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Original Article

Impact of Climate Change on Marginal Farmers: A Socio-Economic Study of Satara District

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Abstract:

Climate change has emerged as one of the most critical challenges affecting agricultural sustainability and rural livelihoods in India. Small and marginal farmers are particularly vulnerable due to limited landholdings, inadequate financial resources, and high dependence on monsoon rainfall. The present study examines the socio-economic impact of climate change on small and marginal farmers in Satara District of Maharashtra. This research examines how climate change influences crop yields, income, livelihood security, and adaptation strategies of marginal farmers in Satara. The study integrates secondary climatic data and agricultural data with primary socio-economic insights to assess impacts and policy priorities for climate-resilient agricultural development.

Keywords: *Climate Change, Small and Marginal Farmers, Agricultural Productivity, Vulnerability, Adaptation*

Introduction:

Agriculture is the backbone of many rural economies in India, and Satara district is no exception. A large proportion of households in Satara depend on rain-fed farming and horticulture. Climate change refers to long-term alterations in temperature, precipitation patterns, and extreme weather events that affect ecological and economic systems. Climatic variables such as rainfall, temperature, and weather extremes play a critical role in determining crop yields and farming success. However, recent observations show increasing fluctuations in rainfall patterns, rising heat and more frequent extreme events conditions broadly associated with climate change. These changes disproportionately affect marginal farmers, who have limited resources, low adaptive capacity, and high dependency on climatic stability for their livelihoods. This study attempts to analyze the socio-economic consequences of climate change on small and marginal farmers in Satara District and evaluate their adaptive responses. Satara District in Maharashtra experiences diverse agro-climatic conditions ranging from high rainfall zones in the Western Ghats to drought-prone areas in eastern talukas. Increasing instances of irregular monsoon, delayed rainfall onset, and prolonged dry spells have affected agricultural productivity and farm incomes. Crops such as sugarcane, paddy, Jowar and horticultural produce are sensitive to climatic fluctuations.

Study Area: Satara district is situated between 17°05' to 18°11' N latitude and 73°33' to 74°54' E longitude (Fig.No.1.1).

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