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Crisis of Groundwater in Maharashtra: An Agricultural Analysis

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Abstract

In the recent years, studies have highlighted the links between climatic changes in the area and its connection with local agricultural practices. This paper shall specifically attempt to study the crisis of groundwater in Maharashtra, with links to agricultural practices. Maharashtra is one of the most important states in the country in terms of its agricultural yield & production. It is one of the prime producers of cash crops for the country along with good amounts of staple crops such as rice and pulses. Acute water shortage is a yearly affair in most parts of Maharashtra.

Groundwater in Maharashtra is intrinsically linked with the local agricultural practices. Crop selection and irrigation methods deployed by the farmers are some major determinants. The paper attempts to identify linkages between farming of water intensive crops such as sugarcane & cotton and verify its suitability for production. Need for shift in agricultural practices and crop selection along with development of alternate markets are indicated as a step towards a sustained improvement of groundwater availability in the state and a step away from increasingly severe droughts.

Keywords*: - Groundwater crisis, Marathwada water levels, Agricultural practices.*

INTRODUCTION

Life on earth finds sustenance due to water, an element that represents life. Maharashtra, the mighty Indian State has been in trouble over water for at least some decades now. There are numerous big

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and small factors responsible for water scarcity and drought in the state, and particularly some cities. The central and state governments have been testing and implementing policies as well as planned efforts towards revival of effective water management strategies.

The groundwater level has been reported to have dipped to below 70%. The state struggles with there being no constant supply of rainwater, coupled with overutilization of water in water intensive crops such as sugarcane or other cash crops. Annual rainfall remains low, the villages in and around do not have enough supply of water and often are trapped in droughts. (Sainath. 1996)

About 6,116 water tankers were deployed in 2017 as per Maharashtra government's report to meet drinking water requirements of the people in state, more than half of which were deployed in Marathwada alone, the worst hit area of the state. Marathwada gets only 600 mm to 700 mm of annual rainfall which is the lowest compared to other parts of the state.

India Water Portal claims that India's agricultural sector accounts for more than 90 percent of total water drawn but contribute only around 14 percent to the GDP, which is a worrying trend. Management of water across sectors and efficient use of the resource needs prioritization.

AGRICULTURE & GROUNDWATER DEPLETION

Majority of agricultural activities are done using groundwater, pulled out using bore wells. Agriculture plays a dominant role in the water distribution schema of the state, most of which is severely mismatched in terms of availability of water & consumption pattern on the fields.

The Groundwater Survey and Development Agency have reported severe depletion in ground water levels. Across the state, groundwater levels have dropped more than 3 meters lower than the last five-year average. (GSDA Report, 2019) In the status quo, groundwater levels in the state are depleting very fast and while a majority of dams in the state are run dry. Maharashtra has only 18.51% of live water stock as per official records as of May 3,2019 as against 29.95% on May 3, 2018. (ibid).

Cotton and sugarcane are two of the most water intensive crops, both grown widely in the state despite water shortage and drought like condition. The

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current structure already consumes 89 per cent of the available groundwater, creating huge strain on availability of the resource for essential requirements other than agriculture.

SUGARCANE

Sugarcane cultivation, a giant in Maharashtra has gone up from acquiring land area under of about 1,67,000 hectares in 1970-71 to 1,022,000 hectares in 2011-12. Despite being one of the country's drier states, Maharashtra is India's second-biggest producer of this water-intensive crop. Sugarcane now uses about 70 percent of Marathwada's irrigation water despite accounting for four percent of cultivated land. (IWP, 2018) Sugarcane now uses about 70 percent of the city's irrigation water despite accounting for four percent of cultivated land.

The assured market for this crop makes it a popular choice for the farmers despite lack of availability of water to grow it. The farmers had shifted to production of 'tur' pulse post the two consecutive years of drought in 2016. This however did not end well with farmers having to face trouble for selling the produce. The markets have been unorganized and scanty. Sugarcane, on the other hand has a ready market and promises assured market.

COTTON

Yavatmal and Akola in the Vidarbha region faced a rainfall deficit of 25 per cent. The region is a major cotton-growing belt with an area coverage of around two million ha under cotton cultivation. In Donoda village, 98% of the total water is used for irrigating cotton and other crops. Majorly, water is drained out in the process of growing cotton, another cash crop with ready and steady market.

Since river and rainfall have been scant, groundwater is the only available option and the most feasible one for agricultural purposes in the state.

ANALYSIS: APPROACHES & ASPECTS

A huge quantity of groundwater is drawn out on a daily basis in the farms of Maharashtra, levels have been dipping and a fool proof solution seems unlikely. Government efforts and policies have had little impact in the past and ecological devastation has been increasing rapidly.

The Institute for Sustainable Communities (ISC), along with its partners, engaged with cotton farmers in the district to reduce the environmental footprint of cotton cultivation using less

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water, fertilizers and pesticides and enhance the sustainability of water sources through demand and supply side measures. The initiative involves working with farmers to map out the status of water resources and larger watersheds in villages, including identifying key trends related to changes in weather and cropping patterns. Maharastrian government has set up checks towards use of lesser water needing crops and to ensure this the draft Maharashtra Groundwater (Development and Management) Rules, 2018 were set out, where any farmer intending to cultivate a crop which is "water-intensive" will have to apply to a Watershed Water Resources Committee (WWRC) 30 days before the sowing period of the crop. This shall ensure proper documentation and better management of production processes.

CONCLUSION

A solid foot forward seems to be resting upon cleaner and sustainable agricultural practices and a shift from water intensive crops to other crops that require lesser water such as millets and pulses. The precondition to that however would be to create a strong market for the produce to ensure sale and procurement of these crops. Additionally, stronger incentives for farmers to shift from cash crops and opt for mixed farming are some areas for policy building towards tackling the groundwater crisis.

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