

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO.825**  
TO BE ANSWERED ON 14.12.2018

**Cyclone Resistant Trees**

825. SHRI MALYADRI SRIRAM:

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

- (a) whether the palmyra trees withstood the force of the cyclone, if so, the details thereof;
- (b) whether the Government has conducted any study about the manner in which these trees were able to hold out against such extreme weather events, if so, the details and the outcome thereof; and
- (c) if so, the details thereof and the details of steps being taken by the Government in future?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(DR. MAHESH SHARMA)**

(a) As per the information available with the Ministry, the Palmyra tree (*Borassus flabellifer*) withstood the cyclone force of 'Gaja' in Nagapattinam, Thanjavur and Thiruvaram districts of Tamil Nadu. A similar observation was made in the Indian Botanic Gardens, Howrah (currently Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah), the largest conservatory of plants in Asia, after the cyclone 'Alia' which occurred in the year 2009 when the hundreds of full grown Palmyra palm trees existing in the historic Palmyra Palm avenue remained intact and withstood the impact of massive cyclone. In the cases of both the aforesaid cyclones, the Palmyra trees withstood the force of the cyclones which uprooted other varieties of huge and medium sized trees.

Generally, palms are least prone to winds/cyclones due to their cylindrical stem with greater flexibility and lesser canopy size and weight. Among palms also, the Palmyra palms are stronger than other palms like Coconut, Arecanut, Century palms etc. This is mainly attributed to its stronger fibrous root system having 4 to 6 ft basal circumference, possessing radial symmetry, anchoring nearly 10ft deep into the surrounding soil which firmly fixes the plant on the ground that overall balances the total body and crown weight thus withstanding cyclone/wind. Palmyra palm, being a monocot plant lacks strong heart wood but the outer stem portion having very strong, fibrous and lignified layer is so hard and flexible that it will not normally break away in wind/cyclones.

(b) and (c) No such study has been conducted by the Ministry of Environment, Forest and Climate Change.

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