

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 649
TO BE ANSWERED ON THE 6th FEBRUARY, 2024

ENHANCING THE CAPACITY OF SOIL TESTING LABORATORIES

649. SHRI RAMCHARAN BOHRA:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि और किसान कल्याण मंत्री be pleased to state:

(a) whether the Government proposes to provide state-of-the-art/advanced infrastructure and equipment to improve the performance and enhance the capacity of soil testing laboratories in the country and if so, the details thereof;

(b) whether the Government has noticed any declining trend in indiscriminate use of urea in States like Rajasthan, Haryana, Uttar Pradesh and Punjab after issuing Soil Health Cards (SHC) and testing of soil in laboratories and if so, the details thereof;

(c) whether any financial shortage has been reported in the implementation of the said Scheme and if so, the details thereof;

(d) whether any corrective measures have been taken by the Government in this regard and if so, the details thereof; and

(e) the details of the amount spent on SHC compared to the total amount allocated during the last three years and the current year, State-wise?

ANSWER

MINISTER OF AGRICULTURE AND FARMERS WELFARE

कृषि और किसान कल्याण मंत्री (SHRI ARJUN MUNDA)

(a) Government has provided the state-of-the-art/ advanced infrastructure and equipment to improve the performance and enhance the capacity of Soil Testing Laboratories (STLs) under the Soil Health & Fertility Scheme in the country by setting

up of new STLs with required equipments and Strengthening of Existing STLs with Atomic Absorption Spectrometry (AAS) and Inductively Coupled Plasma (ICP) with other equipments as these are equipped with advanced technology (**list of equipments are at Annexure-I**). One of the key advantages of AAS is its exceptional accuracy and precision in quantifying the concentration of various elements in a sample. The advanced technology and calibration capabilities of AAS ensure reliable and reproducible results, making it a trusted tool in elemental analysis. The most important advantage of ICP is its multi-element capability, which allows multiple elements to be measured simultaneously in a single analyte. Since, 2014-15, total 8272 Soil Testing Labs (1068 Static Soil Testing Labs, 163 Mobile Soil Testing Labs, 6376 Mini Soil Testing Labs and 665 Village Level Soil Testing Labs) have been established across the country. Apart from this, 880 existing Static Soil Testing Labs have also been strengthened.

(b) In order to ensure judicious use of fertilizers, Government of India is implementing Soil Health & Fertility Scheme since 2015 to assist State Governments to issue Soil Health Cards to farmers in the country. Soil Health Card provides information to farmers on nutrients status of their soil along with recommendations on appropriate dosage of fertilizer to be applied for improving soil health and its fertility.

(c) to (e) No such financial shortage has been reported in the implementation of the said Scheme. Under the Scheme, Rs.2585.28 crore has been allocated the States/ Union Territories since 2014-15. The financial assistance is provided @ Rs.300/- per Soil Health Card under the Scheme, which includes cost of soil sample collection, cost of reagent and cost of awareness generation to farmers. Details of State-wise fund allocated, released and expenditure during the last three years and current year under the Soil Health & Fertility Scheme are **at Annexure-II**.

List of equipments for setting up of Soil Testing Laboratory

| S. No. | Name of equipments |
|--------|--|
| 1 | Inductively coupled Plasma Spectrophotometer/ Atomic Spectrophotometer (ICP/ AAS) |
| 2 | Conductivity Meter |
| 3 | pH Meter |
| 4 | Shaking Apparatus |
| 5 | Electronic Balance |
| 6 | Analytical Balance/Top Loading balance |
| 7 | Drying Oven |
| 8 | Computer with appropriate software |
| 9 | Table Top Centrifuge |
| 10 | GPS System with Mobile Phone |
| 11 | Miscellaneous equipments such as distillation unit, Sieving system, Auto titrators, bar code scanner & printer etc |

Annexure-II**State-wise details of the fund allocation, released and expenditure during the last three years and the current year under the scheme Soil Health & Fertility Scheme****(Rs. In lakh)**

| Sl. No. | Name of the State | 2020-21 | | | 2021-22 | | | 2022-23 | | | 2023-24 | | | Total | | |
|---------|-------------------|-----------------|-----------------|-----------------|----------------|---------------|---------------|-----------------|----------------|----------------|-----------------|----------------|--------------|-----------------|-----------------|-----------------|
| | | Allocated | Released | Expenditure | Allocated | Released | Expenditure | Allocated | Released | Expenditure | Allocated | Released | Expenditure | Allocated | Released | Expenditure |
| 1 | Madhya Pradesh | 1738.52 | 334.67 | 334.67 | - | - | - | 8377.86 | 2094.45 | 1959.38 | 3216.00 | 1000.00 | - | 13332.38 | 3429.12 | 2294.05 |
| 2 | Uttar Pradesh | 2769.77 | 4312.74 | 4312.74 | 408.00 | - | - | 1134.50 | - | - | 1772.00 | 1772.00 | - | 6084.27 | 6084.74 | 4312.74 |
| 3 | Assam | 2420.70 | 1621.18 | 1413.86 | - | - | - | 801.87 | - | - | 1613.00 | 403.00 | - | 4835.57 | 2024.18 | 1413.86 |
| 4 | Bihar | 1827.66 | 685.05 | 685.05 | 405.00 | - | - | 1241.14 | 310.28 | 310.28 | 683.00 | 771.00 | - | 4156.80 | 1766.33 | 995.33 |
| 5 | Nagaland | 1453.96 | 1099.93 | 1099.93 | 1485.00 | 747.89 | 747.89 | 713.96 | 1024.21 | 1024.21 | 170.00 | 736.00 | - | 3822.92 | 3608.03 | 2872.03 |
| 6 | Haryana | 1844.39 | 53.27 | 53.27 | 117.00 | - | - | 1220.94 | 453.91 | 453.91 | 455.00 | - | - | 3637.33 | 507.18 | 507.18 |
| 7 | Tamil Nadu | 899.84 | 865.46 | 857.36 | 294.00 | - | - | 999.49 | 499.74 | 499.43 | 1002.00 | 501.00 | - | 3195.33 | 1866.20 | 1356.79 |
| 8 | Odisha | 1603.70 | 1308.63 | 1308.63 | - | - | - | 826.20 | - | - | 668.00 | 316.00 | - | 3097.90 | 1624.63 | 1308.63 |
| 9 | West Bengal | 1029.52 | - | - | 72.00 | - | - | 667.08 | - | - | 996.00 | 498.00 | - | 2764.60 | 498.00 | - |
| 10 | Karnataka | 1340.65 | 1309.57 | 1309.57 | 15.00 | - | - | 451.53 | 112.99 | 61.03 | 671.00 | 420.00 | - | 2478.18 | 1842.56 | 1370.60 |
| 11 | Andhra Pradesh | 891.88 | 891.88 | 445.94 | 168.00 | - | - | 436.90 | - | - | 952.00 | 420.00 | - | 2448.78 | 1311.88 | 445.94 |
| 12 | Maharashtra | 615.15 | 370.75 | 370.75 | - | - | - | 599.79 | 393.63 | 393.63 | 1162.00 | 581.00 | - | 2376.94 | 1345.38 | 764.38 |
| 13 | Rajasthan | 1125.53 | 1328.34 | 463.00 | - | - | - | 287.52 | - | - | 871.00 | - | - | 2284.05 | 1328.34 | 463.00 |
| 14 | Uttarakhand | 883.62 | 850.18 | 850.18 | 153.00 | - | - | 479.90 | - | - | 495.00 | 124.00 | - | 2011.52 | 974.18 | 850.18 |
| 15 | Gujarat | 893.97 | 369.07 | 369.07 | - | 8.23 | 8.23 | 331.67 | - | - | 661.00 | 605.00 | - | 1886.64 | 982.30 | 377.30 |
| 16 | Chhattisgarh | 686.60 | 301.61 | 286.41 | - | - | - | 579.87 | - | - | 505.00 | 126.00 | - | 1771.47 | 427.61 | 286.41 |
| 17 | Jharkhand | 873.28 | 403.74 | 51.70 | 45.00 | - | - | 316.10 | - | - | 414.00 | - | - | 1648.38 | 403.74 | 51.70 |
| 18 | Punjab | 750.80 | 1308.87 | 366.65 | 204.00 | - | - | 119.75 | - | - | 465.00 | - | - | 1539.55 | 1308.87 | 366.65 |
| 19 | Arunachal Pradesh | 517.64 | 469.16 | 469.16 | 202.50 | - | - | 459.41 | - | - | 118.00 | 31.00 | - | 1297.55 | 500.16 | 469.16 |
| 20 | Telangana | 249.60 | - | - | 120.00 | - | - | 151.80 | - | - | 696.00 | - | - | 1217.40 | - | - |
| 21 | Kerala | 188.93 | - | - | - | - | - | 570.02 | - | - | 410.00 | - | - | 1168.95 | - | - |
| 22 | Himachal Pradesh | 827.05 | 454.29 | 454.29 | - | - | - | 102.82 | 25.71 | - | 192.00 | 48.00 | - | 1121.87 | 527.99 | 454.29 |
| 23 | Manipur | 830.39 | 536.26 | 536.26 | - | - | - | 68.85 | 52.00 | 52.00 | 178.00 | 95.00 | - | 1077.24 | 683.26 | 588.26 |
| 24 | Tripura | 188.98 | 137.68 | 137.68 | - | - | - | 123.93 | 30.98 | 30.98 | 449.00 | 113.00 | 89.61 | 761.91 | 281.66 | 258.27 |
| 25 | Goa | 86.39 | - | - | 216.00 | - | - | 116.28 | - | - | 124.00 | - | - | 542.67 | - | - |
| 26 | Meghalaya | 258.11 | 139.44 | 139.44 | 45.00 | - | - | 36.22 | - | - | 173.00 | - | - | 512.33 | 139.44 | 139.44 |
| 27 | Mizoram | 206.05 | 118.84 | 118.84 | - | - | - | 89.02 | 97.20 | 97.20 | 115.00 | 29.00 | - | 410.07 | 245.04 | 216.04 |
| 28 | Sikkim | 65.23 | 49.61 | 49.61 | - | 120.30 | 119.62 | 216.65 | 167.34 | 167.34 | 88.00 | 264.00 | - | 369.88 | 601.25 | 336.57 |
| 29 | Union Territories | 1398.01 | 674.67 | 674.67 | 307.00 | - | - | 1992.37 | - | - | 208.00 | 188.00 | - | 3905.38 | 862.67 | 674.67 |
| | Total | 28465.92 | 19994.85 | 17158.70 | 4256.50 | 876.42 | 875.74 | 23513.44 | 5262.44 | 5049.39 | 19522.00 | 9041.00 | 89.61 | 75757.86 | 35174.71 | 23173.44 |
