

CAB ABSTRACTS **HOT TOPIC:**

Climate change and crop yield

The effects of global warming, extreme weather events and changing weather patterns on crop yield are variable, depending on multiple factors including soil type, region and agronomic practices. Access to global research is key to assessing risk and developing appropriate adaptation strategies.

CAB Abstracts covers the world literature on the effects of climate change on crop yield and is strong on coverage of research in the developing world where climate change is likely to have a greater impact on sustainable development, food security and livelihoods.

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CAB Abstracts sources the world literature to provide the complete picture on the effects of climate change including information on:

- **Effects of climate change on crop yield:** effects of climate change on crop yield are already evident. Analysis of climate trends can help predict future impacts
Changing regional weather-crop yield relationships across Europe between 1901 and 2012.
Climate Research, 2016
- **Adaptation strategies:** successful adaptation strategies often rely on local knowledge
Farmers' perceptions of climate change and the proposed agriculture adaptation strategies in a semi arid region of south India.
Journal of Integrative Environmental Sciences, 2016
- **Food security:** climate change impacts food security in vulnerable areas
Improving water sustainability and food security through increased crop water productivity in Malawi.
Water, 2016
An assessment by subsistence farmers of the risks to food security attributable to climate change in Makwanpur, Nepal.
Food Security, 2016
- **Systematic reviews and meta-analysis:** evidence-based research improves practical outcomes
Evidence-based opportunities for out-scaling climate-smart agriculture in East Africa.
CCAFS Working Paper, 2016

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Crop Yield Estimation Strategy 8

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8.1 Introduction

The Indian economy mainly depends on agriculture, which is the major source of rural employment, supporting the livelihoods of 52% of the population and contributing 14% of gross domestic product. Indian agriculture is predominantly rainfed and constitutes 56% of the total cultivated area, exposed to vagaries of weather, including abiotic factors such as droughts, floods and hailstorms, and also biotic factors like pests and diseases, which play their role during the crop growth stages. Accurate estimation of crop yields has never been an easy task in India and other developing countries, and is more challenging in the context of smallholders producing a wide range of diverse crops in rainfed farming systems. Challenges that may occur include among others: (i) absence of cadastral information on land use; (ii) non-uniform plots which cover a wide range of sizes; (iii) occurrence of bimodal rainfall; (iv) rainfed following; (v) intercropping, relay and sequential cropping; and (vi) significant postharvest losses.

8.1.1 Historical background of yield estimations

In India, the earliest mention of agricultural statistics is found in 'Arthashastra' (Wikipedia, no date), the ancient Indian treatise on statecraft.

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