

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:1648
ANSWERED ON:19.07.2004
NEW TECHNOLOGY FOR IRRIGATION
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Will the Minister of AGRICULTURE be pleased to state:

- (a) the details of different systems of irrigation available in the country;
- (b) whether the Government proposes to adopt any new technology for irrigation; and
- (c) if so, the details thereof?

Answer

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTILAL BHURIA)

(a): Details of different systems of irrigation available in the country are given in the Annexure.

(b) & (c): Sprinkler and micro irrigation are modern methods of irrigation. In this context, a Task Force on Micro Irrigation was constituted in 2003 under the chairmanship of the then Chief Minister of Andhra Pradesh. The Task Force in its report submitted to the Central Government has recommended coverage of 3 million ha. under micro irrigation in the country during the Tenth Plan and another 14 million ha. during the Eleventh Plan. According to the Task Force, this would require an investment of Rs. 10,500 crores during the Tenth Plan and another Rs.51,000 crores during the Eleventh Plan.

The matter has been taken up with the Ministry of Finance and the Planning Commission.

Annexure I

DIFFERENT SYSTEMS OF IRRIGATION AVAILABLE IN THE COUNTRY

Conventional methods of irrigation

Traditionally, crops have been irrigated by application of water directly to the soil surface commonly known as flood method of irrigation. Flood irrigation methods have been improved further as detailed below:

a) Basin Irrigation: Flood irrigation is generally adopted for cereal crops like Paddy, which are closely spaced where standing water is required for long duration of crop growth. There are two methods of supplying water to basins viz.

(i) direct method and

(ii) the cascade method. In direct method the water is applied directly to the basin through siphons, spills or bund breaks. In the cascade method, where the basins are made on terrace, the water is allowed to flow from the upper to the lower terrace.

b) Border Irrigation: In border irrigation, the water is applied in small strips of land, known as borders, which are uniformly graded. The bunds along the borders help to guide the water to flow down the field. This method is commonly used to irrigate crops like wheat, maize, pulses and oilseeds. The borders can be dismantled after harvesting the crop. This is suited for medium to heavy textured soils.

c) Furrow Irrigation: In this system, the water is applied through a series of parallel furrows, which are in turn connected with the main channel. This is suitable for crops like potato, sugarcane, vegetables, etc, which are raised on ridges.

Modern Methods of Irrigation

The modern methods of irrigation are sprinkler and micro irrigation. In sprinkler irrigation water is applied through emitting devices known as nozzles which are attached to a portable network of HDPE (High Density Poly Ethylene) pipes. These are generally used for closed spaced crops, lawns and turfs. Since the water is conveyed through pipes, it saves 20 – 50% of seepage and evaporation losses. It also results in to increased yield.

Micro irrigation is another modern method of irrigation which even saves more water than sprinkler irrigation. Under this system a pre determined quantity of water is applied directly into the root zone of the plant through different emitting devices as emitters/drippers. The other inputs like soluble/liquid fertilizer and chemicals may also be supplied through this system.