KEYWORD, SEQUENCE, IMPORTANCE (KSI):

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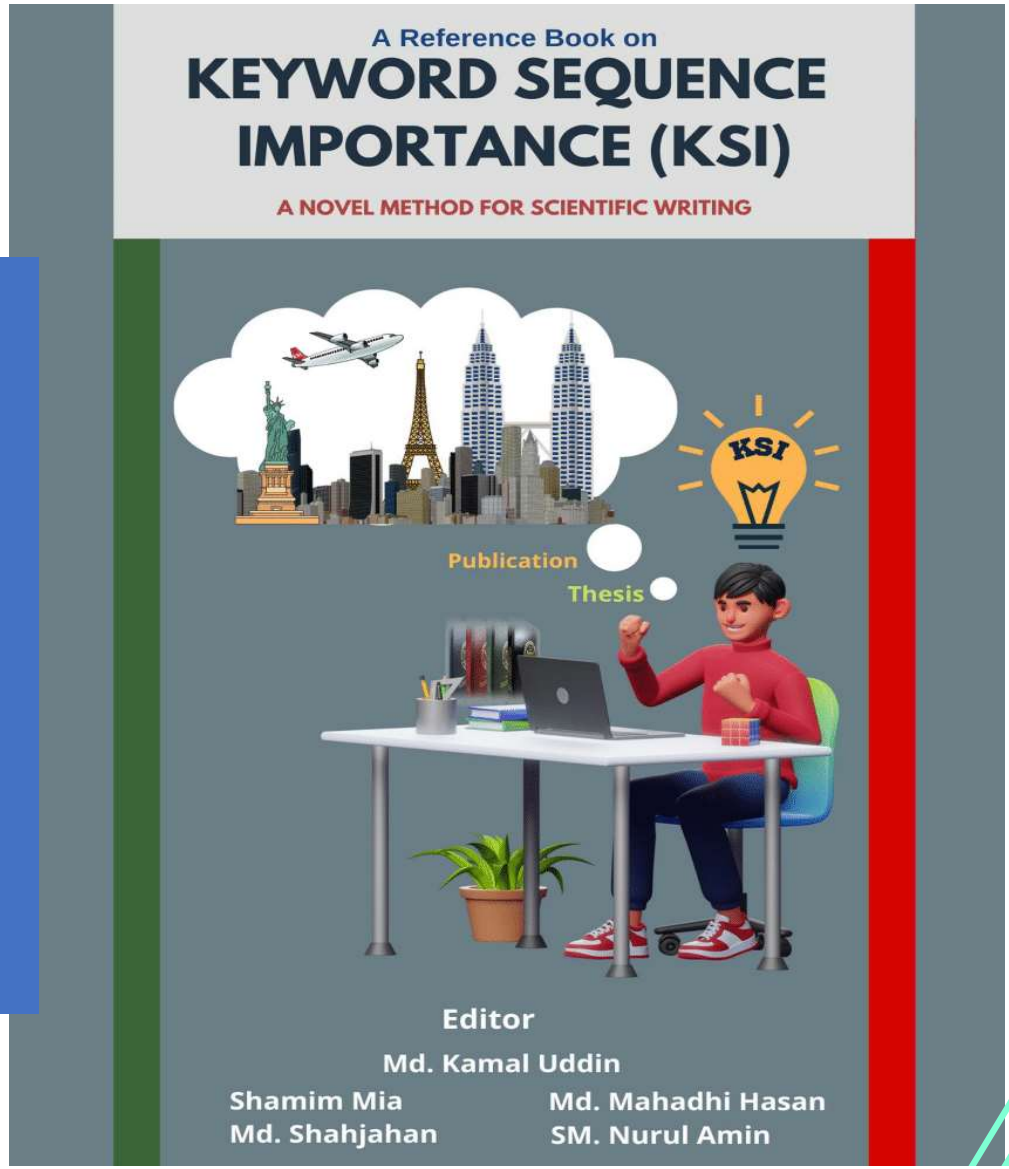
Speaker:

Dr. Ahmed Abubakar

Universiti Putra Malaysia, Malaysia (UPM).
Sule Lamido University, Nigeria.



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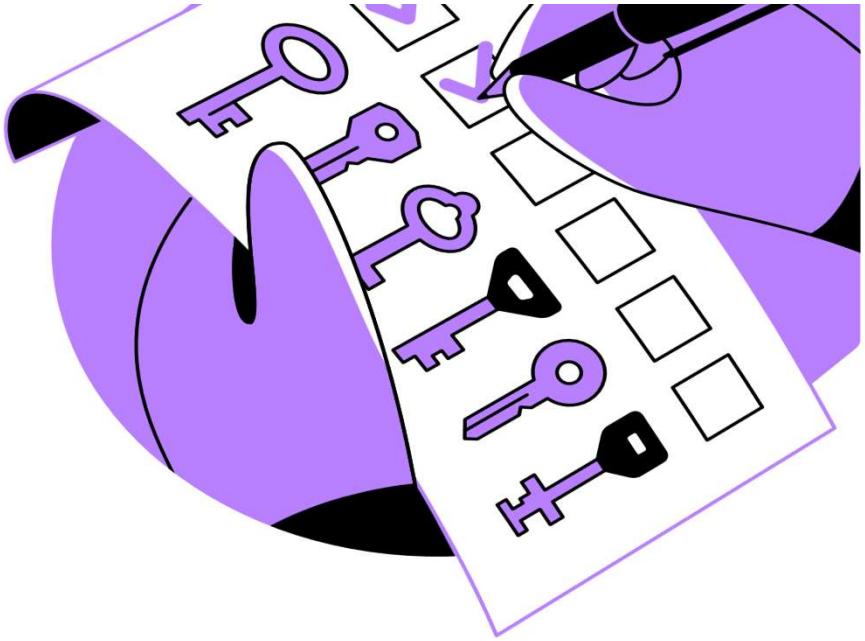
KEYWORD, SEQUENCE, IMPORTANCE (KSI)

Keyword, Sequence, Importance (KSI)



K

KEYWORD

Key point for research

S

SEQUENCE

Organize information in order

I

IMPORTANCE

% weightage of information for key word

Research words and non-research words

Research words

Impact on your research: e.g., Subject/respondent, Treatment/IV, Parameter/DV. Typically, this category of words are expressed by nouns.

Example:

"Effect of the biofertilizer rates on improved rice production"
RW: rice (subject), biofertilizer rates (treatment) and production (parameters)
NRW: effect (noun), of (preposition), the (article), on (preposition) and improved (adjective)

Non-research words

No impact on your research: the words that are used to structure a meaningful title. e.g., Effect, impact, of, on, and, efficiency, characterization

Example:

"Current agricultural knowledge, attitude and practices, and its relationship on work performance of Bambara groundnut farmers"
RW: Bambara groundnut farmers (respondent), work performance (DV), KAP (IV)
NRW: Current, and practices, its relationship, on non research words

Subject is the element on which focus of the research. *E.g., Rice, Fish, Oil Palm, Cancer Patient.*

Treatment is a variable that stands alone and isn't changed by the other variables that are measured. *E.g., Fertilizer, Paracetamol, Salinity, Herbicide, Pesticide.*

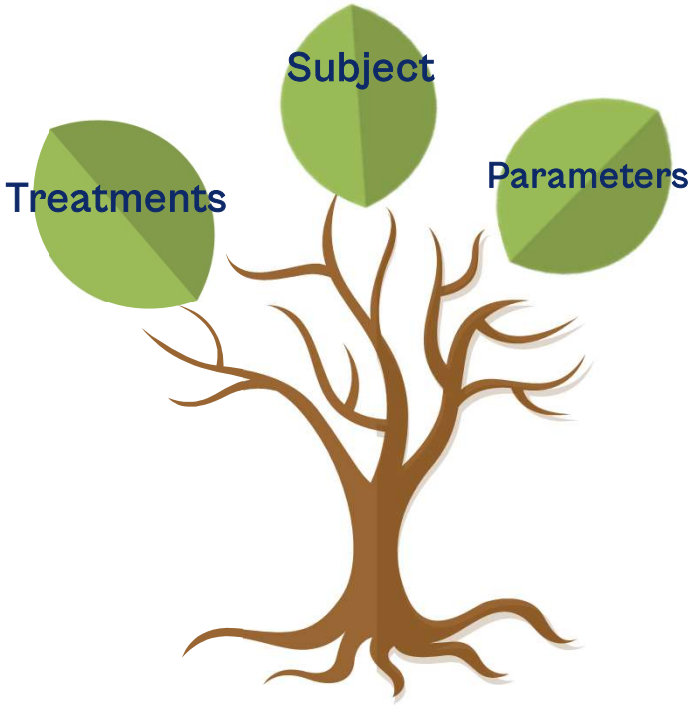
Application of any materials which is impose to subject to find out its effect on subject *is called parameter*: *E.g., Plant Height, Yield, N, P, Fever.*

Respondents are those persons who have been invited to participate in a particular study and have actually taken part in the study. *E.g., Rice Farmer, Male Patient.*

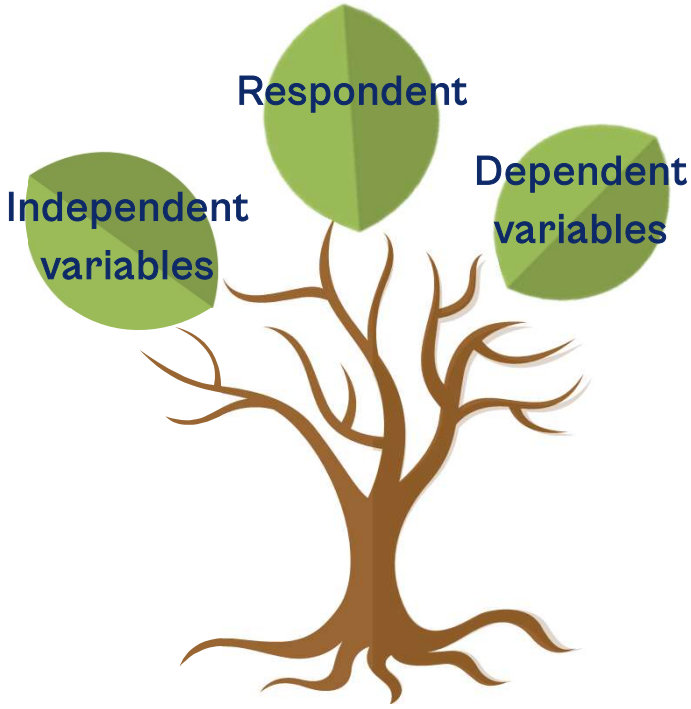
Independent variables are variables that stand alone and aren't changed by the other variables that are measured. *E.g., Knowledge, Attitude, Behaviour.*

The dependent variables are the variables being tested and measured in a study. *E.g., Work Performance of Knowledge, Attitude, Behaviour.*

KEYWORD SOURCE FOR SCIENCE AND SOCIAL SCIENCE



SCIENCE



SOCIAL SCIENCE

Selection of Key Words using Subject, Treatment, Parameters and Part of Speech

EFFECT OF FERTILIZER (T) ON ANTIOXIDENT, NUTRIENT (P) COMPOSITION AND YIELD (P) OF RICE (S)

RESEARCH WORD	Part of Speech	NON-RESEARCH WORD	Part of Speech
Rice (subject)	Noun	Effect	Verb/Noun
Fertilizer (treatment)	Noun	of	Preposition
Yield (parameter)	Noun	on	Preposition
Antioxidant (parameter)	Noun	and	Preposition
Nutrient (parameter)	Noun	Composition	Noun

KEYWORD SEQUENCE FOR SCIENCE AND SOCIAL SCIENCE

To prepare:

INTRODUCTION AND LITERATURE REVIEW

Proper sequence will be:

SUBJECT/RESPONDENT CITATIONS

TREATMENTs/IVs CITATIONS

PARAMETERS/DVs CITATIONS

Total number of keywords for publication will be 5-6
Total number of keywords for THESIS will be 6-10

T-S-P, T-P-S, P-T-S, P-S-T, S-T-P, S-P-T = 6 model

R-IV-DV, R-DV-IV, DV-IV-R, DV-R-IV, IV-R-DV, IV-DV-R

STP MODEL FOR PARAPHRASING IN TITLE

Effect of rice husk biochar (T) on yield (P) and nitrogen use efficiency (P) of rice (S).

Response of rice (S) yield (P) and nitrogen use efficiency (P) influenced by rice husk biochar (T).

Yield (P) and nitrogen use efficiency (P) of rice (S) influenced by rice husk biochar (T).

Effect of rice husk biochar (T) on rice (S) yield (P) and nitrogen use efficiency (P).

To prepare INTRODUCTION, LITERATURE REVIEW % importance volume for Parameters/DV will be more (50-60%)

SCIENCE

Keyword	Ratio	% Importance
Subject matter	1	10
Treatment	3	30
Parameters	6	60
Total	10	100

SOCIAL SCIENCE

Keyword	Ratio	%Importance
Target respondent	2	20
Independent variables	3	30
Dependent variable (s)	5	50
Total	10	100

IT MAY VARY FROM TOPIC TO TOPIC

EXAMPLE OF CITATION FOR SCIENCE RESEARCH

Type of citation	Identification	Tense	Value	Example
Subject citation	**T and P absent** No value or unit (eg,3 Kg)	Present	No	Rice (S) ~~is our staple food~~ (Uddin 2019
Treatment citation	**S and P absent** No value or unit (eg,3 Kg)	Present	No	Salinity (T) ~~is environmental factors of plants~~ (Uddin 2019
Parameter citation for Introduction	**S, T and P present**	Past	No	Yield (P) of rice (S) was decreased due to salinity (T) (Uddin 2019
Parameter citation for discussion	**S, T and P present**	Past	Yes	Yield (P) of rice (S) was decreased 50% due to salinity level 10 dSm^{-1}(T) (Uddin 2019
If need data to reflect subject/treatment citation then will be in past tense. **In 2018-2019 rice (Subject) production was 10 million in Malaysia (M et al, 20020)**				

EXAMPLE OF CITATION FOR SOCIAL SCIENCE RESEARCH

Type of citation	Identification	Tense	Example
Respondent (R)	**IV and DV absent**	Present	**Bambara farmers (R)** like to adopt good technology for high yield **(Idris 2019)**
Independent variables (IV)	**R and DV absent**	Present	Bambara farmers accept the irrigation technology due to good **knowledge (IV)** **(Idris 2019)**
Dependent variable (DV)	**R, IV and DV present**	Past	90% of Bambara farmers (R) fertilizer application **performance (DV)** was higher due to high knowledge (IV) **(Idris 2019)**
If need data to reflect Respondent/IV citation then will be in past tense. **In 2018-2019 Bambara (Subject) production farmers in Nigeria was 10 million (M et al, 20020).**			

PARAMETER CITATION, MODIFICATION, AND APPLICATION

Original citation	Modified citation	
	Modification1 by using relative data	**Modification2 general**
Uddin et al. (2019) showed that the highest yield (P) (4.50 t/ha) of rice (S) was recorded from the T5 (250 kg N/ha) (T).	Uddin et al. (2019) reported that the highest (250 kg N/ha) (T) dose of N produced 136.84% higher rice (S) yield (P) compared to the control treatment.	The yield (P) of rice (S) increased with the increasing dose of N fertilizer (T) (Uddin et al., 2019).
Use for Discussion **Parameter citations for discussion will be specific result**	Use for Discussion	Use for Introduction **Parameter citations for introduction will be general trend and not result**

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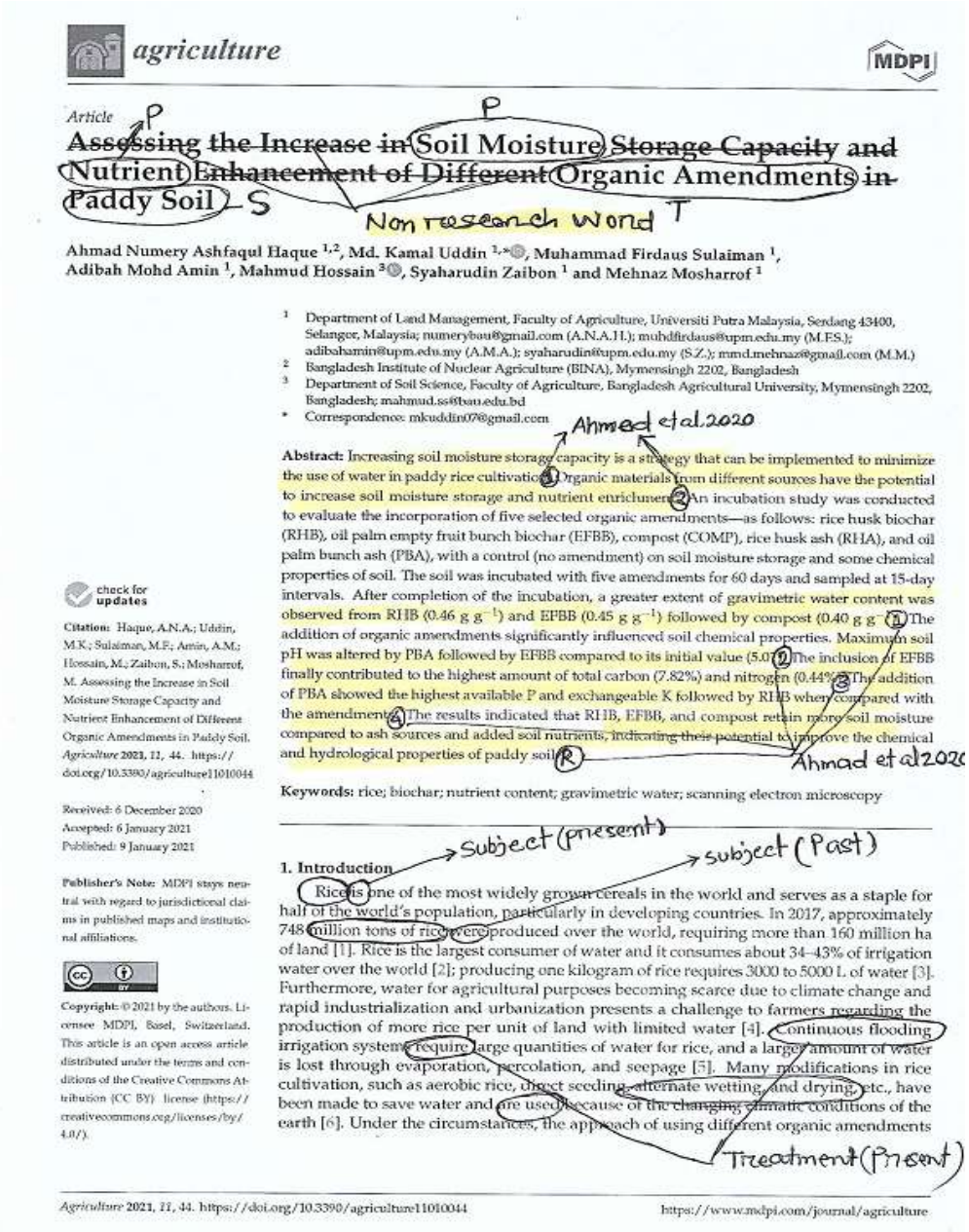
LATEST PARAMETER CITATION FROM PUBLISHED ABSTRACT



agriculture

MDPI

Article

Assessing the Increase in Soil Moisture Storage Capacity and Nutrient Enhancement of Different Organic Amendments in Paddy Soil

Ahmad Numery Ashfaqul Haque [1,2], Md. Kamal Uddin [3,*], Muhammad Firdaus Sulaiman [1], Adibah Mohd Amin [1], Mahmud Hossain [3], Syaharudin Zaibon [1] and Mehnaz Mosharrof [1]

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[2] Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh 2202, Bangladesh
[3] Department of Soil Science, Faculty of Agriculture, Bangladesh Agricultural University, Mymensingh 2202, Bangladesh; mahmud.ss@bau.edu.bd
* Correspondence: mkuddin07@gmail.com

Abstract: Increasing soil moisture storage capacity is a strategy that can be implemented to minimize the use of water in paddy rice cultivation. Organic materials from different sources have the potential to increase soil moisture storage and nutrient enrichment. An incubation study was conducted to evaluate the incorporation of five selected organic amendments—as follows: rice husk biochar (RHB), oil palm empty fruit bunch biochar (EFBB), compost (COMP), rice husk ash (RHA), and oil palm bunch ash (PBA), with a control (no amendment) on soil moisture storage and some chemical properties of soil. The soil was incubated with five amendments for 60 days and sampled at 15-day intervals. After completion of the incubation, a greater extent of gravimetric water content was observed from RHB (0.46 g g^{-1}) and EFBB (0.45 g g^{-1}) followed by compost (0.40 g g^{-1}). The addition of organic amendments significantly influenced soil chemical properties. Maximum soil pH was altered by PBA followed by EFBB compared to its initial value (5.07). The inclusion of EFBB finally contributed to the highest amount of total carbon (7.82%) and nitrogen (0.44%). The addition of PBA showed the highest available P and exchangeable K followed by RHB when compared with the amendments. The results indicated that RHB, EFBB, and compost retain more soil moisture compared to ash sources and added soil nutrients, indicating their potential to improve the chemical and hydrological properties of paddy soil.

Keywords: rice; biochar; nutrient content; gravimetric water; scanning electron microscopy

check for updates

Citation: Haque, A.N.A.; Uddin, M.K.; Sulaiman, M.F.; Amin, A.M.; Hossain, M.; Zaibon, S.; Mosharrof, M. Assessing the Increase in Soil Moisture Storage Capacity and Nutrient Enhancement of Different Organic Amendments in Paddy Soil. *Agriculture* **2021**, *11*, 44. https://doi.org/10.3390/agriculture11010044

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1. Introduction

Rice is one of the most widely grown cereals in the world and serves as a staple for half of the world's population, particularly in developing countries. In 2017, approximately 748 million tons of rice were produced over the world, requiring more than 160 million ha of land [1]. Rice is the largest consumer of water and it consumes about 34–43% of irrigation water over the world [2]; producing one kilogram of rice requires 3000 to 5000 L of water [3]. Furthermore, water for agricultural purposes becoming scarce due to climate change and rapid industrialization and urbanization presents a challenge to farmers regarding the production of more rice per unit of land with limited water [4]. Continuous flooding irrigation systems require large quantities of water for rice, and a large amount of water is lost through evaporation, percolation, and seepage [5]. Many modifications in rice cultivation, such as aerobic rice, direct seeding, alternate wetting, and drying, etc., have been made to save water and are used because of the changing climatic conditions of the earth [6]. Under the circumstances, the approach of using different organic amendments

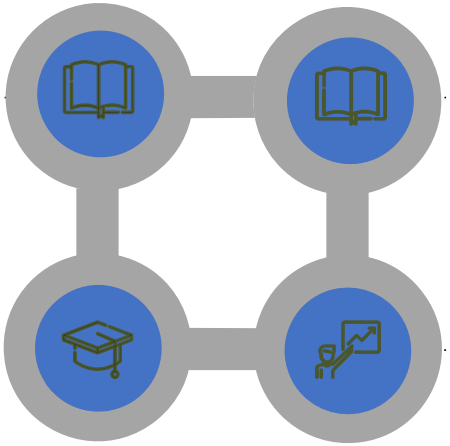
SQL Model for Journal Selection using STP/RIVDV

Grade A

Similarity (S)
80-100% similar of
STP/RIVDV

Grade B

Similarity (S)
60% similar of
STP/RIVDV



Grade C

Quality (Q)
JCR indexed (Q1-Q4)
Scopus indexed

Grade D

Latest (L)
Year 2011-2021

SQL (A) ✓
SL (B) ✓
SQ (C)
QL (D)

Methodology

- Start with basic experimental details, for example:
  - Type of Experiment: Field/Lab/Laboratory
  - Location of the study (with latitude and longitude, if field trial)
  - Experimental Design (e.g., CRD/RCBD/Split-plot etc.)
  - Plot size (in case of field experiment), and pot dimensions (plot study)
- Treatments details
- Number of replications per treatment
- Subject details (e.g., crop(s), variety(ies) etc.)
- Agronomic, fertilization and irrigation scheduling details
- Agronomic parameters to be recorded, with their detailed procedure (in case of thesis), and brief (in case of publication)
- Green house data (light intensity/temperature/humidity) to be recorded for every 2 hrs
- Laboratory analysis to be performed, with their detailed procedure (in case of thesis), and brief (in case of publication)

Methodology

- Describe the research protocol with logical order (usually chronological order)
- Provide Reference for each method, e.g., Protein analysis according to **Uddin et. al, (2018)**

- **Methodology and procedure should be written in details**

- In case of modification of a method, provide the reference. If the modification has been made by you, clearly describe the component which has been modified with the strong justification for modification
- Statistical Analysis for the result should be described with:
  Type of Test performed (e.g., ANOVA, Correlation, Regression etc.),
  Mode of Comparison (e.g., LSD, Tukey etc.)
  Probability value
  Software used

Published Theory / Framework for Social Science

Theory of Work Performance

(Blumberg and Pringle, 1982)

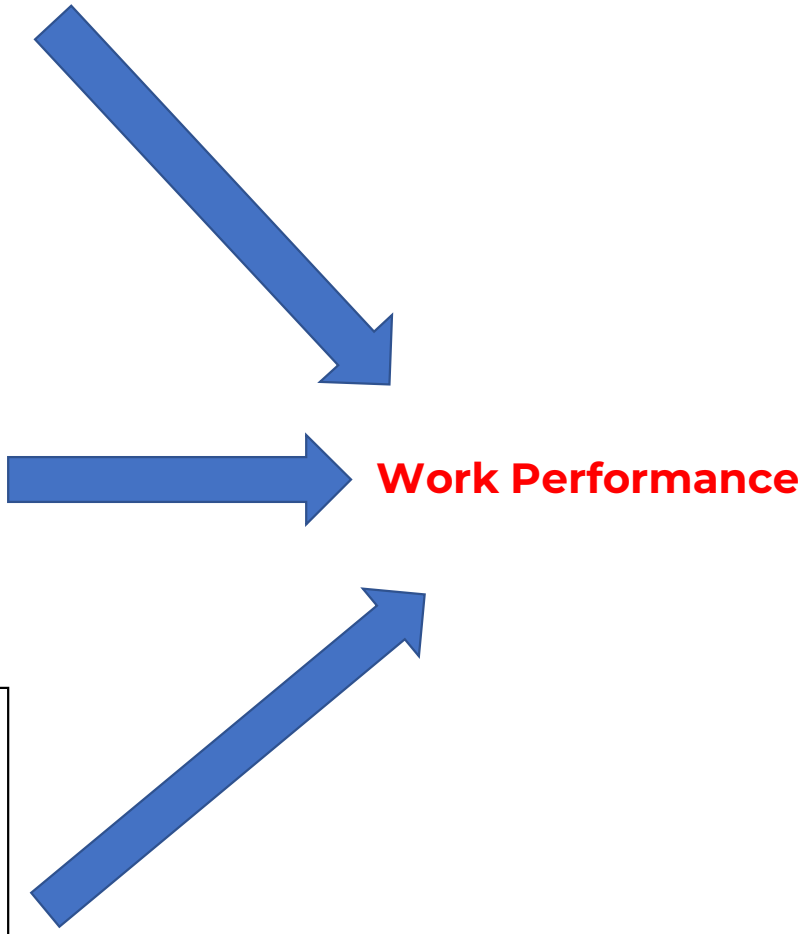
1. Capacity
2. Willingness
3. Opportunity

AMO Model (Bailey, 1993)

1. Ability (A)
2. Motivation (M)
3. Opportunity (O)

Technology Acceptance Model (TAM) (Davis Jr, 1986)

1. Perceived Usefulness (PU)
2. Perceived Ease of Use (PEU)



Work Performance

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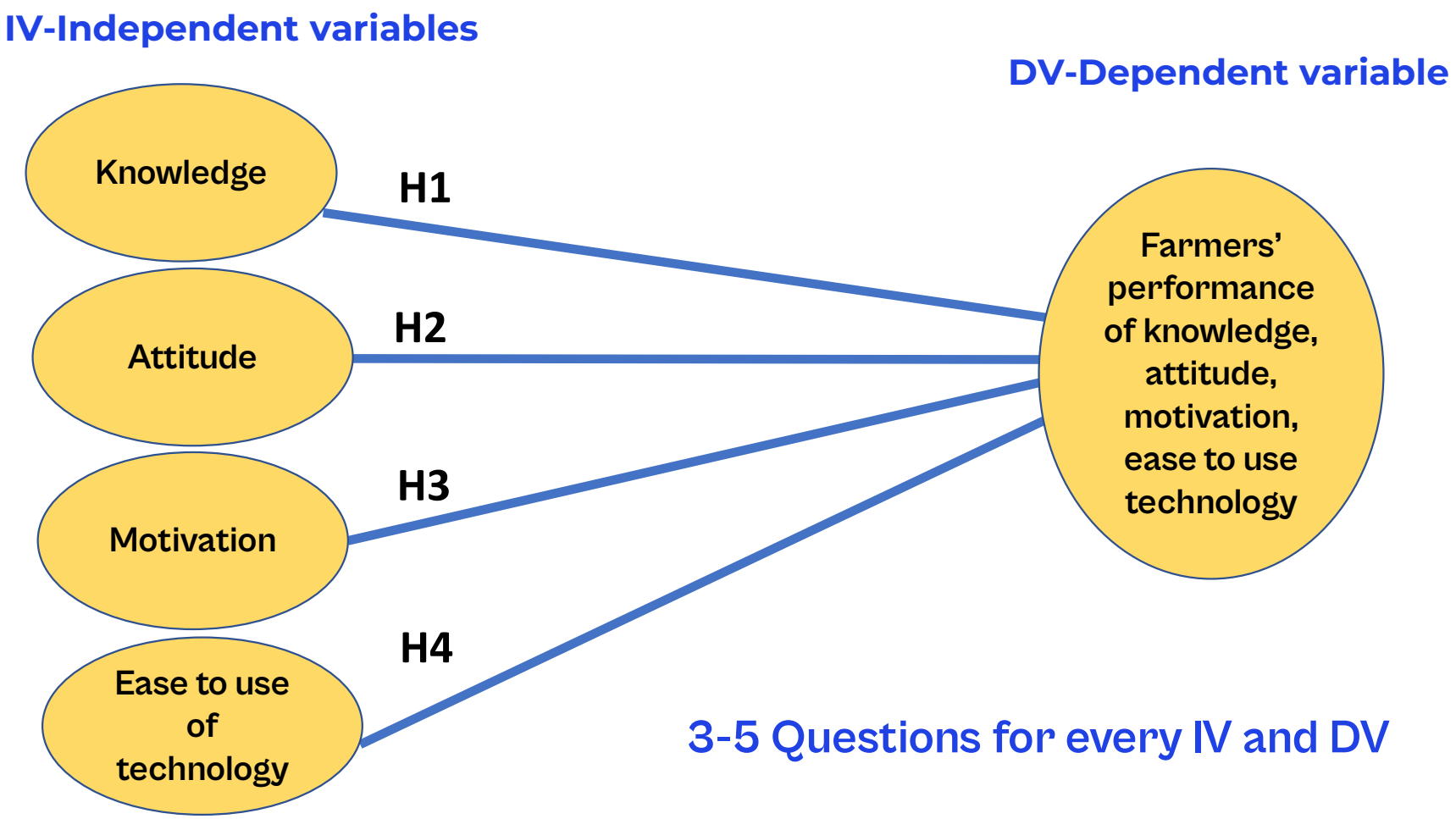
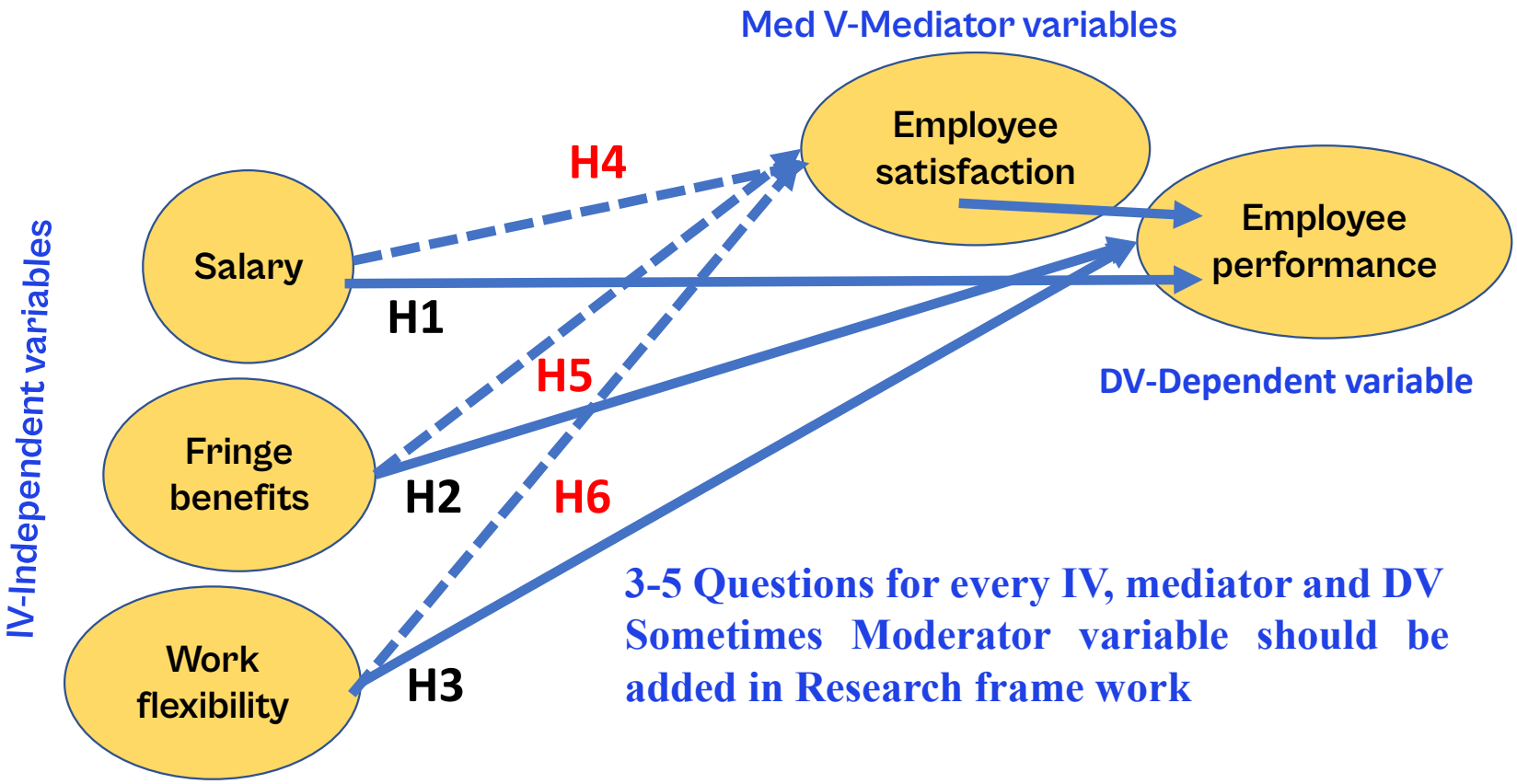
Conceptual Research Framework



Conceptual Research Framework



Common words bank for objectives

Special words bank for literature review

ENGLISH BANK FOR RESEARCH

If need please email mkuddin07@gmail.com

Common words bank

First sentence bank for each parameter

COMMON WORDS BANK

Parameter-1	Showed	Started	Found
Parameter-2	Presented	Conducted	Observed
Parameter-3	Resulted	Established	Obtained
Parameter-4	Described	Organized	Illustrated
Parameter-5	Differed	Plotted	Displayed
Parameter-6	Revealed	Led	Produced
Parameter-7	Stated	Laid out	Appeared
Parameter-8	Mentioned	Explained	Gave/given
Parameter-9	Discussed	Studied	Got
Parameter-10	Investigated	Carried out	Evidenced/evident
Parameter-11	Examined	Performed	Influenced
Parameter-12	Evaluated	Planned	Yielded, generated
Parameter-13	Opined	Structured	Recorded
Parameter-14	Determined	Designed	Registered
Parameter-15	Delineated	Regulated	Generated

Anticipate	Define	Formulate
Arrange	Decrease	Intensify
Assemble	Demonstrate	Illustrate
Assess	Describe	Investigate
Build	Design	Measure
Categorize	Discover	Motivate
Classify	Discriminate	Organize
Compare	Display	Quantify
Conduct	Establish	Solve
Construct	Estimate	Stimulate
Contrast	Explain	Summarize
Coordinate	Evaluate	Study
Determine	Elaborate	Translate
Delineate	Express	Understand

TOTAL CITATIONS NUMBER FOR INTRODUCTION

Master' s Thesis	PhD Thesis	Publication or Single Experiment
Science (40 citations)	Science (50 citations)	30 citations
Social Science (80 citations)	Social Science (100 citations)	40 citations

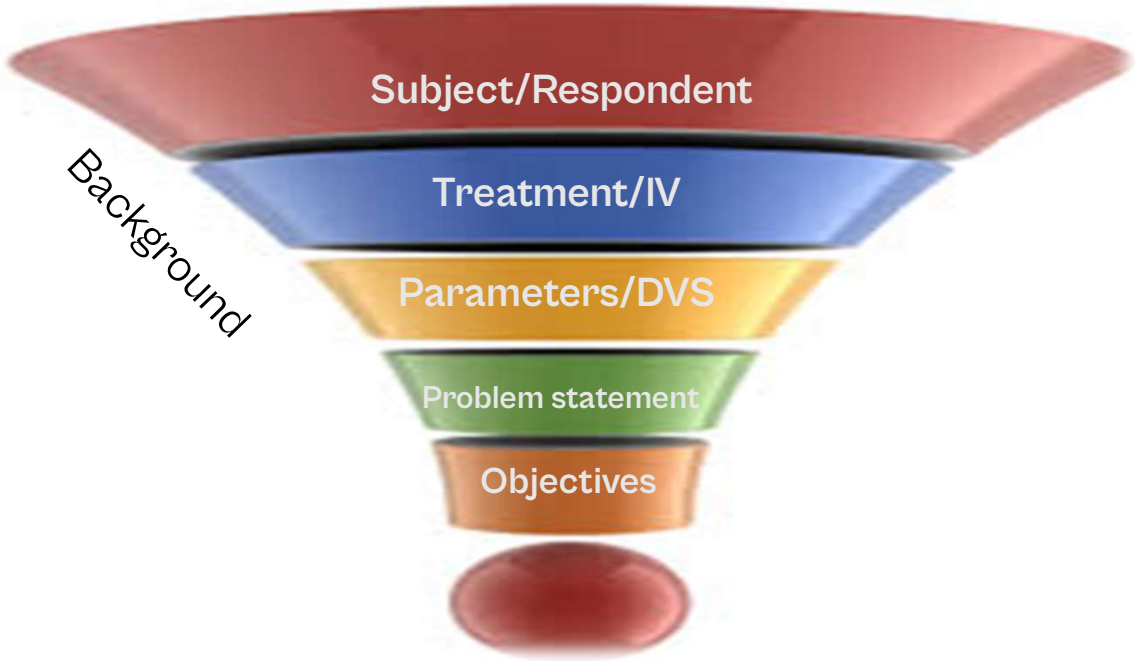
10 CITATIONS/PAGE

TIME NEW ROMAN, 12 font, DOUBLE SPACE (MS word file)

TOTAL LINEs NO-20
10 citation = 20 lines
So 1 citation = 2 lines

INTRODUCTION (BPO MODEL)

- Typically should be FUNNEL shaped
- Moving from general to specific



Introduction total citations = 30 (Background)

Title: Fertilizer effect on antioxidant, nutrient composition, and yield of rice

Keywords: Rice, Fertilizer, Nutrient, Antioxidant, Yield

Keywords sequence	% Importance	Source	Citation no
Rice	10	Subject	3
Fertilizer	30	Treatment	9
Nutrient	10	parameter	3
Antioxidant	30	parameter	9
Yield	20	parameter	6
Total	100	30	30

PROBLEM STATEMENT

PGCSN Model

ITEM	Citation/ own word	Tense	% Importance	Ratio
Previous work (P)	Citation	Past	40	3
Gaps in literature with your work (G)	Own words	Present	20	2
Challenges (C) and Overcome	Own words	Present	20	2
Significant of study (S)	Own words	Present	15	1.5
Novelty of your work (N)	Own words	Present	5	0.5

Title: Fertilizer effect on antioxidant, nutrient composition, and yield of rice

Keywords: Rice, Fertilizer, Nutrient, Antioxidant, Yield

ITEM	Source	Remarks
Previous work (P)	Specially key words parameters (Nutrient, antioxidant, yield)	Latest (5 years)
Gaps in literature with your work (G)	Specially key words parameters (Nutrient, antioxidant, yield)	Treatment effect
Challenges (C) and Overcome	Specially key words parameters (Nutrient, antioxidant, yield)	Potential technology/method approach
Significant of study (S)	Specially key words parameters (Nutrient, antioxidant, yield)	Food security and safety, ecofriendly, economically
Novelty of your work (N)	Specially key words parameters (Nutrient, antioxidant, yield)	Why novel and specific contribution

agriculture

MDPI

Article

Assessing the Increase in Soil Moisture Storage Capacity and Nutrient Enhancement of Different Organic Amendments in Paddy Soil

Ahmad Numery Ashfaqul Haque [1,2], Md. Kamal Uddin [1,*], Muhammad Firdaus Sulaiman [1], Adibah Mohd Amin [1], Mahmud Hossain [3], Syaharudin Zaibon [1] and Mehnaz Mosharrof [1]

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* Correspondence: mkuddin07@gmail.com

Citation: Haque, A.N.A.; Uddin, M.K.; Sulaiman, M.F.; Amin, A.M.; Hossain, M.; Zaibon, S.; Mosharrof, M. Assessing the Increase in Soil Moisture Storage Capacity and Nutrient Enhancement of Different Organic Amendments in Paddy Soil. *Agriculture* **2021**, *11*,4. https://doi.org/10.3390/agriculture11010044

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Keywords: rice; biochar; nutrient content; gravimetric water; scanning electron microscopy

1. Introduction

Subject

Rice is one of the most widely grown cereals in the world and serves as a staple for half of the world's population, particularly in developing countries. In 2017, approximately 748 million tons of rice were produced over the world, requiring more than 160 million ha of land [1]. Rice is the largest consumer of water and it consumes about 34%–43% of irrigation water over the world [2]; producing one kilogram of rice requires 3000 to 5000 L of water [3].

Treatments

Every year, about 4 million tons of crop residue is produced over the world and burnt in the open air to produce ash [7], which is a source of organic amendment though its contributions to environmental pollution. In the effort to overcome environmental issues, biochar production has great potential—it is a material produced by thermal disintegration of biomass at low temperature (below 700 °C) under limited oxygen conditions which is enriched in carbon and porous by nature [8]. Rice processing industries produce a large quantity of rice husk; after processing, this rice husk biochar has the potential to be used as an organic amendment to enhance the physicochemical properties of soil [10] or rice husk ash can be used for the same. In Malaysia, residue generated from oil palm has great scope for producing biochar (as the main product), empty fruit bunch biochar (EFBB) (which is readily available) [11] or ash produced from oil palm bunch, which is an efficient liming material and also adds nutrients when applied to soil [12].

Parameters

Application of organic waste either for plant nutrient supply or disposal purposes exerts favorable hydrological properties of soil for crop production and also improves soil structure, porosity, and reduces erosion [13]. Every 1% increase in organic matter increases the soil capacity up to 16,500 gallons of available water per acre [14]. By the application of biochar, the soil is enriched with organic matter as well as organic carbon content and also adds nutrients such as nitrogen, potassium, phosphorus, and magnesium [15,16]. Biochar also contains different kinds of alkaline material which help in raising soil pH of acidic soil and it also alters soil physical properties and enhances soil aggregates and moisture retention [17,18] and helps to improve soil health [19]. Biochar enhances soil moisture storage in two ways: firstly, by changing pore size distribution and aggregation and, secondly, through conserving moisture in pores [20]. Ash produced from direct burning of biomass used as a soil amendment is a common practice; it contains less nitrogen but is dense with other plant nutrients and it also can be used as a liming agent [21]. The application of wood ash increases water availability and also partially supplies nutrients to plants reported by Bonfim-Silva et al. [22]. Compost is one of the most widely used soil amendments enriched with different plant nutrients, and the inclusion of compost in the soil increases the cation exchange capacity and reduces nutrient leaching into sub-soil [23]. The incorporation of compost decreases bulk density, enhances porosity and improves soil water retention properties, such ashydraulic conductivity, plant available water, and water content, as reported by Kranz et al. [24].

Problem Statement

Previous work

Water for agricultural purposes becoming scarce due to climate change and rapid industrialization and urbanization presents a challenge to farmers regarding the production of more rice per unit of land with limited water [4]. Continuous flooding irrigation systems require large quantities of water for rice, and a larger amount of water is lost through evaporation, percolation, and seepage [5]. Many modifications in rice cultivation, such as aerobic rice, direct seeding, alternate wetting, and drying, etc., have been made to save water and are used because of the changing climatic conditions of the earth [6]. Soil organic matter management by adding suitable organic amendments could help retain soil moisture under water limiting conditions.

Gaps in liteature

Previous studies mainly focused on the role of organic amendment in the improvement of soil biochemical properties, carbon sequestration, and greenhouse gas emissions etc., but put comparatively less emphasis on its effect on soil moisture retention.

Challenges

The approach of using organic amendments for rice production has great scope in terms of enhancing soil moisture retention capacity because organic wastes not only retain soil moisture but also supply essential nutrients to plants. Therefore, enhancement of water retention capacity of of paddy with improved nutrient availability by inclusion of organic amendment is the main challenge of this study.

Significance

The addition of a suitable amount of organic amendments in paddy soil may retain more soil water by reducing moisture loss; additionally, it also improves nutrient availability to plants, which facilitates sustainable rice production under water-scarce environments around the earth.

Novelty

The concept of using different organic amendments to increase soil moisture conserving capacity and the consecutive enrichment of soil by essential plant nutrients is a new aspect of this research.

In this context, an incubation study was conducted to investigate the structural and chemical properties of organic amendments (i.e., compost, rice husk biochar and ash, oil palm empty fruit bunch biochar, and oil palm bunch ash) and to compare the capacity of organic amendments to retain soil moisture and nutrient release.

RESULT WRITING TECHNIQUE

Parameter 1, 3, 5.....9

Parameter 2, 4, 6.....

Use first sentence bank

Use common word bank

RESULT WRITING

Results Presentation

- Present your results in Tables or Figures (not in both forms for an individual parameter)
- Table and figures should have a brief and self-explanatory title/caption.
- If figure better add numerical value also.
- A Table and Figure should stand alone (completely and easily understandable to reader, with all abbreviations explained).
- Data should be presented in Tabular form (if values are important), while should be presented in Figure form (if trend is important).
- Tables or Figures should not be crowded. Large Tables and Figures should be split into components.
- Tables and Figures should be prepared in a consistent format.

Sample 1.

The table (5.1) demonstrated the effect of different treatments on pH of the experimental soil. Seven different treatments (T_1, T_2, T_3, T_4, T_5, T_6 and T_7) were used in this experiment where T_1 was considered as control. The pH in different treatments ranged from 6 to 7.5. The control group (T_1) had the lowest pH (6). The pH was significantly highest (7.5) in T_6 followed by $T_{5\ (6.3)}$, $T_{4\ (6.5)}$, $T_{3\ (6.7)}$ and $T_{7\ (6.8)}$. The percent increase in pH was doubled in T_6 compared to the T_1. The percent increases in pH were 20, 40, 50, 70 and 80 in T_2, T_7, T_3, T_4 and T_4, respectively.

Sample 2.

In this study, it was noticed that fish growth performance as well as yield were significantly affected by biochar and lime application ($p \leq 0.05$) (Table 1). The yield was higher in T6 (5 t/ha) followed by T2 (4.8 t/ha) while T15 (3 t/ha) recorded the lowest growth performance. However, The yield increased by 13.80% at T7 followed by 8.47% at T6 compare to T1 (30:30).

Sample 3.

Relative leaf chlorophyll content or SPAD value of maize measured at panicle initiation and heading stages varied significantly among different treatments (Figure). In general, SPAD values were recorded higher at heading stage than at panicle initiation stage. At panicle initiation stage, T1 resulted in lower SPAD values (29) compared to other treatments. All the remaining treatments resulted in higher SPAD values ranging from 33.50 to 36.30. At heading stage, highest SPAD value was recorded in T2 (48.87) identically followed by T6 (47.86). T7 resulted in lowest SPAD value (34.17) closely followed by T6 (40.83). The remaining treatments resulted in intermediate SPAD values ranging from 42.79 to 46.80.

RESULT WRITING STEPS

ITRLHR MODEL

Introductory sentence: **Sodium (P) content of all turf grass (S) species was significantly influenced by salinity (T) level**	**PST**
Trend increase/decrease: **Sodium content was decreased due to different salinity**	**PT**
range of data: **Sodium content range (mg/kg) for treatments was 20-70**	**PT**
Lowest findings: **T1 produced the lowest Na content (20 mg/kg) followed by T5 (25 mg/kg)**	**TP**
Highest findings: **highest Na content was found in T8 (70 mg/kg) followed by T9 (60 mg/kg)**	**PT**
Relative data:% increase/decrease compare to control **The highest Na content increment was 50% from T8 compared to the control**	**PT**

STRUCTURED SYSTEM RESULT WRITING

IFR MODEL

Introductory sentence:
Sodium (P) content of all turf grass (S) species was significantly influenced by salinity (T) level (Table 1)

Significant findings:
Highest was found in T8 (70 mg/kg) followed by T9 (60 mg/kg)

Relative data:% increase/decrease compare to control
The highest Na content increment was 50% from T8 compared to the control

Specific to a general like reverse funnel shape
(opposite of introduction)

Significant result / parameters
yield, antioxidant, minerals

RFMS (O) model	% Importance	Tense
Reason for performing of the study (own words) Review the existing level of knowledge and then find out the knowledge gap.....	5	Present
Brief summary of the main significant findings (result) Only the important parameters/DVs	50	Past
Interpret results clearly and concisely with mechanism/Social factors (citations)	25	Present
Relate the findings to those of similar studies (citations) Report similar findings of others and relate to your own findings	20	Past
Consider alternative explanations of the findings (citations) for the difference (Option) and explain the possible reasons behind.	10/0	Past

RFMS model	Example	Tense
Reason for performing of the study (own words)	**This study indicates on yield performance due to potential rate of biochar application in maize field**	Present
Brief summary of the main significant findings	**Biochar treated plot produced highest yield compare to control treatment.**	Past
Interpret results clearly and concisely with mechanism (citations)	Biochar can hold more water than the soil and can hold nutrients. Biochar has been shown to increase crop yield. Application of biochar improved soil fertility **by increasing plant nutrients, pH, carbon and cation exchange capacity, with concomitant suppression of Al^{3-} and Mn^{2-} activities** in the soil solution **(M et al 2019).** Due to the **more N content in biochar treated soil, photosynthesis rate is high** than in unamended treatment **(M et al 2019)**	Present
Relate the findings to those of similar studies (citations)	our findings were consistent with Panhwar et al. (2021), who reported a 35.82% increase of maize yield using biochar 10 t/ha.	Past

RFMS model	Example	Tense
Reason for performing of the study (own words)	This study indicates that motivation of farmers mainly regulates their performance towards fertilizer application.	Present
Brief summary of the main significant findings	Motivation solely had the **highest contribution of 48.6% in predicting farmers' performance** towards fertilizer application.	Past
Interpret results clearly and concisely with multi factors (citations)	Motivation contributed to farmers' performancetowards fertilizer application due to- **Economical factor like –higher yield of rice, large farm size, Social factor- education, social status, Organizational factor- extension contact, training, credit facility** (Nia et al., 2013).	Present
Relate the findings to those of similar studies (citations)	our findings were consistent with Zulfikar et al. (2021), who reported a 35.82% increase of rice farmers performance towards fertilizer application.	Past

ABSTRACT OF RESEARCH ARTICLE

(IOMFR model)

Title: fertilizer effect on antioxidant, nutrient composition and yield, of rice

Key word: Rice, Fertilizer, Nutrient, Antioxidant, Yield

Item	Source	% importance
Introductory importance (Present)	Subject (Rice)	10
Objective (Present)	Parameter (Nutrient, antioxidant, yield)	5
Brief methodology (Past)	Treatment (fertilizer)	25
Key finding of major parameters (past)	Parameter (Nutrient, antioxidant, yield)	50
Recommendation (present)	Over all	10

- ✓ **8-10 sentences 200-250 words (Publication)**
- ✓ **Only one paragraph and No citation**

agronomy

MDPI

Article

Impact of Organic Amendment with Alternate Wetting and Drying Irrigation on Rice Yield, Water Use Efficiency and Physicochemical Properties of Soil

Ahmad Numery Ashfaqul Haque [1,2], Md Kamal Uddin [1,*], Muhammad Firdaus Sulaiman [1], Adibah Mohd Amin [1], Mahmud Hossain [3], Azharuddin Abd Aziz [4] and Mehnaz Mosharrof [1]

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Introductory importance

Objective

Brief methodology

Key findings of major parameters

Recommendation

Abstract: Water-saving irrigation occasionally causes an inconsequential yield loss in rice; thereby, biochar incorporation in this context has great scope due to its properties, including the release of nutrients and improving soil physicochemical properties. A pot experiment was executed to investigate the impact of biochar and compost with water-saving irrigation on the rice yield, water use efficiency, and physicochemical properties of soil. Two irrigation regimes—namely alternate wetting and drying (AWD) and continuous flooding (CF)—and four types of organic amendments (OA)—namely rice husk biochar (RHB), oil palm empty fruit bunch biochar (EFBB), compost and a control—were applied to evaluate their effects. Under the AWD irrigation regime, the maximum grain was produced by RHB (241.12 g), whereas under the same organic amendments, both AWD and CF produced a similar grain yield. Under the same organic amendment, a significantly higher water use efficiency (WUE) was observed from the AWDirrigation with RHB (6.30 g L^{-1}) and EFBB (5.80 g L^{-1}). Within the same irrigation regime, soil pH, cation exchange capacity, total carbon, total nitrogen and available phosphorus were enhanced due to the incorporation of biochar and compost, while higher soil exchangeable potassium was observed under CF irrigation for all treatments. RHB and EFBB significantly reduced the soil bulk density (up to 20.70%) and increased porosity (up to 16.70%) under both irrigation regimes. The results imply that the use of biochar with AWD irrigation could enhance the nutrient uptake and physicochemical properties of soil and allow rice to produce a greater yield with less water consumption.

Keywords: rice; intermittent irrigation; biochar; water use efficiency; soil physicochemical properties

Published: 30 July 2021

TIPS OF QUALITY REVIEW PAPER

- The topic should be assessed from a new standpoint.
- Recent innovation/information of the research must be addressed.
- Critical analysis of the data must be presented under every sub headline and critically discuss the possible element of debate.
- Future challenges/prospects must be addressed.
- Table(s) should be prepared to summarize recent findings in specific field of research.
- Sketch/Drawing/Figure should be prepared to give an overview of the review at a glance.

CITATION LAYOUT OF MATERIALS FOR A REVIEW PAPER

Title: **Influence of biochar on GHG emission from agricultural soils, A Review**

Key points	% importance	No of citations
Preparation and function of biochar	5	5
Function of biochar	5	5
Chemical Characteristics of biochar	5	5
Physical Characteristics of biochar	5	5
Effects of biochar on soil physical properties	10	10
Effects of biochar on soil chemical properties	15	15
Effects of biochar on soil biological properties	5	5
Biochar as nutrients source and bio-availability:	10	10
Effects of biochar application on Soil CO2 emission	20	20
Effects of biochar application on Soil CH4 emission	10	10
Mechanisms affecting GHG fluxes with biochar amendment	10	10
Total	100	100

ABSTRACT OF REVIEW ARTICLE

(IFR model)

Title: fertilizer effect on antioxidant, nutrient composition and yield, of rice

Key word: Rice, fertilizer, Nutrient, antioxidant, yield

Item	Source	% importance
Introductory importance (Present)	Subject (Rice)	20
Summarize findings of some major parameters (past)	Parameter (Nutrient, antioxidant, yield)	70
Hypothetical Future Recommendation (present)	Over all	10

- ✓ 8-10 sentences 200-250 words (Publication)
- ✓ Only one paragraph and No citation

agriculture

MDPI

Review

Biochar with Alternate Wetting and Drying Irrigation: A Potential Technique for Paddy Soil Management

Ahmad Numery Ashfaqul Haque [1,2], Md. Kamal Uddin [1,*], Muhammad Firdaus Sulaiman [1], Adibah Mohd Amin [1], Mahmud Hossain [3], Zakaria M. Solaiman [4] and Mehnaz Mosharrof [1]

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Introductory importance

Summarize findings of some major parameters

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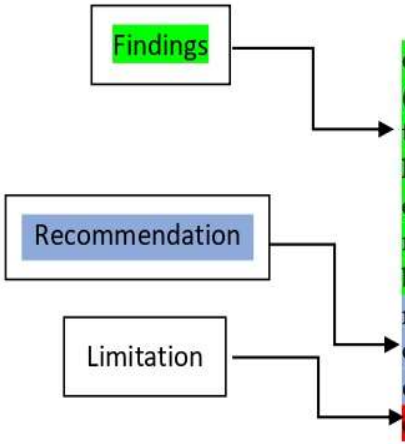
Abstract: Over half of the world's population depends on rice for its calorie supply, although it consumes the highest amount of water compared to other major crops. To minimize this excess water usage, alternate wetting and drying (AWD) irrigation practice is considered as an efficient technique in which soil intermittently dried during the growing period of rice by maintaining yield compared to a flooded system. Continuous AWD may result in poor soil health caused by carbon loss, nutrient depletion, cracking, and affecting soil physical properties. Due to being a potential organic amendment, biochar has a great scope to overcome these problems by improving soil's physicochemical properties. Biochar is a carbon enriched highly porous material and characterized by several functional groups on its large surface area and full of nutrients. However, biochar's implication for sustaining soil physicochemical and water retention properties in the AWD irrigation systems has not been widely discussed. This paper reviews the adverse impacts of AWD irrigation on soil structure and C, N depletion; the potential of biochar to mitigate this problem and recovering soil productivity; its influence on improving soil physical properties and moisture retention; and the scope of future study. This review opined that biochar efficiently retains nutrients and supplies as aslow-release fertilizer, which may restrict preferential nutrient loss through soil cracks under AWD. It also improves soil's physical properties, slows cracking during drying cycles, and enhances water retention by storing moisture within its internal pores. However, long-term field studies are scarce; additionally, economic evaluation is required to confirm the extent of biochar impact.

Hypothetical future recommendation

Keywords: rice; biochar; intermittent irrigation; nutrient availability; soil physical properties; water retention

5. Conclusions



After this 60-day incubation study, it was observed that the incorporation of selected organic amendments—as follows: RHB, EFBB, COMP, RHA, and PBA—at rates of 4% (weight/weight) in soil improved the chemical properties and moisture retention of a clay textured paddy soil. Among the amendments, two biochars (RHB and EFBB) conserved high gravimetric water contents. From the structural analysis of biochars by scanning electron microscopy, the presence of porous structures and the large surface areas helped retain soil moisture by storing water in micropores. Amendments such as RHB and EFBB biochars enrich plant nutrients and increase the water holding capacity of paddy soil. The results of this study are material, dose, soil, and lab-environment specific; field validation of the results is imperative to demonstrate the soil improvement effects of the two biochars. Nevertheless, this is a short-term study, and the result may vary for long-term experiments under field conditions.

STP MODEL FOR PLAGIARISM REDUCTION

(ONLY FOR PARAMETER CITATIONS)

Wang et al. (2018) reported that nitrogen use efficiency **(P)** of rice **(S)** was enhanced up to 15% by the application of rice husk biochar **(T)** at 5 t ha^{-1}.

Addition of rice husk biochar **(T)** at 5 t ha^{-1} increased the nitrogen use efficiency **(P)** of rice **(S)** by 15% was observed by Wang et al. (2018).

From a previous study on rice **(S)**, reported that 15% improved nitrogen use efficiency **(P)** was exhibited by the inclusion of rice husk biochar **(T)** at 5 t ha^{-1} (Wang et al., 2018).

About 15% of boosted nitrogen use efficiency **(P)** observed by the application of rice husk biochar **(T)** at 5 t ha^{-1} in rice **(S)** field (Wang et al., 2018).

SUBJECT MINUS TECHNIQUE FOR PARAMETER CITATION

When writing result first sentence has to cover S, T, and P, while the subsequent sentences should cover only T and P. if you avoid the subject word, it will help in reducing plagiarism in the thesis and publication.

Example, Sodium (P) content of turf grass (S) species was significantly influenced by salinity (T) level. Another example, T1 produced the lowest Na (P) content (20mg/kg) and T8 produced the highest (70 mg/kg).

Original sentence : Research was designed to reduce herbicide use by replacing POST herbicides with readily available ocean water to control weeds in turf grasses

Paraphrase sentence : The study was planned to decrease herbicide application by **substituting** POST herbicides with cheap sea water for

PLUS MINUS TECHNIQUE (PMT)

PLUS TECHNIQUE: Add some relevant extra words

Turfgrasses is suitable for mental health and recreation amenity (Juraimi, 2001; Raven et al., 2001).

Turfgrasses are important industries in many countries and its attractiveness is suitable for mental health and recreation amenity (Juraimi, 2001; Raven et al., 2001).

MINUS TECHNIQUE: Delete unnecessary word/complex sentence, change in simple sentence

Turfgrasses are ~~among the most~~ important industries in many countries and ~~its attractiveness~~ is suitable for mental health and recreation amenity (Juraimi, 2001; Raven et al., 2001).

MERGE TECHNIQUE (MT)

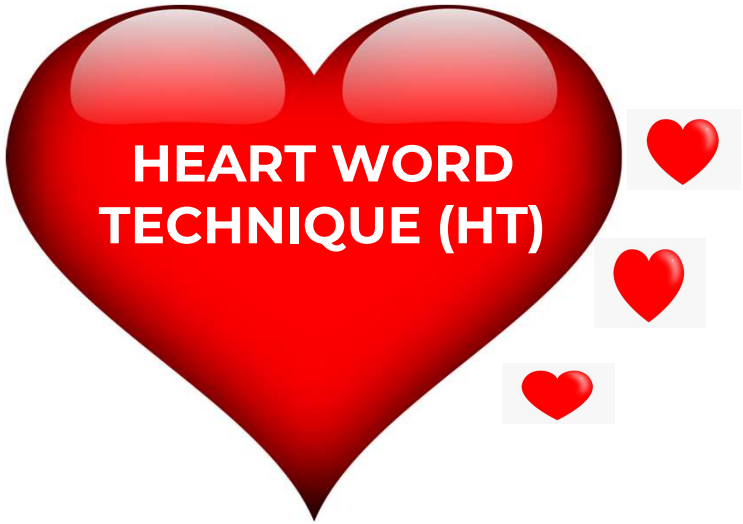
Turfgrasses are among the most important industries in many countries including Malaysia because of the development in landscaping and recreation amenity (Juraimi, 2001). Turf grass, as an important element to the landscape, serves the functions as beautification and its attractiveness is suitable for mental health (Lorenzi and Souza, 2001; Raven et al., 2001).

Turfgrasses are among the most important industries in many countries and its attractiveness is suitable for mental health and recreation amenity (Juraimi, 2001; Raven et al., 2001).

Turfgrasses is suitable for mental health and recreation amenity (Juraimi, 2001; Raven et al., 2001).

Heart Word Technique:

Every 3 words have to add new word from heart



Usually Turnitin software identifies plagiarism if more than five or six words are used the same way used in the original text. Therefore, you should enter an additional word and break the five/six word sequence of the original text. For example:

Purslane is a very good source of alpha-linolenic acid. Alpha-linolenic is an omega-3 fatty acid which plays an important role in human growth and development and in preventing diseases.

Purslane is a potential source of alpha-linolenic acid. It plays an important role in human *health* development and in preventing *different* diseases.

(MS)
Mental Stress

Permanent Health
Development
(PHD)

(MS)
Mental
Satisfactory

About the Speaker

Dr. Ahmed Abubakar is a distinguished academic with a remarkable breadth of research interests, spanning innovation, agriculture, digitalization, and sustainability. His expertise encompasses the application of artificial intelligence in sustainable agriculture, climate change, sustainable development, and more. Driven by a deep commitment to a sustainable future, he tirelessly pursues both theoretical and applied research. Dr. Ahmed's work extends to collaboration with stakeholders and policymakers, ensuring that his research has a profound real-world impact. Over the past three years, he has focused on revolutionizing oil palm production, enhancing yields, and improving smallholder livelihoods through sustainable methods and community engagement. As an academic at the University Putra Malaysia and Sule Lamido University, his research endeavours have made significant contributions to the understanding of the Sahel region. Dr. Ahmed's dedication and contributions extend to published research in local and international journals, making him a valuable asset in advancing knowledge and sustainable development in Africa.

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