

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 1353
TO BE ANSWERED ON 31.07.2025

Antibiotic contamination of rivers

1353. SHRI PRAMOD TIWARI

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether it is a fact that a recent study conducted by the Economic Times Health states that there is widespread antibiotic contamination in country's rivers;
- (b) if so, the details thereof;
- (c) the details of threats posed by the antibiotic contamination to both ecological systems and public health;
- (d) the details of the rivers surveyed by the study across various States; and
- (e) the steps proposed to be taken for better regulation of pharmaceutical waste, stricter enforcement of pollution control measures and investment in advanced waste water treatment facilities?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a) to (d)

The Government has not conducted any study on antibiotic contamination of rivers. The Economic Times Health report published on 24.04.2025 is based on a study titled "Antibiotics in the global river system arising from human consumption" conducted by researchers from McGill University, Canada and its findings are based on simulations and assumptions. Further, the study has also cited its own limitations of data availability. Therefore, a conclusion regarding widespread contamination in the Country's rivers cannot be drawn from such a study.

(e)

The steps taken for better regulation of pharmaceutical waste, stricter enforcement of pollution control measures and investment in advanced waste water treatment facilities are following:

- 1) The Union Government of India, has launched National Action Plan on Antimicrobial Resistance (NAP-AMR) in April 2017 to develop and implement strategic interventions to

reduce the environmental impact of AMR through effective waste management and to develop and implement mechanism for safe disposal of expired antimicrobials.

- 2) The MoEF&CC issued notification for Bulk Drug and Formulation (Pharmaceutical) Industry vide GSR 541(E) dated 6th August, 2021 in exercise of the powers conferred by Section 6 and 25 of the Environment (Protection) Act, 1986. The Notification stipulates that:
 - (i) Chemical and Biological sludge or any residue, reject, concentrate generated from wastewater treatment or its management facility at Industry or CETP catering to industries engaged in manufacturing of bulk drug formulations of pharmaceuticals, has been classified as Hazardous Waste as per the provisions of the Hazardous Waste and Other Wastes (Management and Transboundary Movement) Rules, 2016 and shall be managed in environmentally sound manner in accordance with these rules.
 - (ii) “State Pollution Control Board shall prescribe additional relevant parameters as given in para A (ii) of the notification as per needs and discharge potential of member industries and specify the frequency of monitoring considering the receiving environment conditions.”
- 3) Expired antimicrobial/antibiotics are disposed by the manufacturer or supplier by incineration as per Bio-medical Waste Management Rules, 2016. Sludge from ETP is given to common bio-medical waste treatment facility for incineration or to hazardous waste treatment facility for incineration or to hazardous waste treatment, storage and disposal facility for disposal.
- 4) To reduce antibiotic residue from effluent sources, industry is adopting reduce, recycle and reuse of treated effluent to maximize extent or Zero Liquid Discharge (ZLD) to minimize risk of Pharmaceutical Compound's residues.
