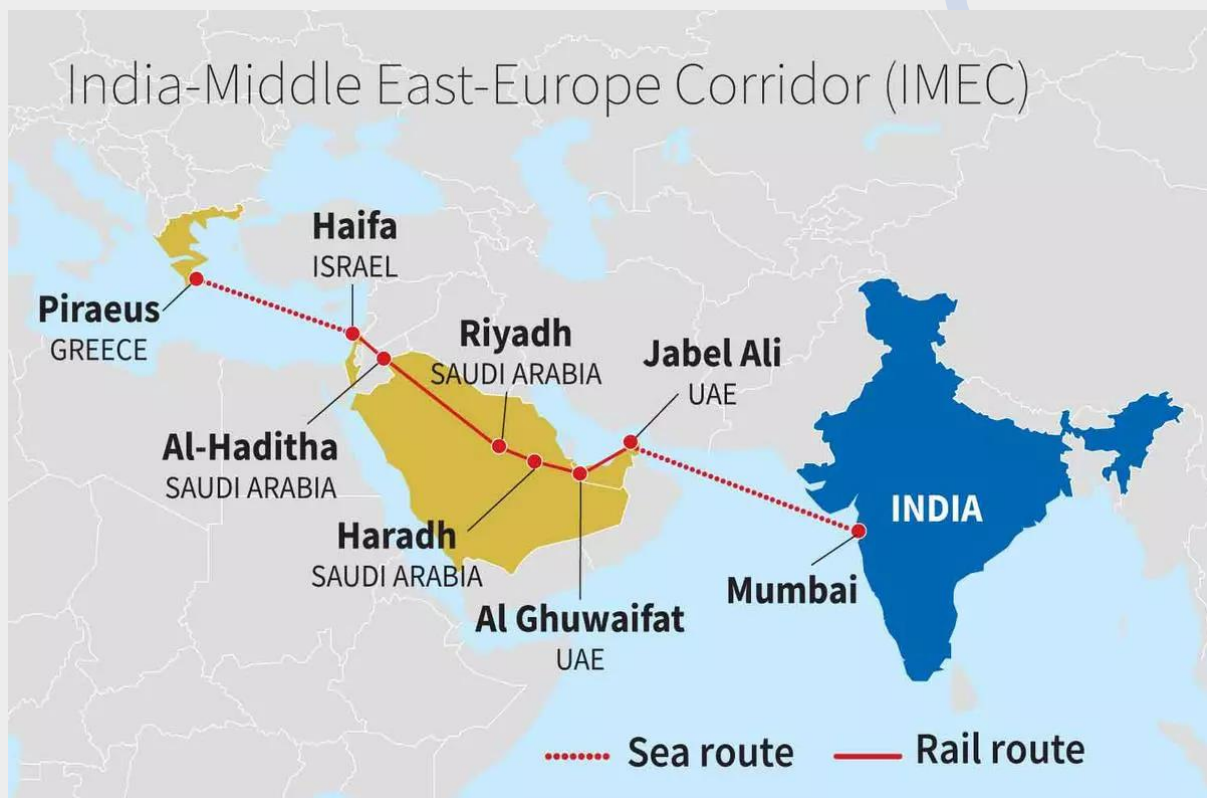


1. India-Middle East-Europe Economic Corridor (IMEC)**Why in News?**

The IMEC is a landmark project announced during the G20 Leaders' event in New Delhi in 2023. On 9 September 2023 the Memorandum of Understanding (MoU) was signed during the 2023 G20 New Delhi summit by the governments of India, United States, United Arab Emirates, Saudi Arabia, France, Germany, Italy and the European Union

**Why Now?**

India and Italy recently reiterated their commitment to work jointly on the ambitious India-Middle East-Europe Economic Corridor (IMEEC or the IMEC). The project was mentioned during talks between External Affairs Minister S Jaishankar and Italian Deputy Prime Minister and Minister of Foreign Affairs, Antonio Tajani, in New Delhi recently.

What is the IMEC?

The IMEC is a landmark project announced during the G20 Leaders' event in New Delhi in 2023. It was aimed at stimulating economic development through enhanced connectivity and economic integration between Asia, the Middle East, and Europe. The corridor is a proposed route from India to Europe through the United Arab Emirates, Saudi Arabia, Israel and Greece. It will have two separate corridors, the east corridor connecting India to the Arabian Gulf and the northern corridor connecting the Arabian Gulf to Europe.

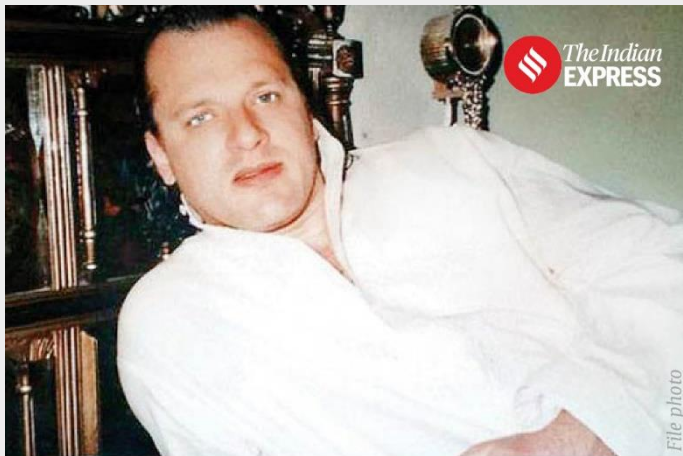
Relevance: GS Prelims & Mains Paper II; International Relations

Source: Indian Express

2. David Coleman Headley: the 26/11 conspirator who got away with his life

Why in News?

While Tahawwur Hussain Rana is in the custody of the National Investigation Agency (NIA) in New Delhi, his closest collaborator during the 2008 Mumbai terrorist attacks, David Coleman Headley alias Daood Gilani, is serving time in prison in the United States. Rana was extradited from the US recently.



DAVID COLEMAN HEADLEY: the 26/11 conspirator who got away with his life

Pleaded Guilty

Headley had struck a bargain with the US authorities long ago, buying freedom from extradition to India in return for pleading guilty to all charges brought against him and cooperating with the prosecutors.

Headley was arrested in the US while intending to ultimately travel to Pakistan to deliver surveillance videos to top operatives of the Lashkar-e-Taiba and al-Qaeda.

In March 2010, Headley pleaded guilty to all 12 counts that were brought against him. In his testimony to federal officials, Headley said that the Mumbai attacks were a joint operation of the terrorist group Lashkar-e-Taiba (LeT) and Pakistan's Inter-Services Intelligence Directorate (ISI).

On January 24, 2013, Headley was sentenced to 35 years in prison for federal crimes relating to his role in planning the 26/11 attacks and a subsequent, ultimately foiled, plot to attack the offices of the Jyllands-Posten daily newspaper in Copenhagen, Denmark.

Born as Daood Gilani

Headley was born Daood Sayed Gilani in Washington DC in 1960 to Salim Sayed Gilani, a Pakistani diplomat and broadcaster, and Alice Serrill Headley, then a secretary at the Pakistani embassy in the US capital.

Headley was a months-old baby when his parents and two siblings moved to Lahore, Pakistan. After his parents divorced and his mother left Pakistan, Headley stayed on in the country with his father and his extended family. His father worked for long with Radio Pakistan, and

ultimately died in December 2008, the month after the Mumbai attacks. His mother too, died in the same year, in the US.

Headley went to private military schools, including Cadet College Hasanabdal, the first quasi-military boarding school in Pakistan, located about 50 km to the northwest of Islamabad. It was at Hasanabdal in the 1970s that he met, and became close friends with, Tahawwur Rana.

When he was 17 years old, Headley returned to the US and was admitted to Valley Forge Military Academy and College in Philadelphia. He left after just one semester, and soon plunged into a world of crime and drugs.

In the 1980s, Headley became addicted to drugs, and after a bar his mother ran in Philadelphia shut down, he moved with her to New York City, and opened two video stores in Manhattan. He kept travelling to Pakistan to smuggle heroin into the US. He was arrested by the US Drug Enforcement Administration (DEA) twice, in Germany in 1988 and in New York in 1997.

He cooperated with the authorities in both cases, ending up with relatively light prison terms, delivered some of his customers to law enforcement, and ultimately became, in the late 1990s, a DEA asset and informant, according to reported articles on his career trajectory as a terrorist collaborator.

Over subsequent visits to the country, which were occasionally unsupervised, Headley's association with the LeT deepened, and he reportedly met Hafiz Saeed, the founder and leader of the terrorist organisation.

According to some reports, Headley's ties with the Lashkar likely developed with the knowledge of US officials, who were presumably trying to get him to infiltrate the terrorist group.

To David Coleman Headley

In late 2005, with the Lashkar actively preparing for the attack on Mumbai, Headley received orders to conduct surveillance in India.

In February 2006, Daood Gilani legally changed his name to David Coleman Headley in Philadelphia, which allowed him to "portray himself in India as an American who was neither Muslim nor Pakistani".

Between 2006 and 2008, Headley visited Mumbai on five extended trips. His old friend Tahawwur Rana helped him by opening a branch of Rana's American immigration consultancy firm in Mumbai.

On each trip to India, Headley recorded videos of potential targets, surveilled locations of interest, and assessed security measures. He reported back to Pakistan, where he met with LeT members.

His fourth trip in April 2008 focused on identifying potential landing sites for the terrorists who would travel to Mumbai from Pakistan by boat. He himself took boat trips around the harbour, using a GPS device to identify the precise coordinates for various locations for the landing.

In March 2009, months after the terrorist attacks, Headley made a sixth trip to India. This was to conduct additional surveillance, including that of the National Defence College in Delhi, and of Jewish Chabad Houses in several cities.

American authorities had an idea of Headley's links to suspected terrorist activity from at least 2005. His American wife at the time, who had filed a domestic complaint against him, tipped off federal investigators about his links to LeT. In December 2007, Faiza Outalha, a Moroccan woman whom he had married, informed officials at the US embassy in Pakistan about Headley's role in a possible terror plot in Mumbai.

But the American federal agencies did not act on this information. Officials who spoke to Rotella said Headley's status as an informant helped him evade detection as he travelled between Mumbai to Pakistan, allowing him to game the system.

However, the US did send a series of warnings to India about a potential terror plot in Mumbai. The first of this was in early 2008, which offered general intel about a potential LeT strike. In May, US officials identified the Taj Mahal Hotel and neighbouring sites frequented by tourists as potential strike sites. Then, on November 18, a week before the attack, they flagged a suspicious vessel posing a maritime threat to Mumbai.

How Headley evaded extradition to India

Given the familiarity of intelligence operatives with Headley's activities over several years, it would seem odd that he evaded arrest for almost a year after the Mumbai attacks.

His role as a conspirator in two terrorist plots would have made him eligible for the death. Headley moved, therefore, to make himself indispensable to the investigation by opting for his usual strategy of cooperating.

His testimony revealed the extent of the LeT's operations in Pakistan and the role of the Pakistani state intelligence in executing 26/11. This was reflected in the April 2011 indictment, which named Sajid Mir, a LeT leader and Headley's handler, as well as Major Iqbal, purportedly an ISI official, for their roles in the 26/11 attack.

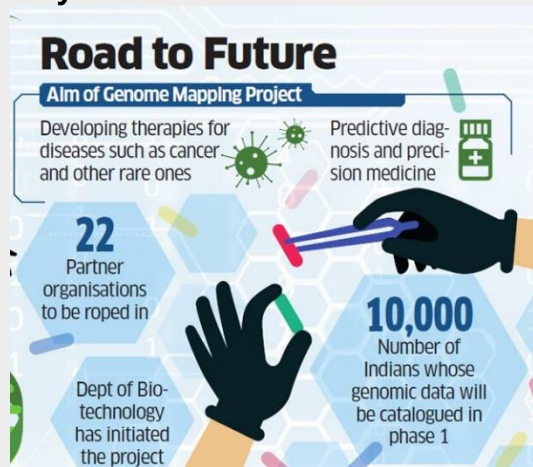
Headley's 2010 plea agreement said that he "provided substantial assistance to the criminal investigation, and also has provided information of significant intelligence value".

The only 26/11 terrorist who was caught alive, Ajmal Amir Kasab, was executed in 2012. The fate of Tahawwur Rana remains to be seen.

Relevance: GS Prelims & Mains Paper III; Internal Security
Source: Indian Express

3. Why Genome India Project matters

Why in News?



The first part of India's ambitious programme to map the genetic diversity of its people is now complete, and its data are ready to be used. The Genome India Project (GIP) has catalogued entire gene sequences of 10,000 individuals from 83 population groups. This database will eventually be expanded significantly, but it is already a precious set of information with important implications in health and medicine, and some other areas as well.

The genome database will open up the possibility of personalised medicine, and faster and efficient diagnostics. It will also reveal information about the evolutionary history and migrations of population groups within India, and how they have adapted themselves to local climate and environment.

Getting the genome

Most importantly, the genome database would help improve human health. The genome sequences have been prepared after obtaining blood samples from individuals.

The full genome of an individual means getting the exact order in which four nucleotide molecules in the human DNA are arranged in an approximately three-billion-long sequence. These four nucleotide molecules — adenine, thymine, cytosine, and guanine, or simply A, T, C and G — along with a phosphate molecule and a sugar molecule, form the long double-helix DNA strands which is essentially the genetic blueprint of the individual.

More than 99.9% of the nucleotide sequence is the same in all human beings. It is the 0.1% difference that makes a person unique, not just in outer appearance — height, or facial features — but also in behavioural tendencies. This means that in every individual, about three to four million nucleotide molecules are uniquely placed in the sequence, and this is what gives rise to the diversity.

People within a closed and isolated population group are likely to have fewer variations in their nucleotide sequences. Whereas, a heterogeneous population will show greater genetic diversity.

Most genetic variations — the out-of-place, or unique, instances of A, T, C or G nucleotides in the full gene sequence — are benign. They do not result in any noticeable difference in the individual. Only a small fraction, 1-2%, are critical, their placement in the sequence affecting appearance, traits or health. It is these critical parts of the sequence that are of maximum interest to scientists.

The GIP database

Through a project like GIP, scientists collect and store what is known as germline sequence — the nucleotide sequence that a person was conceived and born with. Over time, the genetic sequence of a person changes, with every cycle of cell division introducing a few more variations, called mutations.

Germline sequences are obtained from white blood cells that are relatively better at preserving the original sequence during cell division. Among other things, the unique parts of this germline sequence could offer clues about an individual's predisposition towards certain diseases or disorders. It can indicate, for example, not just why a particular person might have developed a certain disorder, but also why some lines of treatment might not be very effective in this case. This could lead to the evolution of personalised medicine, where a patient is not administered a general treatment but gets a tailor-made solution for the disease or disorder.

Sometimes population groups as a whole might be predisposed to certain diseases because all the individuals in the group share the same pattern in the consequential part of the sequence. For example, the widespread prevalence of diabetes in the Indian population is likely linked to the genetic makeup of the population. This kind of information can be handy in developing population-specific drugs.

Mapping the genetic diversity of the entire population, which is what the GIP seeks to do, can help develop health policies and targeted interventions, particularly for rare diseases found only in the Indian population.

Population evolution

The GIP can also contribute to a better understanding of population history and evolution. The germline sequences are what an individual receives from the parents. There is a way to establish ancestry and parentage by studying the sequences. Genetic variations that are more widespread in the population are likely to have emerged much earlier, while those that are found in just a few individuals are quite likely to be new developments. DNA from fossils and isolated tribes, which have undergone relatively fewer changes over generations, fill up important pieces of the overall puzzle.

By comparing the genomes of a large number of people, over several generations and belonging to different ethnic, geographical, and linguistic groups, scientists can gather a lot of information about the history and evolution of populations. For instance, scientists can get evidence for how populations moved from one place to another, socialised and intermingled with other groups through marriages, and adapted to local conditions. This kind of information helps a great deal in resolving the identity issue — who we are, and where we come from — which is an eternal curiosity of human beings.

The GIP is the Indian equivalent of the Human Genome Project which has tried to map the entire human genome at the global scale. That is a two-decade older project but it did not have enough samples from the Indian region to provide good information about the Indian population. The large number, and the diversity, of Indian population groups demanded a similar exercise focused on this region. The GIP is expected to continue and add many more samples in the coming year to make it a comprehensive gene bank of Indian populations.

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

Source: Indian Express

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