

**GOVERNMENT OF INDIA
RAILWAYS
LOK SABHA**

UNSTARRED QUESTION NO:4992
ANSWERED ON:09.12.2010
GREEN TOILETS ON TRAINS
Swamygowda Shri N Cheluvarama Swamy

Will the Minister of RAILWAYS be pleased to state:

- (a) the present status of development and installation of environment friendly ``green toilets``;
- (b) the details of technology adopted by the Railways in this regard;
- (c) whether the technology developed by Research Design and Standards Organization (RDSO) has undergone any field trials in this regard;
- (d) if so, the details thereof; and
- (e) the time by which it is likely to be finalised and implemented in all the trains?

Answer

MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI K.H. MUNIYAPPA)

(a) & (b) Efforts are on in several directions for development of Environment Friendly Toilets. A Memorandum of Understanding has been signed by Ministry of Railways with Defence Research & Development Organization for Joint Technology development using Defence Research & Development Establishment (DRDE) bio-digester technology for Passenger Coach Toilet Systems. Designs have been developed jointly by RDSO & DRDO based on this technology and Indian Railways Production Units have been instructed to manufacture two rakes based on this technology. Zero Discharge Toilet System (ZDTS) has been developed jointly by Research Design & Standards Organization (RDSO) & Indian Institute of Technology (IIT), Kanpur. Efforts are also in hand to carry out trials of vacuum retention type toilets on Shatabdi Trains.

(c) & (d) Yes, Madam. Zero Discharge Toilet System has been tried out on one coach based on design jointly developed by RDSO, Lucknow & IIT/Kanpur. The action is in hand by RDSO to carry out extended trials on one rake based on this technology.

(e) Suitable technology option for Indian Railways operating conditions are yet to be established for which Railway is working on various technology options as described above. Further course of action regarding adoption of suitable technology mix for all trains will be taken, based on the outcome of trials with different technology options.