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GENERAL STUDIES-1

INDIAN CULTURE

DEENDAYAL HASTKALA SANKUL

It is a trade facilitation center for handicrafts inaugurated in Varanasi, recently.

Details

- The Sankul will facilitate the weavers/artisans/exporters in promotion of handlooms/handicrafts in both domestic and international markets.
- The Crafts Museum in the Sankul will preserve the traditional handloom/handicrafts products of Varanasi and showcase the handloom & handicraft products, which will be an inspiration for the new generation, scholars, designers and tourists.

The idea

The Budget 2014-15 had announced setting up of a Trade Facilitation Centre and a Crafts Museum to help weavers, artisans and entrepreneurs of Varanasi, and to carry forward the rich tradition of handlooms at Varanasi.

Benefits

- ✓ Promotes rich traditional craft of ancient Varanasi.
- ✓ Provides enabling platform and environment to showcase Indian handloom and handicrafts.
- ✓ Provides supply chain linkages to domestic and foreign buyers.
- ✓ Gives thrust to domestic and international tourism.
- ✓ Gives boost to trade and economic development of Varanasi as well as eastern parts of the country.

SOCIAL ISSUES AND INDIAN SOCIETY

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MORE RESEARCH FOR FOOD SECURITY

The second goal of the UN's Sustainable Development Goals says: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture."

The world's population is booming and the global population is likely to exceed 9 billion by 2050, with 5 billion people in Asia alone. The capacity to produce enough quality food is falling behind human numbers. Food production must keep pace, even as environment sustainability and economic development are ensured.

The answer to these challenges lies in research for sustainable development. As part of it, linking agricultural and nutritional outcomes is crucial.

Green revolution and malnutrition

India's fivefold increase in grain production over the past 50 years is largely the result of strong scientific research that has focussed on high-yielding crop varieties, better agronomic practices, and pro-farmer policies. However, India continues to face challenges such as food insecurity and malnutrition, particularly in rural areas.

Malnutrition refers to the situation where there is an unbalanced diet in which some nutrients are in excess, lacking or wrong proportion i.e. under nutrition or over-nutrition. Despite India's growth in GDP since 1991 more than one third of the world's malnourished children live in India.

The 2017 Global Hunger Index (GHI) Report ranked India 97th out of 118 countries with a serious hunger situation. Amongst South Asian nations, it ranks third behind only Afghanistan and Pakistan.

Schemes and nutrition

The Government of India has launched several programs in the sphere of agriculture to increase production. However, substantial evidence confirms that increases in agricultural production alone and/or increased income do not necessarily translate into improved diets and nutrition without concurrent and well-designed nutrition education and behaviour

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change approaches, women's empowerment and inter-sectoral collaboration.

Focus on integrating agri production, nutrition and health

Integrating agricultural production, nutrition, and health is emerging as a key focal point throughout Asia, with policymakers shifting their attention to the role of biodiversity and the power of local farming systems to improve nutritional status.

- There is considerable potential in targeting underused crops such as millets, pulses, and vegetables as a sustainable means of increasing agricultural production and improving nutrition and health in high-need areas.
- Crops grown in home gardens can add value to existing farming systems by providing an additional source of income and/or more nutritious food for the family.
- The Food Security Act of 2013 was welcome, as was the inclusion of millets in the Public Distribution System as millets are superior to common grains in many ways and are also climate-resilient.
- Bio-fortification is also important in overcoming hidden hunger caused by micronutrient deficiencies such as iron, iodine, zinc, vitamin A, and vitamin B12.

Empowering women for improved nutrition

Studies show that women make up nearly half of agricultural labourers, yet they carry out approximately 70% of all farm work. Women are among the most disadvantaged because they are typically employed as marginal workers, occupying low-skilled jobs such as sowing and weeding.

Empowering women is one of the best ways to improve nutrition. Research needs to continue focussing on the needs of women farmers to ensure that they are the direct recipients of development impacts, such as access to markets and income, to improve theirs and their children's access to adequate and diversified diets. Nutrition education, especially of women, is thus becoming increasingly accepted as a powerful intervention strategy.

Investing in Research

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Most importantly, it is crucial to continue to identify issues and seek evidence-based solutions through research. Taking a multisectoral approach that links agricultural and nutritional outcomes will help India sustainably grow, feed its people, and maintain the agricultural sector over the coming decades.

India's research community is poised to be a leader in meeting new food challenges by increasing food quantity and quality to improve food security and nutrition. The world needs to tap into India's research excellence to experiment, innovate, share knowledge, and scale up effective solutions.

Challenges to be tackled

- Increase yields, profitability and environmental sustainability simultaneously
- Develop the varieties and breeds needed for sustainable food systems
- Decrease food loss and waste through more efficient distribution systems
- Create and share resources that serve all populations
- Ensure inclusive and equitable food systems
- Address the dual burdens of under-nutrition and obesity to ensure full human potential
- Ensure a safe and secure food supply that protects and improves public health

GEOGRAPHY

HURRICANE HARVEY AND NAMING THEM

Harvey is the strongest tropical hurricane to make landfall in the United States after the category 5 Hurricane Wilma that ravaged Florida in 2005.

How are they formed?

Hurricanes begin as tropical storms over the warm moist waters of the Atlantic and Pacific Oceans near the equator. (Near the Philippines and the China Sea, hurricanes are called typhoons.) As the moisture evaporates it rises until enormous amounts of heated moist air are twisted high in the atmosphere. The winds begin to circle counterclockwise north

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of the equator or clockwise south of the equator. The relatively peaceful center of the hurricane is called the eye. Around this center winds move at speeds between 74 and 200 miles per hour. As long as the hurricane remains over waters of 79F or warmer, it continues to pull moisture from the surface and grow in size and force. When a hurricane crosses land or cooler waters, it loses its source of power, and its wind gradually slows until they are no longer of hurricane force--less than 74 miles per hour.

Hurricanes over the Atlantic often begin near Africa, drift west on the Trade Winds, and veer north as they meet the prevailing winds coming eastward across North America. Hurricanes over the Eastern Pacific begin in the warm waters off the Central American and Mexican coasts. Eastern and Central Pacific storms are called "hurricanes." Storms to the west of the International Date Line are called "typhoons."

Because of the destructive force of hurricanes during late summer and early autumn, scientists constantly monitor them with satellites and sometimes even fly airplane surveillance to keep track of tropical storms that might develop into hurricanes.

Hurricane Rating

Hurricanes are rated on the Saffir-Simpson Hurricane Wind Scale ranging between 1-5 based on the wind speed. Hurricanes categorised 3 and above are considered major hurricanes as they cause severe damage to life and property in its route. Harvey which has now been upgraded to category 4 is the most powerful hurricane to make landfall in US after Wilma that occurred in 2005 in Florida.

How are they named?

Since 1953, Atlantic tropical storms had been named from lists originated by the National Hurricane Center. They are now maintained and updated through a strict procedure by an international committee of the World Meteorological Organization.

The lists of names are used in rotation and re-cycled every six years, i.e., the 2017 list will be used again in 2023. The only time that there is a change in the list is if a storm is so deadly or costly that the future use of its name on a different storm would be inappropriate for reasons of sensitivity.

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MEASUREMENT OF EARTHQUAKES

A series of earthquakes in Mexico this month has led to inevitable comparisons of size. At magnitude 8.1, the September 8 earthquake was bigger than the September 19 earthquake (7.1), which was bigger than two earthquakes that followed on September 24 (6.1 and 4.5).

Magnitude of earthquakes

The earthquake magnitude scale gives a measure of the energy released, although the reading in itself is not of energy. Magnitude is a dimensionless number — no physical units — that is derived from a formula involving a logarithm, which makes the scale exponential rather than linear. The difference between 6.1 and 7.1, therefore, is not the same as the difference between 7.1 and 8.1.

In terms of the size of seismic waves, an increase of 1 on the scale corresponds to a tenfold increase in a quantity called wave amplitude.

And while the Richter scale is widely quoted, the modern magnitude measurement uses a different scale.

Intensity of earthquakes

It's important not to confuse an earthquake's magnitude with its intensity. Magnitude is a quantitative measure of the size of an earthquake, it says, while intensity is a qualitative measure of the shaking at a given location.

Two scales are commonly used for intensity, the Modified Mercalli Intensity scale and the MSK scale, both of which classify earthquakes from I (least perceptible) to XII (most severe). These readings are based on factors such as how people perceive the shaking. The same earthquake will have different intensity readings at different places; the farther one moves away from the epicentre, the less intense the shaking.

Understanding magnitude scales

To understand how the modern magnitude scale works, it helps to look at the Richter scale, even though it has gone out of fashion. The reading on the Richter scale too is derived from a formula that involves a logarithm (base 10). It takes into account wave amplitude, and variations in distance between various seismographs and the earthquake epicentre.

The accuracy of the Richter scale, however, is limited to medium-sized earthquakes. Besides, the measurement depends on distance from the epicentre. The modern scale seeks to overcome these shortcomings while

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maintaining as much parity with the Richter scale as possible. It measures a quantity called “moment magnitude”, hence the name moment magnitude scale, which is based on variables such as the area of the fault’s rupture, slippage along the fault and the size of the seismic waves.

GENERAL STUDIES-2

POLITY

WOMEN’S RESERVATION BILL

The centre is planning to introduce **the Women’s Reservation Bill** in the upcoming session of the parliament.

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The idea

The Women's Reservation Bill was first conceived more than 20 years ago in 1996. This bill pushed for a 33% reservation of all Lok Sabha and state legislative assemblies for women. The Rajya Sabha passed the bill in 2010. However, the Lok Sabha never voted on the bill. The bill lapsed after the dissolution of the 15th Lok Sabha in 2014.

Details

- The Constitution (One Hundred and Eighth Amendment) Bill, 2008 seeks to reserve one-third of all seats for women in the Lok Sabha and the state legislative assemblies.
- The allocation of reserved seats shall be determined by such authority as prescribed by Parliament.
- One third of the total number of seats reserved for Scheduled Castes and Scheduled Tribes shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies.
- Reserved seats may be allotted by rotation to different constituencies in the state or union territory.
- Reservation of seats for women shall cease to exist 15 years after the commencement of this Amendment Act.

Supporting arguments

There is a necessity of affirmative action to improve the condition of women. Some recent studies on panchayats have shown the positive effect of reservation on empowerment of women and on allocation of resources. Affirmative action of this kind is the best way to usher in social and gender justice.

What opponents say?

It would perpetuate the unequal status of women, since they would not be perceived to be competing on merit. The other counter is that this policy diverts attention from the larger issues of electoral reform such as criminalisation of politics and inner party democracy.

- Reservation of seats in Parliament restricts choice of voters to women candidates only. Therefore, some experts have suggested alternate methods such as reservation in political parties and dual member constituencies.
- Besides, it is argued that rotation of reserved constituencies in every election may reduce the incentive for an MP to work for his constituency as he may be ineligible to seek re-election from that constituency.

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RAJIV MEHRISHI IS THE NEW CAG

He is the 13th Comptroller and Auditor General of India (CAG). He has a three-year tenure till August 2020.

Constitutional provisions

It is an authority, established by the Constitution of India under article 148.

- CAG audits all receipts and expenditure of the Government of India and the state governments, including those of bodies and authorities substantially financed by the government.
- The CAG is also the external auditor of Government-owned corporations and conducts supplementary audit of government companies, i.e., any non-banking/ non-insurance company in which the state and Union governments have an equity share of at least 51% or subsidiary companies of existing government companies.
- The reports of the CAG are taken into consideration by the Public Accounts Committees (PACs) and Committees on Public Undertakings (COPUs), which are special committees in the Parliament of India and the state legislatures.

The CAG enjoys the same status as a judge of Supreme Court of India in Indian order of precedence.

Appointment: CAG is appointed by the President of India following a recommendation by the Prime Minister. On appointment, he/she has to make an oath or affirmation before the President of India.

Removal: The CAG can be removed only on an address from both house of parliament on the ground of proved misbehaviour or incapacity. The CAG vacates the office on attaining the age of 65 years age even without completing the 6 years term.

GOVERNANCE ISSUES AND POLICIES

ESMA INVOKED IN KARNATAKA

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The Karnataka government has invoked **the Essential Services Maintenance Act** against garbage contractors and sanitation workers following complaints that they were not discharging their duties.

Why was this invoked?

The garbage problem has turned worse in Bengaluru recently as the contractors have allegedly stopped removing the waste, causing a huge pileup that has left many important places stinking and brought the city civic body Bruhat Bengaluru Mahanagara Palike in the line of fire.

ESMA:

The Essential Services Maintenance Act (ESMA) is an act of Parliament of India. It is a central law.

Aim of the act

It was established to ensure the delivery of certain services, which if obstructed would affect the normal life of the people. These include services like public transport (bus services), health services (doctors and hospitals).

- Its execution rests entirely on the discretion of the State government. Each state in the union of India, hence has a separate state Essential Services Maintenance Act with slight variations from the central law in its provisions.

KARNATAKA ANTI-SUPERSTITION BILL

The Karnataka Cabinet cleared the much-delayed and debated Karnataka Prevention and Eradication of Inhuman Evil Practices and Black Magic Bill, 2017, popularly known as the anti-superstition Bill.

Aim: The Bill is expected to put an end to various inhuman practices such as black magic, witchcraft, or any act in the name of religion that causes harm to humans and animals. However, acts such as Kesh Lochan (plucking of hair), vastu and astrology have not been barred.

The bill bans the following:

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- Performing any inhumane act, evil practices and black magic in search of treasure, bounty.
- Tantric acts including physical and sexual assault.
- Parading anyone naked.
- Ostracising anyone in the name of ritual and encouraging inhumane acts.
- Creating impression of 'possession' and exorcism.
- Assaulting people under the garb of exorcism.
- Spreading misinformation and creating panic in the garb of ghosts, black magic.
- Making claims of healing power.
- Propagating practices that involve self-mutilation.
- Coercing people to perform fire-walking.

VVPAT TO BE USED IN GUJARAT POLLS

The Election Commission of India will use Voter Verifiable Paper Audit Trail (VVPAT) with Electronic Voting Machines (EVM) in Gujarat Assembly polls at the end of this year.

This is the first time an entire assembly poll will be conducted using EVMs equipped with VVPAT.

VVPAT

VVPAT stands for Voter-Verified Paper Audit Trail. VVPAT system maintains a physical trail of all votes cast. Small slips of paper records the details of the vote. The Election Commission (EC) first introduced VVPAT in the 2014 Lok Sabha elections.

How is it related to EVMs?

When a vote is cast on the electronic voting machine, a small paper slip bearing the name and symbol of the candidate is generated. This paper appears for about 10 seconds. The slip will then automatically fall in a

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sealed safe box, attached to the EVM, thus maintaining a physical paper trail of all the votes cast.

Backgrounder:

In the case of Subramanian Swamy vs Election Commission of India (ECI), the Supreme Court held that VVPAT is “indispensable for free and fair elections” and directed the ECI to equip EVMs with VVPAT systems.

WELFARE SCHEMES AND DEVELOPMENTAL GROUPS

BHARAT KE KAUSHALZAADE

Organised by: Rural Skills Division, Ministry of Rural Development

What is the event about?

It is about honouring beneficiaries of ministry’s key skilling programmes, on the eve of Antyodaya Diwas 2017.

MoRD’s flagship skill development programmes include i.e. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) and Rural Self Employment Training Institutes (RSETI).

‘Kaushal Panjee’:

The event also witnessed the mobilization platform launch, branded ‘**Kaushal Panjee**’ (Skill Register).

- It aims to be citizen centric end-to-end solution to aid mobilization of candidates for RSETIs and DDU-GKY.
- Kaushal Panjee is connected to the Social Economic Caste Census

DDU GKY:

DDU-GKY is a part of **the National Rural Livelihood Mission (NRLM)**, tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth **between the ages of 15 and 35 years** from poor families. As a part of the Skill India campaign, it plays an instrumental role in supporting the social and

economic programs of the government like the Make In India, Digital India, Smart Cities and Start-Up India, Stand-Up India campaigns.

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(SECC 2011) which will help the States plan and target their mobilizations based on the socio-economic profile of households in their State.

'PRADHAN MANTRI LPG PANCHAYAT'

The Central government has launched a country-wide LPG Panchayat as a backup to the Pradhan Mantri Ujjwala Yojana to distribute LPG connections among the rural areas where conventional fuel is used for domestic purposes.

Details

It is an interactive communication platform aimed at educating rural LPG users about proper safety precautions to be taken while using LPG, its benefits to the environment, its effect on women empowerment and health.

- With this, the government aims to reach the doorsteps of poor and under-privileged women
- One lakh LPG Panchayats would be activated across the country.
- The idea of this platform is to trigger a discussion through sharing of personal experiences on the benefits of use of clean fuel compared to traditional fuels like cow-dung.

Pradhan Mantri Ujjwala Yojana

Implemented by: Ministry of Petroleum and Natural Gas

Under **the Pradhan Mantri Ujjwala Yojana**, 50 million LPG (liquefied petroleum gas) connections to poor households is provisioned.

- Under the scheme, an adult woman member of a below poverty line family identified through the Socio-Economic Caste Census (SECC) is given a deposit-free LPG connection.
- Eligible households will be identified in consultation with state governments and Union territories.
- The scheme will be implemented over the next three years.

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INDIA AND ITS INTERNATIONAL RELATIONS

INDIA'S CHANGING STANCE TOWARDS AFGHANISTHAN

In the backdrop of the US policy announcement on Afghanistan, inviting India to play a larger role has clearly set the stage for diverse moves on the geopolitical landscape. The country saw the highest civilian casualties last year since the 2001 U.S.-led invasion.

Most casualties are coming not from Afghanistan's border areas but its cities and villages where only a professionally trained police force, and not armies, can maintain peace.

India's plans

India has indicated a continued commitment to stability in Afghanistan.

1. India has plans to expand its security assistance to Afghanistan by training police officers in India as part of a UNDP project. This could have a significant impact on the security capacity situation in Afghanistan, alongside sending a geopolitical signal.
2. India has also announced over a hundred smaller "new development projects" across Afghanistan, and police forces will be crucial in protecting irrigation, housing and school projects from the Taliban and other terror groups.
3. By engaging itself with Afghanistan, India plans to drive home a message to Pakistan and other countries in the region that deal with the Taliban, that India will not be deterred from assisting Afghanistan for its security.
4. India will play a part in putting **Afghanistan** back on its feet in India's own way and not necessarily, as the U.S. may prefer, with 'boots on the ground' or by sending large numbers of trainers into Afghanistan, where they would become marked targets.
5. The India-Afghanistan-Iran trilateral arrangement to circumvent the obstacles is on track, and the commitment that the Chabahar port development project will be completed next year should reassure business on both sides about a sustainable trade route from South Asia to Central Asia.

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A LOOK AT INDIA'S 'COLD START' DOCTRINE

Pakistan had said that it is prepared to counter the 'Cold Start doctrine' adopted by the Indian Army. While the Cold Start doctrine had been in place for years, the Indian government as well as the Army always stated otherwise, until recently when Army Chief Bipin Rawat owned up to it.

What is it about?

The 'Cold Start' doctrine of the Indian Armed Forces envisages swift deployment of troops on the western border within days if a situation of a full-blown war arises.

- This doctrine aims to allow Indian forces to conduct sustained attacks while preventing a nuclear retaliation from Pakistan.
- The operation would be carried out by a unified battle group involving various branches of India's military.

Backgrounder

It was after the conclusion of Operation *Parakram* in the year 2002, a military standoff between India and Pakistan, that the 'Cold Start' doctrine began to find a place in the Indian military setup. In the 2002 standoff, which was a result of the attack on Parliament by Pakistan-backed Kashmiri militants, the Indian Army took almost two months to be able to mobilise and deploy troops on the Pakistan border. Defence strategists began talking about the new doctrine of the Indian Army that would enable it to deploy a full strength invasion force within a few days notice, unlike several weeks of preparation that were required earlier.

Towards offensive

This doctrine moved away from the defensive strategies employed by the Indian military since the country's independence in 1947. The offensive aimed at reducing the time required to mobilise troops and develop a network-centric warfare, one enabled by information technology to ensure well-planned geographical distribution of forces. Also, the combat strategy was to involve limited armoured thrusts with infantry and necessary air support.

STRENGTHENING 'KOREA PLUS' CELL

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With an intent to bolster greater investments from South Korea, the GoI is strengthening the ‘Korea Plus’ cell.

Korea Plus:

“Korea Plus” is a strategic initiative between the Governments of India and South Korea “to promote, facilitate and retain Korean investments in India.”

- ✓ The mandate of Korea Plus covers the entire investment spectrum including supporting Korean enterprises entering the Indian market for the first time, looking into issues faced by Korean companies doing business in India and policy advocacy to the Indian government on their behalf.
- ✓ Korea Plus will act as a mediator in arranging meetings, assisting in public relations and research, evaluation and provide information and counselling in regard to Korean companies’ investing in India.

Composition:

Korea Plus comprises representatives from the Korean government as well as three representatives from Invest India — the national investment promotion and facilitation agency of India.

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ADB:

It is a regional development bank established in 1966 and is headquartered in Philippines. It aims to facilitate economic development of countries in Asia. It also aims for an Asia and Pacific free from poverty.

Membership:

The bank admits the members of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and non-regional developed countries.

Currently, it has 67 members – of which 48 are from within Asia and the Pacific and 19 outside.

Voting:

ADB was modelled closely on the World Bank, and has a similar weighted voting system where votes are distributed in proportion with member's capital subscriptions.

Funding:

- ADB raises funds through bond issues on the world's capital markets.
- ADB also relies on its members' contributions, retained earnings from its lending operations, and the repayment of loans.
- Japan holds the largest proportions of shares followed by the United States, China, India and Australia.

Board of Governors:

It is the highest policy-making body of the bank. It is composed of one representative from each member state. The Board of Governors also elect the bank's President who is the chairperson of the Board of Directors and manages ADB.

Loans:

It offers both Hard Loans and Soft loans. The ADB offers "hard" loans from ordinary capital resources (OCR) on commercial terms, and the Asian Development Fund (ADF) affiliated with the ADB extends "soft" loans from special fund resources with concessional conditions.

ADB TO INCREASE LENDING TO INDIA

The Asian Development Bank (ADB) has decided to raise its annual lending to India to a maximum of \$4 billion to support the country to accelerate inclusive economic transformation for the period 2018-2022.

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ADB's program in India will focus on three main pillars of activity during the 5-year period — boosting economic competitiveness to create more and well-paid jobs, improved access to infrastructure and services, and addressing climate change and improving climate resilience.

- Financing will also go for public sector management, agriculture, natural resources and rural development as well as skills development and urban health, the statement said.
- The new lending will be complemented by technical assistance to undertake strategic studies, build capacities and prepare projects.

INTERNATIONAL AFFAIRS

ROHINGYA CRISIS : FIVE-POINT PEACE PLAN

Bangladesh Prime Minister Sheikh Hasina has proposed a five-point proposal at the United Nations to find a permanent solution to the Rohingya crisis. She also called for immediate steps to end the 'cleansing' of the ethnic Rohingya minority.

What are the five points?

- 1.** Myanmar must stop the violence and the practice of ethnic cleansing in the Rakhine State unconditionally, immediately and forever.
- 2.** The UN Secretary General should immediately send a fact-finding mission to Myanmar.
- 3.** All civilians, irrespective of religion and ethnicity, must be protected in Myanmar. For this, 'safe zones' could be created inside Myanmar under UN supervision.
- 4.** Sustainable return of all forcibly displaced Rohingyas in Bangladesh to their homes in Myanmar must be ensured.
- 5.** The recommendations of the Kofi Annan Commission Report must be implemented immediately, unconditionally and entirely.

The issue

Few years ago, religious and ethnic tensions between the Rohingya Muslims and the Rakhine Buddhists (who make up the majority of the population in Myanmar) escalated into widespread, deadly rioting.

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Hundreds of thousands of Rohingyas have been forced to flee. Since then, ongoing violent attacks have forced even more people to leave their homes.

Myanmar's take

The Myanmar Government says that Rohingya people are not Burmese citizens – but the Rohingyas have been living in Myanmar for generations. Today, they are a people with no home or citizenship.

INTERNATIONAL SOLAR ALLIANCE

Fiji, Niger and Tuvalu have deposited instrument of ratification of the Framework Agreement of the International Solar Alliance (ISA).

So far 40 countries have signed and 11 countries have ratified the Framework Agreement of the ISA. With ratifications by 15 countries, the ISA will become a treaty based inter-governmental international organization.

What is International Solar Alliance (ISA)?

The ISA is an Indian initiative jointly launched India and France in 2015 at Paris, on the sidelines of Conference Of Parties-21, UNFCCC.

Aim:

It aims at addressing obstacles to deployment of solar energy through better harmonization and aggregation of demand from solar rich countries lying fully or partially between the Tropic of Cancer and Tropic of Capricorn.

- India has offered a contribution for creating ISA corpus fund and for meeting the cost of ISA secretariat for initial five years.

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INDIA RANKED 40TH: GLOBAL COMPETITIVENESS INDEX

Index by: The World Economic Forum

Factors in the index

The Global Competitiveness Index (GCI) is prepared on the basis of country-level data covering 12 categories or pillars of competitiveness such as Institutions, infrastructure, macroeconomic environment, health and primary education, goods market efficiency, labour market efficiency etc.,.

Performance of India:

Though India has slipped by a rank from previous year's 39th to this year's 40th, India stabilises this year after its big leap forward of the previous two years. The score has improved across most pillars of competitiveness.

However, the WEF said the private sector still considers corruption to be the most problematic factor for doing business in India. The second biggest bottleneck is 'access to financing', followed by 'tax rates', 'inadequate supply of infrastructure', 'poor work ethics in national labour force' and 'inadequately educated work force', among others.

Another big concern for India is the disconnect between its innovative strength (29th) and its technological readiness (107th): as long as this gap remains large, India will not be able to fully leverage its technological strengths across the wider economy.

Other countries' performance

The list is topped by Switzerland. The US and Singapore are in the second and third places, respectively.

Among the BRICS nations, China and Russia are placed above India. In South Asia, India has garnered the highest ranking, followed by Bhutan, Sri Lanka, Nepal, Bangladesh and Pakistan.

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SAUDI ENDS BAN ON DRIVING BY WOMEN

Saudi Arabia has decided to allow women to drive for the first time, after King Salman's decree.

Backgrounder:

The Gulf kingdom is the only country in the world that bans women from driving – and women are still subject to strict dress codes and gender segregation. Until now, women who drove in public risked being arrested and fined.

Other limits on Saudi women:

Saudi law enforces a strict form of Sunni Islam known as Wahhabism and is known for its gender segregation rules.

Women have to adhere to strict dress codes, must not associate with unrelated men, and if they want to travel, work or access healthcare they must be accompanied by – or receive written permission from – a male guardian.

Significance of this decision:

With more than half the country aged under 25, the latest move is seen as catering to the aspirations of younger people. The country further aims to loosen social restrictions, which has so far not translated into more political or civil rights and also seeks to ease criticism over recent arrests.

GENERAL STUDIES-3

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INDUSTRY, INFRASTRUCTURE AND INVESTMENT

SAUBHAGYA: UNIVERSAL ACCESS TO ELECTRICITY

The new scheme builds on previous work carried out under the Deen Dayal Upadhyaya Gram Jyoti Yojana launched in 2015, and the Rajiv Gandhi Grameen Vidyutikaran Yojana launched in 2005, both of which also aimed to provide free electricity connections to the poor.

Aim: The Pradhan Mantri Sahaj Bijli Har Ghar Yojana, or the 'Saubhagya' scheme, aims to make electricity accessible to every household by the end of 2018.

Why haven't the earlier efforts fructified?

Though there have been budgetary fund allocations, structural issues that plague the broken power sector.

Details

- Under the scheme, poor households that have no access to electricity will be provided electricity connections free of cost.
- It hopes to improve electricity access within villages that are already classified as "electrified", according to the criterion that 10% of households enjoy access to electricity.

Lacunae in the scheme

- Does very little to address the real problem of affordability.
- Fails to account for illegal connections taken by households.
- A free electricity connection can ease the financial burden on the poor to some degree, but it will not address the recurring burden of power bills.
- The demand for electricity from State distribution companies dropping in tandem with their deteriorating financial status. The Ujwal DISCOM Assurance Yojana (UDAY), to restructure the debt of State distribution agencies, has failed to make enough of a difference to this state of affairs.
- In the absence of the freedom to sell at a profitable price, distribution agencies have had very little incentive to demand more electricity from power generators. This in turn holds back investment in power generation units. Saubhagya,

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unfortunately, does very little to address the fundamentals of India's crippling power problem.

Solutions

- ✓ The aim of improving affordability would require that supply be increased drastically to lower the price paid by retail consumers.
- ✓ Amidst the government's claims that India is a power-surplus nation, the power generation utilities remain vastly under-utilised. Giving enough elbow room for price determination would put the sector back on track

PRIVATE INVESTMENTS IN AFFORDABLE HOUSING

Central Government has announced a new Public Private Partnership (PPP) Policy for Affordable Housing that allows extending central assistance of up to Rs.2.50 lakh per each house to be built by private builders even on private lands besides opening up immense potential for private investments in affordable housing projects on government lands in urban areas.

Risk sharing

This policy seeks to assign risks among the government, developers and financial institutions, to those who can manage them the best besides leveraging under utilized and un-utilized private and public lands towards meeting the Housing for All target by 2022.

Multiple PPP options

The policy gives eight PPP (Public Private Partnership) options for private sector to invest in affordable housing segment.

1. **Two models using private lands:**
 - a. Extending central assistance of about Rs.2.50 lakh per each house as interest subsidy on bank loans under Pradhan Mantri Awas yojana (Urban).
 - b. Under the second option, central assistance of Rs.1.50 lakh per each house to be built on private lands would be provided, in case the beneficiaries do not intend to take bank loans.

2. **The six models using government lands are:**

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- a. DBT Model:** Private builders can design, build and transfer houses built on government lands to public authorities. Government land is to be allocated based on the least cost of construction. Payments to builders will be made by the public authority based on progress of project as per agreed upon milestones and buyers will pay to the Government.
- b. Mixed Development Cross -subsidized Housing:** Government land to be allotted based on number of affordable houses to be built on the plot offered to private builders, cross subsidizing this segment from revenues from high end house building or commercial development.
- c. Annuity Based Subsidized Housing:** Builders will invest against deferred annuity payments by the Government. Land allocation to builders is based on unit cost of construction.
- d. Annuity-cum-Capital Grant Based Affordable Housing:** Besides annuity payments, builders could be paid a share of project cost as upfront payment.
- e. Direct Relationship Ownership Housing:** As against government mediated payments to builders and transfer of houses to beneficiaries in the above four models, under this option, promoters will directly deal with buyers and recover costs. Allocation of public land is based on unit cost of construction.
- f. Direct Relationship Rental Housing:** Recovery of the costs by builders is through rental incomes from the houses built on government lands.

Under these six Government land based PPP models, beneficiaries can avail central assistance of Rs.1.00 to Rs.2.50 lakh per house as provisioned under different components of PMAY(Urban).

Why the new policy?

Concerns have been expressed over the private sector so far not entering affordable housing segment despite huge scope for the same under Pradhan Mantri Awas Yojana(Urban) and an enabling eco-system put in place through several concessions and incentives offered including the grant of infrastructure status for this segment. With the new policy in place, it is expected that the private sector will actively participate.

SCIENCE AND TECHNOLOGY

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INS KALVARI

It is the first of the six Scorpene-class submarines that has been handed over to the Indian Navy by shipbuilder Mazgaon Dock limited.



Details

Kalvari is named after a deep-sea tiger shark. The Scorpene is part of the ambitious Project 75 of Indian Navy's submarine programme.

- Designed to operate in all theatres including the Tropics, it can undertake various types of missions that are undertaken by any modern submarine including anti-surface warfare, anti-submarine warfare, mine laying, intelligence gathering, surveillance, etc.
- With its superior stealth capability, it can launch a crippling attack on the enemy using precision guided weapons.
- The attack can be launched with torpedoes, as well as tube launched anti-ship missiles, whilst underwater or on surface.

Project-75

Six Scorpene submarines are being built indigenously under Project-75 by Mazgaon Docks Limited (MDL) with technology transfer from France. These attack submarines have diesel propulsion and an additional air-independent propulsion.

PT. DEEN DAYAL UPADHAYAY VIGYAN GRAM SANKUL PARIYOJANA

Implementation: Department of science and technology

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Aim: The scheme endeavors to formulate and implement appropriate S&T Interventions for Sustainable Development through cluster approach in Uttarakhand.

How does it work?

The department of science and technology has conceived to adopt a few clusters of villages in Uttarakhand and transform them to become self-sustainable in a time bound manner through the tools of Science and Technology (S&T).

Details

This approach utilizes local resources and locally available skill sets, uses science and technology so that substantial value addition takes place in their local produce and services which can sustain the rural population locally.

Further, the local communities are not compelled to migrate from their native places in search of jobs and livelihoods.

- ✓ Areas of interventions in these selected clusters would be food processing, Post-harvest processing
- ✓ Stringent product and process control interventions for energy and water conservation would also be ensured through this project.
- ✓ Practice of agriculture, agro-based cottage industries and animal husbandry in an eco-friendly manner.

Benefits

About a lakh of people would benefit directly or indirectly through this project in four identified clusters of 60 villages in Uttarakhand.

In conclusion

The adopted strategy would help in creating models that are appropriate for different altitudes and could then be replicated in other hill states as well. Sustainable employment and livelihood options within the clusters such as eco-tourism, naturopathy and yoga, are also planned to be promoted.

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4TH GRAVITATIONAL WAVE DETECTED BY LIGO, VIRGO OBSERVATORY

A fourth gravitational wave has been detected after two black holes collided, sending ripples through the fabric of space and time. This is the first significant gravitational wave signal recorded by the Virgo detector.

Backgrounder:

Gravitational waves were predicted by Albert Einstein a century ago as part of his theory of general relativity, but the first hard evidence of their existence came only in 2015, when two U.S. detectors found the first such signal.

About Virgo detector:

The Virgo collaboration includes physicists and engineers belonging to 20 different European research groups.

- The Virgo detector — an underground L-shaped instrument that tracks gravitational waves using the physics of laser light and space.
- Known as interferometers, these high-tech underground stations do not rely on light in the sky like a telescope does, but instead sense vibrations in space and can pick up the “chirp” created by a gravitational wave.

Gravitational waves

In simple terms, gravitational waves can be explained as ripples in the fabric of space-time which can only be caused by massive astronomical events such as neutron stars or black holes orbiting each other so that these waves would finally radiate from them.

These gravitational waves, if detected, will carry signatures of their origin, explaining much about the nature of gravity and the origin of the universe. They had remained elusive till their detection was first announced last year.

ENVIRONMENT

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NEW SNAKE SPECIES FOUND

Where? Northern Western Ghats

Name: Aquatic Rhabdops



Details

- ✓ It is an endemic species and non-venomous
- ✓ It was till now considered a variant of the Olive Forest Snake. However, the new study confirms that the Aquatic Rhabdops is a different one: they sport not only different colours and patterns, but also vary in other features of size, shape and structure, and also genetic make-up.
- ✓ The adults are mostly associated with freshwater forest streams and juveniles are seen in water-logged areas, mostly on rocky plateaus. The nocturnal snake hunts for prey underwater.

THE LIMITS OF OUR PLANET

The population of vertebrate species on Earth in the wild saw a dramatic fall of about 30% between 1970 and 2006, with the worst effects being in the tropics and in freshwater ecosystems. Destruction of species' habitats by pollutants and land-use change are destroying flora and fauna at unprecedented rates. In fact, the ecological footprint of humanity — the natural habitats, such as water and land, transformed or destroyed as a result of human activity — far exceeds the biological capacity of the earth.

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Ecological footprint of humanity and Biocapacity

The ecological footprint measures human demand on nature, i.e., the quantity of nature it takes to support people or an economy.

- The ecological footprint is defined as the biologically productive area needed to provide for everything people use: fruits and vegetables, fish, wood, fibres, absorption of carbon dioxide from fossil fuel use, and space for buildings and roads.

Biocapacity is the productive area that can regenerate what people demand from nature.

Ecological footprint and biocapacity can be compared at the individual, regional, national or global scale. Both footprint and biocapacity change every year with number of people, per person consumption, efficiency of production, and productivity of ecosystems.

Safe operating space for humanity

Although Earth has undergone many periods of significant environmental change, the planet's environment has been unusually stable for the past 10,000 years. This period of stability — known to geologists as the *Holocene* — has seen human civilizations arise, develop and thrive.

Such stability may now be under threat. Since the Industrial Revolution, *a new era has arisen, the Anthropocene*, in which human actions have become the main driver of global environmental change. This could see human activities push the Earth system outside the stable environmental state of the Holocene, with consequences that are detrimental or even catastrophic for large parts of the world.

During the Holocene, environmental change occurred naturally and Earth's regulatory capacity maintained the conditions that enabled human development. In an attempt to understand the natural world, its relationships with human societies and limits, in 2009, Johan Rockström and others described elements of the biophysical world that link us together. Often regarded as a "safe operating space for humanity", these planetary boundaries include

- loss of biodiversity,
- land-use change,

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- changes to nitrogen and phosphorus cycles,
- ocean acidification,
- atmospheric aerosols loading,
- ozone depletion,
- chemical production,
- freshwater use and
- Climate change.

If the Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change. Many of these conditions respond in a non-linear manner to changes. This means that ecosystems that are stressed by their exposure to pollutants may not recover once the pollutants are removed. When ecological thresholds or tipping points are crossed, significant large-scale changes may occur, such as breakdown of glaciers in Greenland and the Antarctica, the dieback of rainforests in the Amazon, or failure of the Indian monsoons.

Planetary Boundaries

Although the planetary boundaries are described in terms of individual quantities and separate processes, the boundaries are tightly coupled. For instance, greenhouse gas (GHG) emissions increase ocean acidification, land-use change often increases GHG emissions, and increasing nitrogen and phosphorus deplete species biodiversity and freshwater resources and increase warming from climate change.

Planetary Boundaries and limits to growth

One may regard planetary boundaries as support systems for life on Earth or view them as expressing “carrying capacity” and defining “limits to growth”.

- The latter is a thesis that was originally published nearly half a century ago by the Club of Rome as a book in 1972.
- While the “limits to growth” argument was challenged for good analytical reasons, it still provided a lens through which to view the changing world of the 21st century.

The significance of inter- linkages approach for sustainability

The idea of sustainability has been embedded in the human imagination for a very long time and is expressed through our ideas of nature, society,

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economy, environment and future generations. But it became formally a part of international agreements and discourse when it was recognised at the Earth Summit of 1992 in Rio de Janeiro.

Recently proposed Sustainable development goals (SDGs) include promoting inclusive and sustainable economic growth as well as wellbeing for all. Economic activities ultimately depend on ecological assets and their capacity for provisioning primary resources and life supporting ecological services. Managing the latter is becoming a central issue for decision makers worldwide. Thus, living within the limits of the biosphere's ecological assets is a necessary condition for global sustainability, which can be quantitatively measured and must be met to achieve SDGs.

The systems view and the recognition of inter-linkages among the social, environmental, and economic pillars of sustainability, and between biophysical planetary boundaries and social conditions, are essential to have a chance of keeping the world safe for future generations.

- An orderly and cooperative process will lead to dramatically improved outcomes for all parts of the world.

A shared global framework

In the absence of a shared global framework individual countries fail to acknowledge planetary boundaries in national policymaking. They each scramble for scarce resources. Fossil fuel and food prices soar, and planetary boundaries are exceeded as the middle-income countries catch up with the high-income countries. The weakest countries find themselves pushed out of the marketplace and fail to develop. Richer countries will guard their advantage with military force if necessary