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GROSS DOMESTIC PRODUCT (GDP) GROWTH ESTIMATE BY NSO

UPSC MAINS SYLLABUS GS3 PAPER: INDIAN ECONOMY AND ISSUES RELATING TO PLANNING, MOBILIZATION OF RESOURCES, GROWTH, DEVELOPMENT AND EMPLOYMENT

WHY IN THE NEWS?

1. As per the first advance estimate of the **National Statistic Office (NSO)**, India's **real Gross Domestic Product (GDP) growth** (*adjusted for inflation* from the base year 2011-12) for fiscal year 2023-24 is estimated at **7.3%**.
2. Thus the economy is expected to surpass the **7% growth rate** recently projected by the Reserve Bank of India (RBI).
3. However, the growth in **Gross Value Addition (GVA)** will come down from **7%** in 2022 to **6.9%** in 2023.
4. At the same time, **Nominal GDP growth** will fall short of the Budget 2023 estimate of 10.5%, to only **8.9%**.
5. Less Nominal GDP growth translates into **less tax collection** for the Government thus leading to **Fiscal deficit** i.e.; the amount Government needs to borrow over and above Revenue expenditure.
6. The GVA growth for the **farm sector** will more than halve from 4% in 2022 to just **1.8% in 2023** as in the case for Trade, Hotels, Transport, Communication and Services.

WHAT IS GROSS DOMESTIC PRODUCT (GDP)?

1. The Gross Domestic Product (GDP) of the country includes **all goods and services** produced in the **domestic boundary of India**, produced by either a **Citizen or a resident**.
2. **GDP comprises of:**
 - Private Consumption
 - Investment from Public & Private sector
 - Expenditure incurred by the Government
 - While exports are included, *imports are not*.
3. As per the Budget 2023, Private consumption forms **58% of the GDP** thus indicating that India is primarily a **"consumer" economy**.
4. GDP is calculated by NSO through **Expenditure method** which includes:
 - Final consumption expenditure on Goods & services by Households
 - Final consumption as well as Capital expenditure by Industries
 - Taxes on products are included

- Imputed rent of self-occupied houses
 - 5. Following items are **not included in the GDP**:
 - **Transfer payments** such as the Government expenditure on pension schemes, scholarships, unemployment allowances etc.
 - Expenditure on **Intermediate goods**
 - **Subsidies** on products are not included
 - It does not take into account the **externalities** caused during production of Goods & services such as pollution from refinery of crude oil
 - **Secondary market** items such as Bond and share transactions are not included
 - 6. As per **Forbes India**, India's Current GDP (As of December 2023) is **\$3.73 trillion** making it the **5th largest economy in the world**.
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WHAT IS GROSS NATIONAL PRODUCT (GNP)?

1. $GNP = GDP + \text{Income obtained by Indians through investment abroad}$.
 2. GNP includes the value of all goods & services produced by the "**citizen**" of the country *either within the domestic boundary of the country or in foreign territories*.
 3. It does not include the products manufactured by foreign companies. For example, **Adidas shoes**, even if manufactured in India, are not included in India's GNP.
 4. As India is a majorly import dependent country with 56% GDP produced by consumer purchases, **India's GDP is greater than India's GNP**.
 5. The Net National Product (NNP) includes the Goods & services produced by citizens of India **minus depreciation**. Thus it more accurately reflects India's success in continuing "minimum production standard".
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WHAT IS GROSS VALUE ADDED (GVA)?

1. $GVA = GDP + \text{Subsidies on Products} - \text{Taxes on products}$
 2. GVA calculates National Income from **Supply side**.
 3. NSO measures **GVA @ Basic Price** which includes the **Factor Cost & Production Tax**. It does not include **Taxes on Product** (such as GST) which if added, becomes the MRP.
 4. Thus GVA includes Net Taxation at Point of Production but *does not include Net Taxation at Point of Sale*.
 5. The Base year for GVA calculation has been revised to **2011-12**.
 6. As per the Budget 2023, **Service sector** contributes **55%** of Gross Value Addition (GVA) followed by Industry (26%) & then Agriculture (18%).
 7. Within Services, the **Financial and Real Estate services** contributes the largest share of 21% followed by Trade, Hotel, Transport, communication (18%) & Public administration and Defence (14%).
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WHAT IS GREEN GDP?

1. Green GDP includes the **estimates for "externalities"** caused by production of goods & services within the domestic boundary of the country (GDP) such as:
 - Environmental degradation
 - Depletion of natural resources etc.
2. Thus, $\text{Green GDP} = \text{GDP} - \text{Carbon emission cost} + \text{Opportunity cost of waste generated} + \text{adjusted savings of natural resource depletion}$.

3. The **Kuznets curve** postulates that in the Initial development phase of a developing country, as the Per capita income increases, the pollution level increases as well. Thus, for development in Amrit Kaal (2023-2047), India faces concerning **issue of growing pollution**.
4. Recently to achieve the target of **Carbon neutrality by 2070** taken under **Glasgow commitments** at 26th COP of UNFCCC, the Ministry of Statistics and Programme Implementation has launched the Natural Capital Accounting and Valuation of Ecosystem Services (**NCAVES**) along with UN & European Union.
5. Also, recently **Uttarakhand** became the 1st state in India to measure **Gross Environment Product (GEP)** for quantifying ecological growth measurement.
6. The GEP calculates value of the ecosystem in providing products and services, and it is one of the components of green GDP.

UPSC PRELIMS 2024 PRACTISE QUESTION:

Q1: The national income of a country for a given period is equal to the:

- (a) total value of goods and services produced by the nationals
- (b) sum of total consumption and investment expenditure
- (c) sum of personal income of all individuals
- (d) money value of final goods and services produced

ANSWER: (a)

Suyash Rai

STUDY ON THE EFFECTIVENESS OF NANO UREA

This article covers "Daily Current Affairs" and the topic details of "2 year study on the effectiveness of Nano Urea.". This topic is relevant to the Agriculture section of the UPSC CSE exam.

UPSC mains syllabus GS3 : Agriculture

Why in the News?

- When compared to traditional nitrogen (N) fertiliser treatment, researchers at Punjab Agricultural University (PAU) have observed a significant drop in rice and wheat yields during a two-year field experiment on the effectiveness of nano urea. There was also a decrease in the nitrogen content of the grains, which is necessary for the synthesis of protein.
- The findings highlight the need for additional extended field tests lasting from five to seven years in order to determine whether nano urea is sustainable in sustaining crop yields and whether it is comparable to regular urea.

Important Findings about Liquid Nano Urea's Efficacy

- **Yield Decline:** When nano urea was used, it was found that there was a 21.6 percent drop in wheat output and a 13 percent fall in rice yield.
- **Decrease in Grain Content:** When nano urea and N were applied to the soil together, the grain N content of wheat and rice decreased by 11.5 and 17.5%, respectively. A reduced protein content was reflected in a drop in grain N content.

- **Traditional Urea found more effective:** The paper states that even if this nano formulation achieves 100% use efficiency, the developing crop would not be able to receive the necessary nitrogen fertiliser, as opposed to 45 kg of regular urea.
- **Higher Cost:** The formulation of nano urea was ten times more expensive than granular urea, which increased farmers' cultivation expenses.
- **Reduced Crop Mass and Root Volume:** The Punjab Agricultural University field tests also showed that following the application of nano urea, there was a decrease in both above-ground (crop) biomass and root volume, which resulted in a reduction in the amount of root biomass added following crop harvest. The decreased root volume suggested a reduced root-surface area that may lead to a loss in the root's ability to absorb nitrogen and other nutrients.

About Nano Urea

- It is an innovative agri-input that gives plants nitrogen and is based on nanotechnology.
- The Indian Farmers Fertiliser Cooperative Limited (IFFCO) is the one who invented and patented it.
- The only nano fertiliser listed in the Fertiliser Control Order (FCO) and authorised by the Indian government is IFFCO Nano Urea.

Features:

- Nano Urea has a more ideal particle size of 20–50 nm and higher surface area (10 times more than 1 mm urea prill) and number of particles (55,000 nitrogen particles over 1 mm urea prill) than traditional urea prill.
- It can reduce the need for traditional urea by at least 50%, which is why it was designed to replace it.
- Its 500 ml container carries 40,000 mg/L of nitrogen, which is the same amount of nitrogen nutrients as one bag of traditional urea.

Potential benefits

- It has a year's shelf life, so farmers don't have to worry about it "caking" in the presence of moisture.
- **Pricing:** It is available for Rs 250 for a half-litre bottle and currently doesn't need a subsidy. In contrast, a 50-kg bag of generously subsidised urea costs a farmer approximately Rs 350.
- **Efficiency:** While liquid nano urea can have an efficiency of up to 85–90%, conventional urea only has an efficiency of roughly 25%.
- **Absorption:** The plant absorbs liquid nano urea when it is sprayed directly on the leaves. Nano fertilisers give crops a focused supply of nutrients since they are absorbed through stomata, which are pores on the leaf's epidermis.
- **Lower Subsidy expense:** Its goal is to minimise the disproportionate and careless use of conventional urea by cutting down on the nation's subsidy expense.

Indian Farmers Fertiliser Cooperative Limited (IFFCO):

- It is the largest multi-state cooperative society of India which is completely owned by Indian cooperatives.
- Fertiliser manufacture and distribution are the main activities of IFFCO

Prelims practice question

Question 1) What is the primary advantage of Nano Urea over traditional urea?

- a) Higher nitrogen content
- b) Slow-release properties
- c) Improved water solubility
- d) Reduced environmental impact

Answer: b) Slow-release properties

Question 2) Sustainable agriculture can benefit from the use of nano urea by:

- a) Growing reliance on synthetic fertilisers
- b) Using less water for irrigation
- c) Promotion of monoculture
- d) Quickening the deterioration of soil

Answer – b) Using less water for irrigation

Mains practice Question

Question 1) Examine how Nano Urea can help address the environmental issues related to the conventional application of urea in Indian agriculture.

Himanshu Mishra

