

## Primary deficit

### • What is a Primary Deficit?

- Primary Deficit is the difference between the current year's fiscal deficit (total income- total expenditure of the government) and the interest paid on the borrowings of the previous year.
- Once calculated, the primary deficit reflects the amount the Government needs to borrow to meet its current year's expenses.
- In other words, the primary deficit is the amount that reflects the total expenditure of the Government against its total income.

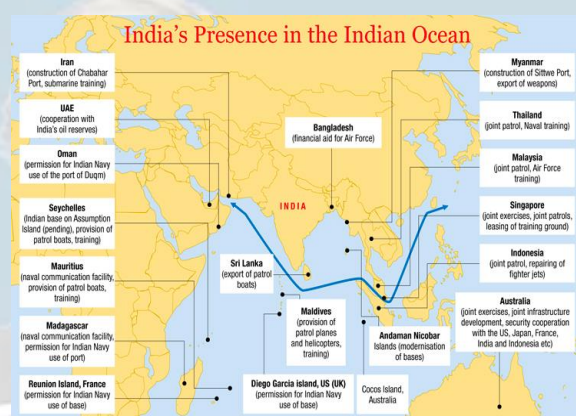
### Primary Deficit Formula

- $\text{Primary deficit} = \text{Fiscal deficit} - \text{Interest payments}$
- $\text{Primary deficit} = \text{Total revenue earned} - \text{Expenses incurred excluding interest payments.}$
- The Hindu

## Indian Ocean Conference

- External Affairs Minister S Jaishankar addresses the 7th Indian Ocean Conference in Australia's Perth that gets underway today with the theme "Towards a Stable and Sustainable Indian Ocean."

- The Indian Ocean Conference is a flagship consultative forum for countries in the Indian Ocean Region, organized annually by the Ministry of External Affairs, in association with the India Foundation.



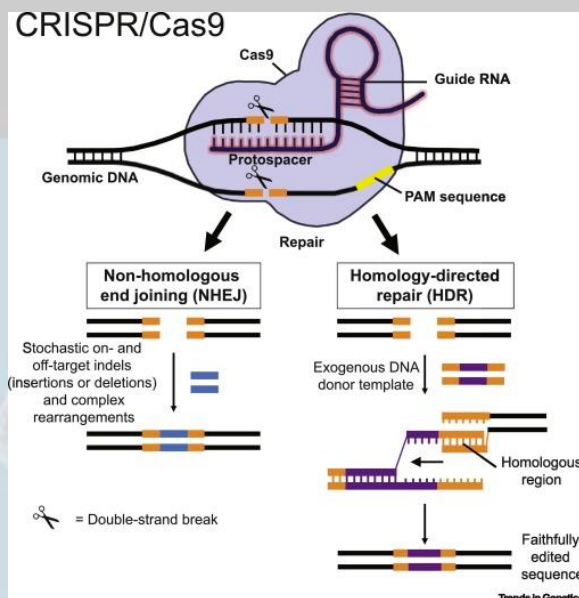
- The conference will be held in association with the Department of Foreign Affairs and Trade, Government of Australia, along with the S Rajaratnam School of International Studies, Singapore, and the Perth-US Asia Centre in Australia.
- According to the Ministry of External Affairs press release, "The theme of this edition of the conference is Towards a Stable and Sustainable Indian Ocean."

- Since its inception in 2016 in Singapore, the Indian Ocean Conference has been instrumental in fostering collaboration among nations and principal maritime partners in the region.

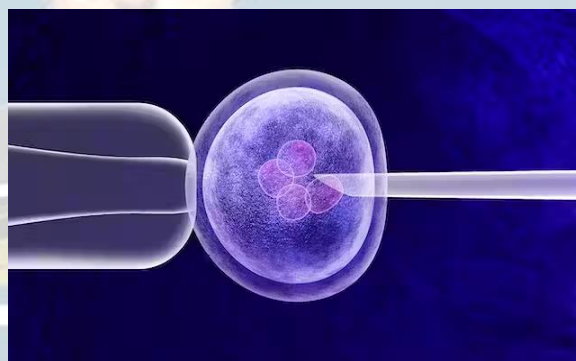
- Through its platform, the Conference endeavors to facilitate discourse on the prospects of regional cooperation for Security and Growth for All in the Region (SAGAR).
- The 7th Indian Ocean Conference stands as a testament to the collective commitment towards enhancing stability and sustainability across the Indian Ocean Region.
- The Hindu

### CRISPER cas9 and sickle cell anemia

- Casgevy and Lyfgenia, the two cell-based gene therapies approved by the Food and Drug Administration (FDA) for sickle cell anemia treatment and beta-thalassemia utilize the Nobel-winning CRISPR/Cas 9 genome editing technology.
- Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR), a feature of the bacterial immune system, forms the basis for this technology.
- In a nutshell, the system in bacteria serves as a warehouse for past infections by storing a part of the viral genetic material and incorporating it into its own, so the next time it is attacked, the bacteria are capable of recognizing the virus and destroying it.
- The bacteria, in short, is immunized when it employs the CRISPR system. The CRISPR-Cas system is effective and easy to manipulate.
- Researchers have adapted it as a tool to cut, delete, or add DNA sequences at precise locations, opening different windows to treat genetic disorders, develop drought-resistant plants, modify food crops, or experiment with de-extinction projects involving the woolly mammoth and the dodo.
- Sickle-cell anemia (SCA) is an inherited disorder where red blood cells contort to a sickle or crescent shape because of defective hemoglobin, restricting its ability to carry oxygen. A.
- Casgevy costs \$ 2.2 million per patient to treat sickle-cell anemia.



- Indian researchers are working on indigenous treatment involving CRISPR genome editing to reduce the cost. “
- The tribal population which is affected the most has limited healthcare access for various reasons: one being that they live in remote areas where there is a scarcity of healthcare professionals. “
- The Sickle Cell Anemia Elimination Mission launched in India on 1st July 2023 aims to strengthen the existing healthcare system and improve primary, secondary, and tertiary healthcare teams.
- As of now, genome editing is restricted to somatic cells and there is a moratorium on germline editing.
- The gene editing technology has also raised concerns regarding it becoming a commodity that wealthy parents will exploit to improve the fate of their children not only for therapeutic purposes but for genetic enhancement. “.



### Germline editing and CRISPR

- Apart from the health equity and disparities associated with CRISPR, one of the biggest controversies has been about germline editing.
- Most of the scientific community supports the use of CRISPR to treat monogenic diseases.

	SOMATIC GENE EDITING	VS.	GERMLINE GENE EDITING
EDIT	<p>Somatic therapies target genes in specific types of cells (blood cells, for example).</p>		<p>Germline modifications are made so early in development that any change is copied into all of the new cells.</p>
COPY	<p>The edited gene is contained only in the target cell type. No other types of cells are affected.</p>		<p>The edited gene is copied in every cell, including sperm or eggs.</p>
RISKS	<p>Any changes, including potential off-target effects, are limited to the treated individual.</p>		<p>If the person has children, the edited gene is passed on to future generations.</p>
NEXT GENERATION	<p>The edited gene is not passed down to future generations.</p>		<p>The edited gene is passed on to future generations.</p>
CONSENSUS	<p>Somatic cell therapies have been researched and tested for more than 20 years and are highly regulated.</p>		<p>Human germline editing is new. Heritability of germline changes presents new legal and societal considerations.</p>

Germline gene editing	Somatic gene editing
Examples of cells	
Sperm cell                  Ovum cell                  Early embryo	Muscle cell                  Blood cell                  Nerve cell
Modification and effects	
<p>All cells undergo gene editing</p> <p>Edited gene is passed on to future generations</p>	<p>Only target cell undergo gene editing</p> <p>Edited gene is not passed to future generations</p>
Issues	
<ul style="list-style-type: none"> <li>Straightforward delivery of edited gene into reproductive cell</li> <li>All cells will have functioning gene</li> <li>Ethically controversial</li> <li>Inconsistent and variable guidelines and regulation</li> <li>Limited research/application permitted</li> <li>Manipulation passed to next generation, resulting in good or bad outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Tricky delivery of edited gene into target cells</li> <li>Difficult to achieve gene functioning in the genome</li> <li>Therapy is short-lived and has to be repeated</li> <li>Regulations available to govern applications</li> <li>Research/application permitted as only actual person affected</li> </ul>

The Hindu



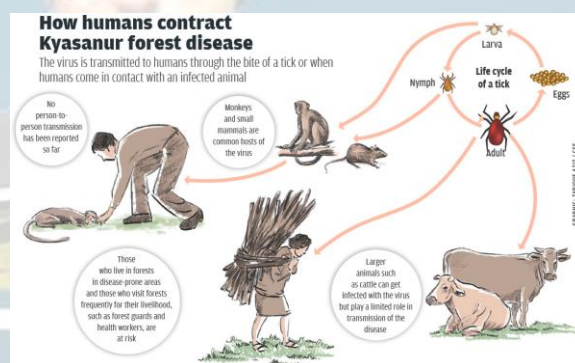
### Kyasanur Forest disease (KFD)

- Kyasanur Forest disease (KFD) is caused by Kyasanur Forest disease virus (KFDV), a member of the virus family Flaviviridae.
- KFDV was identified in 1957 when it was isolated from a sick monkey in the Kyasanur Forest in Karnataka (formerly Mysore) State, India. Since then, between 400-500 human cases per year have been reported.
- Hard ticks (*Hemaphysalis spinigera*) are the reservoir of KFD virus and once infected, remain so for life. Rodents, shrews, and monkeys are common hosts for KFDV after being bitten by an infected tick.
- KFDV can cause epizootics with high fatality in primates.

### Transmission

- Transmission to humans may occur after a tick bite or contact with an infected animal, most importantly a sick or recently dead monkey.
- No person-to-person transmission has been described.
- Large animals such as goats, cows, and sheep may become infected with KFD but play a limited role in the transmission of the disease.

- These animals provide the blood meals for ticks and it is possible for infected animals with viremia to infect other ticks, but transmission of KFDV to humans from these larger animals is extremely rare.
- Furthermore, there is no evidence of disease transmission via the unpasteurized milk of any of these animals.



### Diagnosis

- Diagnosis can be made in the early stage of illness by molecular detection by PCR or virus isolation from blood.
- Later, serologic testing using enzyme-linked immunosorbent serologic assay (ELISA) can be performed.

### Treatment

- There is no specific treatment for KFD, but early hospitalization and supportive therapy is important. Supportive therapy includes the maintenance of hydration and the

usual precautions for patients with bleeding disorders.

### Prevention

- A vaccine does exist for KFD and is used in endemic areas of India. Additional preventative measures include insect repellents and wearing protective clothing in areas where ticks are endemic.
- The Hindu

### Rice price

- The Indian government recently made it mandatory for all traders, wholesalers, retailers, and millers to declare their respective rice stocks.

### What are the measures taken so far?

- The government has asked traders, wholesalers, retailers, chain retailers and millers to report the stocks online in the categories of broken rice, non-basmati white rice, par-boiled rice, basmati rice, and paddy.
- It has also launched the retail sale of 'Bharat Rice' to general consumers at ₹29 per kg.
- Moreover, in September 2022, the export of broken rice was banned, and a 20% duty was imposed on par-boiled rice.

- Non-basmati white rice exports were also put under the prohibited category from July 2023.

- The government has procured 600 lakh tonnes of paddy during the current Kharif marketing season, starting October 1, 2023.

- With this, the central pool has 525 lakh tonnes of rice as against the annual requirement of almost 400 lakh tonnes for welfare schemes.

- Till the end of January this year, the government has sold 1.66 lakh tonnes of rice in the open market.

### Why are prices increasing?

- Traders and millers cite several reasons for the higher retail rice prices.

- The Minimum Support Price for rice has gone up in the last have years and the cost of transport, storage, etc. are also escalating.

- In rice consuming States, the varieties consumed in large quantities have seen a drop in production this year.

- Further, despite government measures, the export of non-basmati rice has seen a multi-fold jump during the last three years compared to the previous years.

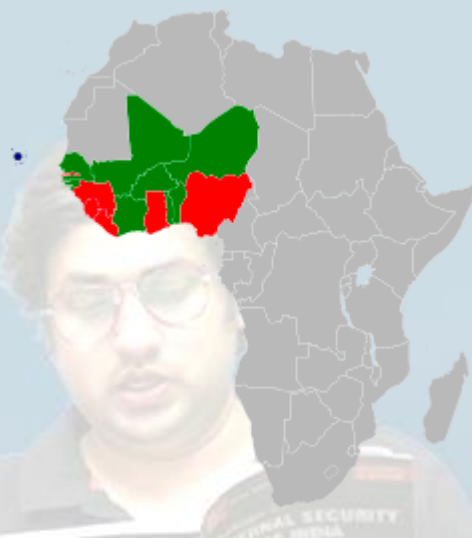
### What should the government do?

- According to the millers in the northern States, there is a demand for rice for consumption, ethanol production, and cattle feed.
- The government should prioritise sale for consumption.
- The stock data collected by the government is expected to give an indication of the stock levels.
- It should look at capturing data for the most consumed varieties too before deciding the future course of action.
- The Hindu

### ECOWAS

- The Heads of State and Government of fifteen West African Countries established the Economic Community of West African States (ECOWAS) when they signed the ECOWAS Treaty on the 28th of May 1975 in Lagos, Nigeria.
- The Treaty of Lagos was signed by the 15 Heads of State and government of Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sierra Leone, Sénégal and Togo, with its stated mission to promote economic integration across the region. The Senegalese President

was represented by the Minister for Foreign Affairs. Cabo Verde joined the union in 1977.



- The only Arabic-speaking Member Mauritania withdrew in December 2000.
- Mauritania recently signed a new associate-membership agreement in August 2017.
- The ECOWAS region, which spans an area of 5.2 million square kilometres.



- The Member States are Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Sénégal and Togo.
- Considered one of the pillars of the African Economic Community, ECOWAS was set up to foster the ideal of collective self-sufficiency for its member states.
- As a trading union, it is also meant to create a single, large trading bloc through economic cooperation.
- Integrated economic activities as envisaged in the area that has a combined GDP of \$734.8 billion, revolve around but are not limited to industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial issues, social as well as cultural matters.
- In 2007, the ECOWAS Secretariat was transformed into a Commission.
- The Commission is headed by the President, assisted by a Vice President, thirteen Commissioners, and the Auditor-General of ECOWAS Institutions, comprising experienced bureaucrats who are providing the leadership in this new orientation.
- As part of this renewal process, ECOWAS is implementing critical and strategic programmes that will deepen cohesion and progressively eliminate identified barriers to full integration.
- In this way, the estimated 300 million citizens of the community can ultimately take ownership for the realization of the new vision of moving from an ECOWAS of States to an "ECOWAS of the People: Peace and Prosperity to All". by 2050.
- The headquarters of ECOWAS is in Abuja, Nigeria.

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