

THE MINISTER OF PARLIAMENTARY AFFAIRS AND WORKS AND HOUSING (SHRI BHISHMA NARAIN SINGH): (a) According to the information received from the Maharashtra Government the number of slum dwellers in Bombay, Poona, Nagpur and Aurangabad are 28,31,394, 2,74,316, 4,16,109 and 73,070 respectively.

(b) The total amount sanctioned for slum improvement in Poona for 1982-83 is expected to be Rs. 47 lakhs.

Indian Scientists' Contribution in increasing Wheat Production

1120. SHRI R. L. P. VERMA: Will the Minister of AGRICULTURE be pleased to refer to the reply given to Unstarred Question No. 664 on 12 July 1982 regarding contribution of Indian scientists in increasing wheat production and state:

(a) the facts on the reference made in the said book that "In India and Pakistan, massive shipments of Green Revolution wheat from Mexico in the late 1960s raised the wheat harvest between 50 to 60 per cent during a period of two growing seasons", and there is no reference to the contribution of Indian scientists;

(b) what is the contribution of Indian scientists except introducing Mexican seed after their selection suit Indian conditions and increasing the area under cultivation and making them available to the farmers with high inputs in terms of fertilizers, irrigation, etc; and

(c) which are the priced wheat for which some scientists fetched award, and what is the area under their cultivation?

THE MINISTER OF STATE IN THE MINISTRIES OF AGRICULTURE AND RURAL DEVELOPMENT: SHRI R. V. SWAMINATHAN): (a) It is true that in the book entitled "Environmental Science" (1978) no mention has been made of the contribution of Indian scientists in increasing wheat production. It is clear, however, that the statement in the book: "In India and Pakistan, massive shipments of Green Revolution wheat from Mexico in the late 1960s raised the wheat harvest between 50-60 per cent during a period of two growing seasons" does not give

a complete and true picture of the significant contributions of Indian Wheat Scientists in identifying right varieties and developing appropriate production and protection technology to raise wheat production to a high level in different agro-climatic areas of the country.

In fact, only 18,000 tonnes of seeds of two dwarf wheat varieties 'Lerma Rojo' and 'Sonora 64' were imported during 1966, but these varieties being red grained could not become popular with the farmers and consumers. Subsequently the Indian Wheat Scientists made selections and released in 1967 amber grained better yielding and disease tolerant wheat varieties, like Kalyansona, Sonalika, Safed Lerma and Sharbati Sonora. The extensive cultivation of these varieties in fact, set in motion the wheat revolution in India. This programme was pursued vigorously by Indian scientists and a stream of better varieties such as Arjun, Nilgiri, HD 2189, MLKS 11, WL 711, WH 147, HD 2329, HUW 12, HI 617 etc. have been developed for commercial cultivation, which resulted in sustaining the wheat revolution. Besides the development of new varieties matching production and protection technology was also worked out to get the best return from these varieties.

It would thus appear that the authors of the book under reference were not aware of the vital facts stated above or of the contributions of the Indian Wheat Scientists and the omissions in their work is obviously due to their ignorance of these facts. It may not be out of place to add that Dr. Norman E. Borloug, the Nobel laureate and the initiator of the Green Revolution round the world has stated: "It is the All India Coordinated Wheat Improvement Project which is largely responsible for the wheat revolution and that it has developed to one of the most extensive and widely diversified wheat research programmes in the world."

(b) The contribution of the Indian Scientists apart from the introduction of Lerma Rojo and Sonora-64 are as under:-

(i) Replacement of Sonora-64 and Lerma Rojo (Red grained varieties) with better yielding and amber grained wheat varieties like Kalyansona and Sonalika

which have been selected by the Indian breeder.

(ii) Further hybridization work with the Indian and Mexican and other foreign varieties resulting in the production of varieties having still higher yield, better disease resistance and grain quality grains like, Janak, Shera, Hira, Moti, Arjun, HD 2135, HD 2204, HD 2189, WL 711, DWL 5023, WH 147, UP 62, Lok-1, HP 1209, HP 1102, HD 2204, HD 2189, HD 4502, Girija, Shailja, HD 2135, HI 617, HUW 12 etc.

(iii) To stabilise the wheat production, a new strategy in the form of development of multilines was followed as a result of which multilines such as KSML 3, MLKS 11 and KML 7406 were developed and released for commercial cultivation. These multilines being "slow-rusting" can better withstand rust epidemics. India is the first country in the world to develop and release multilines of dwarf wheats.

(iv) To work out the production technology for dwarf wheats, suitable to Indian conditions, with a view to exploit their high yield potential.

(v) Establishment of a survey and surveillance system for wheat diseases with a view to forecast occurrence of epidemics.

(c) Some of the important wheat varieties developed by the Indian Wheat Scientists for which award have been given are:—

Shera, Hira, Moti, Arjun, HD 2135, HD 2204, HD 2189.

With the development of still better wheat varieties such as WL 711, DWL 5023, KSML 3, MLKS 11, WH 147, UP 262, LOK 1, HP 1209, HP 1102, some of the earlier wheat varieties have been replaced and the acreage under new ones is as follows:—

WL-711—More than 50 per cent area in Punjab.

WH 147—Approximately 50 per cent area in Haryana.

UP 262—15 per cent area in UP & Bihar.

HP 1102—10 per cent area in UP & Bihar.

HP 1209—10 per cent area in UP & Bihar.

HD 2009—20 per cent area in Delhi, Haryana, Punjab, Rajasthan and Western UP.

HD 2204—10 per cent area in Delhi & UP.

HD 2189—20 per cent area in Maharashtra, Karnataka.

LOK 1—10 per cent area in Gujarat and M.P.

Verification about Survival of Trees

1121. SHRIMATI SANYOGITA RANE: Will the Minister of AGRICULTURE be pleased to state:

(a) whether Government have undertaken verification of the survival of the trees planted during the last three years and the number of trees survived; and

(b) the steps proposed to increase the rate of survival of trees?

THE MINISTER OF STATE IN THE MINISTRIES OF AGRICULTURE AND RURAL DEVELOPMENT (SHRI R. V. SWAMINATHAN): (a) The checking of plantations is normally done by the officers of the State Forest Departments.

Survival percentage as reported by States for 1979, 1980 and 1981 is given in the attached statement.

Random checking was also carried out by officers of Central Government during 1982.

(b) The proposed steps are selection of proper species, use of proper size of seedlings, better protection and better techniques.