

**GOVERNMENT OF INDIA  
SOCIAL JUSTICE AND EMPOWERMENT  
LOK SABHA**

UNSTARRED QUESTION NO:2760  
ANSWERED ON:02.08.2016  
Instrument for Blind Persons  
Singh Shri Bhola

**Will the Minister of SOCIAL JUSTICE AND EMPOWERMENT be pleased to state:**

- (a) whether any instrument has been made for blind persons to enable them to see by using this instrument through ear;
- (b) if so, the details thereof;
- (c) whether the Government is planning to make any research in this regard and if so, the details thereof; and
- (d) whether any research has been made any where in the world and if so, the details thereof ?

**Answer**

MINISTER OF STATE FOR SOCIAL JUSTICE AND EMPOWERMENT  
(Shri Krishan Pal Gurjar)

(a&b) National Institute for Visually Handicapped (NIVH), Dehradun, an autonomous body under this Department, has informed that evidence from web resources suggests that there are devices which are under research and development. The reliability, validity and usability of these devices are not yet confirmed on large community of persons with visual impairment.

(c) Many organisations are conducting research on this issue abroad. NIVH is closely watching the progress but there is no plan to undertake any research at the Government level.

(d) Yes Sir, there is web evidence of several researches conducted across the world which made efforts to make perception of visual sensation by auditory means. For instance, Hebrew University of Jerusalem, Israel and University of Bath, UK. Some key researches in this area are as follows:

i. Haigh, A., Brown, D.J., Meijer, P. & Proulx, M. J. (2013). How well do you see what you hear? The acuity of visual-to-auditory sensory substitution. *Front. Psychol.* 4:330. Source: <http://journal.frontiersin.org/article/10.3389/fpsyg.2013.00330/full>.

ii. Maidenbaum S, Buchs G, Abboud S, Lavi-Rotbain O & Amedi A (2016) Perception of Graphical Virtual Environments by Blind Users via Sensory Substitution. *PLoS ONE* 11(2). Source: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0147501>

iii. Striem-Amit, E., Guendelman, M. & Amedi, A. (2012) 'Visual' Acuity of the Congenitally Blind Using Visual-to-Auditory Sensory Substitution. *PLoS ONE* 7(3). Source: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0033136>

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