Journal of Dry Zone Agriculture, 2026, 12(1): I-III
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DOI: https://doi.org/10.4038/jdza.v12i1.159

Editorial:

# Charting the future of dry zone agricultural research: A new chapter for the Journal of Dry Zone Agriculture

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Agriculture in the dry zones has always been shaped by the availability of water, the condition of the soil, and the ability of farming communities to adapt to changing environmental conditions. These challenges are not new, but their nature and magnitude are changing. Increasing climate variability, pressure on natural resources, emerging pest and disease problems, and the growing demand for food have made sustainable agricultural production more complex. Addressing these challenges requires research that is scientifically rigorous, responsive to local needs, and capable of informing practical decisions. The publication of Volume 12 of the *Journal of Dry Zone Agriculture* (JDZA) provides an opportunity to reflect on these responsibilities and consider how the journal can contribute more effectively to agricultural research and development.

The dry zone occupies a substantial part of Sri Lanka and supports diverse agricultural systems, including irrigated and rainfed crop production, livestock farming, and smallholder home gardens. Agriculture in these areas contributes significantly to rural livelihoods and food production. However, farmers continue to face difficulties associated with seasonal water shortages, declining soil fertility, high input costs, and biological constraints on crop productivity. Climate change adds further uncertainty to these existing problems. The Intergovernmental Panel on Climate Change (IPCC, 2023) has emphasized the increasing risks to agricultural production and the importance of context-specific adaptation measures. Similarly, the Food and Agriculture Organization of the United Nations (FAO, 2025) has highlighted the need for more sustainable management of land, soil, and water resources. These concerns emphasize the importance of research that considers both agricultural productivity and the long-term sustainability of farming systems.

Agricultural research in the dry zones must therefore move beyond addressing individual production constraints in isolation. Improving crop performance, for example, cannot be separated from soil health, water availability, pest management, and the economic circumstances of farmers. Research on climate-resilient crop varieties, efficient irrigation practices, integrated nutrient and pest management, conservation of agricultural biodiversity, and the productive use of locally available resources deserves continued attention. At the same time, emerging technologies, including molecular diagnostics, precision agriculture, remote sensing, and digital decision-support systems, offer opportunities to improve agricultural management. Their usefulness, however, should be assessed under local conditions, considering affordability, accessibility, and the capacity of farming communities to adopt them.

An equally important consideration is the relationship between research and its application. Agricultural research has limited value if its findings remain confined to scientific publications without reaching those who could benefit from them. This does not diminish the importance of fundamental research, which provides the knowledge needed for future innovations. Rather, it highlights the need for stronger connections

among researchers, extension personnel, policymakers, and farming communities. Field-based investigations, participatory research, and interdisciplinary collaboration can help identify practical problems and develop solutions suited to agroecological and socioeconomic conditions. Research conducted in Sri Lanka's dry zone can also offer valuable insights for other tropical and semi-arid agricultural regions facing comparable challenges.

Within this context, scientific journals have an important responsibility. They provide a platform not only for communicating research findings but also for examining evidence, encouraging scientific discussion, and maintaining the integrity of the published literature. Since its establishment, JDZA has served as a platform for disseminating agricultural research, particularly research relevant to dry zone environments. As the journal enters its twelfth volume, it is appropriate to consider how this role can be strengthened while preserving its regional relevance.

A central priority for JDZA is the continued improvement of scientific quality. The value of a research publication depends on the originality of its contribution, the soundness of its methodology, the reliability of its findings, and the clarity with which those findings are communicated. Authors are therefore encouraged to present clearly defined research questions, appropriate experimental designs, transparent analytical procedures, and conclusions supported by the evidence. Attention should be given to accurate data reporting, appropriate statistical analysis, consistency between results and interpretation, and the proper acknowledgement of previous research. These are fundamental expectations of scientific publishing and essential to maintaining the confidence of readers in published findings.

The peer-review process remains central to these efforts. Constructive and impartial evaluation helps authors strengthen their manuscripts and assists editors in making informed publication decisions. Reviewers contribute considerably to the quality of a journal, often through work undertaken alongside their regular academic and professional responsibilities. Their contributions deserve recognition and appreciation. At the same time, editorial decisions must be consistent, transparent, and guided by scientific merit. Strengthening editorial procedures, maintaining publication ethics, and improving communication throughout the review and publication process will remain important priorities for JDZA.

The journal must also remain receptive to changes in the agricultural research landscape. While maintaining its emphasis on dry zone agriculture, JDZA should encourage submissions that bring together different disciplines and approaches. Studies addressing crop and animal production, plant protection, soil and water management, agricultural engineering, biotechnology, environmental sustainability, agricultural economics, and rural development can contribute to a more complete understanding of agricultural systems. Research from regions outside Sri Lanka is equally welcome when it offers relevant scientific insights or approaches applicable to dry zone and related agricultural environments.

Another important responsibility is to support emerging researchers. Early-career scientists and postgraduate students often undertake valuable investigations into local agricultural problems yet may face difficulties in preparing their findings for publication. Clear author guidelines, constructive reviewer feedback, and consistent editorial standards can help them develop stronger scientific manuscripts. Maintaining high publication standards while encouraging the professional development of young researchers should be viewed as complementary objectives.

With Volume 12, JDZA also introduces an editorial contribution intended to provide a space for reflection on issues affecting agricultural research and scientific communication. Future editorials may address emerging scientific challenges, research priorities, methodological concerns, publication practices, and opportunities for collaboration.

The intention is to encourage informed discussion on matters that influence the direction and relevance of agricultural research.

Looking ahead, the progress of JDZA will depend on the collective commitment of its authors, reviewers, editorial board members, and supporting institutions. Greater visibility and wider readership are desirable goals, but these should follow from sustained improvements in scientific quality, editorial consistency, and the relevance of published research. The journal's contribution should ultimately be judged not only by the number of articles it publishes but also by the reliability, usefulness, and scientific value of the knowledge it communicates.

As Editor-in-Chief, I take this opportunity to express my sincere appreciation to the authors who have entrusted their research to JDZA, the reviewers who have generously contributed their expertise, and the editorial team whose efforts support the publication process. Their continued cooperation is essential to the development of the journal.

The challenges facing dry zone agriculture demand sustained scientific inquiry, collaboration, and a willingness to examine both established practices and emerging approaches. JDZA has an important role in supporting these efforts by providing a credible platform for the communication of agricultural research. As we begin Volume 12, our commitment is to strengthen that role, uphold the standards of scientific publishing, and encourage research that contributes meaningfully to sustainable agricultural development in Sri Lanka and beyond.

## References

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