came from the direction of the Sun, and was hidden by its glare.

Scientists know of at least 1.3 million asteroids, but there could be more surprises in store. A planetary defence programme seeks to track and neutralise these threats.

### **From sci-fi to reality**

In 2022, NASA demonstrated technology that has long been a science fiction staple. A spacecraft launched in the previous year crashed into an asteroid named Dimorphos, and changed both its shape and its trajectory. Dimorphos did not pose a threat to Earth, and was circling the Sun some 11 million km away from our planet. But this showed the beginning of a planetary defence programme.

### **Interest in Asteroids study**

Asteroids are yet to be studied in detail, and very few missions have been dedicated to them. This is why the approach of Apophis has generated huge interest among space agencies around the world. While formal announcements are yet to be made, several missions, including those from private agencies, are expected to be launched in order to study the asteroid from close quarters.

NASA has already redirected one of its spacecraft, one that previously studied the asteroid Benu, to track Apophis. This spacecraft will go within a distance of 4,000 km of Apophis in April 2029, and then trail the asteroid for 18 months, collecting data and analysing its surface. ISRO's intention to join such an endeavour displays its growing confidence in taking on newer challenges, and contributing proactively to global space objectives. It is also a reaffirmation of its continuing evolution into a well-rounded space agency, with capabilities that match the best in the world.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express