

Climate change to hit crop

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Climate change can have serious impact on crops and farming in the country, said a new World Bank report based on a study conducted in India's three major states.

The report, *Climate Change Impacts in Drought and Flood-Affected Areas: Case Studies in India*, claims to be first of its kind in the South Asia region. The study was conducted in two drought-prone regions of Andhra Pradesh and Maharashtra and a flood-prone region in Orissa.

It said that going by the current climate models, in case of a climate change scenario, sugar cane yield is expected to decline by nearly 30% in Maharashtra as a result of increased moisture stress caused by warmer climate in the future.

In the drought-prone belt of Maharashtra, climate projections suggest a significant though more variable increase in rainfall (approximately 20% to 30% at the basin level) accompanied by higher temperatures of about 2.4°C - 3.8°C, on average. As a result of the heat stress caused by a warmer climate, sugarcane yields are expected to decline considerably, even though there may be small improvements in



FARM HOPE: Although sugar cane yield is expected to decline considerably, other dryland crops may show small improvement

the yields of several dryland crops.

In the arid regions of Andhra Pradesh, climate projections indicated substantially higher temperatures (2.3°C - 3.4°C on average) and a modest increase but more erratic rainfall (of about 4% to 8% at the basin level). With high prevailing baseline temperatures, these changes are likely to generate deteriorating agro-climatic

conditions, with declining yields for all the major crops - rice, groundnut and jowar. Incomes on the small rain-fed farms in Andhra Pradesh could decline by 5% under modest climate change and by over 20% under harsher conditions, bringing farmers closer to, and in many cases, under the poverty line.

In Orissa, climate projections sug-

'BRING REFORMS IN DRYLAND FARMING'

For drought-prone areas, the report recommended the need for a diverse portfolio of cost-effective ways of reaching the poorer farmers to help reduce their risk exposure.

Reforms in dryland farming which includes effective water management strategies, opportunities for farm services with low costs of production and intensive agro-forestry and livestock based production systems are some other measures suggested.

gest a substantial shift in the patterns of rainfall towards the flood-prone coastal regions with a dramatic increase in the incidence of flooding. In some districts rice yields will come down by 12%.

The report made a strong case for a shift in agricultural systems in order to overcome future climate change pressures.