

phais on water pumping for drinking and minor irrigation) has been drawn up. Simultaneously R & D work has been taken up for developing different types of solar cells, such as, polycrystalline silicon cells, MOS cells, cadmium Sulphide cells, etc. as also concentrator system for solar panels with a view to improving cost-effectiveness and efficiency. It is proposed to expand the application of photovoltaic systems for drinking water, irrigation etc. starting this year.

#### *Conversion of Bio-Mass into Energy:*

In recognition of the importance of R & D in the area of bio-gas systems, a time-bound All India Coordinated Programme involving several interdisciplinary research centres such as Planning Research and Action Division (PRAD) of the U.P. Government of Lucknow, KVIC, Structural Engineering Research Centre at Roorkee and the Central Building Research Institute and other organisations was initiated by the Department of Science and Technology a few years ago. In phase-I of the programme considerable success has been achieved in the utilisation of organic waste, primarily animal dung, and a few designs of viable family size bio-gas plants have been evolved. "Janata" drumless plants and ferro-cement gas holders have been developed and research work in the micro-biological aspects has been shown promising results.

A major and dynamic thrust is now being given by the DST to develop family and community-size biogas plants as an important element in the rural energy matrix. In the future phase of programme, which has commenced this year more emphasis is being placed on expanding the installation of community size bio-gas plants, as well as family types plants and the utilisation of other types of solid wastes/materials, like vegetable wastes and agricultural residues. Initially 6 community size bio-gas plants would be developed in selected villages by PRAD, Lucknow and KVIC. In support of the coordinat-

ed project, work is underway in resolving other technical problems concerning microbiological aspects, fermentation technology, low cost construction techniques and materials, and low cost devices and engines for bio-gas utilisation.

Various programmes are under way to explore the utilisation of agricultural residues on biomass to provide renewable energy sources for the future, here solar energy is made use of through photosynthesis and the biological chains. The DST has constituted a National Steering Committee to examine, identify and formulate R & D Programmes related to production of Biomass and conversion of Biomass to fuels/feedstick specially keeping in view the abundant supply of solar energy. Two projects—project on bioconversion of methane to methanol and another project for studying conversion of Cellulosic material to ethanol have been taken up at the IIT, Delhi. Also a project for introduction, screening, cultivation of potential petrocrops and their conversion into Petroleum hydrocarbons has been initiated by DST at the National Botanical Research Institute, Lucknow jointly with the Institute of Petroleum, Dehra Dun. Although the entire R & D in this area will have a long term effect, yet efforts are to be started now to have the technology readily available. The use of biological systems by harnessing solar energy would be a very effective mechanism specially to check environmental pollution, resource depletion and promote decentralized energy supply.

In general it is proposed now to give a fresh impetus and priority to the programmes for development and harnessing of renewable energies and their widespread utilisation.

#### **Industrial Growth Rate**

278. SHRI VIJAY N. PATIL: Will the Minister of INDUSTRY be please to state:

(a) what was the rate of industrial growth during the years 1977-78 and 1978-79;

(b) how does it compare with the growth rate of the years 1975-76 and 1976-77;

(c) the reasons for the shortfalls, if any; and

(d) the steps proposed to increase the industrial growth rate?

**THE MINISTER OF STATE IN THE MINISTRY OF INDUSTRY (SHRI CHARANJIT CHANANA):** (a) The rates of industrial growth during the years 1977-78 and 1978-79 were 3.9 per cent and 7.6 per cent respectively.

(b) The rates of industrial growth achieved during the years 1975-76 and 1976-77 were 6.0 per cent and 9.5 per cent respectively.

(c) The reasons for the shortfall in industrial growth during 1977-78 as compared to the other years were shortages in power supply, industrial unrest and demand constraints affecting certain industries.

(d) Some of the steps proposed to increase the industrial growth rate are better utilisation of existing capacity, improved labour-management relations and increase infrastructural facilities

#### **Supply of Siren-fitted Pilot Jeeps to Central Ministers in States**

279. SHRI K. A. RAJAN: Will the Minister of HOME AFFAIRS be pleased to state:

(a) whether State Governments are required to provide siren-fitted pilot jeeps to Central Ministers when they go to various States;

(b) if so, the details thereof;

(c) the names of the States where siren-fitted pilot jeeps are provided by the State Governments as a policy; and

(d) whether such practice has been stopped in the State where President's rule prevails?

**THE MINISTER OF STATE IN THE MINISTRY OF HOME AFFAIRS (SHRI YOGENDRA MAKWANA):** (a) and (b). No instructions have been issued for provision of siren-fitted pilot jeeps to Central Ministers during their visits to States:

(c) No siren-fitted jeeps are provided by the States of Punjab, U.P., Jammu and Kashmir and Karnataka. In Haryana a pilot is some times provided in crowded area for traffic duties to Central Ministers during their visits. In Haryana all jeeps are fitted with sirens. The information in respect of the remaining States is being collected and will be laid on the Table of the House when collected.

(d) The practice of providing pilot jeeps does not exist in the States of U.P. and Punjab. The information in the remaining States where President's rule prevails is being collected and will be laid on the Table of House when collected.

#### **Launching of Rolling Plan during the period 1977-79**

280. PROF. NARAIN CHAND PARASHAR: Will the PRIME MINISTER be pleased to state:

(a) whether the Government had launched upon Rolling Plan for the country in the period 1977-79;

(b) if so, the exact definition of the concept and the distinction from the regular plan for five years alongwith the name of the author of this Plan; and

(c) the effect of this planning on the country?

**THE PRIME MINISTER (SHRIMATI INDIRA GANDHI):** (a) and (b). The system of Rolling Plan was referred to in the Draft Five Year Plan (1978-83). It envisages that year to year targets would be set out for sectoral outlays and outputs for major sectors within the Five Year Plan and the horizon of the Five Year Plan will be extended by working out these sectoral targets for