

# SCHEME FOR CROP DIVERSIFICATION IN HARYANA

## जल ही जीवन (JAL HI JIVAN)

---

### **Context**

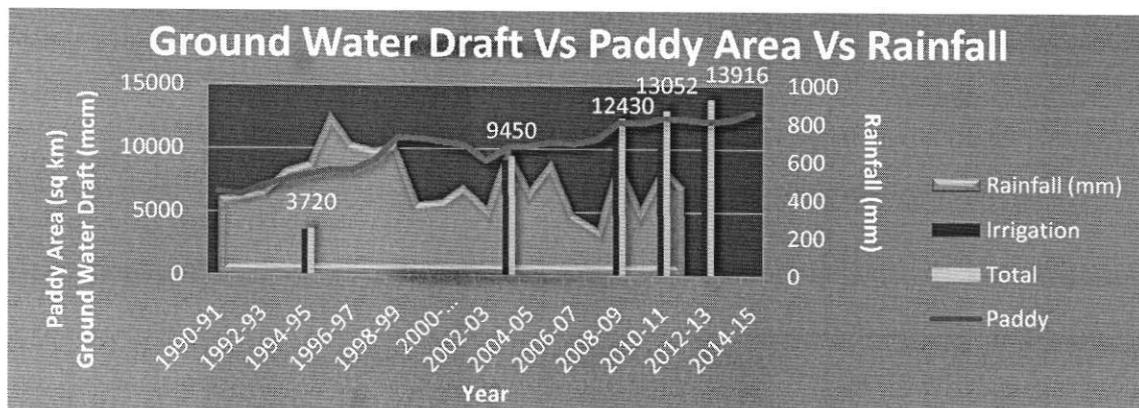
Haryana is undergoing water stress period wherein depletion of groundwater resources are threatening long- term sustainability of drinking, domestic and irrigation water in the State. Primary cause of decline in water table is practicing of water-hungry crops such as Paddy and Wheat rotation, which is popularly practised in Haryana. Various studies were conducted and suggested that in Haryana the paddy-wheat rotation is unsustainable and is lowering the water table. The increased popularity of these crops may be attributed to remunerative prices for rice and wheat, not only for ensuring food security, but resulted in draining out the excess water brought about due to unlined canals and lack of adequate drainage in the State. Cultivation of these crops over the years has brought significant decline in ground water levels and leading to overexploitation of ground water resources.

As per the estimates of Central Ground Water Board (CGWB) carried out jointly with the State Government reveals that annual replenishable ground water resources in the State is 9130.51 MCM against the withdrawal of 12500.38 MCM, leading to over exploitation of ground water. This indicates that Ground water withdrawal has outpaced its recharge and stage of ground water development of Haryana has reached to 137%. Injudicious withdrawal of ground water has caused depletion of ground water resources and led to decline in water levels in the range of 6 to 76 cm/yr. Out of 128 ground water assessment units of Haryana State, 78 units are over-exploited covering more than 60 % of the area. As per the latest assessment of ground water resources of the State out of 128 blocks, 78 blocks are over exploited, 3 blocks are critical, 21 blocks are semi critical and 26 blocks are safe.

### **NAQUIM Studies carried out by Central Ground Water Board (CGWB)**

Observing the water crisis in the State of Haryana, CGWB has taken up National Aquifer Mapping Programme (NAQUIM) in the State with an objective with detailed studies for delineating aquifers, their characterisation, exploring possibilities for enhancing recharge to ground water and suggesting appropriate ground water management strategies for sustainable ground water resources in the State. The Management strategies includes intervention in recharge plans, efficient crop water practices, change in cropping pattern etc. for devising sustainable ground water development and management plans. NAQUIM reports have been presented and shared with concerned State and district authorities for effective implementation. During the presentations, it has been emphasised

that Paddy Cultivation in Haryana and Punjab is consuming huge amount of ground water and is elucidated in the Graph given below:



District and Block-wise Ground Water Management Plans prepared under NAQUIM studies for Haryana mainly addresses issues of over-exploitation along with other water related issues such as ground water quality, water logging, Artificial recharge to ground water, water intensive agriculture practices etc. One of the strategy suggested in NAQUIM for ground water management plans isto control over exploitation of ground water resources by changing cropping pattern in the State. Shifting from water intensive crop like paddy, sugarcane, etc., to less water consuming crops like Maize, soyabeen, Arhar (Pulses) etc. An estimate have been made indicating water savings that can take place, if cropping pattern is shifted from Paddy-Wheat to Maize/ Soyabeen. Apart from these adoption of Under Ground Pipe Lines (UGPL) for water distribution system instead of open channel and adoption of artificial recharge (AR) to ground water also attribute to water savings. Details are givenin Table 1 below:

**Table 1: Water Saving methods to be adopted to reduce the present Stage of GW Development (SOD) in Parts of Haryana**

District	Block	Net Annual Ground Water Availability	Present GW Draft	SOD (GWR-2013)	Water Saving Method				Expected SOD after Implementation	Paddy area to be converted to Maize/ Soyabeen
					UGPL	AR	Crop diversification to Maize	Total Savings		
		MCM	MCM	%	MCM	MCM	MCM	MCM	%	%
Karnal	Asandh	8701	21692	249	-	2.0897	-			
Kaithal	Pundri	134.14	307.93	230	16.83	2.07	154.9		100	52
Jind	Narwana	223.12	321.32	144	22.09	4.60	20.71	47.40	120	20
Kurukshetra	Thaneshwar	149.53	405.5	271	14.98	6.0	235.03	256	100	92
Ambala	Ambala-I	140.7	113.2	80	6.6	NA	NA	6.6	76	NA
Ambala	Saha	74.3	96.5	130	5.7	0.2	16.3	22.2	100	20
Yamunanagar	Radour	167	7.36	19.61	0	26.97	14.0	45.31	52.67	114
Sonipat	Gannaur	19778	23711	120		1.76				