

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 4481  
TO BE ANSWERED ON WEDNESDAY, 30<sup>TH</sup> MARCH, 2022**

**RAIN GAUGES RADARS**

4481. ADV. DEAN KURIAKOSE:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of rain gauges and radars in the State of Kerala;
- (b) the total number of rain gauges in Kerala that are required according to the Bureau of Indian Standard;
- (c) whether the Government has received any request to increase the number of rain gauges to the level prescribed by Bureau of Indian Standard; and
- (d) if so, the action taken in this regard ?

**ANSWER**

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR  
MINISTRY OF SCIENCE AND TECHNOLOGY  
AND EARTH SCIENCES  
(DR. JITENDRA SINGH)

- (a) A total number of 63 automatic stations, 30 Automatic Weather Station (AWS)+3Agro AWS+30 Automatic Ranguages (ARG)to record rainfall are already functioning in the State of Kerala. These are in addition to 70 manual observatories [Departmental (8)+Part time (4)+Non departmental like that of State Government, schools etc (58)]. Thus a total number of 133 observatories are already there and functioning in Kerala for rainfall monitoring.

Two Doppler Weather Radars (DWR) are operational in the State of Kerala; one at Kochi and another at Thiruvananthapuram which meet the requirements of Kerala; especially the central and southern parts of Kerala.

- (b) There is a document published by **Bureau of Indian Standard (BIS)** in the year 1994 on the number of Non recording/Recording ranguages per Sq. Km. According to this, the requirement of ranguages for Kerala can be computed as given below.

The area of Kerala is 38800 Sq.Km, of which 80% is Coastal + Plain land and remaining 20% is with hills.

For the 31040 Sq. Km. consisting of Coastal+Plain land,  $31040/500=63$  Rain stations are needed whereas for the 7760 Sq.Km. hilly terrain,  $7760/150$  Sq.Km= $52$  Rain stations are needed. Thus, the number of total Rain monitoring stations as per BIS-1994 is  $63+52=115$  for Kerala.

- (c) - (d) Kerala already have 133 Rain stations at present against the requirement of 115 as per BIS-1994 Standard. There had been a request for installation of 100 more AWS in Kerala out of which 15 AWS have already been installed. With the likely installation of remaining 85 AWS in near future, the number of observatories for rainfall monitoring will become 218.

## Automatic Rain Guage (ARG) Network functioning over Kerala and Lakshdweep.

Nature of Observatory	Name of station	Number	Location list/ Type/ Class	Departmental/ Non- departmental/ Part- time	Functioning
ARG	1. Airport(Chakka)	55CDE7EA	11.41°N 75.93°E	Departmental	Functioning
	2. Alappuzha	55CE401C	9.49°N 76.31°E	Departmental	Functioning
	3. Anakayam	55CDFA4E	11.09°N 76.11°E	Departmental	Functioning
	4. Anchal	55CE536A	8.93°N 76.92°E	Departmental	Functioning
	5. Cheruthazham	55CE7586	12.06°N 75.25°E	Departmental	Functioning
	6. Chimoni	55CE368C	10.44°N 76.46°E	Departmental	Functioning
	7. Enamakal	55E95E62	10.5°N 76.1°E	Departmental	Functioning
	8. Erimayur	55CE0DC4	10.65°N 76.4617°E	Departmental	Functioning
	9. Kanjirapuzha	55CE1060	10.99°N 76.53°E	Departmental	Functioning
	10. Keerampara	55CE25FA	10.1°N 76.6672°E	Departmental	Functioning
	11. Konni	55CD3182	9.23°N 76.87°E	Departmental	Functioning
	12. Mattanur	55CDE938	11.91°N 75.56°E	Departmental	Functioning

13. Muvattupuzha	55E9652A	9.99°N 76.56°E	Departmental	Functioning
14. Meenangadi	55CE0316	11.66°N 76.16°E	Departmental	Functioning
15. Meenkara	55CE1EB2	10.61°N 76.79°E	Departmental	Functioning
16. Neeleswaram	55E96BF8	10.18°N 76.46°E	Departmental	Functioning
17. Palluruthy	55CE4ECE	9.9264°N 76.2621°E	Departmental	Functioning
18. Panniyoor	55CE6822	12.08°N 75.35°E	Departmental	Functioning
19. Peringamala	55E9788E	8.75°N 77.04°E	Departmental	Functioning
20. Perumkadavila	55CD2C26	8.44°N 77.11°E	Departmental	Functioning
21. Thenmala	55CE5DB8	8.95°N 77.06°E	Departmental	Functioning
22. Vazhakunnam	55CE385E	9.34°N 76.73°E	Departmental	Functioning
23. Vilangankunnu	55CE7B54	10.55°N 76.16°E	Departmental	Functioning
24. Vyanthala	55CE66F0	10.26°N 76.29°E	Departmental	Functioning

**Details of District Rainfall Monitoring Scheme (DRMS) stations**

Sl. No	Station	District	Latitude (In Decimal Degree)	Longitude (In Decimal Degree)	Status
1.	Neyyattinkara	Thiruvananthapuram	8.383333	77.083333	Functional
2.	Nedumangad		8.6	77	Functional
3.	Varkala		8.737868	76.716336	Functional
4.	Aryankavu	Kollam	8.9833	77.1667	Functional
5.	Kollam Rly		8.8833	76.6	Functional
6.	Kurudamannil	Pathanamthitta	9.353279	76.736755	Functional
7.	Konni		9.23	76.87	Functional
8.	Kayamkulam	Alappuzha	9.183333	76.5	Functional
9.	Haripad		9.283333	76.45	Functional
10.	Kayamkulam_Agri		9.17	76.52	Functional
11.	Cherthala		9.7	76.333333	Functional
12.	Chengannur		9.316667	76.616667	Functional
13.	Mavelikkara		9.25	76.533333	Functional
14.	Mancompu		9.443023	76.424492	Functional
15.	Vaikom		Kottayam	9.75	76.4
16.	Kozha	9.75		76.566667	Functional
17.	Kanjirappally	9.55727		76.789435	Functional
18.	Kumarakam	9.617545		76.430095	Functional
19.	Munnarkseb	Idukki	10.1	77.0667	Functional
20.	Thodupuzha		9.8333	76.6667	Functional
21.	Myladumpara_Agri		9.1333	77.0333	Functional
22.	Idukki		9.8333	76.9167	Functional
23.	Peermade		9.5667	76.9833	Functional

24.	Piravom	Ernakulam	9.8	76.4667	Functional
25.	Perumbavur		10.1167	76.4833	Functional
26.	AlwayePw		10.1167	76.35	Functional
27.	Ernakulam South		9.9667	76.2833	Functional
28.	Enamackal	Thrissur	10.5	76.1	Functional
29.	Vadakkancherry		10.661738	76.236325	Functional
30.	Chalakydy		10.3	76.333333	Functional
31.	Irinjalakuda		10.344666	76.209372	Functional
32.	Kodungallur		10.216667	76.2	Functional
33.	Chittur	Palakkad	10.7	76.7333	Functional
34.	Kollengode		10.6167	76.7167	Functional
35.	Parumbikulam		10.3333	76.75	Functional
36.	Alathur		10.6333	76.55	Functional
37.	Ottapalam		10.7833	76.3833	Functional
38.	Thrithala		10.8333	76.1	Functional
39.	Pattambi		10.8	76.2	Functional
40.	Mannarkkad		10.9833	76.4667	Functional
41.	Vadakara	Kozhikode	11.6	75.583333	Functional
42.	Quilandi		11.45	75.7	Functional
43.	Ponnani	Malappuram	10.7833	75.9167	Functional
44.	Nilambur		11.2833	76.2333	Functional
45.	Perinthalamanna		10.9667	76.2333	Functional
46.	Angadipuram		10.9667	76.2	Functional
47.	Manjeri		11.1167	76.1333	Functional

48.	Vythiri	Wayanad	11.55	76.0333	Functional
49.	Ambalavayal		11.6167	76.2	Functional
50.	Kuppady		11.6833	76.2667	Functional
51.	Mananthavady		11.8	76.0167	Functional
52.	Taliparamba	Kannur	12.05	75.35	Functional
53.	Irikkur		11.966667	75.55	Functional
54.	Thalassery		11.753288	75.492878	Functional
55.	Kudlu	Kasaragod	12.5	75	Functional
56.	Hosdurg		12.3	75.1	Functional

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