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Evidence for Action: Aligning the Climate and SDG Agendas July 20, 2021



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Climate change signifies alterations that go beyond common atmospheric states leading to average rise in global temperature – commonly called "global warming"

Earth's mean surface temperature already risen by 1.1 degrees Celsius on average in comparison with late 19th-century – most of warming over last five decades

Significant changes in rainfall patterns – receding or delayed arrival of monsoons or rising intensity of rainfall – often spread over fewer days

Rise in frequency & intensity of floods, droughts, heat waves, & storms – consequence of changes in climate regimes

Bihar is one of the climate vulnerable states in India

In Bihar, climatic patterns shown notable variations over relatively short period – last three to four decades

The state is one of the resource-abundant Indian states (in terms of groundwater, perennial rivers, alluvial fertile lands) among those located in the Indo-Gangetic Plains

But its agricultural productivity is one of the lowest in the country

Agriculture generates 20-21 per cent of Bihar's SDP

It employs an overwhelming 90 per cent of its labour force

Proportion of marginal & small farmers found to be a significant 92.5 per cent for Bihar

Thus, performance of agriculture critical to ensure inclusive growth, poverty reduction & food security

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Green House Gas Concentration

Climate Change

Impact

Responses

Mitigation

Adaptation

Planned Adaptation Autonomous

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Effectiveness of planned (versus autonomous) adaptation to cope with climate change

Inherent ability/ traditional knowledge has positive impact on rice & wheat yields

- reinforced by households' responses on usefulness of traditional knowledge (an overwhelming 84.9 per cent in Gaya & almost entire sample, 99.2 per cent, in Purnia)
- effectiveness of ancestral knowledge ranked between medium & very high for both genders found, around 33 to 40 per cent of respondents
- impact of inherent ability channel supplemented by increases in literacy rate

Community networks, in general, have a positive impact on both rice & wheat yields

- a significant percentage of respondents in both districts perceive ICN to be very helpful (around 61.4 per cent in Gaya & 66.9 per cent in Purnia)
- corroborated by households' responses on effectiveness of FCN & ICN around 29 to 40 per cent ranked them between medium & very high
- impact of formal community networks (FCN) reinforces with increase in literacy rate, but that of informal community networks (ICN) reduces with increase in literacy rate may be due to weakening of social & local ties as members of farming households attain higher literacy levels & move away or migrate to other locations for alternative opportunities

Higher the influence of community networks in agricultural adaptation, lower the impact of inherent ability & vice-versa

