been approved by the Government. Out of total estimated recapitalization assistance of Rs. 2,200 crore, the share of Government of India was Rs. 1,100 crore, while the share of the State Governments was Rs. 330 crore.

So far Government of India has released Rs. 668.92 crore as its share towards recapitalization, while the State Governments have released Rs. 223.92 crore.

**Uranium in groundwater**

*280. SHRI ARVIND KUMAR SINGH : Will the PRIME MINISTER be pleased to state:

(a) whether uranium has been found in groundwater of some States;

(b) if so, the details thereof, State-wise;

(c) whether uranium contamination in groundwater of some States is more than 12 times of the permissible limits of WHO;

(d) if so, the details thereof;

(e) the details of the people who have died due to uranium in groundwater, so far, State-wise;

(f) whether uranium treatment facility from water has been installed by Government in affected areas;

(g) if so, the details thereof, State-wise; and

(h) if not, the reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY): (a) Yes, Sir. Due to its natural occurrence, uranium is present in all environmental matrices such as water, soil, sediment, food materials and biota. On a global basis, its concentration in soil varies from 1-5 parts per million (ppm) while in water it varies from 1-3 parts per billion (ppb). The uranium content in water, which is in contact with granite rocks, is relatively high.

(b) Bhabha Atomic Research Centre (BARC) has carried out study for uranium content in groundwater and analysed the uranium content of 1109 number of water samples collected from four districts of Punjab (Bhatinda, Mansa, Faridkot and Ferozpur) in collaboration with Guru Nanak Dev University (GNDU), Amritsar. The results of the study reveal that about 42% of total samples have Uranium concentration above the Atomic Energy Regulatory Board (AERB) permissible (radiological) limit (60 ppb) for drinking water.

Hydrogeochemical survey is one of the tools for survey and exploration for concealed uranium deposits, wherein uranium content in ground water is assessed. Atomic Minerals Directorate for Exploration and Research (AMD) being an exploration agency for identifying natural resources of uranium, frequently utilise this technique. In general, U content recorded by AMD in ground water samples from different parts of India, where AMD is engaged in survey and exploration, are in the range of <1-100 ppb, with occasional values upto 5840 ppb. Such anomalously high values are recorded generally in granitic terrains. It may be clarified that the areas surveyed by AMD are in remote parts of India, where human population is minimal.

Uranium content recorded in ground water in areas where AMD has carried out such studies in the recent past is as listed below:

| Sl.No. | Location | State | U (ppb) |
|---|---|---|---|
| 1. | Didwana and Singhi, Talab, Nagaur District | Rajasthan | 17-1755 |
| 2. | Bap-Malar playa, Bikaner, Jodhpur and Jaisalmer Districts | Rajasthan | 8-25 |
| 3. | Popawas-Ghatiyala-Keru Sector, Jodhpur and Pali districts | Rajasthan | <1-170 |
| 4. | Hurra Ki Dhani, Sikar | Rajasthan | <1-44 |
| 5. | Daurala, Sikar | Rajasthan | 556-5100 |
| 6. | Mahendragarh district | Haryana | 2-2936 |
| 7. | Una district | Himachal Pradesh | 2-80 |
| 8. | Phalodi-Lohawat, Jodhpur district | Rajasthan | 4-29 |
| 9. | Jabera-Selwara-Katangi, Damoh and Jabalpur districts | Madhya Pradesh | <1-330 |
| 10. | Piparia-Kalan, Seoni district | Madhya Pradesh | <1-4500 |
| 11. | Pongar, Seoni district | Madhya Pradesh | <1-4285 |
| 12. | MedhaDhana, Betul district | Madhya Pradesh | <1-5198 |
| 13. | Thumpani, Bastar district | Chhattisgarh | <1-57 |
| 14. | Sukma, Dantewada district | Chhattisgarh | <1-820 |

| Sl.No. | Location | State | U (ppb) |
|---|---|---|---|
| 15. | Vishnupali, Raigarh district | Chhattisgarh | <1-400 |
| 16. | Sajjaldine-Siregepalle, Kadappa district | Andhra Pradesh | 1-195 |
| 17. | Chenchaiapalle-Mulapalle, Kadappa district | Andhra Pradesh | 2-5840 |
| 18. | Chandragiri-Tirupati-Nayudupet area, Chittoor and Neliore districts | Andhra Pradesh | <1-984 |
| 19. | Sedam, Gulbarga disirict | Karnataka | 18-271 |
| 20. | Kallur, Gulbarga disirict | Karnataka | <1-25 |
| 21. | Kurgunta, Gulbarga disirict | Karnataka | 112-474 |
| 22. | Karankot, Gulbarga disirict | Karnataka | 27-508 |
| 23. | Kanasgeri-Malamatti-Vantamuri-Mallapur, Beglaum district | Karnataka | <2-14 |
| 24. | Raigarh and Mahasamund districts | Chhattisgarh | <1-164 |
| 25. | Kattukottai-Gangavalli-Uppiliapuram, Salem and Tiruchirapalli district | Tamil Nadu | <1-12 |
| 26. | Kenda-Jitujori-Amghata-Puncha-Hura area, Purulia district | West Bengal | <1-210 |

In addition, AMD has carried out preliminary hydrogeochemical studies on 165 number of random water samples collected from areas around Bhatinda, Mansa, Faridkot and Firozpur districts of Punjab, which indicated <1 to 270 ppb U, with 14 samples having U values higher than 60 ppb.

BARC has also carried out a study in collaboration with Guru Nanak Dev University (GNDU), Amritsar .for establishment of uranium content in groundwater in Malwa region of Punjab state. The maximum concentration of uranium in ground water in the Malwa region was found to be 684 ppb.

(c) Yes, Sir.

(d) Answer to part (b) of the question may be referred to.

(e) From the few known studies in Canada and Finland there is no evidence of correlation between cancer and uranium in drinking water.

(f) and (g) Water purification systems based on Reverse Osmosis (RO) technique have been installed in many districts of Punjab by the State Government.

(h) Does not arise in view of answer to (f) and (g) above.

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**WRITTEN ANSWERS TO UNSTARRED QUESTIONS**

**Promotion for production of Uranium minerals**

2016. DR. V. MAITREYAN: Will the PRIME MINISTER be pleased to state:

(a) whether Government proposes to promote production of Uranium minerals in the country; and

(b) if so, the details thereof?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY): (a) Yes, Sir.

(b) At present Uranium Corporation of India Limited (UCIL), a public sector undertaking under the Department of Atomic Energy for promoting production of Uranium minerals, is operating six underground mines at Jaduguda, Bhatin, Narwapahar, Turamdih, Bagjata and Mohuldih and an opencast mine at Banduhurang and two processing plants at Jaduguda and Turamdih, all near Jamshedpur in the Singhbhum East District of Jharkhand State. In addition, a mine and Process plant at Tummalapalle in YSR ( Kadapa) district of Andhra Pradesh has been commissioned by UCIL during April, 2012. Uranium is a prescribed substance under Atomic Energy Act and mining/processing and handling of Uranium is reserved under the exclusive monopoly of the Government of India. The Government of India has set up UCIL to undertake mining/processing of Uranium.

**Facilities for medical emergencies near nuclear power plants**

2017. DR. V. MAITREYAN: Will the PRIME MINISTER be pleased to state:

(a) whether there is adequate preparedness for medical emergencies in the vicinity of the nuclear power plants in the country;

(b) if so, the details thereof;