

Book Released: Climate Change and Agriculture (Kibria et al. 2013)

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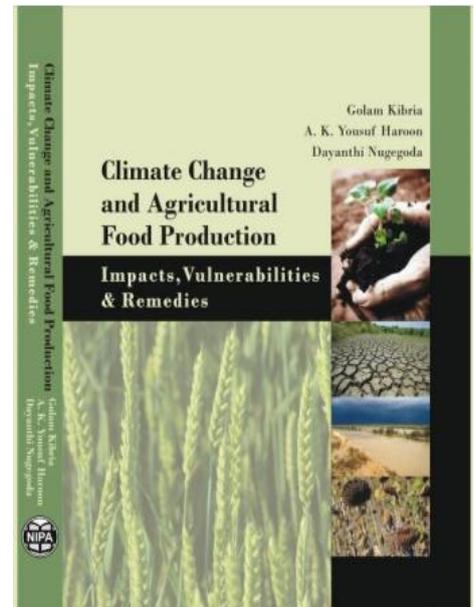
Summary (English): The book *Climate Change and Agricultural Food Production: Impacts, Vulnerabilities and Remedies* provides an overview of climate change impacts on all agricultural food producing sectors (agriculture, livestock and fisheries), food contamination, and food safety (with respect to microbial pathogens, toxic biological & toxic chemical contaminants), food security and climate change adaptation and mitigation measures to counteract or minimize or reduce the effects of climate change on agriculture, livestock and fisheries and greenhouse gas emissions from agriculture, livestock and fisheries sectors. It reviews and summarizes research results, data and information from the world including, Africa, Asia, Australia, Europe, Latin America, North America, Polar regions and Small Islands Nations.

সারসং (Bengali/বাংলা): এই বইটি, কৃষি খাদ্য (কৃষি, গৃহপালিত পশু ও মৎস্য) উৎপাদনের উপর জলবায়ু পরিবর্তনের ফলে কি কি প্রভাব হতে পারে তার সম্পর্কে বিস্তারিত আলোচনা করে। এছাড়াও, জলবায়ু পরিবর্তনের প্রভাভে খাদ্যের দূষণ (মাইক্রোবিয়াল পাথোজেনের, বিষাক্ত জৈব ও বিষাক্ত রাসায়নিক দূষকের), এবং খাদ্য নিরাপত্তা বিষয়ক তথ্য লিপিবদ্ধ করা হয়। জলবায়ু পরিবর্তন সম্পর্কিত অভিযোজন ও প্রশমন ব্যবস্থা অথবা নিবারণ করা অথবা হ্রাস করা সম্পর্কে বিস্তারিত পর্যালোচনা করে। কৃষি, গৃহপালিত পশু ও মৎস্য সেক্টর থেকে গ্রিনহাউজ (Greenhouse gas) গ্যাস নির্গমন নিয়ে সংশ্লিষ্ট আলোচনা করা হয়। বিশ্বের বিভিন্ন অঞ্চল, যেমন আফ্রিকা, এশিয়া, অস্ট্রেলিয়া, ইউরোপ, ল্যাটিন আমেরিকা, উত্তর আমেরিকা, মেরু অঞ্চল এবং ছোট দ্বীপ দেশসমূহ এর গবেষণার ফলাফল এবং পরিসংখ্যানগত তথ্য অন্তর্ভুক্ত করা হয়।

摘要 (Chinese/中文): 『气候变化与农粮生产：冲击、弱点和补救』一书概述了气候变化对农粮生产各方面的影响，包括所有农产品生产部分（农业、畜牧业和渔业）、食品污染、食品安全（有关微生物、有毒生物和有毒化学污染物）、粮食安全、以及气候变化之适应和缓解措施，以对抗、抵消或减轻气候变化对渔、农、畜牧业及其产生之温室气体排放量的影响。此书探讨和总结来自世界各地之研究成果及资料数据，包括非洲、亚洲、澳洲、欧洲、拉丁美洲、北美洲、极地地区和小岛屿国家。

सारांश (Hindi/हिंदी): सारांश (हिन्दी): यह पुस्तक 'जलवायु परिवर्तन और कृषि खाद्य उत्पादन: प्रभाव, सुसंरक्षित, और उपचार' जलवायु परिवर्तन के प्रभावों का एक सिंहावलोकन है। यह पुस्तक सभी खाद्य उत्पादन कृषिक्षेत्र (कृषि, पशु और मत्स्य पालन), खाद्य संदूषण, खाद्य सुरक्षा (माइक्रोबियल रोगजनकों, विषाक्त जैविक और जहरीले रासायनिक के संदर्भ में), जलवायु परिवर्तन के अनुकूल और शमन के लिए, कृषि, पशुधन और मत्स्य पालन पर जलवायु परिवर्तन के प्रभावों को कम करने के उपायों, और कृषि पशुधन और मत्स्य पालन क्षेत्र से ग्रीन हाउस गैस उत्सर्जन की समीक्षा करती है। यह पुस्तक अफ्रीका, एशिया, ऑस्ट्रेलिया, यूरोप, लैटिन अमेरिका, उत्तरी अमेरिका, ध्रुवीय क्षेत्रों और छोटे राष्ट्र द्वीपों के शोध परिणाम, डेटा और जानकारी का सार है।

The book entitled *“Climate Change and Agricultural Food Production: Impacts, Vulnerabilities and Remedies”* reviews and summarizes research results, data and information from the world including Africa, Asia, Australia, Europe, Latin America, North America, Polar Regions and Small Island Nations. It reveals that agricultural activities contribute significant amounts of greenhouse gases (GHGs) accounting for 22% global GHG emissions (e.g. *agriculture*: via deforestation, use of fossil fuels, burning of crop wastes, rice production, use of nitrogen based fertilizers; *livestock*: via enteric fermentation, manure, pastures production; *fisheries*: via use of fossil fuels in fishing vessels, feed, fertilizers use in aquaculture, diffusion from fish ponds). On a worldwide basis, global warming would benefit the mid- to high latitude zones (Canada, North America, North Europe, Russia) for agriculture, whereas low latitudes, semi-arid and tropical areas (Africa, Asia) will have much reduced crop and livestock yields. Climate change will adversely affect food security in sub-Saharan Africa and South Asia. With higher temperatures and overall decrease in water supplies, beef-cattle, and sheep are likely to experience increased incidences of stress related deaths. The other effects on livestock are reduced animal weight, reproduction rates and milk yields. Rise in sea temperature has caused shifts in distribution of marine fish towards both north and south poles and some fish species found moving deeper areas with warming and as a consequence, fish catch between and within nations' EEZ will be affected. Increases in CO₂ levels will make the ocean more acidic, adversely affecting many organisms that use calcium carbonate for their skeletons and shells (abalone, oysters).



Climate change (rise of temperature) would enhance accumulation of pollutants (e.g. pesticides, trace metals) in edible foods with possible risks to human and animal health. Microbial organisms (*Salmonella* spp., *Vibrio* spp.) that contribute to food-borne illnesses are projected to increase with increasing ambient temperature. Furthermore, an increase in temperature may increase contamination of crops and seafood by mycotoxins (fungal toxins- Aflatoxins, Fusarium toxins) and algal toxins (microcystins, Paralytic shellfish poisoning, Ciguatera fish poisoning) respectively. The book discusses elaborately on adaptation and mitigation measures in agriculture, livestock and fisheries (e.g. development of heat/drought, salt and flood tolerant crop varieties; more disease and pest tolerant crops; brackish water shrimp farming instead of rice farming (where sea level rise is projected to increase); climate smart agriculture, fisheries and aquaculture; culturing

fish species tolerant to higher temperatures, salinity and low quality water, etc.). Some other adaptive actions suggested includes building adaptive capacity by increasing support for research and generation of new knowledge and information, promoting education and awareness programmes on climate change and improving weather forecasting technologies.

The book has been structured as textbook, reference book and extension book and written in simple and plain English with key facts and acronyms and glossary in each chapter with tables and figures to benefit a wide range of readers. The book would be beneficial to academic and research institutes; university students; agriculturists; climate scientists; economists; environmental scientists; extension workers; farmers; fisheries scientists; food chemists; food microbiologists; human health professionals; grass root people; and government planners, regulators; and trade and business people etc.

Further inquiries and information about the book

Weblinks: <http://www.bookfactoryindia.com/index.php?p=sr&Uc=9789381450512>

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