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ANALYSIS**



LAKSHYA ACADEMY®

21 MAY 2024

1 - India's Pulses Imports in FY24 Hit 6-Year High:

GS III

Indian Agriculture

- **Context:**

- India's pulses imports skyrocketed 84% in fiscal 2024, reaching a six-year high. This jump follows lower production and the government's decision to waive import duties on red lentils and yellow peas.

- **What is the Current Status of Pulses in India?**

- **India's Pulses Production Status:**

- India is the largest producer (25% of global production), consumer (27% of world consumption), and importer (14% of pulses) in the world.
- Pulses account for around 20% of the area under foodgrains and contribute around 7%-10% of the total foodgrains production in the country.
- Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, and Karnataka are the top five pulses-producing states.

- **India's Pulses Import Status:**

- India imported 4.65 million metric tons of pulses in the fiscal year 2023-24 (up from 2.53 million tons in 2022-23), the highest since 2018-19.
- In value terms, imports of pulses jumped 93% to USD 3.75 billion.
- Red lentil imports, particularly from Canada, doubled to 1.2 million tons.
- Duty-free imports from December onwards led to a rise in yellow pea imports from Russia and Turkey.
- The South Asian nations including India, usually import pulses from Canada, Myanmar, Australia, Mozambique, and Tanzania.

- **Pulses:**

- Temperature: Between 20-27°C
- Rainfall: Around 25-60 cm.
- Soil Type: Sandy-loamy soil.
- These are the major sources of protein in a vegetarian diet.

- Being leguminous crops, all these crops except arhar help in restoring soil fertility by fixing nitrogen from the air. Therefore, these are mostly grown in rotation with other crops.
 - Pulses are grown throughout the agricultural year.
 - Rabi Pulses (contribute over 60%): Gram (chickpea), Chana (Bengal gram), Masoor (lentil), Arhar (pigeon pea).
 - Rabi crops require a mild cold climate during the sowing period, during vegetative to pod development- cold climate, and during maturity/ harvesting - warm climate.
 - Kharif Pulses: Moong (green gram), Urad (black gram), Tur (arhar dal).
 - Kharif pulse crops require a warm climate throughout their life from sowing to harvesting.
- **What are India's Initiatives to Boost Pulses Production?**
- **National Food Security Mission (NFSM)-Pulses:**
- The NFSM-Pulses initiative, led by the Department of Agriculture & Farmers Welfare, operates in 28 States and 2 Union Territories including Jammu & Kashmir and Ladakh.
- **Key Interventions Under NFSM-Pulses:**
- Assistance to farmers through States/UTs for various interventions.
 - Cropping system demonstrations.
 - Seed production and distribution of HYVs/hybrids.
 - Additionally, the establishment of 150 Seed Hubs for Pulses has significantly contributed to increasing the availability of quality pulse seeds.
 - Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) Scheme:
 - This comprehensive umbrella scheme (launched in 2018) comprises three components:
 - Price Support Scheme (PSS): Procurement from pre-registered farmers at Minimum Support Price (MSP).
 - Price Deficiency Payment Scheme (PDPS): Compensates farmers for price differences.
 - Private Procurement Stockist Scheme (PPSS): Encourages private sector participation in procurement.
- **ICAR's Role in Research and Variety Development:**
- The Indian Council of Agricultural Research (ICAR) plays a pivotal role in enhancing the productivity potential of pulse crops through research and development efforts. The ICAR focuses on:
 - Basic and strategic research on pulses.
 - Collaborative applied research with State Agricultural Universities.
 - Development of location-specific high-yielding varieties and production packages.
 - During the period from 2014 to 2023, an impressive 343 high-yielding varieties and hybrids of pulses have been officially recognised for commercial cultivation across the country.

- **What are the Reasons Behind India's Dependence on Pulses Imports?**

- **Shifting Cropping Patterns:**

- Traditionally, farmers in India practised crop rotation with pulses. However, in recent decades, there has been a shift towards cultivating water-intensive cereals like rice and wheat due to the following reasons.
- Rice and wheat are staples in most Indian diets, leading to a rise in consumption demands.
- Government incentives like higher margins over the average cost of production in MSPs and assured procurement for these crops.
- Availability of better irrigation facilities in some areas.

- **Lower Profitability:**

- Pulses often offer lower returns per hectare compared to cereals. This discourages farmers from planting them, especially on fertile and irrigated land.

- **Climate Challenges:**

- Erratic rainfall and droughts can negatively impact pulse production, which are generally rain-fed crops.

- **Limited Technological Advancements:**

- Compared to cereals and cash crops, research and development in pulse and higher susceptibility to diseases and pests.

- **What can be Done to Ensure India's Self-Sufficiency in Pulses?**

- **Boosting Domestic Production:**

- Offering minimum support prices (MSPs) for pulses that are competitive with other crops like rice and wheat.
- Providing subsidies for seeds, fertilisers, and other agricultural inputs specific to pulses.
- Offering crop insurance schemes to mitigate risks associated with weather fluctuations.

- **Promote Crop Rotation:**

- Encouraging the farmers to integrate pulses back into their cropping patterns by highlighting the long-term benefits of crop rotation for soil health and sustainable farming.

- **Develop High-Yielding Varieties:**
 - Investing in research and development of drought-resistant, high-yielding pulse varieties suited to different regional conditions.
 - Encourage the adoption of these improved varieties through farmer training and extension programs.
- **Improving Irrigation Infrastructure:**
 - Expanding irrigation facilities to areas suitable for pulse cultivation, particularly drought-prone regions.
 - Promoting water-efficient irrigation techniques like drip irrigation to conserve water.
- **Mitigating Price Fluctuations:**
 - Improving storage facilities for pulses to minimise post-harvest losses and ensure price stability throughout the year.
 - Streamline Supply Chain Management: Enhance efficiency in the supply chain to reduce transportation costs and minimise price manipulation by middlemen.
- **Promotion of Alternative Protein Sources:**
 - Encouraging dietary diversification (addressing hidden hunger) by promoting the consumption of protein-rich alternatives like lentils, millets, and even eggs.
- **What is NAFED?**
 - National Agricultural Cooperative Marketing Federation of India Ltd. was established on the auspicious day of Gandhi Jayanti on 2nd October 1958.
 - It is registered under the Multi-State Co-operative Societies Act.
 - It is an apex organization of marketing cooperatives for agricultural produce in India.
 - It is currently one of the largest procurers of agricultural products like onions, pulses, and oilseeds.

Source → The Hindu

2 - Passport Revocations of Goans:

GS II

Government Policies and Interventions

- **Context:**

- Recently, a memorandum issued by the Ministry of External Affairs (MEA) has led to the revocation of passports of more than 100 people from Goa in the past few months.
- These people, who may not have known about the memorandum, are accused of hiding important information when they tried to surrender their passports after becoming citizens of Portugal.

- **Why are the Passports Being Revoked?**

- **Goan's Portuguese Connection:**

- Goa is a former Portuguese colony, which was under Portuguese rule for approximately 450 years, from 1510 to 1961.

- **According to Portuguese law:**

- Those born in Goa before 19th December 1961 (the day Goa was liberated from Portuguese rule) and two future generations have the option to register as Portuguese citizens.
- Many Goans have transcribed their births in the Central Registry in Lisbon and acquired Portuguese citizenship.
- A Portuguese passport provides visa-free entry to several countries, including the UK and the European Union.
- The allure of overseas employment and educational opportunities has driven Goans to seek Portuguese citizenship.

- **The 2022 Memorandum of MEA:**

- The MEA issued a memorandum on 30th November 2022, specifically addressing the “surrender of Indian passport on account of acquisition of foreign nationality by an erstwhile Indian citizen.”
- The memorandum categorizes cases related to passport surrender certificates, and one particular category has resulted in the revocation of passports for some Goans.
- Under section 10 (3) (b) of the Passport Act of 1967, passports obtained by hiding the fact of having another country's citizenship can be cancelled even if they were not used for travel.

- Before this MEA memorandum, passport authorities used to impose a penalty for surrendering an Indian passport and issuing a surrender certificate, which was declared invalid by a 2020 Kerala High Court judgment, stating that passport authorities cannot impose penalties but can only prosecute for violations of the Passports Act.

- **Revocation of Passport and Issue of OCI Card:**

- Dual Citizenship: Since India does not allow dual citizenship. Therefore, Goans acquiring official Portuguese passports must relinquish their Indian citizenship.
- OCI Status: The revocation of Indian passports has left these individuals unable to apply for Overseas Citizenship of India (OCI).
- A 'surrender certificate' issued by passport-issuing authorities has so far been a requirement for those who want to apply for OCI cards.
- However, on account of the revocation of their passport, these individuals couldn't avail this option.
- Current memorandum of MEA, instructing passport authorities to issue 'revocation certificates' instead of surrender certificates in cases where Indian passports were obtained by concealing information.
- This will allow Indian nationals from former Portuguese territories who acquired Portuguese citizenship to apply for Overseas Citizenship of India (OCI).
- OCI status permits foreign citizens of Indian origin to live and work in India indefinitely.

- **Portuguese Rule in Goa:**

- Goa, situated on the west coast of India, was a Portuguese colony from 1510 to 1961.
- The small coastal area was conquered by Afonso de Albuquerque and became a vital trade hub for the Eastern spice trade.
- Remarkably, Goa served as the capital of the entire Portuguese Empire east of the Cape of Good Hope for 450 years.
- In the 1940s, as India moved closer to independence from British rule, the fight for freedom in Goa began.
- Finally, on 19th December 1961, more than four centuries after its colonisation, Goa was freed from Portuguese rule.

- **What is Overseas Citizenship of India (OCI) Card?**

- **About:**

- The concept of OCI was introduced in response to demands for dual citizenship by the Indian diaspora, particularly in developed countries.

- **The Ministry of Home Affairs defines an OCI as a person who:**

- was a citizen of India on or after 26th January 1950; or

- was eligible to become a citizen of India on 26th January 1950; or
- is a child or grandchild of such a person, among other eligibility criteria.
- According to Section 7A of the OCI card rules, an applicant is not eligible for the OCI card if he, his parents, or grandparents have ever been a citizen of Pakistan or Bangladesh.
- The Government of India via the Citizenship (Amendment) Act, 2015, merged the Person of Indian Origin (PIO) category with the OCI category in 2015.

- **Historical Background:**

- The OCI Card scheme was launched during the Pravasi Bharatiya Divas in 2005.
- It was introduced as an acknowledgement of the persistent emotional attachment of the Indian diaspora to their country of origin and to acknowledge role of diaspora in nation's development.
- Benefits of the OCI Card:
 - Multiple entry, multi-purpose lifelong visa to visit India.
 - Exemption from registering with the Foreigners Regional Registration Office (FRRO) regardless of the duration of their stay.
 - Parity with Non-Resident Indians (NRIs) in financial, economic, and educational fields.

- **Limitations and Restrictions:**

- They do not have the right to vote.
- They cannot purchase agriculture or farmland.
- All activities except research work for which special permission is required from the Indian Mission/Post/ FRRO concerned.
- Holders cannot participate in elections or hold public office, reflecting the government's stance on maintaining clear boundaries between citizenship and overseas citizenship.

- **Current Scenario:**

- The OCI card scheme has been a key element of the Indian government's effort to deepen its relationship with its diaspora.
- As of March 2020, the Ministry of Home Affairs had issued over 3.5 million OCI cards.
- The vast majority were issued to foreign nationals in the United States, United Kingdom, Australia, and Canada.

Source → The Hindu

3 - Hydrocarbons Exploration and Extraction:

GS III

Environmental Conservation

- **Context:**

- The two Industrial Revolutions were triggered by humanity's discovery of how to extract hydrocarbons. These hydrocarbons powered large engines, leading to contamination of the air, water, and atmosphere, and ultimately contributing to global warming.
- In light of escalating global warming, it's crucial for the world to consider less harmful ways of utilising hydrocarbons.

- **What are Hydrocarbons and their Storage?**

- **About:**

- Hydrocarbons are organic compounds made up of Hydrogen and Carbon. While the carbon atoms create the compound's framework, the hydrogen atoms attach to them in a variety of different configurations.
- Hydrocarbon Exploration is the search for deposits of hydrocarbons, such as petroleum and natural gas, in the Earth's crust. It's also known as oil and gas exploration.
- Kerogens are the lumps of organic matter and they are the primary source of hydrocarbons in the rocky underground.
- Kerogen can be deposited from three possible sources as the remains of a lake (lacustrine), a larger marine ecosystem, or a terrestrial ecosystem.
- Rocks surrounding the kerogen can become warmer, more compactified over time, exerting forces on the kerogen that cause it to break down.
- Lacustrine kerogen yields waxy oils; marine kerogen, oil and gas; and terrestrial kerogen, light oils, gas, and coal.
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- **Types: Based on their structure and bonding, Hydrocarbons can be classified as:**

- **Alkanes (Saturated):**

- Structure: Consists of single bonds between carbon atoms.
- General Formula: $C_n H_{2n+2}$. Examples: Methane (CH₄) and ethane (C₂H₆).
- Properties: Non-reactive; used primarily as fuels.
- Alkenes (Unsaturated with Double Bonds):

- Structure: Contain at least one double bond between carbon atoms.
- General Formula: $C_n H_{2n}$. Examples: Ethylene (C_2H_4) and propylene (C_3H_6).
- Properties: More reactive than alkanes due to the double bond; used in chemical synthesis and as a precursor for plastics.

- **Alkynes (Unsaturated with Triple Bonds):**

- Structure: Contain at least one triple bond between carbon atoms.
- General Formula: $C_n H_{2n-2}$
- Examples: Acetylene (C_2H_2).
- Properties: Extremely reactive; used in welding (oxy-acetylene torches) and as a chemical building block.

- **Aromatic Hydrocarbons (Arenes):**

- Structure: Contain rings of carbon atoms with alternating double bonds (aromatic rings).
- Examples: Benzene (C_6H_6) and toluene (C_7H_8).
- Properties: Stable due to their aromatic rings; used in the manufacture of dyes, detergents, and explosives.

- **Formation and Storage:**

- Hydrocarbons occur naturally in plants, trees, and fossil fuels. Such compounds serve as the primary components of petroleum and natural gas and can be utilised in a wide range of different applications, such as fuels, and the production of plastics.
- Crude Oil and Natural gas are found under Sedimentary Rocks.
- These reservoirs are created when a more resistant rock type overlays a less resistant one, in effect creating a lid that causes hydrocarbons to accumulate below it.
- Their formation takes place over millions of years. The process of formation is as follows:
- The dead plants and animals get buried underground providing the carbon content for the hydrocarbons to be formed.
- Eventually a layer of mud settles over the buried debris, and mud gets converted to rock.
- Intense heat and pressure changes transform this debris into fossil fuels. I.E. crude oil and natural gas.
- The absence of oxygen and air is an important requisite for the formation.
- If the rock is impervious the crude oil remains locked under the sedimentary rock.
- Natural gas being less dense floats over the Crude oil.

- **Globally Top Oil Producers and Consumers Country:**

- The top 5 Oil Producers and share of total world oil production
- Country Share of world total
- United States 22%

- Saudi Arabia 11%
- Russia 11%
- Canada 6%
- China 5%
- The top 5 Oil Consumers and share of total world oil consumption
- Country Share of world total
- United States 20%
- China 15%
- India 5%
- Russia 4%
- Saudi Arabia 4%

- **How are Hydrocarbons Accessed and Extracted?**

- **Accessing Hydrocarbons:**

- Creating a Production Well: The first task is to create a production well, the principal hole through which the reservoir will be drained to the surface. Its location is chosen to maximise the amount of drainage.
- The well is created with a drilling machine.
- Casing and Cementing: Steel casings narrower than the hole are lowered into the well and surrounded by cement slurry to protect against cave-ins and prevent fluid intrusion.
- Drilling fluid, circulated around the drill bit, aids in cooling and removing rock cuttings.
- Blowout Prevention: The pressure at which the drilling fluid is delivered has to be carefully controlled otherwise it could force the hydrocarbons in the source rock to rush out and erupt on the surface like a volcano of oil.
- Mud-logging: It is the process of recording the rock cuttings by depth and studying their properties.
- Drilling: It is done by drilling rigs, which also come with generators and batteries to power various steps of the drilling process.
- These rigs can also be installed offshore, to boost their stability and aid extraction through the water column.

- **Extracting Hydrocarbons:**

- Completing Stage: It is the process of draining out the hydrocarbons by removing the drill string from the borehole and punching small holes into the casing.
- Production Stage: Systems at the well's head control the outflow of hydrocarbons using valves. Pump jacks are used to lift up hydrocarbons from the bottom of a well when the pressure difference is too low to bring the hydrocarbons to the surface.
- Depending on the methods required to maintain production it can be split into three phases: primary, secondary, and tertiary.

- Primary phase relies on natural processes, like pressure differences between the reservoir and the well.
 - Secondary phase involves inducing artificial pressure in the rock to maintain the differential.
 - Tertiary phase uses enhanced recovery methods like steam injection to extract remaining hydrocarbons.
- **Well Plugging and Decommissioning:**
 - Well extraction doesn't require full depletion; it's stopped when it is no longer profitable. Abandoned wells must be plugged to prevent hydrocarbon and gas escape.
 - Decommissioning, the permanent sealing of a well, is costly and often not financially viable for operators.
- **Sedimentary Basins in India:**
 - There are 26 sedimentary basins in India, covering a total area of 3.4 million square kilometres.
 - Of the total sedimentary area, 49% of total area is located onland, 12% in shallow water and 39% in the deepwater area.
 - **These basins are divided into three categories based on maturity of hydrocarbon resources as under:**
 - Category-I: Basins, which have reserves and are already producing.
 - Category-II: Basins, which have contingent resources pending commercial production.
 - Category-III Basins, which have prospective resources awaiting discovery.
 - **Policies Related to Hydrocarbons Extraction in India:**
 - Hydrocarbon Exploration and Licensing Policy (HELP) was approved by government as an exploration and production policy that replaced the New Exploration Licensing Policy (NELP).
 - The objective of the policy is to enhance domestic oil and gas production by intensifying exploration activity and investment.
 - The new policy promises simpler rules, tax breaks, pricing and marketing freedom and is part of a government strategy to double oil and gas output by 2022-23.
 - The policy is also aimed at enhancing transparency and reducing administrative discretion.
 - HELP marks the biggest transition from an era of government control to government support for upstream E&P in India. Open Acreage Licensing Programme (OLAP) removes restrictions on exploration by giving companies both the data and the discretion to explore areas of their choice.

Source → The Hindu

4 - Ayushman Bharat Health Accounts:

GS II

Government Policies and Interventions

- **Context:**

- Ayushman Bharat Health Accounts (ABHA) has emerged as a transformative force, aiming to revolutionise healthcare access and data management across India.

- **What is ABHA?**

- **About:** ABHA is a unique 14-digit number used to link all the health records of a person. ABHA intends to create a digital health ecosystem & aims to promote digitisation of healthcare.
- Any individual can enroll in Ayushman Bharat Digital Mission (ABDM) to generate a Health ID or ABHA, free of cost.

- **Features:**

- **Electronic Health Records (EHR):** ABHA integrates electronic health records, facilitating the storage and retrieval of patient information.
- This helps in maintaining medical histories and streamlining healthcare delivery.
- **Portability:** The accounts are designed to be portable across various healthcare providers empanelled under the Ayushman Bharat Scheme, allowing beneficiaries to access services seamlessly, regardless of their location.
- **Transparency and Accountability:** By promoting digital transactions and maintaining electronic records, ABHA enhances transparency and accountability in the healthcare system.

- **What is Ayushman Bharat Yojna?**

- **Ayushman Bharat Yojana:** Also known as the Pradhan Mantri Jan Arogya Yojana (PMJAY), it is a flagship scheme of the Government of India that was launched in September 2018 as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).
- **Ayushman Bharat Digital Mission (ABDM):** It aims to develop the backbone necessary to support the integrated digital health infrastructure of the country and bridge the existing gap amongst different stakeholders of the Healthcare ecosystem through digital highways.

- **What are the Other Recent Government Initiatives Related to Healthcare?**

- Health and Wellness Centres: In February 2018, the Government of India announced the creation of Health and Wellness Centres (HWCs) by transforming existing Sub Centres and Primary Health Centres as the base pillar of Ayushman Bharat.
- These centres would deliver Comprehensive Primary Health Care (CPHC) bringing healthcare closer to the homes of people covering both maternal and child health services and non-communicable diseases, including free essential drugs and diagnostic services.
- Janaushadhi Kendra: It ensures quality generic medicines available at affordable prices to all citizens.
- eSanjeevani: eSanjeevani - the National Telemedicine Service of the Ministry of Health and Family, Government of India has evolved into the world's largest documented telemedicine implementation in primary healthcare.
- It has digitally brought health services to the masses in rural areas and remote communities.

Source → The Hindu



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