

REVIEWER'S REPORT

Manuscript No.: IJAR-52157

Date: 12-06-2025

Title: Conceptual Study and Sizing of a Drip Irrigation Fruit Arboretum in the Djarmaya Plain, Hadjer Lamis Province, Chad

Recommendation:

Accept as it is.....**YES**.....
 Accept after minor revision.....
 Accept after major revision
 Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality			√	
Techn. Quality			√	
Clarity			√	
Significance		√		

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: Recommended for Publication.

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Abstract Review:

The abstract provides a focused summary of the objectives, methodology, and key findings of the study. It clearly outlines the use of topographic analysis and hydraulic calculations for designing a drip irrigation system, supported by meteorological data and CropWat software to estimate plant water requirements. The financial cost for developing one hectare and the total project estimate are presented precisely. The description of the terrain's elevation range offers relevant topographical context. The conclusion ties together the technical findings with the rationale for choosing drip irrigation, particularly in relation to water conservation under high-temperature conditions. The abstract maintains technical clarity and reflects the practical relevance of the study in resource-limited, climate-sensitive regions.

Introduction Review:

The introduction is rich in contextual detail, presenting a macro-level overview of Chad's geographical, demographic, and economic situation. It successfully integrates national statistics with the study's thematic focus on agriculture and irrigation. The description of the challenges facing Chad's agricultural sector—climate change, natural resource degradation, and insufficient investment—provides a compelling rationale for the adoption of efficient irrigation techniques. The Djarmaya Plain is effectively introduced as a geographically and strategically valuable site for such an initiative, especially considering

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its role in regional food security. The justification for using drip irrigation is well-supported by relevant references and empirical data on its efficiency, particularly in arid environments.

Overall Assessment:

The abstract and introduction together present a coherent and well-contextualized foundation for the study. The technical scope is clearly defined, and the socioeconomic and environmental motivations for the project are well-articulated. The inclusion of specific national data reinforces the study's significance within Chad's development context. The presentation is thorough, and the integration of scientific rationale with policy relevance enhances the study's multidisciplinary appeal.
