Ground Water and Paddy Cultivation in Haryana

Problem Statement

- Haryana, India's largest Basmati Rice producer and exporter (65%) is touching new water scarcity levels.
- Data shows that paddy production in Haryana has reached 61.79 lakh metric tonne (MT) during the year 2015-16 from 36.48 lakh MT in 1998-99, the Green Revolution days. Unsurprisingly, increased production coincides directly with the declining groundwater tables.
- According to the Central Ground Water Board records, in 1999, the groundwater level was available at 9.36m while in the past 17 years, it has gone down to 18.66m, recording a decline of 9.30m in the water level.

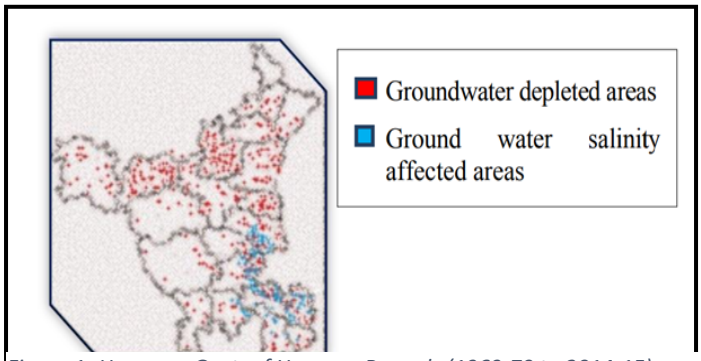

Figure 1- Haryana, Govt. of Haryana Records (1969-70 to 2014-15)

- Karnal, where we are sitting right now is among the worst affected districts with groundwater level running in negatives at -11.16m.
- Two-dimensional Groundwater problem
  - Declining Natural Fresh Water Aquifers
  - Salinization and water logging
- With continuous over exploitation of surface and ground water; the ecological as well as economical sustainability of rice cultivation stands questionable.

Existing Frameworks

- Central Government- Bringing Green Revolution to Eastern India (BGREI), Rice production using advance techniques like Systematic Rice Intensification in water rich eastern states of Bihar and Uttar Pradesh.
- State Government- Sprinkler systems, Alternate Wetting and Drying, Water monitoring, Subsidies on sprinkler systems, underground pipelined systems, Minimum Support Prices in water efficient crops. National Bank for Agriculture and Rural Development (NABARD)'s Water Campaign-2017' in 5,000 villages for creating awareness about conservation, preservation and efficient utilisation of water.
- Private Players- Practice and promote sustainable practices, Laser Levelling, Sustainable Rice Platforms 2014,
  - PepsiCo saved 11.2 billion litres of water through direct seeding in Punjab, Haryana, Uttar Pradesh and Tamil Nadu.
  - More than 75 per cent of Hindustan Unilever's manufacturing sites are zero-discharge. They reduced water use by regular metering, monitoring and controlling of utilities consumption at all its manufacturing sites and rain water harvesting.
  - Premium paid on sustainably produced rice by some companies Like COOP, MARS Foods.
  - With support from swiss agency for development and cooperation SDC and Swiss Helvetas, Partners in Prosperity, LT Foods, MARS Foods, and Jain Irrigations) is implementing WAPRO 2- to promote water saving techniques in rice production.

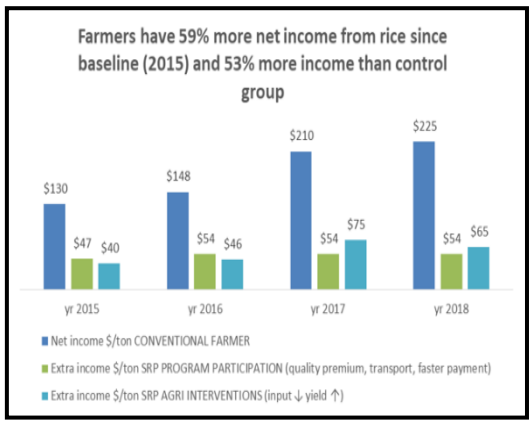

Figure 2 Premium Paid by MARS Food on SRP Rice which led to Increased Income of the farmers

Future Course of Action

- Techniques to replenish groundwater levels, rainwater harvesting. 65% of the rainwater in India is not harvested and runs off into the sea, creating soil erosion on its way. Farm ponds, percolation tanks, water reservoirs and dams can help retain more surface water and increase groundwater recharge.
- Optimal cropping pattern across various agro-climatic regions of India- shifting to Maize and Millets in water scarce areas like Haryana and Punjab- ICIER (Indian Council for Research on International Economic Relations) and NABARD joint report.
- We need to recognize the fact that for every 1 kg rice exported, we are exporting 5'300 of litres of water for free. Water governance from all active players- consumers, farmers, water user groups, government and the market are required to tackle this urgent issue in hand.

Produced by

BECAUSE EVERY DROP COUNTS!! जल ही कल है!

PARTNERS IN PROSPERITY
Enriching people and planet