GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY

LOK SABHA
STARRED QUESTION NO. *119
TO BE ANSWERED ON 23/11/2016

CLEAN WATER TECHNOLOGY

*119.SHRI ASHWINI KUMAR CHOUBEY:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the quantum of funds allocated to Indo-Canadian science programme focusing on clean water technologies as on date;
(b) the outcome in terms of technology related to clean water supply and effective water management;
(c) whether these technologies have been implemented in India; and
(d) if not, the reason therefore and the time by which it will be implemented.

ANSWER

MINISTER OF SCIENCE & TECHNOLOGY ANDMINISTER OF EARTH SCIENCES

(DR. HARSH VARDHAN)

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

STATEMENT IN RESPECT OF LOK SABHA STARRED QUESTION NO. *119 TO BE ANSWERED ON 23/11/2016 REGARDING "CLEAN WATER TECHNOLOGY"

(a) Yes, Madam. The Department of Biotechnology and Department of Science and Technology, Ministry of Science and Technology are collaborating with The India-Canada Centre for Innovation Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability (IC-IMPACTS), to promote multidisciplinary research partnerships. Five projects addressing the issue of Clean Water Technologies are being implemented by the Departments at the total cost of Rs. 572 lakhs with matched funding from Canada.

(b) The following technologies are being developed and envisaged as outcomes:

i) **Biosensors for detection of toxins:-**impedance-based handheld biosensors for assessment of the water quality and a nanoparticle based water treatment system to eliminate toxins and microorganisms in water. Toxins which will be detected are cyanotoxin (microcystins, anatoxins) and microorganisms (*Enterococcus*, *Salmonella*, *Staphylococcus*).

ii) **Heavy metal detection and removal :**

Plastic cartridges for color based test monitoring kit for detection of multiplex heavy metal

Developing fixed bed biochar columns to remove heavy metals from waste water

iii) **Biorecovery from waste water (waste to wealth) :-**Integrated pilot-scale 915 MHz MW-AOP for advanced anaerobic digestion system for resource recovery

iv) **Survey to identify and explore alternatives in domestic water management:-** technology and financial appropriateness of water and wastewater infrastructure in selected cities of India

(c) These Technologies are currently being developed with the aim that these technologies will be implemented in India.

(d) Prior art is available for the technologies being developed. The technologies are being adapted and modified for Indian conditions. Technologies developed will be taken for feasibility studies and shall be implemented on pilot scale within two years.