



Jurnal Sosial Ekonomi Pertanian
(J - S E P)
(Journal of Social and Agricultural Economics)



DOKUMEN KORESPONDENSI ARTIKEL TERINDEKS SINTA 3

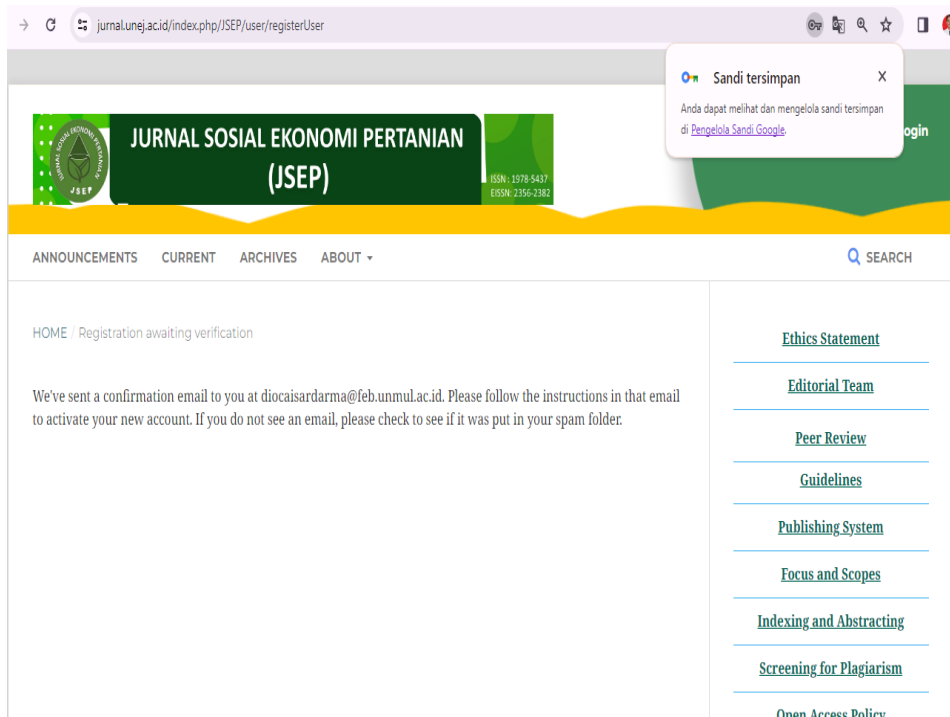
**) Identitas kepengarangan*

Nama penulis : Fitriadi, Agus Junaidi, Dio Caesar Darma
Corresponding : Dio Caesar Darma
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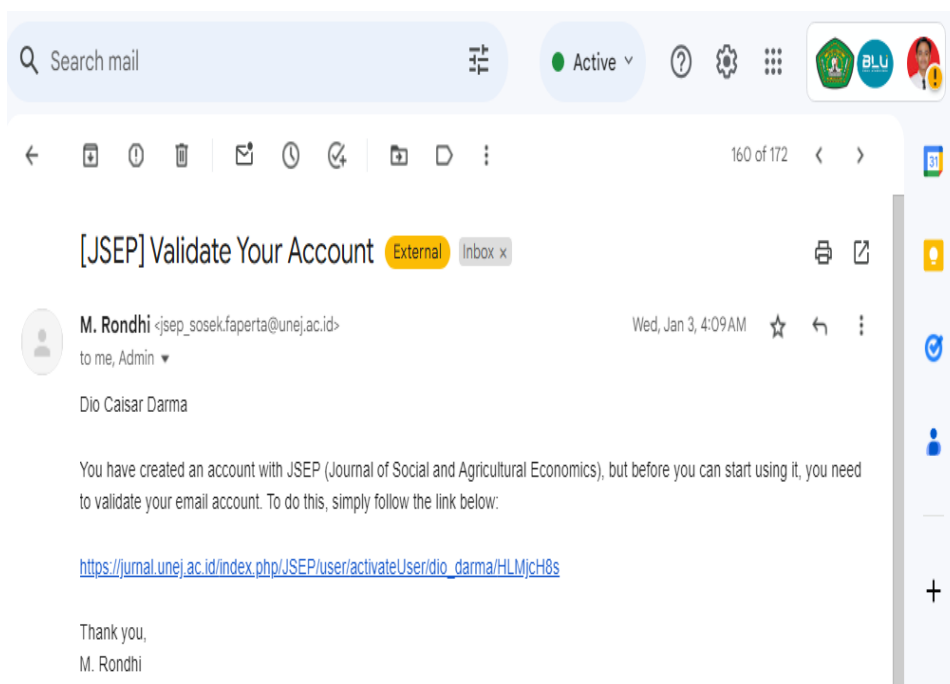
***) Kronologi peer-review*

Bukti	Catatan	Tanggal
Bukti 1	Registrasi jurnal lewat open journal system (OJS)	3 Januari 2024
Bukti 2	Pengiriman artikel	3 Januari 2024
Bukti 3	Pemberitahuan revisi tahap pertama	19 Mei 2024
Bukti 4	Penyerahan artikel yang direvisi	23 Mei 2024
Bukti 5	Pengumuman penerimaan artikel dengan catatan revisi (tahap kedua)	27 Oktober 2024
Bukti 6	Perbaikan kembali revisi lanjutan	27 Oktober 2024
Bukti 7	Pengeditan salinan dan produksi	19 November 2024
Bukti 8	Penerbitan akhir	19 November 2024
Bukti 9	Tagihan biaya publikasi & pembayaran	22 November 2024
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Bukti 1: Registrasi jurnal lewat open journal system (OJS)




The screenshot shows the registration page for the Journal Sosial Ekonomi Pertanian (JSEP). The browser address bar displays `jurnal.unej.ac.id/index.php/JSEP/user/registerUser`. The page header includes the JSEP logo, ISSN: 1978-5437, and EISSN: 2356-2382. A notification box in the top right corner reads "Sandi tersimpan" (Password saved) and provides a link to "Pengelola Sandi Google". The main content area shows the user's registration status as "Registration awaiting verification" and a message: "We've sent a confirmation email to you at diocaisardarma@feb.unmul.ac.id. Please follow the instructions in that email to activate your new account. If you do not see an email, please check to see if it was put in your spam folder." A sidebar on the right contains links to various journal policies and information, including Ethics Statement, Editorial Team, Peer Review, Guidelines, Publishing System, Focus and Scopes, Indexing and Abstracting, Screening for Plagiarism, and Open Access Policy.



The screenshot shows an email confirmation message from M. Rondhi to Dio Caisar Darma. The subject is "[JSEP] Validate Your Account". The email body contains the following text: "You have created an account with JSEP (Journal of Social and Agricultural Economics), but before you can start using it, you need to validate your email account. To do this, simply follow the link below:" followed by the URL https://jurnal.unej.ac.id/index.php/JSEP/user/activateUser/dio_darma/HLMjch8s. The email concludes with "Thank you, M. Rondhi". The email interface shows it was received on Wednesday, January 3, 4:09 AM.

→ G jurnal.lunej.ac.id/index.php/JSEP/user/activateUser/dio_darma/HLMjch8s

Inggris Indonesia X
Google Translate

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Bukti 2: Pengiriman artikel

The image shows two screenshots related to a journal submission. The top screenshot is a browser view of the JSEP (Journal of Social and Agricultural Economics) submission portal. The page title is "Submissions" and it features a navigation menu with "My Queue" and "Archives". Under "My Assigned", there are no items. Under "My Authored", one submission is listed with ID 45359, titled "Darma et al.; CONVERGENCE IN THE AGRICULTURAL ECONOMIC INDUSTRY IN INDONESIA", and a status of "Submission". A "New Submission" button is visible in the top right.

The bottom screenshot is an email titled "[JSEP] Submission Acknowledgement" from M. Rondhi to Dio Caisar Darma. The email text reads: "Thank you for submitting the manuscript, 'CONVERGENCE IN THE AGRICULTURAL ECONOMIC INDUSTRY IN INDONESIA' to JSEP (Journal of Social and Agricultural Economics). With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site: Submission URL: <https://jurnal.unej.ac.id/index.php/JSEP/authorDashboard/submission/45359> Username: dio_darma. If you have any questions, please contact me. Thank you for considering this journal as a venue for your work." The email is dated Jan 3, 2024, 5:28 PM (21 hours ago).

Bukti 3: Pemberitahuan revisi tahap pertama

The screenshot shows the author dashboard for the JSEP journal. The article title is "CONVERGENCE IN THE AGRICULTURAL ECONOMIC INDUSTRY IN INDONESIA" by Fitriadi Fitriadi, Prof. Dr., Agus Junaidi, Mr., Dio Caisar Darma, Mr. The submission is currently in the "Review" stage of Round 1. The status is "Waiting for reviewers to be selected." There are no review discussions at the moment.

The email is titled "[JSEP] Editor Decision" and is from Mr M Rondhi, Chief Editor of JSEP. It informs the author that a decision has been reached regarding their submission, and the decision is "Revisions Required". The email includes contact information for the Chief Editor and a scanned attachment.

[JSEP] Editor Decision External Inbox x

Mr M Rondhi <jsep_bosek.faperta@unej.ac.id> Sun, May 19, 10:58 PM (11 hours ago)

to Dr., Mr., me

Fitriadi Fitriadi, Prof. Dr., Agus Junaidi, Mr., Dio Caisar Darma, Mr.:

We have reached a decision regarding your submission to JSEP (Journal of Social and Agricultural Economics), " CONVERGENCE IN THE AGRICULTURAL ECONOMIC INDUSTRY IN INDONESIA".

Our decision is: Revisions Required

Mr M Rondhi
Chief Editor Jurnal Sosial Ekonomi Pertanian (JSEP)
Phone 0331-332190
jsep_bosek.faperta@unej.ac.id

One attachment • Scanned by Gmail

Round 1

Round 1 Status

Revisions have been requested.

Notifications

[JSEP] Editor Decision	2024-05-19 09:58 PM
[JSEP] Editor Decision	2024-05-19 09:58 PM

Reviewer's Attachments

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 125382-1 Mitra Bestari, 45359-99Z_Article Text-117884-1-4-20240113.docx

Bukti 4: Penyerahan artikel yang direvisi

The screenshot shows a web browser window with the URL `jurnal.unej.ac.id/index.php/JSEP/authorDashboard/submission/45359`. The page title is "Revisi Makalah". On the left, a sidebar contains menu items: "Reviewer's At...", "Revisions", and "Review Discus...". The main content area is divided into two sections: "Participants" and "Messages".

Participants [Edit](#)

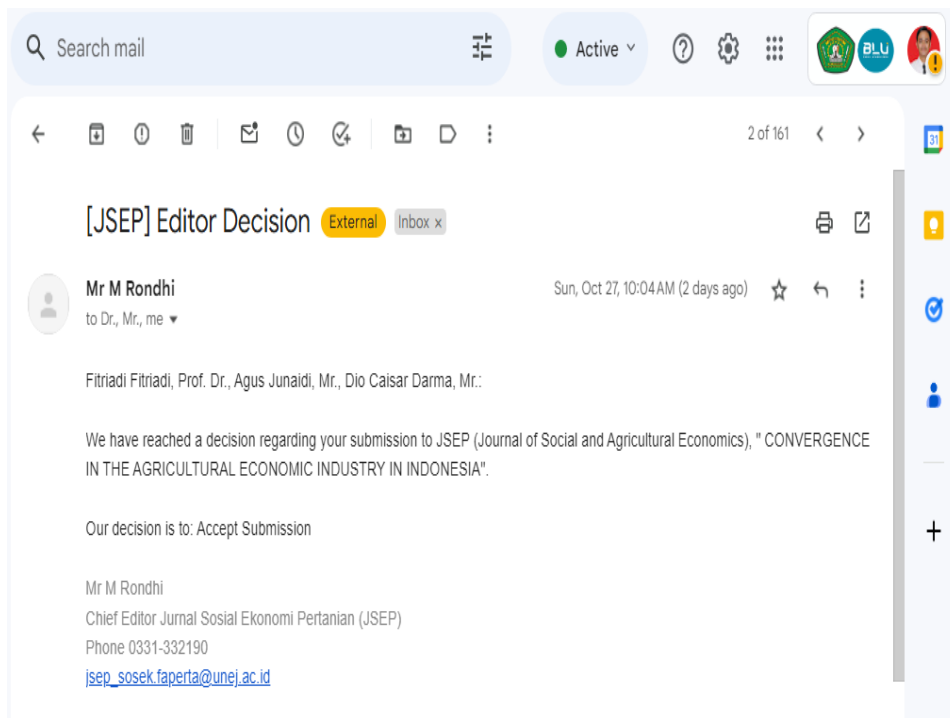
- Mr. Mohammad Rondhi (m_rondhi)
- Dio Caisar Darma (dio_darma)

Messages

Note	From
<p>Yth Dewan Editor,</p> <p>Kami berterima kasih kepada Bpk/Ibu selaku pengelola JSEP atas respon dan masukan positif terhadap makalah yang dikirimkan. Secara keseluruhan, para penulis menyetujui semua komentar, saran, maupun rekomendasi yang dialamatkan kepada makalah ini sebagai bagian dalam peningkatan kualitas tulisan. Untuk mempermudah setiap bagian yang dikoreksi diberi marka merah menggunakan mode "track changes". Disamping memperbaiki poin-poin ulasan yang disorot, kami juga melakukan pengeditan frase kata ataupun kalimat melalui alat <i>proofreading</i>. Adapun file makalah pasca revisi terlampir. Terlebihnya, para pengarang menanti keputusan dan kabar positif dari Bpk/Ibu seputar <i>progress</i> makalah.</p> <p>Salam hormat,</p> <p>Dio Caisar Darma</p> <p>dio_darma, ##default.groups.name.author##, A-45359-99Z_Article Text-</p>	<p>dio_darma May 23</p>

On the right side of the dashboard, there are search bars and an "Upload File" button. At the bottom right, the logo for "University of Jember" and "Jurnal UNEJ" is visible.

Bukti 5: Pengumuman penerimaan artikel dengan catatan revisi (tahap kedua)

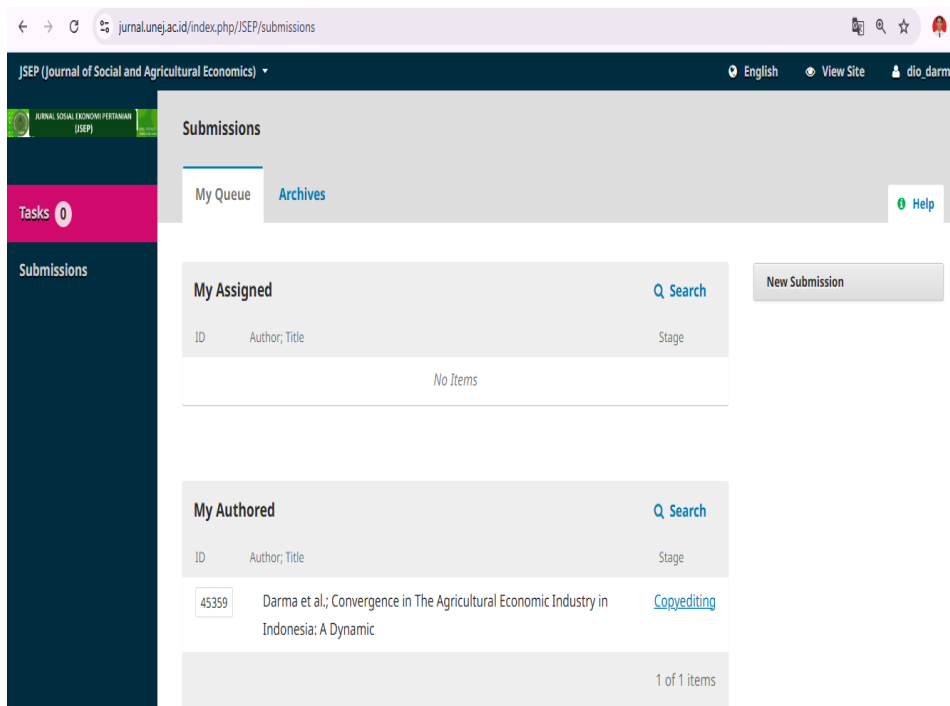
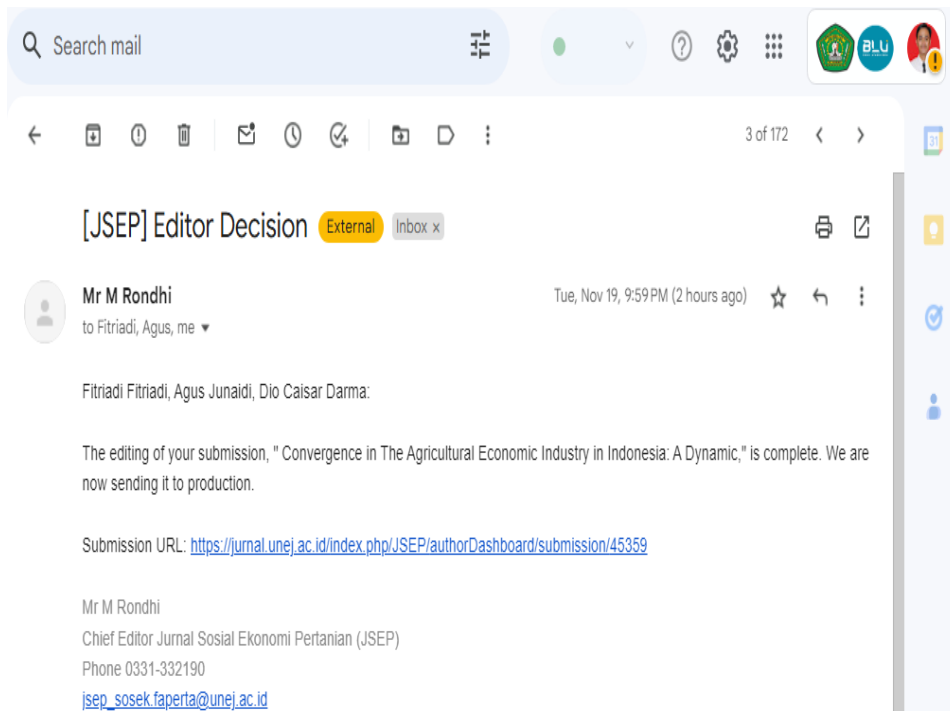


Bukti 6: Perbaikan kembali revisi lanjutan

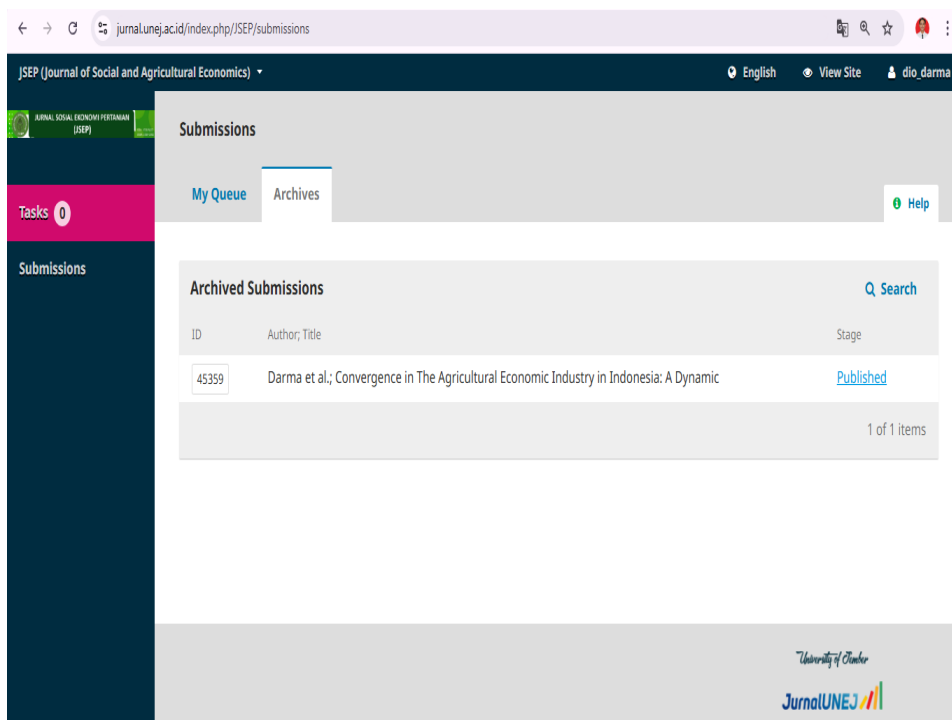
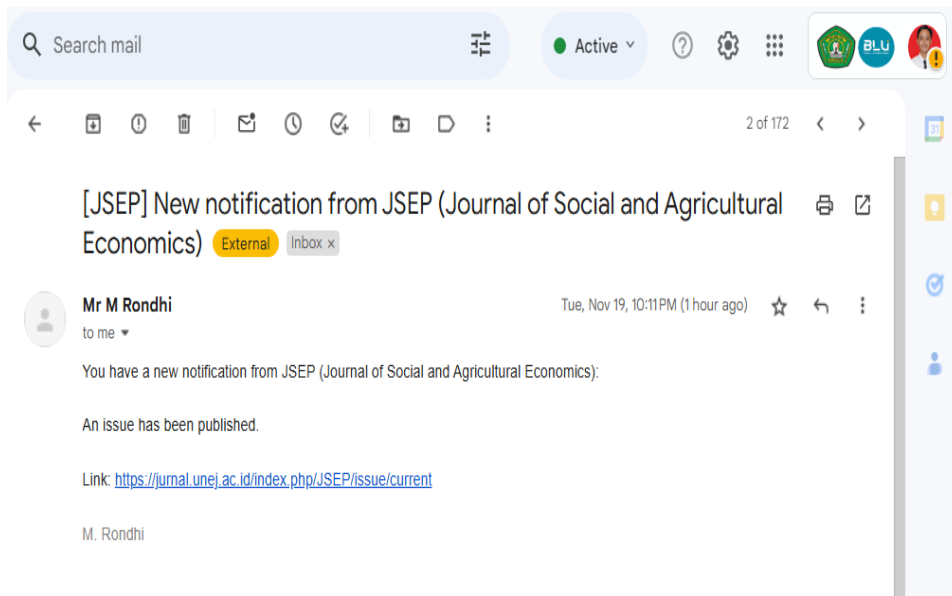
The screenshot shows a web browser window with the URL `jurnal.unej.ac.id/index.php/JSEP/authorDashboard/submission/45359`. The page title is "Revisi tahap akhir" (Final Revision). The "Participants" section lists Mr. Mohammad Rondhi (m_rondhi) and Dio Caisar Darma (dio_darma). The "Messages" section contains an email from dio_darma dated Oct 27. The email text reads: "Assalamualaikum, Wr. Wb. Yth: Editor JSEP (Dr. Mohammad Rondhi), Setelah melihat notifikasi/informasi terbaru sehubungan dengan permintaan koreksi makalah untuk tahap terakhir, maka kami perlu menindaklanjuti dengan revisi. File makalah yang direvisi *terlampir*. Sukses selalu dan terima kasih. Salam hormat, Penulis dio_darma, ##default.groups.name.author##, 03 FITRIADI rev (27-10-2024).docx". The right sidebar shows an "Add discussion" button and a table with 0 replies.

Note	From
Assalamualaikum, Wr. Wb.	dio_darma
Yth: Editor JSEP (Dr. Mohammad Rondhi), Setelah melihat notifikasi/informasi terbaru sehubungan dengan permintaan koreksi makalah untuk tahap terakhir, maka kami perlu menindaklanjuti dengan revisi. File makalah yang direvisi <i>terlampir</i> . Sukses selalu dan terima kasih. Salam hormat,	Oct 27

Bukti 7: Pengeditan salinan dan produksi



Bukti 8: Penerbitan akhir



Convergence in The Agricultural Economic Industry in Indonesia: A Dynamic

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DOI: <https://doi.org/10.19184/jsep.v17i2.45359>

ABSTRACT

In addition to labor, investment, consumption, government spending, and exports, this work attempts to include elements of health, education, and technology which are seen as important in strengthening the agricultural sector. The paper aimed to assess the relationship between labor, investment, consumption, government spending, and exports on agricultural GDP based on

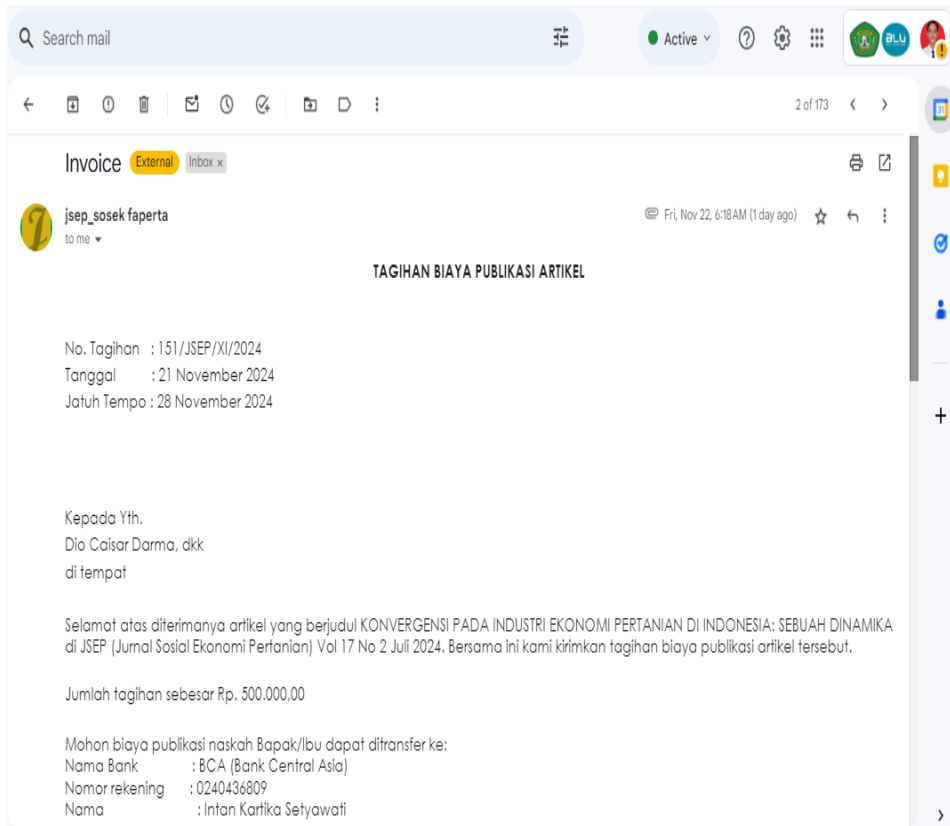


PDF

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2024-11-19

Bukti 9: Tagihan Biaya Publikasi & Pembayaran





TAGIHAN BIAYA PUBLIKASI ARTIKEL

Kepada Yth.
Dio Caisar Darma, dkk
di tempat

No. Tagihan : 151/JSEP/XI/2024
Tanggal : 21 November 2024
Jatuh Tempo : 28 November 2024

Selamat atas diterimanya artikel yang berjudul KONVERGENSI PADA INDUSTRI EKONOMI PERTANIAN DI INDONESIA: SEBUAH DINAMIKA di JSEP (Jurnal Sosial Ekonomi Pertanian) Vol 17 No 2 Juli 2024. Bersama ini kami kirimkan tagihan biaya publikasi artikel tersebut.

Jumlah tagihan sebesar Rp. 500.000,00

Mohon biaya publikasi naskah Bapak/Ibu dapat ditransfer ke:

Nama Bank : BCA (Bank Central Asia)
Nomor rekening : 0240436809
Nama : Intan Kartika Setyawati

Catatan: Mohon bukti pembayaran dapat dikirim melalui alamat email jsep_bosek.faperta@unej.ac.id atau ke no HP/WA 081330278514

Terima kasih atas perhatiannya.

Hormat kami,
Pimpinan Editor

M. Rondhi, Ph.D.

Bukti 10: Indeks Jurnal



CONVERGENCE IN THE AGRICULTURAL ECONOMIC INDUSTRY IN INDONESIA; A DYNAMIC

KONVERGENSI PADA INDUSTRI EKONOMI BERBASIS PERTANIAN DI INDONESIA: SEBUAH DINAMIKA

Submitted: xx/xx/20xx

Revised: xx/xx/20xx

Accepted: xx/xx/20xx

ABSTRACT

~~So far, from the existing papers, there are few empirical examinations that link or combine health, education, and technology into the factors that affect national agricultural income. In general, the discussion is limited to the relationship between labor, investment, consumption, government spending, and exports to agricultural GDP. In addition to labor, investment, consumption, government spending and exports, this work attempts to include elements of health, education and technology which are seen as important in strengthening the agricultural sector. The aim of the paper is to assess the relationship between labor, investment, consumption, government spending and exports on agricultural GDP based on two formats. First, modeling without health, education and technology. Second, modeling that includes health, education and technology. A series of data series were observed in simultaneous and partial regression modeling. The case study is Indonesia, where testing was conducted during 2010–2022. The empirical findings conclude two points: (1) involving health, education, and technology, results are better on agricultural GDP growth than without including all three; and (2) although initially health, education and technology were very essential, only health has positive implications for GDP growth. Without these three variables, in the short term, labor, investment, consumption, government spending and exports also play a role in the development of the agricultural economy in Indonesia. Thus, labor, consumption and exports remain to be increased for the future of agricultural GDP by optimizing human capital through health, education and technology.~~

Key words: GDP of agricultural, income growth, data series regression, Indonesia

ABSTRAK

Selain tenaga kerja, investasi, konsumsi, belanja pemerintah, dan ekspor, karya ini mencoba untuk memasukkan elemen kesehatan, pendidikan, dan teknologi yang dipandang penting dalam memperkokoh sektor pertanian. Tujuan makalah yang ada adalah melakukan penilaian dalam hubungan antara tenaga kerja, investasi, konsumsi, belanja pemerintah, dan ekspor terhadap PDB pertanian berdasarkan dua format. Pertama, permodelan tanpa kesehatan, pendidikan, dan teknologi. Kedua, permodelan dengan memasukkan kesehatan, pendidikan, dan teknologi. Serangkaian data series diobservasi pada permodelan regresi simultan dan parsial. Kasus penelitian adalah Indonesia, dimana pengujian dilakukan sepanjang 2010–2022. Temuan empiris menyimpulkan dua poin: (1) dengan melibatkan kesehatan, pendidikan, dan teknologi, hasilnya lebih baik terhadap pertumbuhan PDB pertanian ketimbang tanpa memasukkan ketiganya; serta (2) meski semula kesehatan, pendidikan, dan teknologi sangat esensial, tetapi hanya kesehatan yang berimplikasi positif terhadap pertumbuhan PDB. Tanpa ketiga variabel ini, untuk jangka pendek, tenaga kerja, investasi, konsumsi, belanja pemerintah, dan ekspor juga berperan terhadap pembangunan ekonomi pertanian di Indonesia. Dengan demikian, tenaga kerja, konsumsi, dan ekspor tetap harus ditingkatkan untuk masa depan PDB pertanian dengan mengoptimalkan modal manusia melalui kesehatan, pendidikan, dan teknologi.

Kata kunci: PDB pertanian, pertumbuhan pendapatan, regresi *data series*, Indonesia



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How to Cite: Author. (2021). Tittle. *Jurnal Sosial Ekonomi Pertanian (J-SEP)*, 14(1): 1-10.

Comment [REVIEWER1]: State the research objectives.
Reply: The main objectives of the study are explained.

INTRODUCTION

In any nation, agriculture is a guarantee of human survival. In the development landscape, agriculture plays a primary role in driving other sectors. Take an example in developing markets, for example from Indonesia, where the majority of agricultural capabilities are still conventional. When talking about the conventional system, the added value of Indonesian agriculture is increasingly losing competitiveness compared to other product maneuvers such as manufacturing and services (Utomo *et al.*, 2023). Naturally, agricultural productivity is supported by investment, labor, consumption, government spending, and export volume (Amare *et al.*, 2021; Arifah & Kim, 2022; Blanco & Raurich, 2022; Borsari & Kunas, 2020; Edeh *et al.*, 2020; Hamilton *et al.*, 2022; Kipruto & Nzai, 2018; Liu *et al.*, 2022; Nyiwul & Koirala, 2022; Petre & Ion, 2019; Siaw *et al.*, 2018; Wangusi & Muturi, 2015; Xing *et al.*, 2023). However, advances in ecosystems and the existence of agriculture also need to change traditional ways to become more modern. Nolte & Ostermeier (2017) and Saleh *et al.* (2022) claim that in order to encourage agricultural aggressiveness, professional worker insights must be improved. Besides Even so, agricultural governance also requires expansive technological stimulation (Self & Grabowski, 2007; Sinha, 2019).

From the era of reform to democracy, ~~the root of the problem of the~~ agricultural ~~eye~~ inequality lies in the adoption of technology and the level of mastery or knowledge surrounding intense planning, business incubation, procedures and strategies. Sometimes, agriculture is only used as a popularity project without thinking about long-term progress. At the same time, the obstacles to the revival of agriculture are the weakness of health, education, and innovative technology (Bawono & Widarni, 2021). Ironically, this contrasts with the agricultural portrait of nations that have spectacular agriculture. Agricultural progress is not only created by economic factors, but also brought about by education, farmer health, and strategic quality of technology. Superiorly, the benefits of an agricultural economy focused on revolutionizing technological capital, healthcare, and human resource competences play evidence of being inclusive of well-being in China and the United States (Huffman, 2001; Huffman & Orazem, 2007; Kang & Hu, 2018).

Comment [REVIEWER2]: Use mendeley.
Reply: revised.



Source: Central Bureau of Statistics-Indonesia (2023a,b).

Graph 1. Profile of the GDP and Economic Growth of Agricultural in Indonesia

From year to year, the current price Gross Domestic Product (GDP) and Indonesia's agricultural economic growth are positive. In quantitative terms, the average nominal

value reached IDR 1,659,876.92 billion with an average growth of 13.27 percent. Until 2022, there will be a significant increase in the contribution of agricultural GDP. When viewed based on growth, there is an inconsistent polarization. The downward trend in growth in 2010–2014, to be precise, was from 13.93 percent to 13.34 percent. Then, it rose again to 13.49 percent in 2015 and contracted again in 2016–2019, where it was shown by 13.48 percent to 12.71 percent. Then, it increased by 13.7 percent in 2020 and decreased again since 2021-2022 which was confirmed to grow from 13.28 percent to 12.4 percent. Indonesia's agricultural GDP production capacity is indeed impressive, but it has not been matched by comprehensive growth. The peak of relatively rapid growth was detected in 2010 reaching 13.93 percent, while the smallest in 2022 was 12.4 percent (see Graph 1).

The lack of disbursed investment has triggered uncertainty about the future of agriculture in Indonesia. Smaller access to capital indicates lower agricultural performance, including the socio-economic resources used. In a more holistic lens, the premise built is how agriculture can absorb employment, attract investment, stimulate consumption, motivate the government to provide loans and guide partnerships, and establish collaboration in trade ties with exporters. So far, the focus on resolving the agricultural polemic has only been oriented towards its potential, but the main key is centered on a structure that accommodates and emphasizes the urgency of health, education and technology.

~~So far~~ Nowadays, scientific magazines are still limited to identifying the role of the economic and financial dimensions of agricultural GDP. As is the case from Pakistan (Cloud & Alam, 2015; Chandio *et al.*, 2016; Khan *et al.*, 2021), Ethiopia (Emeru, 2023; Ketema & Negeso, 2020), Indonesia (Nugroho, 2017), Tanzania (Epaphra & Mwakalasya, 2017), Nigeria (Verter & Bečvářová, 2016), and developing countries (Nugroho *et al.*, 2021) that the labor force, investment, consumption, government spending, and exports can grow agricultural GDP systematically. In other words, there are other endogenous aspects that are not investigated, giving rise to conceptual gaps. In the context of human capital, Czyżewski *et al.* (2021), Mehdi (2011), Wang *et al.* (2022), Zaika & Gridin (2020), and Zubović *et al.* (2009) argued that the pillars of health-education-technology are crucial for the agricultural chain. Ideally, the interactions between the three are also integrated and become an integral part of the agricultural economic corridor. Referring to the theoretical foundation, terminology, and relevance from an agricultural perspective, this work inspires the following two

motivesobject:

- ~~• Exploring collective causality between labor, investment, consumption, government spending and exports to agricultural GDP without elements of health, education and technology.~~
- ~~• Analyze the implications of labor, investment, consumption, government spending and exports on agricultural GDP in synergy with health, education and technology.~~

The benefits of the paper can inspire policy makers and academics. The results of the investigation are useful for evaluating agricultural programs. Stakeholders can determine the direction of agricultural policy through two options. First, opening and facilitating broad access to health, education and technology for agriculture. By channeling the right policies, the agricultural sector has bright prospects. Second, this paper does not review agricultural development at a macro level, but also in the field around the root of problems and obstacles in the agricultural sector (such as health,

education and technology). By proposing these three factors, it is hoped that further studies can expand the scope beyond economics to enable performance improvement in the agricultural sector. Referring to the theoretical foundation, terminology, and relevance from an agricultural perspective, this work inspires the following two object. First, exploring collective causality between labor, investment, consumption, government spending and exports to agricultural GDP without elements of health, education and technology. Second, analyze the implications of labor, investment, consumption, government spending and exports on agricultural GDP in synergy with health, education and technology. The contents of the paper are organized into six points: 1–Background introducing the purpose and objectivity of the research; 2–Materials and methods of mapping data design, variable instruments, and econometrics; 3–Results and discussion show empirical findings and to explore studies with literature-comparative arguments; 4–Conclusion reinforces evidence, proposes policy recommendations, simulates long-term ideas, and clarifies weaknesses in studies that invite new scientific treasures; and 5–Reference detailing bibliography.

Comment [REVIEWER3]: State the research objectives.
Reply: The research objectives are included, especially in the section before the structure of the paper. The study objectives are stated in the 5th paragraph as follows: (1) Exploring collective causality between labor, investment, consumption, government spending and exports to agricultural GDP without elements of health, education, and technology and (2) Analyze the implications labor, investment, consumption, government spending and exports on agricultural GDP in synergy with health, education and technology. However, the authors acknowledge that the research contribution have not been outlined. Therefore, we include benefits from the analysis output aimed at stakeholders and academics.

RESEARCH METHODS

Database and Core of Variables

In general, the focus on the agricultural sector includes three subs: (1) agriculture, animal husbandry, hunting, and agricultural services; (2) forestry and logging; and (3) fisheries. The composition of the data is within thirteen periods or is set throughout 2010–2022. The observation component adapts, collects, and compiles secondary data. Data information materials are taken from official government documents. The statistical data authority sorted by the Central Bureau of Statistics-Indonesia publishes annual data via the website in several versions according to the data format. The standard operationalization of the variables is described below (see Table 1).

Table 1. Key of Variables

Variable Names	Unit	Indicators
GDP	Percent	Agricultural GDP at current prices
Labor force	Farmers (including laborers)	Workers aged 15 and over who work in the agricultural sector
Investment	IDR billion	Realization of domestic investment in agriculture
Consumption	Index	The exchange rate of farmers in consuming machinery expenditure, labor wages, land rent, transportation, wages, equipment, seeds and fertilizers, as well as other needs in the agricultural business
Government spending	IDR billion	Central government spending allocated to agriculture
Exports	Percent	Growth in exports of agricultural products
Health	Age	Life expectancy at birth on an agricultural scale
Education	Years	Average length of schooling for agricultural activists
Technology	Percent	Proportion of computer use and information skills in agricultural commodities

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The nine variables have different arithmetic measures. Each variable describes its characteristics and definition, so it is useful to describe the construction of indicators. In essence, to understand the shape of the variable, it is broken down into two packages. GDP reflects the dependent variable which is controlled by independent variables including: labor, investment, consumption, government spending, exports, health, education, and technology. In principle, the independent variables are categorized to cover GDP.

Statistical Models

After the compilation phase, the data is modified and processed using data series regression. This technique aims to tabulate, verify data, and present an analysis that elaborates on whether there is a change or vice versa in the relationship between the linked variables. Basic statistics combines four mechanisms: descriptive statistics–analysis of variance (ANOVA)–coefficient of determination and correlation–partial effects. Fundamentally, the equation function of labor, investment, consumption, government spending, and exports to GDP were written as follows:

$$GDP_t = \alpha_0 + \beta_1 \ln LAB_t + \beta_2 \ln INV_t + \beta_3 \ln CON_t + \beta_4 \ln GOV.SPE_t + \beta_5 EXP_t + e_1 \quad (1)$$

For the second formulation, facilitating additional variations (health, education, and technology) expressed as follows:

$$GDP_t = \alpha_0 + \beta_6 \ln LAB_t + \beta_7 \ln INV_t + \beta_8 \ln CON_t + \beta_9 \ln GOV.SPE_t + \beta_{10} EXP_t + \beta_{11} \ln HLT_t + \beta_{12} EDU_t + \beta_{13} TECH_t + e_2 \quad (2)$$

Where:

- β_0 _____ = Intercept
- $\beta_1.. \beta_{13}$ _____ = Slope coefficient
- \ln _____ = Log
- t _____ = Time/period
- e _____ = Error
- GDP _____ = Gross domestic product
- LAB _____ = Labor force
- INV _____ = Investment
- CON _____ = Consumption
- GOV.SPE _____ = Government spending
- EXP _____ = Exports
- HLT _____ = Health
- EDU _____ = Education
- TECH _____ = Technology

Furthermore, relying on the function equation above, the decision making hypothesis is transformed as follows:

$$\text{Null hypothesis} = \rho > 5 \text{ or } 1 \text{ percent} \quad (3)$$

$$\text{Alternative hypothesis} = \rho < 5 \text{ or } 1 \text{ percent} \quad (4)$$

Comment [REVIEWER4]: Times new roman.

Reply: Dear Reviewers and Editors, the authors appreciate your comments. Basically the font for functions/equation formulas in Ms. Word uses Cambria format. We cannot change the font style (other than Cambria) because it is automatic.

Comment [REVIEWER5]: Times new roman.

Reply: Basically, the font for functions/equation formulas in Ms. Word uses Cambria format. We cannot change the font style because it is systemized.

Comment [REVIEWER6]: Break down what the variable stands for.

Reply: The abbreviations in function equations are not yet fully included, especially variable abbreviations. For this reason, the articulation of the statistical symbols is detailed.

The articulation of the two hypotheses offers: if the degree of significance is above 0.05 or 0.01, then the null hypothesis is accepted and the alternative hypothesis is rejected. Conversely, if the significance level is below 0.05 or 0.01, then the alternative hypothesis is accepted and the null hypothesis is rejected.

RESULTS AND DISCUSSION

Descriptive Statistics

The first parameter is descriptive statistics. Table 2 highlights the items in the descriptive statistics including: mean, standard deviation, minimum, and maximum. Uniquely, of all the variables, there are two (~~capital~~-investment and government spending) and three (GDP, exports and technology) which have the same benchmark. On the other hand, the other four variables: labor, consumption, health, and education have different units of measurement.

Table 2. Descriptive Statistics from Variables

Variables	Mean	Std. Dev.	Min.	Max.
Labor	40,302,137.77	1,405,167.29	38,296,298	42,825,807
Investment	214,202.72	141,342.01	37,799.8	447,063.6
Consumption	106.22	4.88	98.3	112.67
Government spending	259,194.01	152,718.45	57,359	511,338.1
Export	2.57	7.94	-9.98	14.02
Health	70.86	.63	69.81	71.85
Education	8	.42	7.46	8.69
Technology	60.69	24.14	27.59	93.21
GDP	1,659,876.92	473,309.4	956,119.7	2,428,900.5
N	13	13	13	13

Source: output from SPSS v.29.

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Table 2 displays the three items in the descriptive statistics: mean and maximum for all variables sorted from highest to lowest score. Starting from labor, GDP, government spending, investment, consumption, health, technology, education, and exports. The standard deviation and minimum scores are exactly the opposite, where there is an anomaly between the two items. Hierarchically, the level of consumption which was previously ranked 5th in terms of mean and maximum, specifically in terms of the standard deviation, obtained 4.88 or was ranked seventh and health, which was originally ranked 6th, is now ranked eighth with a score of 0.63. Likewise, education is found in rank 7, in the standard deviation it is in the lowest position with a score of 0.42. In substance, at the minimum value, exports are the smallest and consistent with the mean and maximum values. There is a recession to export growth which is explained by the minimum score of -9.98. Interestingly, fantastic changes to the consumption and health of the minimum items. In outline, the authentic sample is 13.

ANOVA

In this subchapter, we dedicate an ANOVA test that examines the interrelationships of factors in agricultural GDP growth including: labor, ~~capital~~investment, consumption, government spending, and exports without health, education, and technology or with these three dimensions. Concretely, the parallel effects among the variables are summarized in Table 3. Implicitly, Table 3 confirms that labor, investment, consumption, government spending, and exports have an effect on GDP. This is

justified by a positive F-statistic score ($F\text{-statistic} = 2.056$) and a probability below 5 percent ($\rho = 0.024$). This means that without health, education and technology initiatives, Indonesia's agricultural GDP could be significantly boosted by labor, investment, consumption, government spending and exports.

Table 3. Simultaneous Levels excluding Health, Education, and Technology

Model	Sum of Squares	Mean Square	F-statistic	Sig.
Regression	1.432	.286	2.056	.024*
Residual	.656	.094		
Total	2.088			

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(*) Significant level at 5%.

Source: Output from SPSS v.29.

Table 4. Simultaneous Levels with Health, Education and Technology Approaches

Model	Sum of Squares	Mean Square	F-statistic	Sig.
Regression	1.788	.224	3.986	.008**
Residual	.299	.075		
Total	2.087			

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(**) Significant level at 1%.

Source: Output from SPSS v.29.

The results of the second evaluation still address employment, investment, consumption, government spending and exports on GDP growth, but take initiatives to empower health, education and technology. An ANOVA test targeting the relationship of labor, investment, consumption, government spending, and exports complemented by health, education, and technology proves a dominant influence ($F\text{-statistic} = 3.986$; $\rho = 0.008$) or below 1 percent. The aspects of health, education and technology present more positive effects than without these three elements, thus allowing for a significant influence on increasing Indonesia's agricultural GDP (see Table 4).

Coefficient of Determination and Correlation

The strength of the relationship between variables, grouped into two. First, the coefficient of determination tests the critical level and error value in a relationship. Second, the attention of the correlation coefficient to correct the sensitivity of the relationship of the independent variable to the dependent. Table 5 and Table 6 give signals on the determination and correlation scores.

Table 5. Correlation and Determination (excluding Health, Education and Technology)

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	.828	.686	.461	.30612

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Source: Output from SPSS v.29.

Table 6. Correlation and Determination (including Health, Education and Technology)

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	.926	.857	.570	.27360

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Source: Output from SPSS v.29.

The results of both classifications show that labor, investment, consumption, government spending, and exports (excluding health, education, and technology) have a

determining power of 82.8 percent, of which it is undeniable that there are still confounding factors reaching 17.2 percent. Unfortunately, this was also followed by the acquisition of a correlation whose coefficient score reached 68.6 percent indicating that the preference for the model built was "moderate". Normally, the critical point of the relationship in agricultural GDP is reached by interconnected lines, where it has not been shown by integrative linkages.

In the second model, the strength of the relationship in employment, investment, consumption, government spending, and exports to GDP growth upgraded by health, education, and technology is concluded to be "high". This superiority is indicated by a coefficient of determination of 92.6 percent and a correlation score of 85.7 percent. Rationally, by applying health, education and technology, labor, investment, consumption, government spending and exports are the most reasonable options to boost Indonesia's agricultural GDP. With a residual score of 7.4 percent, it is considered outside the variables that support GDP growth.

Partial Estimation

Individually, Table 7 examines the interrelationship of variables without the mediation of health, education and technology in the GDP growth cycle. The constant implies short-term causality, which is positive ($\beta = 209.496$; $\rho = 0.039$). Yet, flows of investment and government spending have had a negative impact on agricultural GDP. Unstandardized coefficients and significance on investment ($\beta = -0.678$; $\rho = 0.405$) and government spending ($\beta = -0.166$; $\rho = 0.795$) describe inequality. The suitability of the hypothesis is actually shown by labor ($\beta = 11.084$; $\rho = 0.001$), consumption ($\beta = 1.720$; $\rho = 0.029$), and exports ($\beta = 0.017$; $\rho = 0.006$) which have a significant impact on Indonesia's agricultural GDP in the long term.

With the involvement of health, education and technology, it is proven that it does not guarantee short-term effects in influencing Indonesia's GDP. Table 7 also presents a decreasing trend when including elements of health, education, and technology in agricultural GDP productivity, where the slope is constant, and the probability is negative ($\beta = -292.808$; $\rho = 0.453$). Of the variables selected in the second model, five variables were found that had a significant effect on agricultural GDP growth. These variables are labor ($\beta = 1.648$; $\rho = 0.019$), consumption ($\beta = 2.696$; $\rho = 0.000$), government spending ($\beta = 2.121$; $\rho = 0.042$), exports ($\beta = 0.054$; $\rho = 0.028$), and health ($\beta = 74.467$; $\rho = 0.007$). Practically, investment ($\beta = 0.766$; $\rho = 0.524$), education ($\beta = -0.240$; $\rho = 0.867$), and technology ($\beta = -7.045$; $\rho = 0.109$) which are validated do not significantly affect GDP. Education and technology have proven not to actualize Indonesia's agricultural GDP in the long term. Too, the status of the two around the variable model also indicates that they cannot replace the role of the other five endogenous factors.

The wave of globalization allowed the economy to open up to agricultural markets. Besides that, it is at the same time risky and raises a fatal alarm if it is not followed by permanent cross-layer optimization. As this work illustrates, even though the acceleration of agriculture in Indonesia is not only handled by elements of labor, domestic investment, consumption, government spending, and exports, but also includes aspects of health, education, and technology, the results are inconsistent with an integrated commitment. Therefore, it cancels the growth of the agricultural economy. The consequences of the human capital development program are contradictory in quality, triggering a crisis towards the planned mission. Surprisingly, although the

~~simultaneous effect of concluding naturally and post-implementing health, education, and technology can boost GDP growth, it contrasts with the partial effect. The statistical output actually concludes that the inclusion of education and technology in the regression model is proven to reduce agricultural GDP.~~

Table 7. Partial Prediction without HET and using HET

Model	Without HET		Using HET	
	β (ρ -value)	t -statistic (SE)	β (ρ -value)	t -statistic (SE)
Constant	209.496* (.039)	2.054 (101.989)	-292.808 (.453)	-.831 (352.472)
In_Labor	11.084** (.001)	1.847 (.061)	1.648* (.019)	1.630 (.131)
In_Investment	-.678 (.405)	-.885 (.765)	.766 (.524)	.696 (1.100)
In_Consumption	1.720* (.029)	2.226 (.156)	2.696** (.000)	3.019 (.242)
In_Government spending	-.166 (.795)	-.270 (.614)	2.121* (.042)	1.437 (.476)
Export	.017** (.006)	1.201 (.014)	.054* (.028)	2.066 (.026)
In_Health	–	–	74.467** (.007)	1.465 (.389)
Education	–	–	-.240 (.867)	-.179 (1.342)
In_Technology	–	–	-7.045 (.109)	-2.055 (3.429)
Obs.	13	13	13	13

(*) Significant level at 5% and (**) Significant level at 1%; Abbreviation: HET (health, education and technology) and SE (std. error).

Source: Output from SPSS v.29

~~The wave of globalization allowed the economy to open up to agricultural markets. Besides that, it is at the same time risky and raises a fatal alarm if it is not followed by permanent cross layer optimization. As this work illustrates, even though the acceleration of agriculture in Indonesia is not only handled by elements of labor, domestic investment, consumption, government spending, and exports, but also includes aspects of health, education, and technology, the results are inconsistent with an integrated commitment. Therefore, it cancels the growth of the agricultural economy. The consequences of the human capital development program are contradictory in quality, triggering a crisis towards the planned mission. Surprisingly, although the simultaneous effect of concluding naturally and post implementing health, education, and technology can boost GDP growth, it contrasts with the partial effect. The statistical output actually concludes that the inclusion of education and technology in the regression model is proven to reduce agricultural GDP.~~

~~From the existing papers, there are few empirical examinations that link or combine health, education, and technology into the factors that affect national agricultural income. In general, the discussion is limited to the relationship between labor, investment, consumption, government spending, and exports to agricultural GDP. Nevertheless, the role of these factors is very vital and allows for better changes in agricultural economic performance. Health, education, and technology plays an important role in the relationship between labor, investment, consumption, government~~

Comment [REVIEWER7]: Describe in more detail the significant variables and compare with the results of previous studies.

Reply: Debates regarding similarities and contradictions with the results of the analysis are revealed. The authors try to add comparisons with studies in previous edition. Comparisons are also reviewed partially based on variables forming agricultural economic growth involving three factors (health, education and technology) or without including these three factors.

Comment [REVIEWER8]: Describe in more detail the significant variables and compare with the results of previous studies.

Reply: Debates regarding similarities and contradictions with the results of the analysis are revealed. The authors try to add comparisons with studies in previous edition. Comparisons are also reviewed partially based on variables forming agricultural economic growth involving three factors (health, education and technology) or without including these three factors.

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spending, and exports on agricultural economy. Additionally, this study finds that labor has significant implications for agricultural GDP growth (either with the support of health, education and technology or vice versa). In comparison, it proves that improvements, agricultural technology and health play a role in developing farmers' resources. The transition from traditional to modern agriculture in the majority of poor and middle-income countries, especially India, is characterized by improvements in farmer skills mediated by health systems, educational investments, and technology (Huffman & Orazem, 2007; Sharma *et al.*, 2024). As a result, labor in the agricultural sector experienced a surplus, thus making farmers' living standards (including real income per capita) higher over time. From other literature, Priyagus *et al.* (2024) links the role of government spending (health, education and technology) on the prosperity of Indonesian farmers. As a result, government initiatives through improving access to health, scholarships and technology have a positive relationship to farmers' exchange rates. Whether supported by health, education and technology or vice versa, investment still does not have a significant effect on agricultural GDP growth. This is in conflict with the study of Siddique *et al.* (2018), where investment in education and health facilities has a progressive interaction with economic growth. Meanwhile, technological capital has an inverse relationship to economic growth.

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Furthermore, the relevance of consumption to agricultural GDP with or without health, education and technology is positive. This indicates that consumption in both models can influence agricultural economic growth. As is known, industrial production in Kazakhstan is highly dependent on energy prices. Likewise, Kazakhstan's economy is generally controlled by agricultural production. Seeing this complex situation, Abdibekov *et al.* (2024) tested the relationship between the two. The statistical results visualize a positive connection between the two of them on GDP growth. Meanwhile, education and health enable widespread trade openness through technology transfer. Like conditions in developing markets, technology transfer can be integrated into public investment and can change the productivity of economic growth towards better social welfare (Yu *et al.*, 2022). Finally, with policy interventions in the fields of health, education and technology or not supported by these three, the study found that exports have a significant effect on agricultural GDP in Indonesia.

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Charlton *et al.* (2021) reveal that the growing agricultural labor market will bring transformation to the environment. Innovative health services are able to boost labor supply to achieve an inclusive economy (Chen *et al.*, 2021). In principle, public health influences agricultural production inputs, including the efficiency of labor use (Venkataramani *et al.*, 2010). From this version of the study, neither education nor health are able to create added value for economic productivity in the agricultural sector. Substantively, this is in contrast to some of the publication in previous editions. Ninh (2021) states that through quality education, economic welfare for farming households in rural areas located in the Mekong River Delta–Vietnam is increasing. In economic development, one alternative policy to stimulate investment in human resources in the agricultural sector is through education. Imbalances in prosperity can be changed with planned preparedness, especially education. Luh (2017) states that education provides concrete evidence of agricultural production of certain commodities in East Asia. To reduce economic discrimination in the agricultural sector, it can start from village development. Education has a significant influence on agricultural productivity. Kabiru & Arshad (2019) argue that education has positive implications for agricultural productivity in Katsina State–Nigeria. Another issue that is also highlighted

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is how technology adoption can stimulate agricultural growth significantly. In Sub-Saharan Africa, there is a positive relevance of the digital economy to agricultural productivity (Wang *et al.*, 2024). In the case of Shandong Province–China, digital-based agricultural technology has multiplied and is complementary to job absorption in the agricultural sector (Li & Zhang, 2023). In a national setting such as China, the increasing trend of the digital economy in the operation of agricultural technology innovation has an integral impact on the agricultural environment (Zhang *et al.*, 2023). Technically, technology plays a crucial role in the transformation of supply chain management in the agricultural sector (Abdullahi *et al.*, 2024). In its actualization, the use of technological innovation systems is a determinant in maintaining economic growth in the agricultural sector in Bihar–India (Sinha, 2019).

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The analogy above has been discussed by Kabiru (2020), Lin & Wu (2021), Ninh (2021), Njura *et al.* (2020), O'Donoghue & Heanue (2018), Pingali *et al.* (2019), and Yu *et al.* (2023) explained that educational creativity and technology transfer will determine continuous agricultural management. From Katsina–Nigeria, Vietnam, Kenya, Ireland, China and India, the more these two pillars are enhanced, the more they shape agricultural effectiveness. The level of agricultural maturity in a particular area is highly dependent on educational participation. By providing an equitable education, acceptance of technology is easily accepted. Ease of technology and education can also reduce some of the work, especially for those who have low understanding in operating agriculture.

From the existing issues, innovation in the world of health nutrition awakens farmers to take opportunities, learn, behave and stimulate better physique in the management of agricultural land. As a result, food security is a priority. Agriculture cannot be ignored as if it is a non-formal form of routine, but this profession can be developed and even open up employment opportunities widely. For the global case, middle and low income countries, India, rural areas–Ethiopia, and in Bima–Indonesia, prosperity is realized by a two-way connection between health and agricultural income (Donham & Thu, 1993; Hawkes & Ruel, 2006; Tenriawaru *et al.*, 2021; Thow *et al.*, 2018; Ulimwengu, 2009). By controlling the internal environment, conducive agricultural targets can be highlighted.

CONCLUSION

The synopsis of this work is related to clusters affecting agricultural GDP. The test links the effects of labor, capital investment, consumption, government spending, and exports on agricultural GDP and assumptions involving health, education, and agricultural technology. The regression results conclude that without the attributes of health, education, and technology, labor, consumption, and exports significantly influence agricultural GDP growth. Here, the most conspicuous variable is exports. In other schemes, apart from government spending and health, these three variables also have a significant impact on Indonesia's agricultural GDP. Regardless of health, education and technology, fixed investment has no effect on GDP. Unfortunately, through the involvement of health, education and technology does not change agricultural economic growth in a positive direction.

Realizing the facts, we criticize policies that often overlap among the reputation of agricultural stakeholders in overseeing regulatory forums, technocratic planning, and a literacy mindset. The reason is, for thirteen periods, actors in macroeconomic policy have neglected education and technology in agriculture. ~~Only health can catch the radar~~

~~of the agricultural economy~~ Only health is able bridging the relationship in the ~~agricultural economic model~~. The rest, education and applied technology, also do not create an investment climate. In the future, practical suggestions are proposed to regulators to prioritize the harmonization of the investment framework and remuneration for farmers. Besides that, the ~~imagesustainability~~ of the agricultural sector which is increasingly sinking, must also be improved in a competitive manner. The limitations of scientific work lie in the less comprehensive variables of agricultural education and technology. Based on this experience, advanced expectations can think logically and review the actual indicators outside the analysis model to lead to a shining agriculture.

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