GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA

UNSTARRED QUESTION NO:1602
ANSWERED ON:06.03.2006
DRIP AND SPRINKLER IRRIGATION
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Will the Minister of AGRICULTURE be pleased to state:

(a) the benefits of drip and sprinkler irrigation over other methods of irrigation;

(b) the total area of land under the said system of irrigation as on date, State-wise; and

(c) the steps taken to extend the said system to other States?

Answer

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA)

(a): The benefits of drip and sprinkler irrigations are mainly on water savings and increase in crop productivity. The details of benefit over conventional method is annexed.

(b): The total area of land covered under the said system is 2.3 million hectare State-wise details is annexed.

(c): Government has launched a Centrally Sponsored Scheme on `Micro-Irrigation` during Tenth Plan and providing assistance to farmers of potential States towards implementation of drip and sprinkler system alongwith demonstration and training of farmers.

Annexure – I

Comparison of benefits of Drip/Sprinkler over Conventional Irrigation

Performance Indicator	Conventional Irrigation Methods (Flood, Furrow, Basin, Border)	Sprinkler Irrigation	Drip Irrigation
Water saving	Waste lot of water, losses occur due to percolation, runoff and evaporation	30-50% of water can be saved over conventional irrigation methods. Runoff and deep percolation losses are nil or negligible.	40-80% of water can be saved over conventional irrigation methods. Runoff and deep percolation losses are nil or negligible
Water use efficiency	25-30%, because losses are very high	50-65%	80-95%
Saving in labour	Labour engaged for irrigation is higher	Labour required only for operation and periodic maintenance of the system	Labour required only for operation and periodic maintenance of the system
Reduced weed Intensity	Weed infestation is very high	Weed infestation is there almost nil	Weed infestation is
Use of saline	Concentration of salts	Frequent irrigation keeps the	Brackish water

water increases and adversely affects the plant root zone soil below harmful growth.Saline water level. can notbe used for Irrigation.	salt concentration within may be used		
Diseases and High pest problems	Relatively less because of less atmospheric humidity	Relatively less because of less atmospheric humidity	
Suitability in different types soil and with limited soil depths. Runoff loss is more in heavy soils.	Deep percolation is more in light soil as flow rate can be controlled	Suitable for all soil types Suitable for hilly and undulating areas.	
Water control	Inadequate	Better then flood	Optimum
Efficiency of fertilizer use	Efficiency is low because of heavy losses due to leaching and runoff	Better due to reduced loss of nutrients through leaching and runoff water.	Very high due to reduced loss of nutrients and runoff water.
Soil erosion	Soil erosion is high because of large stream sizes used for Irrigation	Slow application rates eliminate any possibility of soil erosion.	Partial wetting of soil surface and slow application rates eliminate any possibility of soil erosion.
Increase in crop yield	Non – uniformity in available moisture reducing the crop yield	7	Frequent watering eliminates moisture stress and yield can be increased upto 20 – 100% as compared to conventional methods of irrigation.

ANNEXURE-II

THE STATE WISE AREA COVERED UNDER DRIP & SPRINKLER IRRIGATION AS ON 31.3.2005

(Area In Hectare)

S.No.	State	Drip Irrigation	Sprinkler	Total
1.	Haryana	4219	503862	508081
2.	Rajasthan	10025	460529	470554
3.	Maharashtra	219696	117320	337016
4.	Karnataka	114304	157028	271332
5.	Andhra Pradesh	111407	84490	195897
6.	West Bengal	110	150020	150130
7	Tamil Nadu	116665	26332	142997
8.	Madhya Pradesh	6483	100000	106483
9.	Gujarat	16686	36333	53019
10.	Orissa	2036	20220	22256
11.	Uttar Pradesh	4609	10000	14609
12.	Punjab	4262	10000	14262
13.	Kerala	10559	1529	12088
14.	Sikkim	80	10030	10110
15.	Chhattisgarh	1979	3765	5744
16.	Nagaland	0	3962	3962
17.	Goa	741	296	1037
18.	Himachal Pradesh	116	581	697
19.	Arunachal Pradesh	613	0	613
20.	Assam	58	129	187
21.	Mizoram	72	106	178
22.	Uttranchal	38	6	44
23.	Manipur	30	0	30
Total		624786	1696538	2321326