

(b) According to the information received from the State Government, strict protection is being provided to the bird in some of its breeding sites, near Ajmer, Jaipur, Pali and Alwar. The hunting of this bird is not permitted anywhere in India.

**Employment to widows on
compassionate grounds**

2563. DR. V. VENKATESH : Will the Minister of DEFENCE be pleased to state :

(a) whether in the event of death of a civilian employee of his Ministry, one of his family Member is given employment on compassionate grounds;

(b) if so, the number and details of widows employed in his Ministry on compassionate grounds during the last one year upto 30 October, 1985;

(c) the number of cases pending, full details thereof; and

(d) the time by which the pending cases of employment to widows on compassionate grounds will be finalised ?

THE MINISTER OF STATE IN THE DEPARTMENT OF DEFENCE RESEARCH AND DEVELOPMENT (SHRI ARUN SINGH) : (a) to (d). In accordance with the existing instructions, Ministries/Departments are competent to appoint, to a Group 'C' or a Group 'D' post, in relaxation of the normal procedure of recruitment through Staff Selection Commission or Employment Exchange, the son/daughter/ near relative of a Government servant, who dies in harness, leaving his family in immediate need of assistance in the event of there being no other earning member in the family. The appointment is, however, subject to fulfilment of educational qualifications and other conditions laid down in the relevant recruitment rules.

In so far as Ministry of Defence Secretariat is concerned, three dependents, none of them being a widow of the deceased employee, were given employment, on compassionate grounds, during the last one year upto 30.10.1985.

The cases of compassionate employment are expeditiously disposed of and no such case is pending in the Ministry of Defence Sectt.

**News item captioned earthquakes of
Himalayan magnitude predicted**

2564. SHRI KAMLA PRASAD SINGH :
SHRI Y. S. MAHAJAN :

Will the PRIME MINISTER be pleased to state :

(a) whether attention of Government has been drawn to the news item appeared in the Hindustan Times on 25 October, 1985 captioned "Earthquakes of Himalayan magnitude predicted" wherein an American scientist has predicted the occurrence of damaging earthquakes in India particularly in the North and the North-east in the near future;

(b) if so, what advice or word of caution Government would like to give to the people; and

(c) what have our Seismologists to say in the matter ?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND IN THE DEPARTMENTS OF OCEAN DEVELOPMENT, ATOMIC ENERGY, ELECTRONICS AND SPACE (SHRI SHIVRAJ V. PATIL) : (a) Yes, Sir

(b) Earthquakes are a phenomena which have been taking place in India from times immemorial. Their recurrence cannot be denied or predicted. The Himalaya and the Northeastern region are part of a worldwide zone of earth-quakes. The currently held geological views are that these earthquakes are caused by the Northeastward movement of the Indian land mass which is apparently slipping slowly beneath Eurasian land mass. This interaction, coupled with some geological processes taking place at great depths may cause earthquakes in the foot hill regions of Himalaya, Indo-Gangetic plains, interior of the Himalaya, Shillong Plateau and the Northeastern region.

Indeed, a number of devastating earthquakes have occurred in North India during the last 100 years such as Shillong (1897), Kangra (1905), Quetta (1931 and 1934), Bihar (1935), and Assam (1950). Earthquakes of moderate magnitude have occurred in several other parts of the country such as at Koyna (1967). The attached list gives a few more as samples of earthquakes indicating their distribution in time and space.

The Government is aware of whatever is known about the causes of earthquakes. Using observational network of seismic and other instruments throughout the country, various codes have been devised for making earthquake-resistant large civil engineering structures and buildings in consultation with Civil Engineers, Geologists, Seismologists and Indian Standard Institution. These codes are available for use and continuous efforts are made to improve upon these codes for better earthquake resistant designs through Research and Development efforts.

Regarding advice and caution, the people should take into consideration specified codes while planning their buildings in earthquake-prone areas, particularly in North and North-east India.

(c) The understanding of earthquakes, their prediction and mitigation are a challenge to scientists, technologists and ad-

ministrators. A good deal of work has been going on in India and other part of the world, yet the scientific community is far from fully understanding the real causes of earthquakes. It is generally known that stresses get accumulated, in what Geologists call active zones. Earthquakes occur by sudden release of these stresses. As of present, there are very few instances in the world of earthquakes having actually been predicted in the true sense of the world prediction. That is, predicting time, place and magnitude of occurrence of a particular earthquake to permit the follow up action for the mitigation programmes. The success in mitigation is possible by intensified research on understanding of the earthquake mechanism and matching it with improved civil engineering practices. This is being attempted in India at the Departments of Earthquake Engineering/ES, Roorkee University and a number of other scientific institutions like India Meteorological Department, Geological Survey of India, National Geophysical Research Institute, Survey of India and Bhabha Atomic Research Centre. One of the thoughts of these scientists is that earthquakes may occur in what they call a 'seismic gap'. The gap, in spatial term, is an area of small or negligible seismic activity surrounded by a region where seismic activity is continually taking place. Shillong Plateau region is reported to be one such "seismic gap".

	Year	Region	Magnitude
1.	1819	Kutch	8.3
1 (a)	1897	Assam	8.7
2.	1905	Kangra	8.0
3.	1930	Dhubri (Assam)	7.1
4.	1931, 1934	Quetta	7.0, 7.5
5.	1934	Nepal/India	8.3
6.	1938	Near Indore	6.3
7.	1945	Almora	6.5
8.	1945	Kangra	6.5
9.	1950	Assam	8.6
10.	1956	Delhi	6.4
11.	1959	Assam	6.1
12.	1959	Assam	6.6
13.	1960	Nicobar	6.0
14.	1967	Koyna	7.0