



## Mains Practice Question

**Q.** Explore the potential of micro-irrigation in revolutionizing farming towards profitability and sustainability within the framework of the Pradhan Mantri Krishi Sinchai Yojana. (150 words)

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### Approach

- Define what is micro-irrigation and explain briefly PMKSY and try to create a link between the two.
- Discuss how micro-irrigation can contribute to the achievement of PMKSY's goals.
- Conclude by summarizing the main points and highlighting the potential of micro-irrigation in revolutionizing farming within the framework of PMKSY.

### Introduction

The Pradhan Mantri Krishi Sinchai Yojana (PMKSY) is a national mission launched in 2015 to improve farm productivity and ensure better utilization of the resources in the country. The motto of PMKSY is “Har Khet Ko Pani” (water for every field) and “More crop per drop”. Micro-irrigation is a low-pressure, low-flow-rate type of irrigation that can reduce the likelihood of overwatering a landscape. It delivers water directly to where it is needed most—the root zone of plants.

### Body

Some of the ways in which micro-irrigation can contribute to the objectives of PMKSY are:

- It can **help expand cultivated areas under assured irrigation by enabling farmers to grow crops that would not be possible under conventional systems with lower water quantities.**
- It can **help improve water use efficiency by reducing water consumption and energy use for pumping.** Micro-irrigation can also help in fertigation, which is the application of fertilizers through irrigation water, thus saving on fertilizer costs and improving nutrient use efficiency.
- It can **help in precision farming, which is the application of water and agrochemicals according to the soil and plant status and needs.** This can be achieved by using emerging computerized GPS-based technologies and wireless sensor networks that can monitor and control micro-irrigation systems.
- It can **help in enhancing recharge of aquifers and introducing sustainable water conservation practices by reducing surface runoff and deep percolation,** and by promoting rainwater harvesting and micro-watershed development.
- It can **help in improving the livelihoods and well-being of the farming community by increasing crop yields and incomes, reducing input costs and risks,** and enhancing crop diversification and resilience to climate change.

### Conclusion

Therefore, micro-irrigation can be a key component of PMKSY to achieve the vision of extending the coverage of irrigation and improving water use efficiency in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities.

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