



Mains Practice Question

Q. Shifting of priority from land productivity to irrigation water productivity has its own set of challenges which need to be addressed in time. Discuss. (150 words)

18 Dec, 2019 GS Paper 3 Economy

- Introduce by highlighting the need to shift priority from land productivity to irrigation water productivity
- Discuss the challenges associated with regard to this shift
- Suggest measures so as to timely address these challenges

Introduction

Agriculture remains the predominant occupation in terms of number of people employed in India and it is also critical for the country's food security. In such case, given that almost 89% of groundwater extracted in India is used for irrigation (according to the Asian Water Development Outlook, 2016), there is a need to shift priority from land productivity to irrigation water productivity (IWP) because:

- There is a major concern whether the present practice of ground water use can be sustained as the depth of ground water level continues to drop.
- The cropping pattern in India is highly skewed towards crops that are water intensive such as paddy and sugarcane which consume more than 60% of irrigation water available in the country, reducing water availability for other crops.
- The incentive structures like minimum support price; heavily subsidised electricity, water and fertilizers; etc. have played a significant role in the misalignment of crop patterns in the country.
- States such as Tamil Nadu, Karnataka, Maharashtra and Andhra Pradesh, which have high land productivity, tend to have very low irrigation water productivity, reflecting inefficient use of water and the need to re-calibrate cropping pattern.

Body

Irrigation water productivity (IWP), defined as the yield produced per unit of irrigation water use, has become an important criteria which takes into account both agricultural production and water use efficiency. Increasing the value of IWP would not only alleviate the pressure of limited water resources but also ensure the food security.

IWP can be increased by adopting improved methods of irrigation and irrigation technologies such as micro-irrigation system; organic and natural farming techniques including Zero Budget Natural Farming (ZBNF); economizing the use of fertilizers and pesticides; and adopting appropriate technology for small farmholders.

However, a few challenges are associated with shifting of priority from land productivity to IWP such as

- **Fragmentation of agricultural land holdings:** The declining size of landholdings impacts farm incomes and farm income is closely associated with the capability of the farmer to adopt expensive micro-irrigation systems.
- **Credit availability:** Lack of access to timely credit or finance has severe impact on the

installation and implementation of advanced irrigation technologies and efficient agricultural practices.

- **Expensive micro-irrigation:** High cost of installment and poor component repairs for micro-sprinklers and inadequate technical support in the event of the sophisticated system becoming obsolete make micro-irrigation expensive.
- **Knowledge gap:** Lack of knowledge with farmers regarding the benefits of IWP.

Way Forward

In order to address these challenges, a combination of measures which suit the local agro-economic context needs to be applied to improve IWP which will lead to sustainable water use in agriculture.

Therefore, devising policies such as “Per Drop More Crop” to incentivise farmers to adopt efficient ways of water use should become a national priority to avert the looming water crisis. In addition to these measures, a combination of resource efficient methods; dynamic cropping patterns; climate change responsive farming; and intensive use of technology should form the backbone of farming in India.

PDF Refernece URL: <https://www.drishtiias.com/mains-practice-question/question-452/pnt>