



**EDITORIAL**

## **Managing Cotton Production and Industry for Sustainable Development**

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### **WELCOME**

It is with great pleasure that we welcome readers, authors, reviewers and partners to the World Journal of Cotton and Sustainable Development (WJCSD). The launch of this journal marks an important milestone in creating a dedicated international platform for rigorous, innovative and impactful scholarship on cotton - one of the world's most significant yet complex natural commodities. We are delighted to introduce the inaugural edition and to invite the global cotton community to engage in dialogue, discovery and collaboration through this journal.

### **INTRODUCTION**

Cotton plays a vital role in global agriculture, industry and society. It supports the livelihoods of millions of farmers and workers, underpins major manufacturing sectors, and contributes to medical, hygiene and technological applications worldwide. At the same time, cotton production and trade face mounting challenges, including climate change, environmental degradation, resource scarcity, social equity concerns and rapidly evolving market demands.

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The WJCSD is a peer-reviewed, indexed international journal established to promote high-quality research, ideas and information about cotton across the world. WJCSD focuses on all aspects of cotton, with particular attention to issues relating to production, manufacturing and its impact on global sustainability. By bringing together interdisciplinary perspectives, the journal seeks to advance knowledge and support evidence-based solutions to the pressing challenges facing the cotton sector.

## AIM OF THE JOURNAL

The primary aim of WJCSD is to provide a leading scholarly forum for original, cutting-edge and insightful contributions that illuminate new directions for researching, teaching and understanding cotton as an extremely rare and important commodity. The journal encourages new perspectives and innovative approaches that bridge theory and practice, serving both academic and professional audiences.

The journal's scope is organised around several thematic focus areas designed to address environmental, economic and social challenges within the cotton sector. These include, but are not limited to: Sustainable Cotton Production; Economic and Social Sustainability; Medical and Hygiene Cotton Applications; Climate Change and Environmental Resilience; Technological Innovation and Nanotechnology; and Education, Research and Policy.

## THEME AND SUBJECT COVERAGE

The WJCSD provides an international platform for the dissemination of knowledge, research and innovative thinking related to cotton and sustainable development. The journal aims to promote a deeper understanding of sustainability and to encourage forward-looking approaches to addressing global challenges associated with cotton production, manufacturing and trade.

WJCSD adopts a holistic and interdisciplinary approach, critically examining the interrelationships between environmental, governmental, economic and social dimensions, and highlighting the role of science, technology and policy in delivering sustainable solutions. While sustainable development and cotton-related science and technology are central to the journal, WJCSD places no restriction on theoretical, empirical, descriptive or critical contributions that advance knowledge in this field.

There is no limitation on the topics considered by WJCSD. Suitable subject areas include, but are not limited to, the following thematic focus areas.

## Sustainable Cotton Production

This theme focuses on the technical, environmental and agronomic aspects of cotton cultivation aimed at minimising ecological footprints and enhancing long-term productivity.

- Eco-friendly farming techniques that reduce chemical inputs and improve soil health
- Organic and regenerative agriculture systems that restore soil organic matter and biodiversity
- Resource efficiency, including water-efficient irrigation systems and sustainable technologies in textile agrivatries (agriculture–industry integration)
- Advanced technologies such as biotechnology and precision agriculture using data analytics and sensors
- Environmental impact assessment using Life Cycle Assessment (LCA) from “cradle to grave”
- Circular economy strategies, including energy efficiency, recycling and closed-loop textile systems

## Economic and Social Sustainability

This focus area addresses the human, financial and institutional dimensions of the cotton sector, ensuring economic viability for producers and fairness for workers.

- Energy use and economic efficiency within cotton production and processing
- Supply chain transparency and integrity, including certification systems
- Policy and governance frameworks supporting sustainable cotton at national and international levels
- Traceability systems to ensure ethical sourcing from farm to final consumer

## Medical and Hygiene Cotton Applications

This theme highlights the critical role of cotton in healthcare, hygiene and biomedical innovation.

- Medical textiles and biomedical engineering
- Wound care products such as absorbent gauze, bandages and surgical lint
- Cotton-derived cellulose for implantable biomaterials, drug delivery, dental use and tissue engineering
- Development of sterile cotton-based surgical gowns, drapes and masks
- Hygiene and personal care
- Sustainable feminine hygiene products using organic cotton

- Infant care innovations, including hypoallergenic cotton diapers and wipes
- Cotton-based solutions for adult continence and long-term care

## **Sustainable Medical Innovation**

This theme focuses on advancing environmentally responsible cotton-based medical and hygiene solutions that enhance healthcare outcomes while reducing ecological impact.

- Bio-active and antimicrobial cotton using natural agents
- Biodegradability and medical waste management
- Resource-efficient bleaching and processing of medical-grade cotton

## **Climate Change and Environmental Resilience**

This area explores cotton's vulnerability to climate change and its potential role in mitigation strategies.

- Climate adaptation and development of resilient cotton varieties
- Carbon sequestration in organic and regenerative cotton systems
- Greenhouse gas emissions modelling using Life Cycle Assessment
- Water-climate nexus and irrigation management in water-stressed regions

## **Technological Innovation and Nanotechnology**

This theme focuses on precision cotton production and advanced materials science.

- Nano-fertilisers and nano-pesticides for targeted and efficient nutrient delivery
- Nano-biosensors for real-time soil, moisture and pest monitoring
- Smart textile finishing using nanoparticles for antimicrobial, UV-protective and self-cleaning properties
- Digital transformation through AI, blockchain and IoT in supply chain management and yield optimisation

## **Education, Research and Policy**

This category bridges academic research with practical implementation and governance.

- Education and training programmes for cotton scientists and sustainable farmers
- Research policy, funding priorities and technology adoption
- Extension services, Farmer Field Schools and digital outreach tools
- Regulatory frameworks, international trade policy and harmonisation of sustainability standards

## Other Related Subjects

- Cotton and the United Nations Sustainable Development Goals (SDGs)
- International trade, marketing and promotion of cotton
- Socio-economic and environmental challenges in major cotton-producing countries, including Sudan
- Low productivity and technical efficiency in cotton sectors
- Technology transfer and innovation diffusion
- Policy implications and sustainability of large-scale cotton investments
- Business ethics, corporate social responsibility and management practices
- Environmental challenges, processing, industry development and government regulation

## CONTENT

WJCSD is a peer-reviewed journal and will be indexed and ranked by ABI/Inform (ProQuest) and Cabell's Directory of Publishing Opportunities, ensuring international visibility and academic credibility.

WJCSD publishes original research papers, review articles, conceptual papers, technical reports, case studies, conference reports, management reports, book reviews, notes, commentaries and news. Particular emphasis is placed on contributions that significantly advance knowledge and offer practical relevance for academics, practitioners, policymakers and industry stakeholders. Special Issues devoted to critical and emerging topics in cotton research will be published periodically.

The journal is intended to benefit ordinary citizens, students, researchers, professionals, businesses and policymakers worldwide by providing the best available scientific evidence to enhance understanding of the opportunities and challenges surrounding cotton production, manufacturing and trade.

Special Issues devoted to important topics about cotton will occasionally be published. WJCSD is intended to benefit ordinary people, students, academics, professionals, researchers, policymakers, businesses, etc from both developing countries and the rest of the world with the best available scientific evidence, to enable better understanding of the different opportunities and challenges facing the production, manufacturing and trade of cotton.

## EDITORIAL ADVISORY BOARD (EAB)

Members of the WJCSD Editorial Advisory Board are truly international in outlook, reflecting a wide range of disciplinary interests and areas of specialisation. Their

strong academic and professional backgrounds, combined with diverse geographical expertise, ensure rigorous peer review standards and contribute to a distinctive and high-quality editorial experience.

WJCSD continually welcomes nominations of distinguished academics and experienced professionals who are interested in supporting the journal through service on the Editorial Advisory Board. Individuals wishing to join the EAB, or to nominate a suitable colleague, are invited to contact the journal via the official website.

## INAUGURAL ISSUE

The WJCSD proudly launches its Inaugural Edition, Volume 1, Numbers 1/2 (2025). Published in the United Kingdom, the journal appears twice per year and is available in both print and online formats (ISSN Print: 2634-2642; ISSN Online: 2634-2650).

This inaugural issue marks the beginning of a global platform dedicated to advancing high-quality research and knowledge on cotton and sustainable development.

It is hoped that the ensemble of papers presented in this first issue will help to stimulate debate amongst scholars, researchers and policy-makers that will ultimately lead to a more integrated and multidisciplinary approach to the role of cotton in achieving SD in many countries across the world.

Finally we look forward to receiving your valuable submission so we can continue to serve your needs to the very best of our ability. Any feedback you can provide will be greatly appreciated as we are always looking at ways in which we can improve your experience.

## ACKNOWLEDGEMENTS

The Editorial Board of the WJCSD gratefully acknowledges the valuable contributions of all authors, reviewers and editorial members who made the inaugural issue possible. We also extend our sincere appreciation to our partners and supporters for their commitment and encouragement. Their collective efforts and dedication have been instrumental in the successful launch of this journal.

We also like to thank all the members of the WASD Publishing and Editorial committee, particularly Professor Arshi Naim (Senior Editor) for her valuable reviewing and editorial comments, Professor Hasabo Ahmed for his great efforts promoting the journal among his international networks and attracting distinguished authors to submit their latest research for the inaugural issue, Mrs Janet Snow (International Co-ordinator and Editor), Kumar Gaurav (Webmaster), Nada Yousry (Graphic Designer), Dr Samar Ahmed (WASD Executive), and all the volunteers from across the world for their continuous and endless assistance and support to *WJCSD*.

## BIOGRAPHY



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