

Radiation for Development of Agricultural Production

4901. SHRI MULLAPPALLY RAMACHANDRAN: Will the PRIME MINISTER be pleased to state:

(a) whether radiation helps in increasing agricultural production;

(b) whether use of radiation for promoting agriculture has harmful effects on consumers;

(c) whether this system has been experimented on any agricultural produce; and

(d) if so, details of results thereof?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF EDUCATION IN THE MINISTRY OF HUMAN RESOURCES DEVELOPMENT (PROF. M.G.K. MENON): (a) Radiation and Isotopes are used in agricultural research. This in turn helps to increase agricultural production. They are used for;

- (1) Genetic improvement of crop plants—Improved crop varieties are developed using radiation induced mutations. New crop varieties with higher yield, improved grain size and shorter crop duration have been developed in the country.
- (2) Increasing efficiency of nitrogenous and phosphatic fertilizers and micronutrients for different crop-soil regimes.
- (3) Management of pesticide use in agriculture.
- (4) Preservation of agricultural produce.

(b) The use of radiation in agricultural research has no harmful effects on consumers.

(c) All the above techniques have been used in agricultural research. Feasibility of using gamma irradiation for preservation of perishable commodities such as spices and onion have been established.

(d) Around 50 crop varieties consisting of cereals, pulses, oilseeds, cotton, jute and sugarcane have been released and are being grown by the farmers in the country.

Improved methods for application of fertilizers and to reduce pesticide residue contamination have been developed. Considerable research and development work at Bhabha Atomic Research Centre on the irradiation preservation of agricultural products have been reviewed by the Government. Clearance for adopting this process has been accorded for the preservation of spices, onions and seafood meant for export purposes.

Production of Heavy Water

4902. SHRI MULLAPPALLY RAMACHANDRAN:
SHRI M.M. PALLAM RAJU:
SHRI DAU DAYAL JOSHI:

Will the PRIME MINISTER be pleased to state:

(a) the number of plants in the country producing heavy water;

(b) the total requirement of heavy water and capacity of production of each plant in the country;

(c) whether Government propose to set up any more plant to produce heavy water;

(d) if so, the details of proposed loca-

tions and expenditure involved; and

(e) whether Government propose to increase import of heavy water?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF EDUCATION IN THE MINISTRY OF HUMAN RESOURCES DEVELOPMENT (PROF. M.G.K. MENON):

(a) There are six Heavy Water Plants in the country producing heavy water.

(b) The total capacity of the plants in operation is roughly 365 MT per annum. Two more plants with a capacity of 300 MT per annum are under construction.

As heavy water is a strategic material, it is not in the national interest to reveal production figures.

(c) Yes, Sir.

(d) The proposed plants would be located where feed materials like synthesis gas, water, adequate power, coal and natural gas as well as suitable land are available. The project estimates are being formulated.

(e) No, Sir

Achievements in Social Forestry

4903. SHRI SANAT KUMAR MANDAL. Will the PRIME MINISTER be pleased to state.

(a) whether Government have at any stage carried out an appraisal of the achievements of the Social Forestry Scheme;

(b) if so, details thereof; and

(c) the steps taken to make the programme of Social Forestry more effective?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF EDUCATION IN THE MINISTRY OF HUMAN RESOURCES DEVELOPMENT (PROF. M.G.K. MENON): (a) and (b). The main achievements of the Social Forestry Programme have been:

(i) The 20—Point Programme targets for afforestation and tree planting have been achieved during the Seventh Plan period.

(ii) Tree planting activities have been taken outside the forest areas and Farm/Agro Forestry has been promoted.

(iii) There has been increase in the total production of wood biomass.

(iv) Employment and incomes in the rural areas have been augmented.

However, the Programme has been restricted to tree planting and thrust in favour of fuelwood and fodder production and peoples' participation was lacking.

(c) With a view to make the programme more effective and remove the above-mentioned shortcomings, the Wastelands Development Programme has been restructured recently and endeavours to enlist people's participation, harness the inputs of science and technology, and achieve interdisciplinary coordination in programme planning and implementation. The strategy aims at integrated land use planning on watershed basis, village level action plans, emphasis on conservation and natural regeneration, fuelwood, fodder and timber production and technology extension.