ISSN: 2320-5407

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

ISSN NO. 2320-5407

REVIEWER'S REPORT

Manuscript No.: **IJAR-50553** Date: March 7, 2025.

Title:
FARMERS' PERCEPTIONS OF THE EFFECTS OF SOIL SALINITY ON AGRICULTURAL PRODUCTION IN THE LOWLANDS OF DALLOL FOGHA, NIGER

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

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

Reviewer Name: Dr. Lakhdar Guerine **Date:** March 7, 2025

Reviewer's Comment for Publication.

(*To be published with the manuscript in the journal*)

The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewers name.

The work submitted for our evaluation addresses an issue related to soil salinity, which affects a significant part of the African continent and various regions worldwide. Agricultural soil salinity is a considerable constraint to food security for local populations. Through this well-structured study, the author(s) aim to assess farmers' perceptions of the effects of soil salinity on agricultural production in the lowlands of the Dallol de Fogha, Niger.

Detailed Reviewer's Report

ISSN: 2320-5407

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Abstract:

Soil degradation due to salinity/alkalinity is a major constraint on agricultural production, particularly in the dallols. The general objective of this study is to assess farmers' perceptions of the effects of soil salinity on agricultural production in the lowlands of the Fogha dallol in Niger. The study is based on individual surveys of 216 farmers in 8 villages in the commune of Yélou in the Dosso region. The main results of this study showed that the local indicators of soil salinity for the farmers surveyed were whitish efflorescence on the soil (22.5%), followed by black efflorescence on the soil (18.1%), plant death (14.8%) and sometimes no growth (11.4%). Capillary rise of groundwater (12.4%), naturally saline soils (17%) and naturally saline waters (17.4%) are the main sources of salinisation/alkalinisation of lowlands. The average area affected by salinity varies from 0.77 to 4.12 ha per farmer in Bara and N'Gaski respectively, with a total average of 2.36 ha per farmer. 42.4% of participants responded that salinity was leading to the relinquishment of cultivated plots. According to 71.8% of the surveyed farmers, yield losses for all crops could reach 90 to 100%. Furthermore, the use of manure (10.2%) and hulls and glumes (16%) are the management practices used by the surveyed farmers. However, 59% of farmers abandoned their plots in the event of contamination. Given this situation, it would be important to test species that can tolerate salinity in order to make this environment productive.

Line 9: It affects 20% of total cultivated land and 33%
Line 47: The aim of this study is to assess farmers' perceptions
Line 48: in Niger, in order to suggest way
Line 54: The dallol Fogha is a tributary of the dallol Maouri
Line 65: The legend of the location map of the Yélou commune is in French; it would be preferable to translate it into English. To better understand the geographical context, it would also be useful to locate Niger on a map of the African continent.
Line 85: were considered on the basis of their experience in lowland Farming
Line 97: I suggest applying a Hierarchical Cluster Analysis (HCA) for better results.
Line 112: In the table, replace Ag with Age.
Line 119: On the other hand, pledge and gift are the least common modes of acquisition
Line 134: The surveyed farmers in the various villages of the Dallol Fogha zone practise several
Line 151: The local indicators used by the farmers surveyed to assess soil salinity are numerous
Line 167: The main sources of salinity and/or alkalinity in the soils and waters of the Fogha dallol
Line 184: with the exception of Kawara and Malgorou
Line 229: where farmers use a number of indicators to identify saline soils
Line 256: several authors (Munns and Tester, 2008; Hanana et al., 2011; Moussa 2018
Line 262:

Commented [LG1]: …alkalinity is a ~~major~~ **significant** constraint…

Commented [LG2]: Dallols

Commented [LG3]: …%) are the ~~main~~ **primary** sources of…

Commented [LG4]: ~~was leading to the relinquishment of cultivated plots~~ **led to the cultivated plots' relinquishment**.

Commented [LG5]: Add %

Commented [LG6]: Furthermore, the **use management practices used of by the surveyed farmers include** manure (10.2%) and hulls and glumes (16%) ~~are the management practices used by the surveyed farmers.~~

Commented [LG7]: tolerate salinity ~~in order to~~ make this environment…

Commented [LG8]: of the total

Commented [LG9]: This study aims to assess farmers…..

Commented [LG10]: in Niger, to suggest ways of

Commented [LG11]: Rewrite: Dallol

Commented [LG12]: Were considered based on their……

Commented [LG13]: Rewrite: standard

Commented [LG14]: Rewrite: practice

Commented [LG15]: Rewrite: There are numerous local indicators used by the farmers surveyed to assess soil salinity

Commented [LG16]: Rewrite: primary

Commented [LG17]: Dallol

Commented [LG18]: Rewrite: ….., except Kawara and Malgorou

Commented [LG19]: Rewrite: where farmers use several indicators to identify ….

Commented [LG20]: Moussa, 2018