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IMPACT OF PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY) ON FARMERS OF NORTH-EASTERN INDIA

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Agriculture remains the backbone of rural livelihoods in India, particularly in the North-Eastern Region (NER), where a large proportion of the population depends on farming for income and food security. However, agriculture in the region faces several constraints including irregular rainfall distribution, limited irrigation infrastructure, hilly terrain, fragmented land holdings, and shifting cultivation practices. These challenges often lead to low productivity and high vulnerability to climate variability.

To address the critical issue of irrigation and water management in agriculture, the Government of India launched the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) on 1 July 2015 with the vision of ensuring water access to every farm (“Har Khet Ko Pani”) and promoting efficient water use through the concept of “More Crop Per Drop.”

The scheme has been instrumental in strengthening irrigation infrastructure, promoting micro-irrigation technologies, and improving water conservation practices across the country. In the North-Eastern states, where agriculture largely depends on monsoon rainfall, PMKSY has played a particularly transformative role in improving crop productivity, cropping intensity, and farmers’ livelihoods.

Overview of the PMKSY Scheme

The Pradhan Mantri Krishi Sinchayee Yojana is an umbrella programme designed to integrate multiple irrigation initiatives under a single framework. The scheme focuses on improving water use efficiency and expanding irrigation coverage across agricultural lands.

The major components of PMKSY include:

1. Accelerated Irrigation Benefit Programme (AIBP)

- Supports the completion of long-pending irrigation projects to increase irrigation potential.

2. Har Khet Ko Pani (HKKP)

- Ensures water availability to all agricultural fields through infrastructure development such as canals, groundwater development, and water body restoration.

3. Command Area Development and Water Management (CADWM)

- Promotes efficient distribution and management of irrigation water at the field level.

4. Per Drop More Crop (PDMC)

- Encourages micro-irrigation technologies such as drip and sprinkler irrigation to enhance water use efficiency.

The primary objectives of PMKSY include expanding cultivable land under assured irrigation, improving on-farm water management, enhancing water use efficiency, and promoting sustainable water conservation practices.

Importance of PMKSY for the North-Eastern Region

The North-Eastern Region comprises eight states—Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. Despite abundant rainfall, irrigation coverage in many parts of the region remains low due to topographical constraints and lack of infrastructure.

Key agricultural challenges in the region include:

- Dependence on rain-fed farming
- Limited irrigation facilities
- Soil erosion and water runoff in hilly terrain
- Fragmented land holdings
- Low adoption of modern irrigation technologies

PMKSY addresses these issues through watershed development, water harvesting structures, and micro-irrigation systems that are particularly suitable for the region's agro-ecological conditions.

For example, in Arunachal Pradesh alone, micro-irrigation initiatives have benefited thousands of small and marginal tribal farmers while expanding irrigation coverage across several thousand hectares of farmland.

Key Impacts of PMKSY in North-Eastern India

1. Expansion of Irrigation Coverage: One of the most significant achievements of PMKSY in the North-Eastern states has been the expansion of irrigation facilities in previously rain-fed areas. The construction of minor irrigation structures, check dams, and water harvesting systems has improved water availability for farmers.

In many villages, small irrigation channels and lift irrigation systems have enabled farmers to cultivate crops beyond the monsoon season, increasing cropping intensity.

2. Promotion of Micro-Irrigation Technologies: The Per Drop More Crop component promotes efficient irrigation technologies such as drip and sprinkler systems. These technologies help farmers:

- Reduce water wastage
- Improve crop yield
- Increase fertilizer efficiency through fertigation
- Save labour and energy

Micro-irrigation is particularly useful for horticultural crops such as pineapple, orange, turmeric, ginger, and vegetables, which are widely grown in the North-Eastern region.

3. Improved Crop Productivity: Improved irrigation facilities have significantly enhanced agricultural productivity in the region. Farmers are now able to cultivate multiple crops throughout the year instead of relying solely on monsoon cultivation.

In irrigated areas, farmers have reported increased yields in crops such as:

- Paddy
- Maize
- Vegetables

- Spices
- Horticultural crops

Reliable irrigation also reduces the risk of crop failure during dry spells.

4. Crop Diversification: PMKSY has encouraged farmers to diversify their cropping systems. Earlier, most farmers depended on traditional paddy cultivation during the monsoon season. With improved irrigation, farmers are now shifting towards high-value crops such as:

- Baby corn
- Vegetables
- Floriculture crops
- Spices like turmeric and ginger
- Fruit crops such as pineapple and banana

Crop diversification increases farmers' income and improves nutritional security.

5. Water Conservation and Sustainable Farming

The scheme also emphasizes water conservation through:

- Rainwater harvesting
- Watershed development
- Restoration of traditional water bodies
- Soil moisture conservation techniques

These practices help maintain groundwater levels and ensure sustainable agricultural development.

In several areas, watershed-based interventions have improved soil moisture and groundwater recharge, which in turn enhances crop growth and farm productivity.

6. Income Enhancement for Farmers: Improved irrigation access allows farmers to grow multiple crops annually, thereby increasing farm income. With better water management and adoption of improved technologies, farmers can produce higher yields and cultivate commercial crops.

The combined effect of irrigation expansion, crop diversification, and improved productivity has contributed to enhanced livelihoods in rural communities across the North-Eastern region.

Challenges in Implementation

Despite its significant achievements, PMKSY faces certain challenges in the North-Eastern region:

1. Difficult terrain and infrastructure limitations
2. Limited awareness among farmers about modern irrigation technologies
3. High installation cost of micro-irrigation systems
4. Maintenance issues of irrigation structures
5. Fragmented landholdings and scattered farms

Addressing these challenges requires stronger institutional support, capacity building, and community participation.

Conclusion

The Pradhan Mantri Krishi Sinchayee Yojana has emerged as a transformative initiative for Indian agriculture by addressing one of the most critical constraints—water availability. In the North-Eastern region, where agriculture is highly dependent on rainfall, the scheme has played a crucial role in expanding irrigation infrastructure, promoting efficient water management, and improving farmers' livelihoods.

Through micro-irrigation, watershed development, and water conservation practices, PMKSY has contributed to sustainable agricultural development in the region. With continued policy support, community participation, and technological innovation, the scheme has the potential to further enhance agricultural productivity, resilience, and income generation for farmers in the North-Eastern states.

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