

GOVERNMENT OF INDIA  
MINISTRY OF CHEMICALS AND FERTILIZERS  
DEPARTMENT OF FERTILIZERS  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 1947 TO BE ANSWERED ON: 10.03.2026**  
**Nutrient Use Efficiency level**

**1947. SMT. SAGARIKA GHOSE:**

Will the Minister of **CHEMICALS AND FERTILIZERS** be pleased to state:

- (a) the Nutrient Use Efficiency (NUE) levels for nitrogen (N), phosphorus (P) and potassium (K) fertilizers in the country since 2021, year-wise;
- (b) the farm value addition per unit of crop-sown land since 2021, year-wise;
- (c) the fertilizer-to-grain response ratio since 2021, year-wise;
- (d) the total subsidised urea sales volume in 2025 and the estimated quantity diverted for resale; and
- (e) the economic cost of low NUE?

**ANSWER**

THE MINISTER OF STATE IN THE MINISTRY OF CHEMICALS AND FERTILIZERS

**(SMT. ANUPRIYA PATEL)**

**(a):** Nutrient Use Efficiency (NUE) refers to the proportion of applied fertilizer nutrients that are actually taken up and utilized by crops for their growth and yield. NUE is influenced by several factors such as crop type, soil characteristics, agro-climatic conditions, fertilizer source and method of application, irrigation practices, and overall crop management practices. Based on experimental studies conducted by the Indian Council of Agricultural Research (ICAR) and other research institutions, the Nutrient Use Efficiency levels for major fertilizers in the country are generally estimated to be in the ranges of 30–45% for nitrogen (N), 15–25% for phosphorus (P), and 50–60% for potassium (K).

**(b):** Value addition in agriculture widely varies depending on crop type, agro-climatic conditions, productivity levels and market prices. However, based on available estimates of agricultural Gross Value Added (GVA) and total agricultural land, the

average value addition from agriculture and allied sectors in India is broadly around ₹2–3 lakh per hectare per year, though it varies significantly across crops, with horticultural crops generally generating higher value addition per hectare than cereals. Value addition in agriculture is done through processing, grading, packaging, branding and transforming raw agricultural produce into higher-value products, which improves shelf life, marketability and farmers' income. ICAR is also imparting training and capacity building to farmers and stakeholders on value addition and post-harvest management technologies. Major Government initiatives promoting value addition include the Pradhan Mantri Kisan SAMPADA Yojana (PMKSY), Production Linked Incentive Scheme for Food Processing Industry (PLISFPI), and the Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme.

**(c):** The fertilizer-to-grain response ratio refers to the quantity of food grain produced (in kg) per kg of fertilizer nutrients applied. It is affected by several factors and widely varies in different agro-climatic zones. ICAR has informed that over the decades, this ratio has shown a declining trend due to factors such as nutrient imbalance in soils, excessive use of nitrogenous fertilizers, and decline in soil organic matter. Based on experimental results compiled from various field experiments, the fertilizer-to-grain response ratio in the country during recent years has ranged from 9.55 to 11.05 kg of grain per kg of fertilizer applied.

**(d):** The total subsidized urea sale in 2025 (January to December) was 399.40 lakh MT.

**(e):** ICAR has informed that based on typical Nutrient Use Efficiency (NUE) ranges (N: 30–45%, P: 15–25%, K: 50–60%), a significant portion of applied fertilizers is not immediately utilized by crops. The remaining nutrients may be lost through leaching, volatilization and runoff, or retained in soil as residual or fixed nutrients for subsequent crops.

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