Dew drops and sugarcane: a *desi* tale of cultivation

"Sugarcane" means a sweet juice, sweet small cut pieces of edible stem, or a source of white crystal sugar for us, consumers. It is one of the influential cash crops for 50 million farmers in India and a chest-thumping product for the country in terms of its role in the global sugar supply. On the flip side, sugarcane is one of those water intensive crops that cause ample concern for water stringent countries amidst the climate change scenario. It is the crop that consumes a total of 29% of all water usage in crop production globally, and India is no exception. Several strategies have been formulated to optimize water management in sugarcane cultivation but the gap still prevails as per the recent findings. With this water exhaustive background, a traditional practice of sugarcane cultivation with collective dew drops sounds unbelievable or media hype, but it is there.

Let's go to the Purulia district in the state of West Bengal. Geographically placed at the tail end of the central Indian highland, the region is considered semi-arid with erratic and inconsistent rainfall in comparison to the alluvial plains of the Indo-Gangetic basin. Hence, agriculture is rain-fed and irrigation dependent thus, sugarcane is a costly challenge here. Surprisingly, sugarcane is very much here thanks to the local adaptations made by the farmers of Sirkabad village (from Arsha block) near Baghmundi hill. The land preparation starts from January onwards with plowing after mid day so that the tilted sandy soil can capture atmospheric moisture at night. In winter and spring seasons the moisture hidden in the fog is deposited as dew drops over the soil. Ground leveling is done the next day early morning (before sunrise) to preserve the moisture inside the soil. The activity is repeated multiple times so that the soil should have sufficient moisture to support the onset of sugarcane cultivation. Similarly, during the growing season dew drops collected at night on the leaves channel towards the soil. The rainy season and cold winter nights facilitate moisture collection throughout the growing season and that is the impetus for defying the need for irrigation.

This age-old cultivation system may not support bumper crop production but it provides a warranty for moderate to high return if there is a judicious use of the moisture. Its long-term sustenance in the region proves the point although challenges are there. Most importantly, given the looming climate change scenario and water scarcity in the country, this method could pave the way for further exploring alternative strategies to combat the burning issue of water-agriculture conflict. Let's hope the tiniest water particles can help us forever.

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