GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO.3346
TO BE ANSWERED ON 25.04.2012

URANIUM CONTAMINATION IN PUNJAB

3346. SHRI MANISH TEWARI:
SHRI SARDAR SUKHDEV SINGH LIBRA:

Will the PRIME MINISTER be pleased to state:

(a) whether the Bhabha Atomic Research Centre (BARC) has carried out a study on uranium contamination in both the air and ground water in the Malwa and other regions of Punjab;

(b) if so, the salient findings of this report with regard to 60th concentration and toxicity of uranium and its impact on human health in Punjab and the corrective steps taken/being taken in this regard;

(c) whether the report has found that the use of phosphate fertilizers with high concentration of uranium and the subsequent agro-chemical processors that came into play following their use are responsible for this contamination;

(d) if so, the details thereof;

(e) whether the Government intends conducting a study in all those agro-climatic zones where there is both heavy use of phosphate fertilizers and salinity in water; and

(f) if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY) :

(a) Yes Sir, Bhabha Atomic Research Centre (BARC) has analysed around 700 samples for uranium content in water from Malwa region of Punjab in collaboration with Guru Nanak Dev University (GNDU), Amritsar. The samples are jointly collected by BARC and Guru NanakDev University, Amritsar, Punjab. BARC has not carried out any study for uranium content in air.

(b) Sir, In the study carried out by Bhabha Atomic Research Centre (BARC) in collaboration with Guru Nanak Dev University (GNDU), Amritsar during September-October, 2009; uranium content of 235 water samples collected from four districts (Bhatinda, Mansa, Faridkot and Ferozpur) of Punjab state was measured. Uranium concentration in these water samples ranged from 2.1 – 644 ppb (microgram per litre). BARC has further analysed additional 365 samples from Malwa region of Punjab in collaboration with Guru Nanak Dev University (GNDU), Amritsar. The uranium content in these samples are also within the aforementioned range.

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In a new study carried out for screening purpose, we have already collected ninety two (92) water samples from remaining thirteen (13) districts (TaranTaran, Moga, Barnala, Sangrur, Ludhiana, Fatehgarh Sahib, Mohali, Ropar, Nawanshehar, Hoshiarpur, Gurdaspur, Amritsar and Pathankot) for the assessment of uranium content. These samples were collected under a collaborative project with Guru Nanak University, Amritsar. The uranium content in these samples varied from 0.1-153 ppb and eight samples have uranium concentration above the permissible radiological limit of 60 ppb for drinking water specified by Atomic Energy Regulatory Board.

BARC has not carried out any study on the effect of uranium content in drinking water on human health in Punjab. Hence, the Department is unable to offer any comments on this issue. However, several studies focusing on health effects of radiation have been carried out in Finland among people who use drilled wells as sources of drinking water, which have uranium concentrations much higher than that observed in Malwa region. Nevertheless, none of the human studies reported so far have shown a clear association between chronic uranium exposure and cancer risk, clinical symptoms, or toxicity.

The levels of uranium in ground water observed during the study are relatively high at some of the locations. Ground water with higher uranium concentration can be made potable by the use of techniques such as Reverse Osmosis (RO). Based on field study carried out in Punjab, the use of RO systems was recommended.

(c)&(d) Sir, BARC has not carried out any study to find out whether the use of phosphatic fertilizers is related to the higher uranium content in ground water in Punjab. Hence it is unable to offer any comments in this regard.

(e)&(f) As far as BARC is concerned, there is no such proposal under consideration.

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