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Q4

Elaborate the impact of National Watershed Project in increasing agricultural production from water-stressed areas.

UPSC Civil Services Mains 2019 · GS III · 10 marks · Indian Economy

Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

Core demand of the question

- Elaborate the impact of the National Watershed Project on agricultural production in water-stressed areas
- **Name the programme chain:** IWMP, **Neeranchal**, WDC-PMKSY
- Keep a 10-mark length

Revision summary

Neeranchal backs IWMP, now WDC-PMKSY, as the national watershed effort.

Structures slow runoff, cut soil loss, and recharge wells in rainfed blocks.

The production gain is cropping intensity and a less risky kharif, plus fodder.

MGNREGA and **PMKSY** convergence turn a trench into a second crop.

Borewell over-extraction and unmaintained structures cap the impact.

Introduction

A **watershed** is a ridge-to-valley unit in which rain is caught, soil is held, and aquifers can recharge. The **National Watershed Project** in recent Union language is the **World Bank-assisted Neeranchal** project that backs the **Integrated Watershed Management Programme (IWMP)**, later the **Watershed Development Component of Pradhan Mantri Krishi Sinchayee Yojana (WDC-PMKSY)**. In dry blocks, more grain comes from **soil moisture** before it comes from a new canal.

Body

What the project does

- Ridge treatment, **contour trenches**, check dams, farm ponds, and drainage-line structures slow runoff so **silt stays on the field** and water soaks in.
- **Common Guidelines (2008)** put a **Gram Sabha / Watershed Committee** in charge, with a livelihood slice for the landless, not only for landholders.
- **Neeranchal** (approved 2014-15) was meant to fix IWMP's weak planning, GIS, and monitoring so structures are placed where hydrology, not a contractor's convenience, dictates.
- Convergence with **MGNREGA**, **PMKSY** (Har Khet Ko Pani and micro-irrigation), and **PM-KISAN** cash on the same plot is how a trench becomes a second crop.

Impact on production in water-stressed areas

- **Cropping intensity** rises where a rabi pulse or oilseed can follow a kharif cereal on stored moisture. That is the main production gain in rainfed Deccan, Bundelkhand, Marathwada and parts of Rajasthan and Gujarat.
- **Groundwater** in treated micro-watersheds often recovers enough for protective irrigation; yields of millets, cotton and horticulture become less of a coin-toss.
- **Soil loss** falls, so the nutrient capital that **Soil Health Cards** describe is not washed to the stream. This is yield saved, not only yield added.
- **Fodder and trees** on bunds support livestock, which is the IFS link: milk smooths the year when the grain crop is thin.
- **Pradhan Mantri Fasal Bima Yojana** still matters: watersheds cut frequency of total failure; they do not remove drought.

Limits

- Impact is **site-specific**. Ghost structures, poor maintenance, and upstream-downstream fights waste money.
- A watershed cannot offset **power-subsidised borewells** that mine deeper than recharge.
- Production gains need **seeds, extension and a market**; a check dam alone does not raise MSP-linked wheat in a canal command.

Flow diagram

Ridge to valley works -> Soil moisture and recharge
 Soil moisture and recharge -> Higher cropping intensity
 Soil moisture and recharge -> Protective irrigation
 Higher cropping intensity -> More stable output
 Protective irrigation -> More stable output
 More stable output -> MGNREGA PMKSY PM-KISAN

Conclusion

In water-stressed areas the National Watershed Project raises agricultural production mainly by holding soil and moisture, then a modest second crop and livestock. **Neeranchal** and WDC-**PMKSY** work when MGNREGA and **PMKSY** converge and when borewells are not allowed to empty the recharge. Treat the ridge first; then talk of yield.

Facts & figures

IWMP / WDC-PMKSY

Integrated Watershed Management Programme, later the watershed component of Pradhan Mantri Krishi Sinchayee Yojana.

Neeranchal

World Bank-assisted National Watershed Project to strengthen IWMP planning, GIS and results, approved in 2014-15.

Common Guidelines 2008

Community watershed committees, livelihood for the landless, and ridge-to-valley sequencing.

MGNREGA convergence

Labour budget for ponds and trenches so watershed assets are not only a one-time contractor job.

PMKSY

Har Khet Ko Pani and per-drop-more-crop sit on top of watershed recharge; they do not replace it.

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