

## 1. Nobel Prize in Medicine 2023: Recognized the work which helped in development of Covid vaccines

### Introduction

The 2023 Nobel Prize in Physiology or Medicine was awarded to scientists Katalin Kariko (from Hungary) and Drew Weissman (from USA) for their pivotal contributions to the development of mRNA vaccines. Such vaccines were also developed against Covid-19.

### Traditional vaccines

Traditionally, vaccines have been developed by introducing dead or weakened viruses into the human body, so the body can develop antibodies against them. Thus, when the actual virus infects someone, their body is prepared to fight it.

As technology evolved, instead of the whole virus, just a part of the viral genetic code, began to be introduced through vaccines. But the large-scale development of such vaccines requires cell culture (growing of cells under controlled conditions) and takes time.

### Need for mRNA vaccines

During the Covid-19 outbreak, time was short to fight against the deadly and fast-spreading virus. This is where mRNA technology proved crucial. This technology had been known since the 1980s, but had not been perfected enough to create vaccines at a viable scale.

### How to mRNA vaccines work?

Instead of putting an inactivated virus in the body to activate an immune response, vaccines using this technology use messenger Ribonucleic Acid, or mRNA, to deliver a message to the immune system. Genetically engineered (or lab grown) mRNA can instruct cells to make the protein needed to fight a particular virus.

### Contribution of Kariko and Weissman

Karikó and Weissman realised that the problem with lab-grown genetically engineered mRNA is that the body's dendritic cells [which have important functions in immune surveillance and the activation of vaccine-induced immune response] recognise them as a foreign substance, and release inflammatory signaling molecules against them.

They produced different variants of mRNA, each with unique chemical alterations in their bases, which they delivered to dendritic cells. The inflammatory response was almost abolished in some chemical alterations. The identification of these chemical

alterations in mRNA helped in the development of mRNA vaccines such as Covid vaccines by Moderna and Pfizer.

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

Source: The Indian Express and The Hindu

## 2. Bihar Caste Survey: Understanding the Complex History of Caste Census

### Introduction

The Bihar government has recently unveiled the results of its comprehensive caste survey. This data highlights that over 63% of Bihar's population consists of Other Backward Classes (OBCs) and Extremely Backward Classes (EBCs). This article explores the historical context and significance of caste census, the demand for it, and the government's stance on the matter.

### What Caste Data Is Published in the Census?

Historically, Indian Censuses from 1951 to 2011 included data on Scheduled Castes and Scheduled Tribes but omitted information on other castes. Uptill 1931, caste-based data was collected. In 1941, such data was collected but not published due to World War II.

### Absence of Data

In the absence of such a census, there is no proper estimate for the population of OBCs, various groups within the OBCs, and others. The Mandal Commission (report in 1980) estimated the OBC population at 52%, some other estimates have been based on National Sample Survey data, and political parties make their own estimates in states and Lok Sabha and Assembly seats during elections.

### The Demand for Caste Census

The demand for a caste census has been recurrent, especially from OBC and marginalized sections. Opposition parties have been particularly vocal in pushing for it. Even Congress called for the release of Socio-Economic and Caste Census (SECC) data and the removal of the 50% reservation cap.

### Government's Changing Stand

The government's position on a caste census has evolved. While in 2021, it firmly stated against caste-wise enumeration, in 2018, there were indications of data collection on OBCs. This discrepancy has raised questions.

### UPA's Stance on Caste Census

In 2010, then Law Minister Veerappa Moily advocated for caste/community data collection in Census 2011. Home Minister P Chidambaram highlighted complexities,

including varied state-specific OBC lists and categories, during a Lok Sabha discussion in 2011.

### **SECC Data and Its Fate**

The SECC, conducted in 2016, excluded caste data, which was handed over to the Ministry of Social Justice and Empowerment for categorization. The status of this data remains uncertain.

### **Contrary View: RSS's Opposition**

The RSS has opposed a caste census, stating that it goes against the vision of a casteless society envisioned by leaders like Babasaheb Ambedkar and could hinder efforts for social harmony.

### **Conclusion**

The release of Bihar's caste survey data has reignited the debate on caste census in India. The demand for caste data continues to be a contentious issue, with varying perspectives on its implications for the nation's social fabric and policies.

Relevance: GS Prelims & Mains Paper I; Social Issues

Source: The Indian Express and The Hindu

## **3. The Closure of the Afghan Embassy in Delhi**

### **Introduction**

On September 30, the Ministry of Foreign Affairs of the Islamic Republic of Afghanistan officially announced the closure of the Afghan Embassy in Delhi. This move has raised questions about the future of Afghanistan-India relations and its impact on travel and trade between the two countries.

### **Reasons for Embassy Closure**

The Afghan Embassy cited several reasons for its closure, including a lack of cooperation from the Indian government and insufficient resources to continue operations. Additionally, they have requested India to fly the flag of the Islamic Republic of Afghanistan over the embassy premises and hand over the mission to a "legitimate government" of Afghanistan in the future.

### **A Symbolic Role**

The embassy had been functioning as a "stateless mission" since the Taliban takeover on August 15, 2021. It no longer represented the current rulers of Kabul (the Taliban), with whom India has no diplomatic relations. Instead, it served a ceremonial or symbolic role, assisting Afghan citizens and travelers in India amid the diplomatic void.

### **Impact on Travel and Trade**

While the embassy's closure may cause confusion among Afghans in India, it is unlikely to disrupt trade and travel significantly. Afghanistan still maintains consulates in Hyderabad and Mumbai, which remain operational. These consulates are committed to serving Afghan students, refugees, and traders.

### **Continued Engagement**

Despite the closure, India and Afghanistan maintain an informal engagement. India operates a "technical team" in Kabul, providing visas to Afghan traders and travelers. Two Weekly flights transport Afghan citizens and goods to India, and humanitarian aid from India to Afghanistan. However, these interactions remain informal, as India refuses to recognize the Taliban due to human rights concerns.

### **Prospects for Formal Ties**

While India has not formally recognized the Taliban, its diplomats have engaged with Taliban representatives in various multilateral initiatives, such as the Moscow format dialogue. The Moscow format is one of the several dialogue platforms on Afghanistan — which began before the Taliban takeover of Kabul. The international community, including countries like China, Iran, Pakistan, Russia, Qatar, and the UAE, is increasingly engaging with the Taliban. This puts pressure on India to reconsider its position on the Taliban, despite historical differences.

### **Conclusion**

The closure of the Afghan Embassy in Delhi marks a significant development in Afghanistan-India relations. The future of formal diplomatic ties remains uncertain, as India grapples with recognizing the Taliban government while maintaining informal engagements to address practical concerns.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: The Hindu