GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
**RAJYA SABHA**
**STARRED QUESTION No.65**
TO BE ANSWERED ON 21.12.2017

**PRODUCTION OF URANIUM AND THORIUM**

*65. SHRI SANJAY RAUT:

Will the PRIME MINISTER be pleased to state:

(a) whether there is a huge untapped reserve of Uranium and Thorium in the country;

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

(c) the quantum of Uranium and Thorium produced in the country during the last three years; and

(d) the details of the steps taken or proposed to be taken by Government for tapping Uranium and Thorium reserves in various parts of the country?

**ANSWER**

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

(a) to (d) A statement is placed on the Table of the House.

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**STATEMENT REFERRED TO IN REPLY TO RAJYA SABHA STARRED QUESTION NO.*65 FOR ANSWER ON 21.12.2017 BY SHRI SANJAY RAUT REGARDING "PRODUCTION OF URANIUM AND THORIUM"**

(a)&(b) Atomic Minerals Directorate for Exploration and Research (AMD), a Constituent Unit of Department of Atomic Energy (DAE), which has a mandate to identify and evaluate mineral resources of Uranium has far established 2,73,956 tonne *in situ* $U_3O_8$(2,32,315 tonne U) as on November, 2017.

State-wise details of the Uranium resources are given below:

| State | Uranium reserves | |
|---|---|---|
| | $U_3O_8$ (t) | U (t) |
| Andhra Pradesh | 1,44,541 | 1,22,570 |
| Telangana | 18,550 | 15,731 |
| Jharkhand | 67,712 | 57,420 |
| Meghalaya | 23,040 | 19,538 |
| Rajasthan | 9,421 | 7,989 |
| Karnataka | 4,682 | 3,970 |
| Chhattisgarh | 3,986 | 3,380 |
| Uttar Pradesh | 785 | 666 |
| Uttarakhand | 100 | 85 |
| Himachal Pradesh | 784 | 665 |
| Maharashtra | 355 | 301 |
| **Total** | **2,73,956** | **2,32,315** |

The uranium deposits established by AMD are mined by Uranium Corporation of India Limited (UCIL), a Public Sector Undertaking (PSU) of Department of Atomic Energy (DAE). The deposits at Jaduguda, Narwapahar, Bagjata, Bhatin, Banduhurang, Turamdih and Mohuldih in Jharkhand and Tummalapalle in Andhra Pradesh are currently under

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exploitation by UCIL. Mining technology and economics are important criteria which decide the exploitation status of a deposit. Considering these criteria, many of the small Uranium deposits are not amenable to mining at present. Constraints arising out of poor logistics and infrastructure, existing technology, adverse socio-economic conditions, environmental aspects, scarcity of water etc. have slackened the process of mining of some of the deposits in Meghalaya, Rajasthan, Karnataka and Telangana.

AMD has also established 12.47 million tonne monazite as on Sep.2017 (mineral containing thorium and rare earth elements). The monazite resource (12.47 million tonne) contains approximately 0.98 million tonne Thorium metal (Th) or approximately 1.12 million tonne $ThO_2$. State-wise details of the monazite resources are below :

| State | Deposits (No.) | Resource (million tonne) |
|---|---|---|
| Odisha | 10 | 3.06 |
| Andhra Pradesh | 26 | 3.69 |
| Tamil Nadu | 51 | 2.46 |
| Kerala | 35 | 1.84 |
| West Bengal | 1 | 1.20 |
| Jharkhand | 1 | 0.21 |
| Maharashtra | 3 | 0.004 |
| Gujarat | 1 | 0.003 |
| Total | 128 | 12.467 |

(c) It is not in the public interest to disclose the quantity of production of Uranium from these mines.

Production of Thorium by Indian Rare Earths Limited (IREL), a Public Sector Undertaking of Department of Atomic Energy (DAE) during the

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last three years are as follows:

| Years | Thorium Oxalte ( in tons) | Thorium Nitrate ( in tons) |
|---|---|---|
| 2016-17 | 248 | 82.10 |
| 2015-16 | 238 | 92.40 |
| 2014-15 | 0 | 80.40 |
| Total | 486 | 254.90 |

(d) Uranium Corporation of India Ltd. (UCIL) has made a detailed plan in line with DAE's vision to achieve self sufficiency in Uranium production achieving nearly ten-fold rise in next 15 years (by 2031-32). UCIL has outlined a plan for massive expansion which includes plan to maintain sustained supply from existing facilities, capacity expansion of some existing units and construction of new production centres (mines and plants) in different parts of the country.

Indian Rare Earths Limited (IREL), a PSU under DAE has been producing monazite a mineral containing thorium from its mining and mineral separation plants located at Chavara, Kerala, Manavalakurichi, Tamil Nadu and Orissa Sand Complex, Odisha. Indigenous efforts towards the development and demonstration of Thorium-based reactor technology is being pursued.

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