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LABMA Scientific Fair 2020

ABSTRACT BOOK

International Conference Labma Scientific Fair 2020

13 December 2020 | Virtual Meeting

Organized by

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WELCOME MESSAGE

Dear colleagues,

Praise to Allah, for all the blessings and favour. May blessings and peace be upon the Prophet Muhammad shallallahu'alaihi wassalam. Along with his family, friends, and people who follow him until the Day of Judgment. Allah Ta'ala, who has given help with so many things we already feel. Which has given perseverance as well as strength so that our footsteps remain in the right way. Praise to Allah who has given a wonderful story in every journey.

Thank you to – The entire committee of the International Conference Labma Scientific Fair 2020. Who has fought, spent time, materials, and work together to realize this event so that it can be done today. With all the limitations, the difficulties we experience when we start all of this, today, it does not feel that we already passed those difficult times together. So, it is a gift of honor for me, to be with you all to deliver this LSF until the last days of the event. I am so grateful to know all of you, and making this one of the best years of my life. Such a valuable experience. And you guys must know that, my feeling for you, are not ordinary. May all the hard work that has been done, be worth the reward in the sight of Allah ta'ala. Amen.

Thank you to – Senior in Student Laboratory or Labma. For all the trust that has been given to me to lead all my friends. Thank you for guiding us so much, giving us guidance in every process. This is the last year for you to be in this committee, but the knowledge you have given us remains in our memory. May goodness and blessings always be with you wherever you are. Amen

Thank you to – Jurnal Khazanah (Khazanah Journal) which has assisted in the proceedings, so that our initial goals is to make knowledge useful by spreading knowledge as far as possible. Thank you for the good work, hopefully every abstracts published will benefits as a public service and all the parties will be rewarded. Amen

Thank you to – Active and passive participants, speakers, moderators and all parties who cannot be mentioned one by one. No matter how the concept of the event is packed, without you, it won't work. This is a good first step, looking to the bright future of the LSF in the years to come to deliver better than this year. Hope you can continue to synergize, spread the benefits and aim for the highest spot in a humble way. When you grow old, please remember this day. Thank you

Taufan Maulana Putera
President of International Conference – Labma Scientific Fair (IC-LSF) 2020 Committee

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WELCOME MESSAGE

Dear colleagues,

Praise and gratitude to Allah SWT for all his graces and blessings that have made the making and compilation of proceeding possible. Along with greetings we convey to the prophet Muhammad SAW, who has brought humans from a realm of ignorance to a realm full of educational knowledge.

Here, we present a collection of proceeding ranging from Science to Social, which are proudly given by students of the Islamic University of Indonesia and other university students. LABMA Scientific Fair powered by LABMA, this time proudly present the 1st International Conference-Labma Scientific Fair (IC-LSF).

In this 1st International Conference-Labma Scientific Fair (IC-LSF), there are various kinds of titles, various kinds of research and various kinds of fields which aim to provide knowledge and references for readers and it included many major field such as Health, Energy and Environment, Economy, Science and Technology, Education, Religion, psychology and Social Humanity.

As a representative of Khazanah: Jurnal Mahasiswa Team, I would like to welcome you to the 1st International Conference-Labma Scientific Fair (IC-LSF) and we would like to thank all administrators who took their time in making the 1st International Conference-Labma Scientific Fair (IC-LSF) carried out smoothly. And finally, I as the representative would like to hope that the following proceeding will provide useful knowledge and blessings for both readers and writers.

M Munaldi Novriansyah
President of Khazanah: Jurnal Mahasiswa

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WELCOME MESSAGE

Dear participants,

It is a great pleasure to welcome you on the digital version of The 1st International Conference LabMa Scientific Fair 2020. An exciting event organised by Laboratorium Mahasiswa Universitas Islam Indonesia for student all over the world. Over the past three years, LabMa Scientific Fair has grown as one of the leading scientific events on a national basis. However, it develops to be International-based scientific event to share knowledge development largely. Unfortunately, our international conference cannot take place as planned due to the global pandemic of Coronavirus Disease. After a half year of hard work of the Organising Committee, and most importantly after all the enthusiasm and support you as a participant, we decided to not leave it. By doing so, we hope that IC-LSF still provides the student with the opportunity to present their research on the international platform, expand their network by interacting with other participants, and gain update knowledge in the field of education, health, and economy issue from the experts.

By the date of the events, we will kick-off by three keynote speaker, they are dr. Jarir At Thobari D.Pharm, PhD (Indonesia), Prof. Andreas Schleicher BS. M.Sc. (Germany), and Prof. Ruhul A. Salim PhD (Australia). With the grand theme "The Role of College Student in Achieving SDGs Post Pandemic Era", we hope that participant as a representative student can collaborate and take a truly action to succeed the Sustainable Development Goals. However, the framework of the global goals is changing directly due to global pandemic which has a various impact on a different aspect. The only way to solve that problem and keep our tract on global goals are by adapting the situation. We need more flexibility, sort-cut policy, and comprehensive innovation approach. So, by attending this conference, I hope that everyone takes full advantage of the possibilities.

In the future, we hope to get more partnership with many institutions across the world, so the participant will have more international contact, not only for their research collaboration but also at all levels of the educational system. On behalf of the entire organising committee, I wish you all a wonderful time and I hope you will enjoy ICLSF as much as I did it. Enjoy the science, and we hope to see many of you next year in Yogyakarta, Indonesia

Mochamad Afifudin
Director of Laboratorium Mahasiswa Universitas Islam Indonesia

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WELCOME MESSAGE

Assalamualaikum warahmatullahi wabarakatuh

This edition includes the papers presented at the International Conference-Labma Scientific Fair 2020 Conference which took place on December 13, 2020 by Virtual Meeting.

The Conference was organized by Laboratorium Mahasiswa (LABMA), Universitas Islam Indonesia as a response to Sustainable Development Goals which has a final target in 2030. The organizing committee and the editors are grateful to the delegates who had submitted and presented papers.

The key note lectures and the papers presented were focusing on the theme of the conference "The Role of College Students in Achieving Post Pandemic Covid-19". The sessions of the conference addressed the topics such as Economic, Health, Science and Technology, Energy and Environment, Education, Religion, Psychology, and Social Science.

The International Conference-Labma Scientific Fair 2020 Conference provided a forum to the young researchers to share their research findings and to refine their ideas by interacting with fellow researchers. The presence of other international delegates opened new avenues for possible research collaborations in the future.

We hope this proceeding could be a constructive contribution in development of science and technology and also a motivation for young researchers, engineers and scientists to publish their idea and researches.

Thank you.
Wassalamualaikum warahmatullahi wabarakatuh

Best regards,

Beni Suranto, S.T., M.SoftEng.
Director of Student Affairs, Universitas Islam Indonesia

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SCIENTIFIC PROGRAM

1st Session

dr. Jarir at Thabari, D.Pharm., Ph.D.
Director of Clinical Epidemiology and Biostatistic Unit, and Cochrane Researcher
"COVID-19 Vaccine Global Pandemic: Current Status and Challenge"

2nd Session

Prof. Ruhul A. Salim, Ph.D.
Director of Graduate Researcher in The School of Economic and Finance, Curtin University
"Economic Recovery from Recession"

3rd Session

Prof. Andreas Schleicher, BS., M.Sc.
Director for Directorate of Education and Skill OECD
"Curriculum Elasticity to Effectiveness The Talent Interest of Student During Pandemic"

Science & Technology

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Agricultural Waste as Silica Source In Tio2/Sio2 Synthesis For Photocatalytic Degradation Of Dye Compounds

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Universitas Gadjah Mada
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ABSTRACT

Titanium dioxide (TiO2) is one of semiconductor material which has been used as photocatalyst that has very good potency to oxidize some hazardous organic compounds like dye waste, medical and pharmacological waste, and etc. Although TiO2 has high oxidation capacity for photocatalytic degradation, it has some deficiencies which can limit its application as photocatalyst. Those deficiencies are TiO2 is easily agglomerated, its charge carrier is conveniently formed as recombination, and it has low surface area. This article provides a review of a composite which consists of TiO2 as the dispersed phase and SiO2 as the matrix, this composite has better photacatalytic performance than TiO2 itself. SiO2 can increase the surface area of TiO2, prevent the agglomeration of TiO2 particle, and avoid the recombination of TiO2's charge carrier. Consequently, it can improve the ability of TiO2 to do photocatalytic degradation. Agricultural wastes that consist of high silica content is potentially used as the resource of SiO2 in this composite and biosilica that is produced from natural waste has biocompatible and biodegradable properties. This article also provides it's application for various dye photocatalytic degradation.

Keywords: agricultural wastes, photocatalyst, SiO2, TiO2

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Synthesis And Characterization Of Calcium Bentonite Xanthan Gum Composite As Slow Release Fertilizer Fe(III)

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ABSTRACT

The purpose of this study was synthesis calcium bentonite-xanthan gum composites, characterization of composites, and determine of adsorption and desorption capacity of composites on Fe(III). Characterization of the composites is done by determine the functio nal group using FT-IR, determine the crystallinity using XRD, and determine major and minor element using XRF. In this study, the release of Fe(III) and potential as a slow release fertilizer were analyzed using UV-Vis spectrophotometry. The adsorpstion capacity of calcium bentonite-xanthan gum composites on Fe(III) was carried out for 1 hour with variatio n adsorbate concentrations of 18, 21, 24, 27 and 30 ppm. The results show that the maximum composite adsorption ability were obtained at concentration of 27 ppm. Chemical equilibr ium follows the Langmuir isotherm model with an adsorption capacity of 10.416 mg/g. Slow release test using desorption method with destilled water to calcium bentonite-xanthan gum composite at 27 ppm concentration. Slow release Fe(III) test from the composite used time variation of 0, 15, 30, 45, 60, 90, 120 and 180 minutes. The result is Fe(III) carry out from the bentonite pore structure. Peak time of Fe(III) desorption is 30 minutes which amount of Fe(III) being desorption at 4.64 ppm.

Keywords: Compsites, calcium bentonite, adsorption, slow release

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Application Of The Hybrid Method Nonlinear Regression With Modified Logistic Growth Model-Exponential Double Smoothing For Forecasting Covid-19 Cases In Indonesia And Armenia

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ABSTRACT

Since the first cases of Covid-19 infection were officially recognized and recorded in Indonesia on March 2, 2020 and March 1, 2020 in Armenia, the addition of new cases has not shown any indication of sloping. The relatively high number of new cases indicates that Indonesia has not yet passed the peak of the pandemic. As for Armenia, the addition of new cases indicates a new pandemic peak to be faced. In these conditions, an important question for decision makers (the Government) to find answers to is when and at what level of total cases will the COVID-19 pandemic end in Indonesia or the second wave in Armenia. Forecasting method of Hybrid Nonlinear Regression With Modified Logistic Growth Model - Double Smoothing Exponential and Classical methods is used to predict the Covid-19 cases that occur in Indonesia and Armenia. Based on the model formed, the peak of Covid-19 cases in Indonesia is predicted to occur on November 26, 2020, with the number of cases reaching 5968 cases. As for Armenia, the peak of Covid-19 cases will occur on November 15, 2020, with the number of cases reaching 3098 cases. Covid-19 in both countries is predicted to decline and be constant in 2021. For the country, Indonesia is predicted to begin to stabilize and be controlled in July - August 2021. As for Armenia, Covid-19 is predicted to be under control and approaching 0 cases in February - March 2021. Forecasting models for the Covid-19 cases in Indonesia and Armenia are different, where for the Covid-19 case in Indonesia the Nonlinear Regression with Logistic Growth Model can be used and for the country of Armenia, the Nonlinear Regression with Modified Logistic Growth Model must be used because it has 2 peak cases. Hybrid method is a very good method for optimizing forecast results. Its application in the Covid-19 case in Indonesia and in Armenia shows that the Hybrid method produces a better MAPE value than the Nonlinear Regression with Logistic Growth Model alone or the Exponential Double Smoothing method alone

Keywords: Covid-19, Hybrid, Logistic Growth

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Design Plant Disease Detection System Using Deep Learning Convolutional Neural Network

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ABSTRACT

Indonesia is an agrarian country whose people mostly work in agriculture by contributing to the 3rd largest GDP. But on the other hand, the main problem in agriculture is the development of pests and diseases of crops. There are cases where there are crops that are attacked by diseases with less obvious symptoms for farmers. For example, in citrus plants that are attacked by CVPD. Initially, the citrus plant does not show too early symptoms of the disease, making it difficult to distinguish from healthy plants. Based on these problems early detection and identification of plant diseases are the main factors to prevent and reduce the spread of plant diseases. The study used deep learning methods with the Convolutional Neural Network (CNN) algorithm model. The dataset used comes from PlantVillage with a total of 20,639 leaf image files that have been classified based on their respective classes. The design of the model architecture is done by designing the CNN model following the DenseNet121 architecture, by changing the parameters to improve the accuracy results. Image size is 64, train shape (20639, 64, 64, 3), epoch value 50,100, and 150. The number of input layers used is 4 layers with shapes (64, 64, 3). Densenet121 shape (1024), global average pooling2D shape (1024), batch normalization 2 (1024), dropout (1024), dense (256), batch normalization 3 (256), root (Dense) (15). This research was conducted with 3 epoch iteration tests to find the best accuracy value. The training data for epoch 50,100, and 150 produces an average model accuracy of 99.38% and the average value of the model loss is 0.019% can also be seen from the testing data results for epoch 50,100, and 150 has an average model of 95.16% and can be seen also from the average value for the loss is 0.20%. Based on the algorithm that applied the resulting training accuracy of 99.58% and the accuracy of testing 96.41% then design this application is useful to accurately detect diseases in plants by using leaf imagery of the plant.

Keywords: Agriculture, Classification, CNN

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Table 1. Classification Result

No	Epcoh	Acc Training	Acc Testing	Loss Training	Loss Testing
1	50	99.087977	95.639533	0.02886844	0.1771074
2	100	99.489266	96.414727	0.01654786	0.137703
3	150	99.580473	93.435079	0.01379718	0.2927735

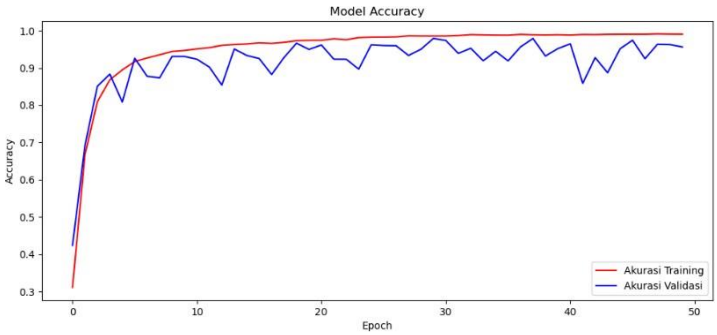

Image 1. Visualization of Iteration Accuracy 50 Epoch.

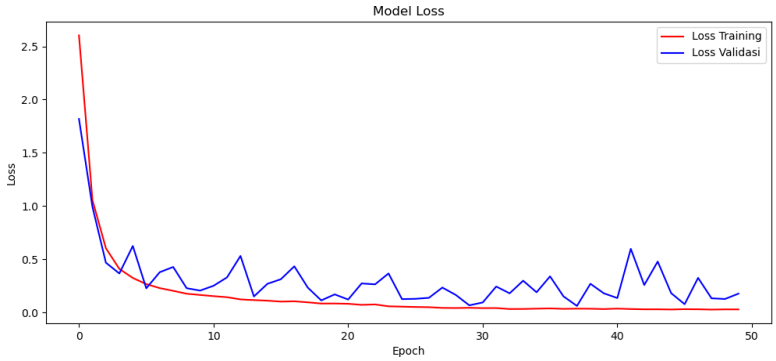

Image 2. Visualization of Iteration Loss 50 Epoch

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Application Of The Alert System Uses Both Telegrams To Help Check Traffic Issues On Universitas Islam Indonesia

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ABSTRACT

At the moment, office work has a pretty strict protocol. Restrictions were made to prevent the spread of the corona virus. One is the activity on the Universitas Islam Indonesia integrated campus. On the Universitas Islam Indonesia integrated campus are local servers that must be secured daily. Of course, every server needs security, both resource and security. Looking at security, all this time security checks are done by checking directly for traffic on computers that access the server. It's not nearly flexible, of course, considering when this pandemic is a controlled activity. Therefore it required a system capable of giving notification to the Universitas Islam Indonesia network administrator in order to monitor conditions in real time. The conditions read are usually The Times when network traffic is in danger. The danger is always present in a system alert. In research this time, I have a design solution that will finally get use of tools from the security information and event management: Splunk, who will be used as a tool to implement the alert system by using both telegrams as his information medium. Research restrictions conducted with specimen data testing on the firewall logs with traffic from Board of Information System, Universitas Islam Indonesia. It is hoped that this research will find a novel solution to help administrators receive real-time information /alert from Universitas Islam Indonesia network traffic.

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Analysis Of Geoelectrical And Soil Test Data To Determine Subsurface Conditions In Makassar City, South Sulawesi

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ABSTRACT

Research has been carried out to determine subsurface conditions. The research objective was to determine the physical properties of the soil in order to evaluate and provide recommendations for solving foundation problems. The methods are the resistivity geoelectric and IP geoelectric method (induced polarization) with ERT (Electrical Resistivity Tomography), SPT (Standard Penetration Test) and laboratory test results. The results of the resistivity values obtained varied in the range from 17.0 - 172.0 Ωm with a depth of 0 m - 2.87 m, most of which were interpreted as alluvium soil, namely sandy loam. This is reinforced by the results of the IP method where the low chargebility value is around 0.130 - 4.70 msec. In addition, it was found that from the SPT test, it was obtained that the variation of blows from 14 to 21 N at a depth of 0 - 5.50 meters and >60 N from a depth of 5.50 - 20 m which stated that most of them consisted of clay and sandstones. Then based on laboratory tests, it was found that at a depth of 3 - 3.5 meters it consisted of 86.47% clay with a plastic limit of 37.07% and the water content was 39.41%, while at a depth of 9 -9.5 meters it consisted of sandstones which the characteristic is non- plastic with a water content of up to 72.04%. It is concluded that the surface soil is conductive, it is necessary to hold special treatment for this type of soil in order to avoid erosion when it is saturated with water and it is hoped that the stability of the soil will be better. One of two ways is by mixing high density soil and making a "chicken claw" foundation to strengthen the foundation with a depth of more than 5.0 meters.

Keywords: Geoelectric, Standard Penetration Test, Resistivity, Chargebility, Foundation.

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The Future of Shipping: Presence of Cyber Attacks in Maritime Industries

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ABSTRACT

During the pandemic, many activities are starting to take place online. Consumers are now forced to interact with their gadget. In order to increase efficiency, many logistic-related industries started to implement an online communication, payment and tracking system. Indonesia is currently the largest archipelagic state in the world. With around 77% of total area consists of water, the flow of economics in each region depends on the existence of sufficient fleet of marine transportation. Indonesian President Joko Widodo has implemented the 'Tol Laut' program in 2015 in order to reduce price disparity in Indonesia. Tol Laut has proven itself by reducing up to 20% of cost in Eastern Indonesia. Online database system might reduce cost and bringing the industries into a more intimate relation with their customers. On the other hand, it could increase the risk of cyberattack. AP Moller-Maersk has experienced this kind of threat when their IT systems are completely shut down in 2017. This paper will evaluate factors affecting the number of cyber attacks in maritime industries based on survey and interviews with the stakeholders and analyze key steps in mitigating and restoring IT systems. Common mistakes made by industries that could increase the risk of being attacked are as follows: human error, misconfigured firewall, error in protocol manipulation, and error in programs. There are recommendation to mitigate cyberthreat from re-occuring in the future: software and antivirus upgrade, use of privileged administrator, remote access permission, data disposal and onshore support. Taking effective response is also compulsory to decide which IT/OT system must be kept running or shut down, whether certain ship communication that links with shore should be shut down, appropriate use of any advanced tools provided in pre- installed security software, and understanding whether the incident has compromised the IT/OT system beyond capabilities of recovery.

Keywords: Shipping, Cybersecurity, Maritime, Sustainable Ocean

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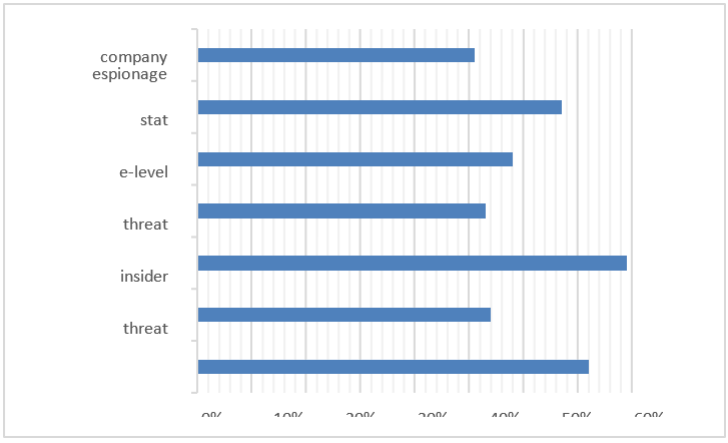
Table 1. Several Factors and Their Impact towards Indonesian Maritime Security.
Source: Putra A. and Hakim (2016)

	Factors	Category
Defense and Security	Conflict in South China Sea	Threat
	Increasing the contestation of military power in the Asian region	Threat
	Illegal Unreported and Unregulated Fishing	Threat
	Transnational crime	Threat
Technology	Development of maritime information technology	Opportunity
	Number of maritime cyber attacks	Opportunity
	Ownership of maritime information technology	Threat

Scale					
1	2	3	4	5	6
					✓
			✓		
					✓
					✓
					✓
					✓
					✓

Lesser impact ⟵ ⟶ Greater impact

Figure 1. Factors Affecting Cyber attacks in Maritime Industry.
Source: Tam and Jones (2019)



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Direct Filament Dryer With Moisture And Dust Absorbent For 3D Printing Plastic Filaments

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ABSTRACT

Industrial Revolution 4.0 requires every line of life to apply technology, especially in the field of prototyping. 3D PrintingFDM (Fused Deposition Modeling) technology is used for the needs of rapid prototyping. The plastic filament material is the main requirement in printing FDM or FFF (Fused Filament Fabrication). However, there are poor print quality problems in this storage process because all types of plastic filaments used in this 3D printing technology are affected by moisture and dust. The moisture of the plastic filament can be seen if there is a hiss in the printing process and the surface of the printing result becomes rough. At the same time, the dust on the filament will clog the hot end nozzle. Current 3D printing technology is used to reduce this problem by storing filaments in the filament box dryer. However, this storage has several drawbacks. It is less efficient and practical because the filament box can only hold one of the plastic filament rolls. From this problem, we tried to create "Direct Filament Dryer with Moisture and Dust Absorbent for 3D Printing Plastic Filaments". The principle of this tool is to put the filament into the heating chamber. This room contains silica gel as a damper for moisture and a sponge to clean the dust on the filament's surface. The heating room temperature is controlled by a thermostat, which will keep the temperature between 40-50 °C. This research uses R&D techniques with the 4D method, namely, Define, Design, Develop, and Disseminate. Meanwhile, to test the results of this research by comparing the printing results between plastic filaments that are allowed to become damp and dusty with technology. Therefore, it was concluded that using made the filament surface smooth without any rough parts.

Keywords: Industrial Revolution 4.0, Plastic Filament, 3D Printing, Filament Dryer

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Table 1. Roughness Value By Ra.

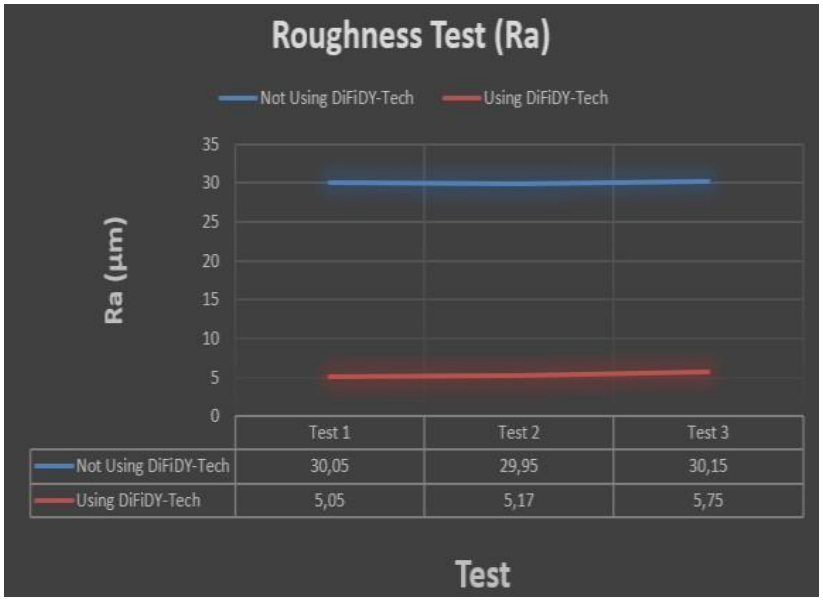

Table 2. Roughness Value By Rz.

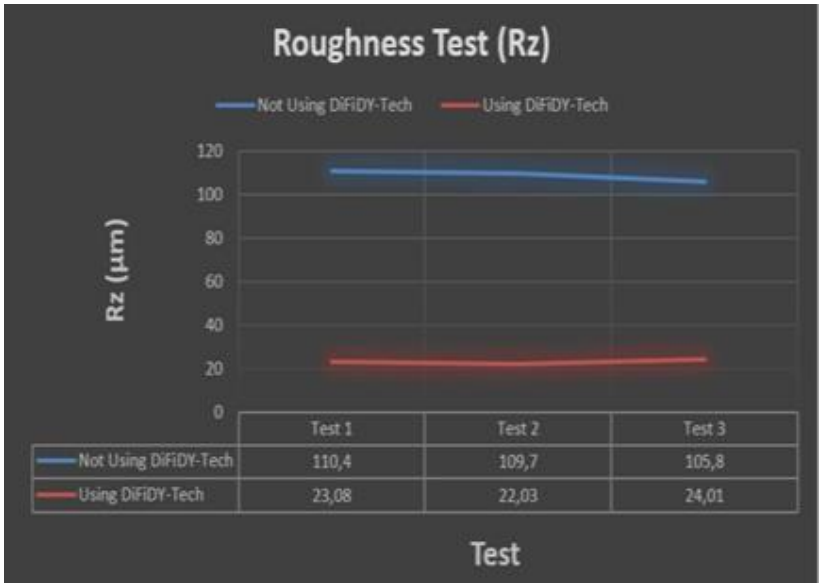

Image 1. Design Box Of Innovation.

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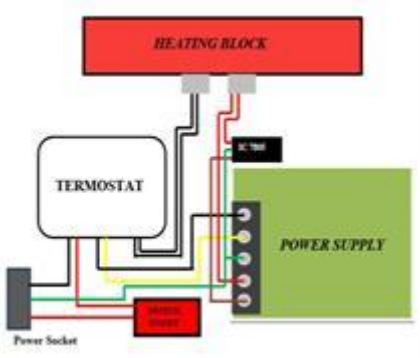

Image 2. Wiring Diagram Of Innovation

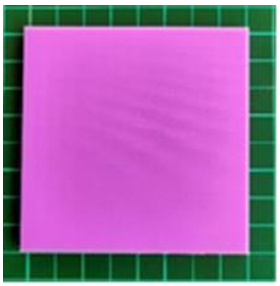

Image 3. The Result Of Innovation

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Design and Development of Aircraft Propeller Maintenance Facility for General Aviation

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ABSTRACT

Since the first flight and introduction of propellers from marine to the sky, various maintenance techniques have been employed to maintain aircraft propellers. With the advancement in the operation and safety of flight, propellers have been manufactured in various materials, shapes and measurements. The design developed is based on the concept of a "single stop shop facility". The propeller maintenance facility majorly focuses the general aviation in order to provide them a set up that primarily focuses on the maintenance of propellers in order to avoid malfunctions resulting in accidents and failures. The maintenance procedures for workbench include static balancing, blade tracking, cleaning, visual inspection, corrosion removal and Non-Destructive Testing (NDT). The developed facility has an accelerated scalability with the provision of facilitating Non-Destructive Testing that is performed on the workbench. The non-destructive testing results in assuring reliability and safety of the propellers as per the modern maintenance practices. The workbench developed focuses over the environment sustainability as it functions on the concept of sustainable maintenance that involves reduced unnecessary maintenance. Moreover, the currently developed facility integrates a proactive approach involving reduced use of energy in order to produce less waste and environmental impact. At present, the workbench has been manufactured and is being tested for propeller maintenance procedures.

Keywords: maintenance, propeller, inspection aviation, facility

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Image 1. Propeller Maintenance Facility Develop

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Olresto: Digitalization and Integration of Restaurants as a Role and Contribution of the Business Sector in Responding to the COVID-19 Pandemic

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ABSTRACT

The Ministry of Health has enacted Large-scale Social Restrictions (PSBB) regulations geared toward accelerating the handling of COVID-19. During PSBB, the economy across the country was declining in preventive measures. Including Indonesia, the education, tourism, hospitality, culinary and business sectors must force to close due to enacted regulations. The small restaurant business is one of the affected. After the implementation of this PSBB, the government wants to make changes to the routine of society to live with a new or new normal lifestyle. At this time of the new normal, restaurants are allowed to operate provided they limit the number of customers who come and are required to comply with health protocols. They must wear masks and wash their hands before entering the restaurant area. Today, digitalization has penetrated various sectors of life because the digital era brings many benefits, ranging from cost efficiency, time to energy. Application-based digital products are very suitable for use in the field of business economics that struggle in the sector of culinary, especially restaurants. To achieve operational in the new-normal times, the "Olresto" is an application that integrates all restaurants spread across the island of Java. Users can find out which restaurants are available and make a booking. The application also comes with a list of food menus so that customers can order through the application. The facility of transactions with the help of virtual accounts or e-money hence minimizing the spread of COVID-19 virus that can spread through money. With this application, it hoped that it could help restaurants to continue operating during this pandemic, thus reducing their deficit and can improve the existence of an economy in Indonesia which had fallen due to the COVID19.

Keywords: Applications, Business, Economics, Integration, Restaurant

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Utilization of Basil Leaves (*Ocimum Basilicum*) and Avocado Leaves (*Persea Americana Mill*) as Anti-Inflammatory Gel and Antibiotics in *Myasis* Disease

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ABSTRACT

Production rate of domectic cattle begin to decline in each year, especially from range 2016 to 2019. Many factors influence, such as switching local breeders to other professions, and disease. One of the disease that quite dangerous called *Myasis*. Caused by *C. Bezziana* fly larvae, this disease causing excruciating and extended pain, resulting in decreased livestock performance. The decline in livestock performance has resulted in a decrease in livestock meat production, while the demand for meat in the community always increases every year. Based on these problems, an innovative idea is offered that is able to control and cure myasis in livestock by utilizing basil (*Ocimum basilicum*) and avocado leaves (*Persea americana Mill*) which have flavonoid levels as anti-inflammatory due to *Myasis* and antibiotics. This study aims to overcome the decline in livestock yields caused by livestock *Myasis* which results in the quality of the meat to be produced. The research method used was literature study and gel making. The process of making anti-inflammatory and antibiotic gel is quite simple, which is done by extracting the ingredients using water and air distillation, then carried out by the process of forming a gel with the addition of surfactants to the ingredients so that each material mixed can remain stable in the gel. The resulting gel making was continued with testing for viscosity, stability, appearance, homogeneity, and pH determination. The result of making anti-inflammatory and antibiotic gel is expected to increase the performance of livestock so that the demand for meat in the community can be fulfilled.

Keywords: antibiotics, gels, inflammation, livestock performance, myasis

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Fishpro (Online Fisheries Product): Application Design Of Sell And Buy Fisheries Product To Increase Fishery Businesses Income Of Nusantara

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ABSTRACT

The fisheries sector is a strategic sector to increase the country's foreign exchange in national development. However, due to the emergence of the Corona Virus Disease 19 (Covid-19) outbreak, the capture fisheries sector was affected by the pandemic. Fishery business actors, namely fishermen, small-scale fish traders (retail traders), and MSME (Micro, Small Medium Enterprises) owners have been affected by the Covid-19 pandemic. The income of fishery business actors has decreased due to decreasing market demand so that fish prices have also decreased. It is more difficult for fishery business actors to market their fishery products. Fisheries actors must be able to take advantage of opportunities during a pandemic by changing the marketing system to digital or online based so that capture fisheries products can be absorbed optimally. Therefore, there is a solution to overcome this problem, namely the application of buying and selling fish, both fresh and processed fish that can be reached by the wider community on an online basis. This application is an online fish buying and selling application that connects sellers with consumers directly with a delivery system with drivers. The application design uses the Waterfall Software Development Lifecycle (SDLC) method which consists of six stages, namely analysis, design, implementation, testing, deployment, and maintenance. The materials (software) used in application design according there are android studio, firebase, and google map API (Application Programming Interface). The FISHPRO application is real-time, which is capable of updating automatically in the system. The features in FISHPRO are purchase, co-book, discussion, news, nutritional information, accounts, activities. This application is claimed to be a complete package application because in one application include features that are useful for users so that they get more information. Application that is simple, practical, easy and comfortable to operate by the user.

Keywords: application, fishery, marketing, product, fish pro

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Comparison Analysis Of Measured And Gassman Calculated P-Velocity Of Saturated Carbonate And Sandstone Using Matlab

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ABSTRACT

In reservoir studies, the physical properties of rocks are important to be reviewed. One of the methods that can be used to assess the physical properties of rocks in a reservoir is the seismic method. This method produces the velocity values of P wave and S wave. The velocity of the P wave and S wave is strongly influenced by the fluid content. The relationship between seismic properties and fluid content can be analyzed using log data and the Gassman equation. This equation is used to evaluate the Vp and Vs values in the case of fluid substitution. In this study, secondary data of physical properties of carbonate and sandstone rocks were used. Comparison between the measured Vp value and the Gassman calculated Vp value was carried out to find out how the Vp value from the Gassman calculation and also the regression between the porosity and the measured Vp value and the Vp value of Gassman's calculation was carried out to analyze the relationship related to rock types. Data plotting and regression were done using Matlab. The results obtained in the form of Gassman's calculations yield a prediction of the P wave velocity that is lower than the measured P wave. In the regression results between the porosity value and the measured Vp value, there is a negative relationship, where high Vp values indicate low porosity values. In the sandstone sample, the Vp saturation value is low, both at the measured Vp and the Gassman calculation Vp because of the same porosity value. Whereas for carbonate rocks, the results from the measured Vp graph show a lower saturation Vp value than the Vp graph calculated by Gassman.

Keywords: Carbonate, Gassman, P-Velocity ,Sandstone

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Narrative Review : Manufacture Of Organic Sweet Potato Based Anti-Acne Spray Gel

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ABSTRACT

Sweet potato (Ipomea batatas) is a plant found mostly in America. The rich content of flavonoid in sweet potato which acts as anti-oxidant can prevent premature aging and can also protect cells from damages caused by free-radicals. Flavonoid possesses an anti-bacterial nature which can disturb the cell wall function of bacteria through the mechanism of complex formation with extracellular protein. This article is written using narrative review method through electronic scientific article, journal, and textbook. Authors identified 16 articles which published from 2010-2020. Out of 16 articles, 11 of them were in match to the criteria and the results were found that the physical characteristics of anti-acne spray gel can be determined through the dispersibility test, organoleptic test, adhesivity, dry time, and stability test. For the biological characteristic of spray gel can be done using Well method for the Propinibacterium acnes. Sweet potato-based spray gel possesses physical and biological characteristic which can slows bacterial growth significantly compared to green tea shoots and purple leaf.

Keywords : spray gel, sweet potato, anti-acne

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Antibacterial Clothing Made From Bamboo Fibers And Natural Dyes With A Combination Of Dragon Fruit, Betel, And Gambier Skin As A Solution For Using Synthetic Dyes

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ABSTRACT

In the New Normal Era, cleanliness is very important to prevent the spread of Covid 19, therefore a garment that has antibacterial properties is needed, which is obtained from bamboo fibers and natural dyes. The author formulates bamboo fibers which are used as the basic material for making fabrics that contain anti-bacterial and natural dyes which are obtained by combining dragon fruit peel, gambier, lime and betel leaf which also contain antibacterial. The softening solution, namely NaOH, is then cleaned of chemical liquid and continued to separate the desired bamboo fibers. Furthermore, after obtaining bamboo fibers, clothes are made according to what they want. The dyeing of the fabric uses the method of dyeing the cloth from bamboo fibers that have been previously mordant at room temperature (27-30oC) for 10 minutes, then drying for 10 minutes. The staining will be carried out by immersing 10 times. Based on several previous studies that the bamboo fiber produced is influenced by the levels of chemicals used in the softening process, and the thickness of the blades used. The thinner the blade is used, the faster the process of forming bamboo fibers. Based on previous literature studies, it is stated that the use of natural combination ingredients consisting of dragon fruit peel, gambier, lime, betel leaf and banana sap can produce antibacterial clothing to support activities carried out in the post-pandemic period like today.

Keywords : Bamboo, Natural Dyes, Anti-bacterial, post pandemic.

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Redesign of Salak Harvesting Tool with Anthropometric Approach Based on Body Pain Complaints Using Nordic Body Map Questionnaire on Salak Farm in Pulesari Tourist Village

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ABSTRACT

Agricultural activities are one of the utilization of natural resources (SDA) to produce foodstuffs, industrial and energy materials. The research was conducted at Salak Farm in Pulesari Tourism Village. When harvesting salak fruit, farmers still cut bunches of salak using machetes, sickles or in the traditional way and will result in a big risk. In traditional harvesting, there are often complaints by workers that the position of the body is too bent causing frequent complaints of pain in some parts of the body. In this study used anthropometric approach based on body dimensions and Nordic Body Map (NBM) questionnaires to determine Muskuloskeletal Disorders based on Deductive and Inductive studies. As a result of the NBM questionnaire, workers experienced quite sick and painful complaints. Based on the questionnaire NBM obtained several parts of the body that hurt including Lower neck, bottom neck, Right shoulder, Back , Right upper arm, Waist, Right lower arm , Right hand, Left knee, Left foot , Right foot. Body dimension and percentile data to redesign of salak harvesting tool used by TSB (P5=1,584 cm), DGMin (P50=107.2667 cm), LTM (P95=8.87185 cm).From these results, researchers can design a tool that is able to assist in the harvesting process so they do not experience complaints of pain in several parts of the body, work accidents, and increase the production of salak fruit. The tool features have are a handle, a clamp to clamp the salak tie, a net to accommodate the salak and a spring to pull the jaw clamp. Recommended tools are used ergonomically, saving time and minimizing fruit dropping thereby increasing production.

Keywords: Nordic body map, anthropometry, salak harvester

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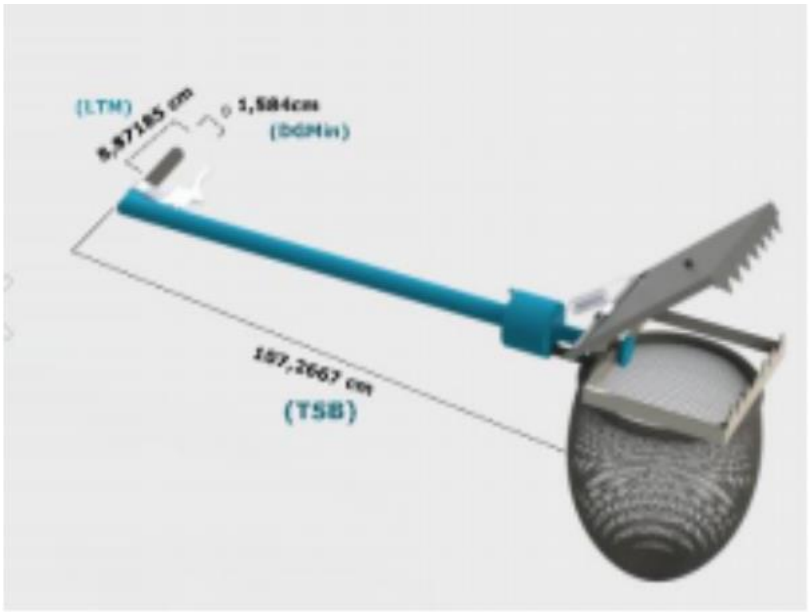

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Letter Frequency In Indonesian Language Using Proportion Estimation

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ABSTRACT

Cryptanalysis is a process of finding weaknesses in cryptographic algorithms and using these weaknesses to decipher the ciphertext without knowing the secret key. One technique of cryptanalysis is frequency analysis, using the frequency of letters to translate ciphertext to plaintext. Frequency analysis is usually used to test the success of an encryption algorithm. Every language in the world has its own property in letter frequency. This made every language had a different aspect to make sure the algorithm working properly for securing plaintext. This makes it important to know the frequency analysis in Indonesian. The method that was used in this research paper is the proportion estimate to estimate the error from the result and the data we collected is from 10,000 articles that were scrapped from the internet. The result of this paper is the frequency of each letter in the Indonesian language.

Keyword: Letter, Indonesian, Cryptanalysis, frequency, encryption

Social Science

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The Role Of College Students In Achieving Sustainable Development Goals Post - Pandemic Covid – 19

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ABSTRACT

The study examines the roles of college students in advancing sustainable development goals after covid-19.Questionnaire and interviews were employed.The research was carried out on college students across some continents through online interviews.Descriptive statistics that include frequency distribution and mean were used to analyze all data collected from both ends. From the result of the research,it was discovered that to enhance sustainable development goals,the health of an individual should be paramount.A threat to citizens health constitutes an immense challenge in achieving sustainable development goals. College students should adhere strictly to rules of personal hygiene,adequate nutrition,regular exercise and adequate rest.Also they should encourage and sensitize their peers,family members and the society at large on the importance of healthy living. Students should employ conventional methods of learning and engage in practical activities,vocational education should also be encouraged. Agricultural students should work more on site in commercial methods in order to produce large quantities of foods that will sustain society rather than a more theoretical approach of learning. College students should involve in voluntary community development activities and sensitize the community on how to maintain the available infrastructure in the society.Also, factors such as child-parent interaction,students-Teachers interaction, Intellectual and emotional development should be promoted by the students. College students should be aware of the harmful effects of climate change and environmental pollution.They should be aware of the need to reduce energy consumption in lighting ,cooking and transportation by using energy saving light bulbs,turning on the light only when necessary,use devices that work with solar energy,use public transport,bicycle and / or travel on foot.There is a need for union between different religion in order to promote peace and to achieve sustainable development goals.

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FAST Generation to Achive SDGs Post Pandemic

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ABSTRACT

The Covid-19 pandemic has impacted all aspects of life. One of the things that has been affected is the achievement of the SDGs which has been hampered by this pandemic. The condition that has been deteriorated due to the pandemic should not be used as an excuse to achieve the SDGs, in this case the role of youth is very important to achieve SDGs, especially in the post-pandemic period. The method used in this research is a qualitative research method with a phenomenological approach. The data used are primary and secondary data that have been collected, processed, made conclusions, and then interpreted. This study aims to design a character education system for the younger generation in their role in achieving the SDGs. The results of the interpretation of data that have been collected and then processed in the research process, make a proposal for "FAST Generation". These concepts are some of the main characteristics that youth must have in their role in achieving the SDGs in the post-COVID-19 pandemic. FAST Generation is a character that must be possessed by youth in achieving the SDGs. Youth with character will make the world safer, more prosperous, and more focused, so that the achievement of the goals contained in the SDGs will be easier.

Keywords: Character, FAST Generation, Covid-19, Phenomenologhy, SDGs

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Does Pandemic Covid 19 Influence Romantic Relationship?

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ABSTRACT

The COVID 19 pandemic that hit many countries around the world not only has bad impact on economic sector, but also on romantic relationships. The purpose of this study was to explore various aspects of romantic relationships during pandemic 1) perception of harmony, 2) increased conflict, 3) reasons for conflict, 4) intensity of relationships during pandemic. This study used a survey with open-ended questions and several questions with tiered answer responses. The sampling method was incidental sampling with the respondent criteria married, dating, and no official status. Data analysis employed was coding and categorization, as well as Kruskal Wallis analysis. There were 345 respondents aged 13-51 years. The results showed that in general there was an increase in the frequency of conflict between partners during pandemic, where the main reason was meeting difficulty due to social restrictions, lack of communication, and other reasons not directly related to the pandemic. The results of Kruskal Wallis showed that the harmony of partners and the frequency of conflict during the pandemic is related to the type of status (no official status, dating, and married), length of relationship, intensity of communication, and intensity of meeting. Respondents with married status have the highest perception of harmony while dating status has the highest conflict frequency. Couples with length of relationship over 2 years and rarely communicate perceived the highest increase in conflict. Based on the intensity of meeting, the couples whose intensity of meeting often had the highest perception of harmony, although on the other hand the frequent meetings also led to an increase in conflict.

Keywords: Romantic relationship, pandemic COVID 19, conflict, communication

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Recognizing Patterns of Food Insecurity in Indonesia New Recommendations for Hunger Prevention Policy

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ABSTRACT

Geographically, Indonesia is a tropical area that has two seasons so it is very suitable for agriculture. Indonesia is also known as an agricultural country. It means that most of its population works in the agricultural sector which is related to food. However, food insecurity still occurs in Indonesia. This is supported by the COVID-19 pandemic in which the Food and Agriculture Organization (FAO) stated that there is a threat of food scarcity during the COVID- 19 pandemic. This will interfere with the SDGs second goal of ending hunger and sustainable agriculture. The purpose of this study captures the causes of food insecurity in each province in Indonesia spatially using the bicluster method. The data that used is data from Susenas and Sakernas by BPS in 2019. The results of three studies using the bicluster method show that each province has different aspects and letters. The results of this research can serve as a reference for policies in dealing with hunger in Indonesia. This study uses the CC Algorithm method by Cheng and Church. In the bicluster approach, we run some parameters and do manual tunning to choose the best parameter based on the average of residue over volume (MSR/V). CC algorithm tries to get bicluster as large as possible with low MSR Value, therefore the best parameter should be the one that generates the smallest MSR/V and the smallest MSR/V is produced when $\delta = 0.3$. The application of the CC biclustering algorithm to the poverty structure in Indonesia produces 3 biclusters. Bicluster 1 Consist of 28 Province with 11 Variables, Bicluster 2 consists of 4 Province with 7 Variables, and Bicluster 3 consist of 2 Province with 12 variables. Variable X5 and X6, as absolute food insecurity measurement is included in all bicluster.

Keywords: Biclustering Algorithm, Food Insecurity, SDGs

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Pesantren As Indonesian Traditional Education In Preparing The Alumni To Have The Twenty-First Century Skills Study In Faculty Of Islamic Studies, Universitas Islam Indonesia

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ABSTRACT

Pesantren is an Indonesian traditional education institution based on Islamic values or often called traditional pesantren. It initially focuses on learning that is only limited to morality and politeness values, which make pesantren considered backward in the academic side and science by Indonesian society. However, at the beginning of the 20th century, there was a term 'modern' pesantren which combined moral, academic and scientific values as the learning focus, such as communication, collaboration, critical thinking, creativity and innovative skills that make its graduates ready to face twenty-first-century challenges. This paper tries to portray on how pesantren, both traditional and modern pesantren, prepares and navigates their students to master the twenty-first-century skills namely communication, collaboration, critical thinking, and creativity to tackle future challenges. The researchers conducted interviews with nine students of Faculty of Islamic Studies, Universitas Islam Indonesia who previously spent their high school years in either traditional or modern pesantren. We are finding that pesantren although the types, traditional and modern will strive the world's dynamic, since pesantren's core values have successfully shaped attitudes and disciplines of it is alumni, and the involvement in religious teaching in pesantren is essential and undebatable because it is the foundation of all knowledge taught. This research will provide valuable information regarding pesantren responding to modernity as Islamic education is supposed to consider the improvement of the learning process within preparing it is alumni to face the twenty-first-century challenges without forgetting it is identity.

Keywords: Pesantren, Traditional, Modern, Twenty-First Century Skills

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The Effectiveness of Prenuptial Guidance as Efforts to Strengthen Family Resilience

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ABSTRACT

Implementation of pre-marriage courses in accordance with Regulation No. DJ, II / 491 of 2009 and Regulation No. DJ.II / 542 Year 2013 issued by the Ministry of Religion still contains a number of problems. Prenuptial guidance is carried out so that the prospective husband and wife understand the essence of the purpose of marriage. This is one of the values to strengthen family resilience, so that problems after marriage such as incompatibility and disputes can be prevented. The implementation of prenuptial guidance is carried out to prepare the prospective husband and wife both physically and psychologically, because provision of the prospective husband and wife with knowledge of family aspects while navigating family life is very important. Abstract is structured with the provisions of sub-sections in bold and is affixed two dots sign before the next word. The abstract is written in English with an abstract length of no more than 300 words by not writing literature references. Results Show that premarital courses are very important as an effort to strengthen family resilience so that prenuptial guidance is considered effective, even though it is often found that prospective husband and wife couples have difficulty understanding course material due to low education. so there is a need for socialization to increase understanding of the importance of premarital courses in the community.

Keywords: *pre-marriage courses, marriage, family resilience*

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Public Participation In The Implementation Of The Urban Farming Program In Bandung City

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ABSTRACT

The Urban Farming Program is an activity to utilize open spaces such as vacant lands and residual lands, which is an alternative for urban citizens to improve the quality and quantity of free space in big cities. The success of urban farming program requires high participation from the community to support the program's sustainability both at the decision making/planning, implementation, benefits and evaluations. Therefore, this study aims to determine the implementation of the Urban Farming program in Bandung City and analyze the level of public participation over its' implementation. As for the method, this study uses descriptive quantitative research method. The research location was determined purposively in Bandung City. The proportional random sampling technique is used as the primary sampling method, which involves as many as 75 respondents. In the process of analysis, the data analysis is done by using multiple linear regression with SPSS 26.0 for Windows. The results of this study indicate that the public participatory level in Bandung's urban farming program belongs to the upper category. It can be seen and measured from the steps of planning, implementation, outcome utilization, and until the stages of monitoring and evaluation. The supporting factors in public participation in the form of opportunity, ability, and willingness also contribute a significant impact on the implementation of the urban farming program, as it can be valued in exact 37.6%.

Keyword: Public Participation, Implementation Program, Urban Farming

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Pandemic Accelerates Datacracy And The Goals Of Sustainable Development Goals

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ABSTRACT

In December 2019, an entropy emerged which caused many changes to occur in the world today. A virus that causes the whole world to quickly organize and condition itself. SARS-CoV2 or SARS Coronavirus 2 or better known as Covid-19 is a new corona virus that is responsible for these changes. Covid-19, which was first known to infect a resident of China in December 2019, has now spread to 214 countries and all regions of the world, and affecting every aspect of everyday human life. All nations strive to position themselves in response to this entropy. Especially in the 21st century today. Where development of AI is a prototype that is continuously being cared for by all countries today. Many countries are taking advantage from big tickets of AI in the face of a pandemic. One of them is datacracy. A concept that accumulates all data, all information, then extrapolated from all data and information that has been obtained using certain algorithms which are made into a very large database. Datacracy will be one of the pillars in order to realize the goals that contained in the global action of Sustainable Development Goals (SDGs). Datacracy will also be very helpful in realizing some of the goals of the 17 goals in the Sustainable Development Goals (SDGs) which are expected to be achieved by 2030. This essay will discuss how the contribution of AI in dealing with the pandemic as well as speeding up datacracy and so that it can contributes to the realization of the goals from global action Sustainable Development Goals (SDGs).

Keywords : Covid-19, Artificial Intelligence (AI), Datacracy, Sustainable Development Goals

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The Role Of Bp2mi And The Department Of Manpower & Transmigration In The Protection Of Indonesian Migrant Workers (Pmi) In The Era Of Covid 19 In Central Java Province

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ABSTRACT

Indonesian Migrant Workers are Indonesian citizens who will and are working abroad, BP2MI and DISNAKER play an active role in channeling PMI abroad, so that in the Covid-19 era there were various policies issued by the government for the protection of PMI in Central Java Province, This study aims to analyze the role of BP2MI and DISNAKER in the protection of PMI in Central Java. As well as to analyze the obstacles faced in the Covid-19 era. This research method uses the *Socio Legal* approach obtained through primary data sources and secondary data sources which are analyzed using descriptive methods analytical. The results of this study indicate that the Covid 19 epidemic has affected the sending of PMI abroad so that the role of BP2MI and DISNAKER is very urgent in protecting PMI abroad based on Law No. 18 of 2017 concerning PMI protection, the conclusion of this study the government must guarantee protection against every PMI which will be channeled through Central Java Province in the Covid 19 era.

Keywords: Indonesian Migrant Workers, Protection, Covid 19

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The Role of Indonesian Students Association of International Islamic University Malaysia (PPI-IIUM) As the Platform of Self-Development for Indonesian Students in IIUM in The Post-Pandemic Era

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ABSTRACT

Indonesian Students Association of International Islamic University Malaysia (PPI-IIUM) as a country-based society in IIUM has a role to deliver the information from the university, embassy, or other PPI branch. Furthermore, their role also to improve and nurture the Indonesian students in IIUM through providing various platforms in many aspects, especially for self-development. During the pandemic, all activities had shifted to online which make them rethink and rebuild their programs to adjust with this situation. However, in the uncertain time with various online programs, they also think what they will achieve in post- pandemic era, especially as the platform for self-development. The objective of this research is to explore the grand plan of PPI-IIUM as the platform for self-development which will be their role in facing post-pandemic era. Also, to observe how systematic their plans in dealing with the post pandemic situation in as the platform for self-development of Indonesian students in IIUM. To assess that objective, the Theory of Change by The Colebrook Centre for Evidence and Implementation 2017 will be implemented to measure. Qualitative design will be used in this program with an in-depth interview approach to the president of PPI-IIUM and seven head division regarding their grand plan in dealing post pandemic era specifically as the platform for self-development of Indonesian students in IIUM. PPI IIUM has an integrated grand plan of each division to support self-development program which they prepared in dealing with the post pandemic era. PPI-IIUM has the systematic grand plan of each division in accordance with the proposed theory. PPI-IIUM has the systematic grand plan as the platform for self-development of Indonesian students in IIUM in the post-pandemic era based on the proposed theory which they have prepared to implement it.

Keyword: Management, Organization, Self- Development, Post-Pandemic Era

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Comparative Study of Children's Personal Data Protection Regulation on COPPA (Children's Online Privacy Protection Act) and Children and GDPR

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ABSTRACT

Personal data is the most fundamental right for everyone including children. Children are the most vulnerable subjects when it comes to the processing of personal data, it is because they do not have awareness and understanding of the risks of misuse of personal data. Regulations regarding the protection of children's personal data in Indonesia are already contained in the draft of personal data protection law but with very limited guidance. Through this comparative study, researchers wanted to compare the United State's COPPA(Children's Online Privacy Protection Act) with the Children and GDPR by the United Kingdom. Both of these regulations are very detailed in regulating the protection of children's personal data. This study will provide a clearer picture of children's privacy protection regulations so that it can be used as a reference for Indonesia's draft of personal data protection law in regard to the rights of children's privacy. This comparative research uses qualitative descriptive methods with library research and approach. There are fundamental differences regarding the form of guidance, the definition of child, the perpetrator processing of the child's personal data, and things that are included in the child's personal data. The application of children's personal data protection is adjusted to the values and cultures of the country.

Keywords: Children's Privacy, Privacy Protection, Personal data

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Empowerment of Mushroom Business Groups through Identifying the Composition of "Japigo" Mushroom Chips in Gondangmanis Village

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ABSTRACT

Oyster mushroom is one of the mushrooms that is often cultivated by the people of Indonesia because it is edible and has high nutrition, is easy to process, and is affordable. One way to use oyster mushrooms is by processing it into food products. Oyster mushroom processing carried out by the Gondangmanis Mushroom Processing Business Group is in the form of mushroom chips. Identification of the composition of mushroom chips is carried out to (1) determine the ideal composition of mushroom chips (2) determine the selling price of mushroom chips. The method used is Participatory Rural Appraisal (PRA) which focuses on the participation of members of the Gondangmanis Mushroom Processing Business Group in its implementation with a series of activities to identify raw material prices, processing mushroom chips, packaging mushroom chips, and determining the price of mushroom chips. Measuring the success of the program was done by comparing the composition of the mushroom chips before and after the program. The results obtained are the composition of the typical "Japigo" oyster mushroom, and the price of mushroom chips is IDR 14,000 per 100 grams.

Keywords: Price, mushroom chips, composition

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Social Capital Beas Perelek: Sustainablity Analysis And Elaboration Strategy To Achieve Sustainable Development Goals During The Covid-19 Pandemic

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ABSTRACT

The Covid-19 pandemic around the world has caused many problems in various sectors. The implementation of lockdown and large-scale social restrictions made it difficult to distribute foodstuffs from producers to consumers and also to deliver humanitarian aid. This made the inequalities even wider. The pandemic also resulted in an economic crisis which resulted in increased unemployment so that many people were starving because they could not afford food. This certainly hinders the realization of the Sustainable Development Goals, especially No Hunger and Reduced Inequalities points. In West Java, reviving the *Beas Perelek* tradition is a solution. However, a question arises whether this tradition can be applied in a time of the Covid-19 pandemic like today. The objective of this research is to describe the implementation and analyze the potential for sustainability of *Beas Perelek* in the society of West Java also to provide strategic elaboration recommendations to achieve sustainable development goals during the Covid-19 pandemic.To achieve the objective, this research using qualitative methods by collecting data from literature studies. The sustainability analysis technique uses the rapfish-MDS and the SWOT method to formulate an elaboration strategy of *Beas Perelek*. The result of the research showed that the tradition of *Beas Perelek* had benefits in reducing hunger and inequalities in society. The result of the research shows the continuity of the tradition of *Beas Perelek* in the good category with continuing status. To increase the implementation of *Beas Perelek* during the pandemic, it is necessary to carry out several elaboration strategies such as being revitalized into an economic institution, using technological innovations, and making special policies that regulate the implementation of the *Beas Perelek*.

***Keywords**: beas perelek, elaboration, sustainable development goals, hunger, inequalities*

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The Effectiveness Of *Glycine Max L* Extracts As Coagulant In Peat Water Treatment

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ABSTRACT

Peat water is water that has the potential to be used as a source of clean water in the peatland area like in Kalimantan island. However, it was still required prior processing before used as clean water for hygiene and sanitation purposes. Several coagulants have been extensively studied for their potential to remove the color from water and turbidity using natural coagulant. *Glycine max L* contained a cationic protein that could act as a coagulant. The main objective of this study was to evaluate the effectiveness of *Glycine max L* extract to reduce the color and turbidity in peat water. In this study, an artificially humic acid solution was prepared as a peat water model. *Glycine max L* was extracted by using 1.0 M NaCl (NaCl-EX) and pure water (DW-EX). The results showed that the NaCl-EX solution with an optimum dose of 4 mL/500 mL could be used to reduce the color and turbidity effectively.

Keywords: Coagulation, Glycine max L., Peat water, Saline solution

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Oil Field Development Scenario With Geological Characterization In "Alpha" Field Of South Sumatra Basin

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ABSTRACT

The Structure of Alpha Field located in South Sumatra Basin, Geographically located around Musi Banyu Asin, Sub-district Sungai Lilin. The target reservoir to be developed is Baturaja Formation, domination with sandstone, and consisting of 9 layers. To forecast the production of the field, it use decline curve analysis. From the existing oil production data, exponential and hyperbole charts can be created. So, the analysis of decline curve method can forecast how much hydrocarbon can be produce from the reservoir. To get the maximal recovery of oil production, field development can be done. In making a geological model or geological characterization of the Alpha field using the Oasis Montaj software. Based on the calculation results, scenario 1 which is the basecase, is unable to produce for 20 years. The cumulative value of production is 76,243.8 with an RF of 9.67%. Scenario 2 is basecase/scenario 1 plus several workover wells (WO) capable of producing for 20 years with a cumulative production value of 484,748.7 STB with an Recovery Factor (RF) value of 10.47%. Whereas scenario 3 is scenario 2 plus several workover wells with the addition of infill wells capable of producing for 20 years with a cumulative production of 2,036,907.1 STB with an RF value of 13.50%. Of the three scenarios, the best scenario is scenario 3 because it has the highest cumulative value of production and RF and is certainly capable of producing for 20 years after a simulation using the DeclineCurve Analysis method. There is a relationship between geological characterization and field development scenarios where to provide information about Alpha Field, especially which parts and wells have high productivity so that it can be used as a reference in field development, especially when determining drill points for infill wells and well workovers.

Keywords: Oil Field, Feld Development Scenario, Geological Characterization, and Recovery Factor

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Characterization Of Biochars From Tropical Biomass

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ABSTRACT

Tropical country has a large biomass provide from agricultural residue. The biomass has potential to be processed as biochar. In general, biochar can be utilized as soil amendment in order to increase the ability of soil to retain nutrients, reduce surface runoff, due to excess water, and adding biodiversity of soils that are very useful for plant growth. The biochar characteristics are strongly related to the feedstock types and also their pyrolysis method. This research aims to study the physical characteristics of tropical biochar and their potential suitability in soil improvement. The biochar was produced by slow pyrolysis method using a vertical bed kiln. The feedstock were 9 types of agricultural residue including: mango leaf, longan leaf, teak leaf, mango branch, longan branch, rubber branch, corncob, rice straw, and rice husk. Temperature of the pyrolisis process was in the range of 400 °C to 600 °C. The results indicated that the physical properties of feedstock affects the characteristics of biochar. The higher bulk density and fixed carbon value the greater yield of biochar. Compare to their raw materials, the average water content of biochar was reduced (0.2–3.85 %), while pH increased (7.06–9.9). The electrical conductivity in general also increased (0.11–2.9 $ds.m^{-1}$). Bulk density changed, corncob, and branches materials decreased, while rice straw, rice husk and leaves materials increased. The water holding capacity was a fairly low number (4–20 %). Application of the utilized biochar as a soil amendment is to improve soil chemical properties (pH, electrical conductivity, and availability of N-P contents) and physical properties (bulk density, porosity, and water holding capacity). Application for different soil types requires different biochar characteristics, it is influenced by the type of raw material used, temperature, and combustion time.

Keywords: biomass, biochar, physical properties, fixed bed, soil-improvement

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Biogas Fuel Utilization as Efforts to Overcome Household Economic Budget Problems in Rural Areas

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ABSTRACT

Biogas is an important renewable energy as a superior substitute and is able to contribute to meeting the needs of household fuel stairs. The energy produced is used as a substitute for kerosene or LPG gas to meet daily needs such as cooking and others. Plant waste and livestock manure contain methane gas which has very good combustibility. Manure wastes such as cattle, horses, and others, are also found throughout Indonesia with different qualities. In general, the use of agricultural waste as a base for biogas is more difficult than livestock manure, because it takes longer to process the hydrolysis of cellulosic materials from agricultural waste and nutrients. One kilogram of manure releases about 208-268 liters of methane gas into the atmosphere. High nutritious livestock rations, resulting in low methane levels of manure. To describe comprehensively the usefulness of biogas utilization as a source of bioenergy fuel in an effort to overcome household economic budget problems in rural areas. Anearobic digestion process which is the basis and biogas reactor processed by the breakdown of organic matter by the activity of methanogenic bacteria in airless conditions. The materials required are a minimum of 3 culverts, a septi tank for the digester tank, and a large oil drum that can contain approximately 200 liters of material intended as methane gas. Another material, in the form of a metal pipe with a diameter of 2 cm, is useful as a gas discharge pipe and a biogas outlet valve. The pipe is used as a pipe for gas distribution from the digestive tank to the stove for cooking, lamps and others. The final result is a solid which functions as a plant organic fertilizer. There are also several compounds / materials that must be prevented because they can inhibit the breakdown process, such as Antibiotics and Disinfectants, and Heavy Metals. Please note that do not burn the gas that first formed, as it contains air in it and can explode. A few days after the biogas catcher drum is lifted upwards, it is advisable to open the tap and remove all the gas that has formed. To handle it with care and avoid fire around the biogas production unit. There is no need to release the gas formed and the gas is safe to use to meet household fuel needs. The best use of the biogas that has been collected from the biogas production unit is for cooking. Biogas technology is the right choice to convert agricultural and livestock waste to produce energy and fertilizer in order to obtain social benefits both in terms of economic, especially for households, especially in rural.

Keywords: Biogas, alternative energy, methane gas

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Design of Solar Powered Water Lifting System for Irrigation at Chaukune Ward No.1, Surkhet, Nepal

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ABSTRACT

Despite the availability of enough water in Nepal, there is difficulty in irrigation in most places. This is due to difficult terrain in hilly and mountainous region. Hand water pumping is possible only in terai region and grid electricity has not reached in most parts of hilly and mountainous region. For these reasons, solar water pumping from appropriate source is the best option. The main objective of this project was to design a solar powered water pumping system at Chaukune ward no 1, Surkhet, Nepal. The targeted area had water demand of 400.171 m3 per day which was supplied from a perennial river, Budhakhola. With a distance of 732 m between the pump and reservoir, a circular reservoir of diameter 11m, height 13 m and thickness 0.3 m was designed at an elevation of 219m from water surface. Solar module of rated power 24.3 kW (18 in series, 5 in parallel) was selected. The volume of storage tank is 1200.513 m3 which is sufficient to store water for 3 days with pump efficiency of 75 percent. The upfront cost, operation and maintenance, replacement cost of diesel pump are about 2-4 times higher than solar photovoltaic pump. This system does not emit greenhouse gases. Solar water pumping is found to be economically viable and environment friendly in comparison to electricity or diesel based systems for irrigation.

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Utilization of Hydrogen Gas through Water Electrolysis Process (Galvanized Steel Electrodes) as an Alternative Fuel

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ABSTRACT

The issue of the fossil fuel energy crisis has always been an essential subject in Indonesia and globally. The increasing use of liquefied oil gas (LPG) makes fuel prices more expensive. Therefore some developing countries are racing to find breakthroughs in producing much stronger and cheaper renewable energy. This research was conducted to produce gas stoves with water-based materials using water electrolysis techniques. Water electrolysis occurs by splitting water molecules into oxygen and hydrogen gas by transferring electrical current to electrolytes (water solution and NaOH) through zinc electrodes, which are galvanized steels because the electrodes are not rusty or react with water. The effect is hydrogen gas, which is then placed in a gas portable to be used as additional fuel to power the gas stove.

Keywords: hydrogen gas, water electrolysis, galvanized steel, stove, energy

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Extraction Solvents Composition Effect In Biodiesel Production From Microalgae Consortium *Botryococcus Braunii* And *Dunaliella Sp.*

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ABSTRACT

Indonesia has entered an energy emergency phase, proven that Indonesia is no longer a surplus oil producer due to the productivity of the wells decrease over the years and the pattern of people's consumption of fossil fuels has been exceeding the production capacity. Therefore, we need the right solution to overcome this problem, which is developing biodiesel as renewable energy based on microalgae oil. The microalgae used in this research is the consortium of microalgae *Botryococcus braunii* and *Dunaliella sp.* Microalgae were cultivated and harvested through the dewatering process with 1 g naoh/1 L water concentration. Water contents of cultivated *Botryococcus braunii* are 60.2505% while *Dunaliella sp.* Is 64.5002%. The oil from microalgae is obtained by extracted dry microalgae through the soxhlet extraction (leaching) method with mixed solvent n-hexane and ethanol as the co-solvent using a variety of solvent ratio 2:1 and 3:1. Pure microalgae consortium oil separated from the solvent using the distillation process then analyzed with GC-FID. The analysis result is trans-linoleic acid is the most dominant fatty acid contained in this oil. Transesterification process with cao (1.5% of oil weight) as a catalyst. The results obtained from this study are the oil yield 72% extracted with a solvent mixture of n-hexane and ethanol 2:1 and 60.4% for 3:1. The biodiesel synthesis resulted in the amount of yield obtained from the solvent ratio 2:1 extraction is 94.3%, while with solvent ratio 3:1 is 79.2%. The quality of both biodiesels has met the requirements of SNI 7182:2015 and ASTM D7467, except the density of biodiesel with extraction solvent composition 3:1 which is below the standard. Therefore, the best biodiesel quality is obtained from microalgae consortium's oil with the composition of extraction solvent 2:1.

Keywords: biodiesel, microalgae consortium, Botryococcus braunii, Dunaliella sp.

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Catalyst Concentration Effect In Biodiesel Production From Kesambi Seed Oil (*Schleichera Oleosa*)

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ABSTRACT

The needs of fuel increase along with human needs. However, domestic fuel production is decreasing every year and forcing to carry out import activities to suppress domestic oil drilling. Fuel production is also carried out by using palm oil to be used as biodiesel. However, on further inspection, the use of palm oil is not entirely effective. This is because palm oil is also used as a base for oleochemical and food products. Therefore, we need the right solution to overcome this problem, which is by developing biodiesel as renewable energy from kesambi seed oil. Kesambi oil is obtained from poisonous plant,so it is not used as an ingredient in other products. Then, this potential can be focused as a source of oil for biodiesel production. Kesambi seed oil analyzed with GC-FID to analyze its fatty acid contents. The result of this analysis is kesambi seed oil have cis-10-pentadecenoic and heptadecanoic acids as its dominant acid. Before the main process, kesambi seed oil was pretreated through degumming process using 1% phosphoric acid to remove the gum in kesambi oil. Then, the free fatty acid levels (%FFA) measured using the naoh titrant and have %FFA that meets the standards, 0.37%, which still within the permissible limits to continue the transesterification process. Transesterification process used variety of catalyst (cao) concentration as its variable. The catalyst concentrations used were 0.5%, 1%, and 1.5%wt of oil. The biodiesel synthesis resulted in the amount of yield obtained from the 0.5% catalyst concentration is 54,9%, 1% catalyst concentration is 81,1%, and 1.5% catalyst concentration is 70,2%. The quality of biodiesels also met the requirements of SNI 7182:2015 and ASTM D7467.

Keywords: biodiesel, catalyst concentration, Kesambi seed oil

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Utilization Of Sugarcane Bagasse Cellulose-Clay Nanocomposite As A Biodegradable And Antibacterial Packaging Material To Extend The Food's Shelf Life

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ABSTRACT

Food packaging materials derived from fossil fuels are single-use products that harm the health of living things when disposed of by releasing toxic byproducts. Many communities are starting to be more environmentally friendly by using biopolymers. However, some biopolymers do not have antibacterial properties, thus shortening the food's shelf life and not applicable in food packaging. Therefore, the purpose of this work is to develop a biodegradable and antimicrobial food packaging from sugarcane bagasse and clay that degrades over time without compromising the food's shelf life. Cellulose acetate butyrate (cab) was prepared in an amimcl ionic liquid system from sugarcane bagasse. Then the cab was plasticized using peg, resulting a film. Besides, montmorillonite (mmt) clay was modified with aryl ammonium cations using a cation exchange technique to form bmmt. The nanocomposite film was prepared by mixing the plasticized cab and bmmt, then heated at 50°C to evaporate the solution. The nanocomposite film was obtained as a prototype of food packaging. Several tests were conducted including mechanical properties, water vapor permeability (wvp), antimicrobial and toxicity test. Based on research by saha et.al, 2008, the nanocomposite film with the cag, peg and bmmt 100:20:3 composition gave the best mechanical properties because of the agglomeration of bmmt. Also, the nanocomposite film had promising wvp properties as a plastic because the clay layers reduced the water vapor diffusion across the polymer matrix. The toxicity test showed that this nanocomposite film was compatible in human blood. Lastly, this nanocomposite film has antibacterial activity against *b. Subtilis* and *p. Cepacia* because of the bmmt presence. In conclusion, the nanocomposite film from sugarcane bagasse and clay containing cag, peg and bmmt 100:20:3 is a promising material for a biodegradable and antimicrobial food packaging, because it has sufficient mechanical properties, antibacterial activity, low wvp and is non-toxic.

Keywords: nanocomposite, sugarcane bagasse cellulose, clay, antibacterial, biodegradable

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Contribution Of Students In Improving The Long-Term Economy Through The Concept Of Integrated Agriculture To Achieve The Goals Of Prosperous Farmers Without Poverty

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ABSTRACT

Indonesia is an agricultural country where most of its people live from the agricultural sector. However, it seems that the fate of the farmers in the country has not changed much from year to year. This is an indicator of farmer welfare, namely the Farmers Exchange Rate (NTP) index which tends to move flat. Data from the Central Statistics Agency recorded that the NTP in August 2018 was at the level of 102.56, which means that it fell 0.49% from the position at the end of 2017. This shows that the purchasing power (welfare) of farmers this year fell 0.49%. Meanwhile, the average real wage for agricultural laborers in August 2018 was IDR 37,863 / day, up 0.95% from the position at the end of 2017. Low wages for agricultural laborers, the lack of land owned, and the selling price of agricultural products are not profitable for farmers to make indicators of farmer welfare. hasn't been able to move any further. Although the prices of food (agriculture) often increase, such as during the fasting month and Eid, it does not have much impact on farmers. Because the ones who get big profits are speculators and not farmers. The method used is qualitative descriptive analysis with the results, namely, the sector plays a major role in the process of agricultural policy making b) supervises agricultural programs, c) conducts intelligence, mentoring, and efforts to empower farmers. d) Providing agricultural advocacy e) Becoming human resources for agricultural development. In fact, the benefits of integrated agriculture are the integration of agricultural activities with other activities such as livestock and fisheries. Integrated agriculture utilizes agricultural land to produce products other than cultivated crops. This step is one of the efforts to increase productivity and improve community welfare. In addition, integrated agriculture can also have a positive impact on the environment with a good management system. The application of integrated agriculture in management is to optimize the use of all potential resources available. So that there is a direct reciprocal relationship between the biotic and abiotic environments in the agricultural land ecosystem. There is an inaccurate association for each component of activity in integrated agriculture. This linkage forms a structured system, so that there is a cycle that makes the results of this activity optimal. The concept of integrated agriculture is the best solution in improving the welfare of farmers who have been on the verge of poverty. In integrated agriculture, almost all of the waste generated can be utilized. This means that integrated agriculture can reduce agricultural waste generation. This is because one sector can certainly take advantage of waste from other sectors. Therefore, it is preferable in integrated agriculture which involves more than two sectors, such as integrated agricultural systems with fisheries and livestock. The existence of all these sectors will complement the ecosystem and all components of production can be utilized by other components of production. This will allow production and very little waste to be generated.

Keywords: *Contribution integrated agriculture, Prosperous Farmers*

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Optimizing The Waste Biomass Of Peanut Shells And Water Hyacinth As An Environmentally Friendly Power Plant

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ABSTRACT

According to the Ministry of Energy and Mineral Resources of the Republic of Indonesia, shows that coal deposit in Indonesia about 7,3 - 8,3 billion ton are exhausted in 2036, while cruel oil around 4,7 billion barrels are exhausted in 2028, and fuel gas is estimated to run out more quickly in 2027. So it needs alternative energy as a solution in dealing with energy problems in the world, one of them the solution is the utilization of biomass. The cellulose in the biomass is potentially to use as alternative energy, for example, the peanut shell and water hyacinth. The material goes through the process of converting from a solid mass to gas using a gasification method. The gasification method with a high temperature is one way of converting carbon-based organic materials into synthetic gases namely carbon monoxide (CO), Hydrogen (H2), and methane (CH4). Synthetic gas is used as motion energy to rotate the generator until it generates electricity. Thus an eco-friendly power plant will be formed. Some research showed that the level of cellulose in the peanut shell is 63.5 %, which is capable of producing a heat engine of 14.34 MJ/Kg equivalent to 3425,05 cal/gr. Moreover, the cellulose in the water hyacinth of 64.51 % produced values the heat engine reached 4341,67 cal / g. The higher value heat engine shows that the ingredient in producing energy is bigger and it has the potential to become sources of electrical energy . In conclusion, the optimization of the cellulose in the peanut shell and water hyacinth is made as a source of environmentally friendly power plants that is expected to addressing the problem of energy depletion.

Keywords: Peanut Shell, Water Hyacinth, Gasification, Renewable Energy, Electricity

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Potential Application Of Bacillus Licheniformis Biosurfactant And Tofu Liquid Waste As Application Of MEOR

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ABSTRACT

Energy is a basic human need which continues to increase every year. The fact is that the production of energy such as petroleum in Indonesia has decreased due to the depletion of petroleum reserves. The increasing consumption and increasing demand for energy has prompted the government to implement renewable energy planning. The solution that can be offered is Enhanced Oil Recovery (EOR) technology. Meanwhile, one of the developments in EOR technology that is environmentally friendly and able to increase oil recovery well is Microbial Enhanced Oil Recovery (MEOR). In the MEOR system, a bioproduct injection component called biosurfactant is used. The performance of biosurfactants in the system can be done by reducing the interface stress and mobilizing oil in the rock. The production of biosurfactants can be increased with the help of secretion of microorganisms. Based on the literature obtained, Bacillus licheniformis is a type of native bacteria that has the potential to produce biosurfactants with lipopeptide characteristics. Bacillus licheniformis is able to produce several extracellular enzymes, namely amylase, amino, peptidase, metal protease, lactamase, endo-N-acetyl glucosaminide and lipase. In addition, several studies have shown that Bacillus licheniformis has the potential to be applied to MEOR, bioremediation and industrial biotechnology. However, the biosurfactant produced from the bacterium Bacillus licheniformis requires a substrate to increase oil recovery. One type of organic substrate that can be used is tofu liquid waste. Tofu liquid waste contains high organic and nutrient materials consisting of 90.72% water, 1.8% protein, 1.2% fat, 7.36% crude fiber, and 0.32% ash. The author sees the potential use of tofu liquid waste because of its environmentally friendly nature. Therefore, the author offers an idea entitled The Potential Application of Bacillus Licheniformis Biosurfactant and Tofu Liquid Waste as an Application of MEOR Technology.

Keyword: MEOR, Bacillus licheniformis, tofu liquid waste, biosurfactant, oil

Education

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Implementation Of Agent Of Change During Pandemic Through The Movement Of Teaching Volunteers At SDN 1 Cibeureum Banjar City, West Java

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ABSTRACT

For the day that education is already a world issue, but there are still many problems facing the education world, as is the case in the pandemic as it is today. The change of education into the realm of networking, turned out to be a difficulty as well as a challenge for some children who are studying well in elementary school to lectures. The difficult of access to get signals, as well as the availability of supporting tools such as smartphones, laptops and others. To make students restless and try to contribute by setting up a volunteer teaching movement for children who have limited facilities. Thus, this became the basis for the authors to conduct research on the implementation of education during the pandemic at SDN 1 Cibeureum Kota Banjar, West Java through the Teacher Volunteer movement. The main objective in this research is to make education as a means to develop self-potential as well as the implementation of agents of change in the surrounding community. This research method is skinative that through of interviews, observations and documentation to obtain valid data. Research samples are taken purposively. This movement is considered to help students in the learning process in fulfilling tasks, discussing and sharing knowledge. In addition, volunteer teachers also become a place of tolerance and empathy to others.

Keywords: Agent Of Change Pandemic Period, Education, Volunteer of the Teacher

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Description of Mathematical Reasoning Ability for Students of SMA Negeri 1 Tawangsari Class XI-MIPA 3 on Matrix Material

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ABSTRACT

The purpose of this study was to determine how the students' mathematical reasoning abilities towards the matrix material. The data in this study were obtained from the results of filling out questionnaires and also interviews. Sources of data in this study were the subjects from which the data were obtained, namely students of class XI-MIPA 3 SMA N 1 Tawangsari. The data analysis technique used was data reduction, data presentation and conclusion drawing. The results of the data analysis from the questionnaire showed that the average percentage of student responses to mathematical reasoning abilities on the matrix material was 60.75% and was in the medium category. With the percentage on each indicator, namely on indicator 1 (students do calculations with the applicable mathematical formula / rules) of 55.63% so that it is included in the moderate category, students with the moderate category have aspects of the ability to understand question commands and are only weak at calculation operations. In indicator 2 (students draw general conclusions based on mathematical processes / concepts) the percentage is 61.25% so it is included in the medium category. In indicator 3 (students make estimates) the percentage is 81.25% so that it is included in the high category, students with high categories have aspects of the ability to understand question commands, question logic and can complete counting operations. While the percentage on indicator 4 (students draw conclusions based on the similarity of mathematical processes / concepts that are seen) is 54.5% so it is included in the low category, students with low categories have aspects of the question's melogical ability and are only weak in counting operations. The average percentage of the four indicators is 63.16% so that student responses can be said to be in the medium category. In this study, checking the validity of the data used triangulation techniques, namely by comparing the results of the study with the results of interviews. From the comparison of data analysis with questionnaires and interviews, it can be concluded that students with mathematical reasoning on the matrix material are in the medium category.

Keywords: Mathematical reasoning, matrix

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MOOCs as a Game Changer in Empowering Learners' Learning in COVID-19 Pandemic

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ABSTRACT

In this worldwide crisis of pandemic COVID-19, students at all levels are suddenly required to operate beyond the bounds of their respective physical educational institutions and are, thus, forced to look for new e-pathways to pursue their learning endeavors. Proceeding with these unparalleled circumstances, students have the potential and the opportunity to take agency of their learning throughout leveraging tech-enabled initiatives to educate themselves as well as their peers online. One of the main promising e-solution is the wide spectrum of up-to-date available e-courses in different first-rate MOOCs platforms that have the prospect of catering for the multifarious students of the world regardless of their social, economical, cultural, or ethnical background. For this reason, this paper introduces the main concept of MOCCs along with shedding some light on the associated online platforms where students can get unlimited access to online courses delivered from prestigious and renowned universities all around the world. Add to that, relevant MOOC-based student-driven studies, are showcased to enlighten fellow life-long-learners the way to attain, to a large extent, autonomy. I will conclude by sharing noteworthy insights regarding the implications MOOCs have on college students in particular and on learners in general post COVID-19 outbreak.

Keywords: MOOC, life-long-learning, covid-19

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Mapping The Path to Strengthen Nationalism Through Geography Education in Post Pandemic Situation

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The Covid-19 pandemic has brought the world to a shackle of darkness. Countries are experiencing various impacts. Several aspects of communal life are now degraded, one of which is education and nationalism. The ongoing culture shock has shifted activities into the online network. Furthermore, the sense of nationalism has also declined amidst the realities facing the nation, especially in Indonesia. With various problems currently happening in the midst of Covid 19 pandemic, the future of the nation is at stake, especially the future of young people. Therefore, education and nationalism are very important keys to rebuild the nation, especially after the current pandemic phenomenon. So the key to build human resources and nationalism is the basis for nation building, therefore the roles of both must be integrated in a plan, especially in education. In this paper, this research is conducted in efforts to increase awareness of education and nationalism through geography education, which means the design of learning plans based on civic education. This learning plan design were planned to be tested on students in a class at an educational institution. The learning is online learning or "Pembelajaran Jarak Jauh" that occurs will be observed and then carried out an in-depth analysis of the impact on the sense of nationalism. So that in the future it can be applied to educational institutions in increasing human resources who will have a high sense of nationalism, especially in the post-pandemic period.

Keywords : Geography, Education, Nationalism

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Learning Skills Buying Online For The Blind Based On The E RAKET (Elektronik Tunanetra Market) Application

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ABSTRACT

Currently, Indonesia and the world are shocked by the pandemic that has killed many victims, namely COVID-19. To tackle the spread of COVID-19, the Government issued a regulation to carry out all activities from home, one of the alternatives to society, namely buying and selling online. However, not everyone can make buying and selling transactions online, one of which is blind people. One of the roles of students to achieve quality education during and after the pandemic, according to the author, is to create an application that can assist in learning and providebuying and selling skills *online* (E-RACKET). Therefore, a literature study was carried out from books or journals indexed for the past five years regarding research on buying and selling skills for the blind.

Keywords: ERAKET, Skills Learning,Buying and Selling *Online*, Blind

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Table 1. Comparison Of Buying Online And Selling With Buying Offline

No	Buying and Selling Online	Buying and Selling Offline
1.	There is no need for the physical presence of sellers and buyers.	Requires physical presence between seller and buyer.
2.	To sell and buy products it is necessary to travel from one place to another.	Seller or buyer representatives do not need to travel. .
3.	Costs incurred are lower.	The cost is higher because it includes other costs that are not unexpected when traveling to the place of marketing and product purchases.
4.	Service can be done 24 hours.	Time is limited to certain hours or days.
5.	There is no geographic range limit.	Limited to certain areas.
6.	Flexible.	Rigid.
7.	Requires fewer employee	Requires a lot of employees.
8.	It doesn't take up space.	Needs a place.

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An Alternative Method Of Online Learning Using The Feynman Technique

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ABSTRACT

In school learning through online during pandemic COVID-19, students facing the problems, one of which was caused by an internet connection during a learning video meeting. In addition, when online learning there are students who find difficult to understand the lesson. To increase the Sustainable Development Goal in the field of education (quality education) this study provides an alternative online learning method with the Feynman Technique. This study uses a qualitative method with the study of literature (documents) from e-journals. Journal searches are carried out Google Scholar, Academia, and Garuda. Based on the search results obtained and selected data that meets the criteria. Analysis of the literature review includes data collection, data presentation, and concluding. An alternative method of online learning using the Feynman Technique which students can teach a topic to friends or themselves until they understand the topic. With the Feynman Technique, students can be more active in the learning process and become less passive because they not only listen to the teacher explain through video meetings. By using the Feynman technique, students are required to be able to understand the context of the lesson. In this learning technique the teacher also needs to control the students to ensure whether the students really understand. The Feynman Technique makes the students to be active and increase achievement also can save on internet expenses because it can reduce the use of learning video meetings. Communication between teachers and students can be transferred using the WhatsApp media which does not require as much internet costs as a video meeting.

Keywords: Alternative Method, Online Learning, The Feynman Technique

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Teaching media for students' speaking skill to achieve sustainable development goals

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ABSTRACT

The scale of the COVID-19 had impact on various fields and sectors. One of them is education field. Learning is usually done face-to-face, but because of the covid-19 learning is done online at home. Therefore, the learning media used must also be innovative following changes in the new era and still create quality education and achieve sustainable development goals. One of the learning media that can be used is podcast. Podcast is an audio recording of a discussion on a specific topic, such as business or travel that you can listen to. Podcast is an alternative teaching media to support students developing their speaking skills. This study aims at finding out if there is a significant improvement on students' speaking skills by using this Podcast. This study uses quantitative descriptive to obtain the result of improvement students speaking by using podcast. The samples in this study were students Grade X at SMA Sultan Agung 3 Semarang. The research results have not been obtained because it is still in the research process.

Keyword: teaching media, speaking skill, sustainable development goals

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Student's Perception Toward The Use Of Tik Tok In Learning English Vocabulary

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ABSTRACT

Nowadays, Tik Tok as one of the most popular applications influences the growth of its users significantly because it can be used for educational purposes. The growth of content creators that teaches everything based on their background knowledge takes positive impact on people who watch their videos. Especially videos that increase vocabulary and the usage of it, for example, a video that shows people do something while mention what they do can be called as verb. Today, many content creators make English material content. One of the reasons people difficult to understand English language is because they do not understand the meaning. This study aims to describe the influence of Tik Tok to improve vocabularies. By improving various vocabularies they are easy to understand what they read,speak, and listen. Junior high school and senior high school students were the participants of this research. This research used survey as research design by applying online questionnaire as instrument.The findings of this research show that short videos on Tik Tok that contain English material contents help them to expand their English vocabularies. Students show positive feedback of utilizing Tik Tok as their language learning media that the English content videos easy to understand and easy to memorize various vocabularies they found on those videos, like vocabularies about verbs, nouns, etc.Using Tik Tok as the media for learning language can be considered nowadays. Students expressed positive impact of English material contents that increase their vocabulary by watching those videos.

Keywords: tik tok, learning english, expand vocabulary

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Pesantren As An Alternative Education: Case Study On Motives Of Students' Guardians In The Islamic Boarding School Universitas Islam Indonesia

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ABSTRACT

Pesantren, as an authentic educational institution initiated by Indonesian Muslims, provides parents an effective alternative to educate their children. For years, pesantren has proven trusted in educating youth and establishing a standard in both general and religious educations. In this study, the researchers will discuss factors that motivate parents to entrust pesantren as the institution to educate their children. This study uses a qualitative descriptive approach. Data collection methods include observation, interviews, and the results of relevant studies. After analyzing the data, the results indicate that there are two types of motives among parents. First is general motivation in placing children in pesantren, namely intrinsic motivation which covers parents' ideals having a generation with the quality of faith and good moral conduct, forming morals, and building strong physical and mental. The other factor is extrinsic motivation, including intense, integrated, and comprehensive Islamic teaching, positive activities carried out continuously for 24 hours, and proper coaching methods. Conclusion: The two factors indicate that parents' motivation to entrust pesantren as an educational institution is relevant to current conditions in which the younger generation is prone to moral depravity.

Keywords: Parents' motivation, Pesantren, The young generation

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The Understanding Of Science Teachers At SMP In Implementing SDG's Value Into Science Curriculum

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ABSTRACT

Science curriculum at SMP (Sekolah Menengah Pertama) is an integration of Physics, Biology, Chemistry, Astronomy, and Earth Science. (SDG's) sustainable development goals which has been created by UN (United Nations) should be infused into school curriculum. There are five points of SDG's i.e ; (1) Clean water and sanitation, (2) Clean energy, (3) Climate change, (4) Life under water, and (5) Life on land, will be implemented into science curriculum. Method of this research is quantitative descriptive. Sample has been taken by puposive sampling technique. Preliminary data has been taken from 23 science teachers. After that, about 60 science teachers in SMP at Bandung contributed in this research survey. From preliminary data, half of teachers have never been implemented SDG's value into learning process. Researcher found that more than 90% teachers agree if SD competences will be infused to learning process. This research can be a reference for education stakesholder, escpecially teacher and curriculum developer in connecting values of SD with science competences. Perception and understanding of teacher must be different each other. Because of that reason, the understanding of science teacher about SD values need to surveyed in order to develop science content curriculum.

Keywords: competences, curriculum, science, sustainable

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The Recommendation Of Community Development Courses Through The Activities Of Holistic Programming And Village Empowerment Programs (PHP2D) In Agricultural Extension And Communication Study Program Sebelas Maret University (UNS)

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ABSTRACT

Recommendations are recognized circumstances by an agency in appreciation for the appearance of an activity. The holistic development and rural empowerment program or Program Holistik Pembinaan dan Pemberdayaan Desa (PHP2D) a 2020 Gondangmanis is initiated on opportunities from the Directorate of Learning and Literacy, the Directorate General of Higher Education, and the Ministry of Education and Culture (Kemendikbud). The program is particularly helpful for village development and the implementation of student competence in the community. The free policy of studying the Free College is particularly relevant to the program, students have the right of three semesters for study outside the program, including performing the program. Recommendations in PHP2D activities relating to the implementation of a subject that will be converted. Associated with conversion of subjects, at this time between tutors, leaders of HM Pelita, lecturer and head of the Agricultural Extension and Communication study program have a number of subjects that can be converted by the PHP2D Gondangmanis activities. PHP2D activities can be converged into a Semster Credit System (SKS) a course with a scheme (a) activities carried out ina full (offline) village (b) activities carried out ina full village (b), offline and online combination, can be converged into 8 courses (c) activities fully online, can be incorporated into 8 courses. Conversion of subjects adapted to the scope selected by each group of students matches the caption of college studies to which there are Penyuluhan Pertanian; Proses Belajar dan Penyuluhan; Komunikasi Pertanian; Manajemen Pelatihan; Jurnalistik Pertanian; Dinamika Pembangunan Pedesaan; Pembangunan Pertanian; Perubahan Sosial; Pengembangan Masyarakat; Pengembangan Partisipasi Masyarakat; and Kuliah Kerja Nyata (KKN).

Keywords: Course, PHP2D, Recognition, SKS

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Analytical Study Of Character Education Patterns By Luqmanul Hakim (Research Of Surah Luqman Verses 12-19)

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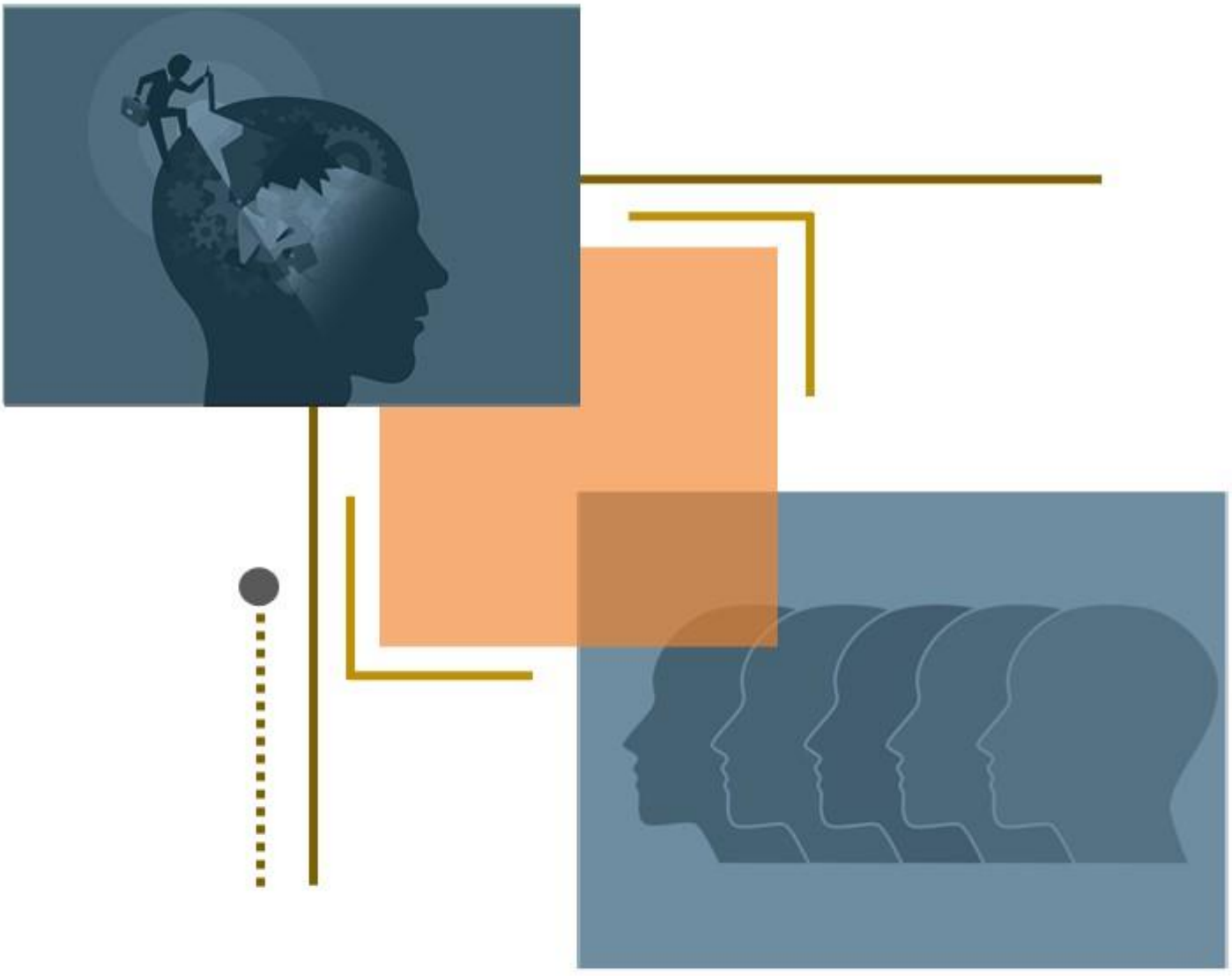
ABSTRACT

Character education is a conscious effort to educate and empower students to have individual characters, attitudes, and morals in accordance with social norms so that they benefit themselves and society. In 2018, KPAI handled 1885 cases. There are 504 children who become criminals, starting from drug offenders, stealing, to immoral cases being the most cases. The KPAI also stated that the cases of brawl in Indonesia increased by 1.1% throughout 2018. In 2017, the number of brawl cases was 12.9%, but increased to 14% in 2018. This shows that character education is one of the problems that threatens the morals, attitudes and behavior of adolescents today. The writing method used is a narrative literature study with a descriptive approach. Based on the literature, it is found that the character education pattern contained in the story of Luqmanul Hakim begins with the role of parents in instilling the correct monotheism and aqidah in a child so that he will not commit shirk and deny Allah as Lord of the universe.Then introducing the syari'ah to do good to parents is one of the noble deeds with Allah. Furthermore, teaching prayer since childhood. Prayers can prevent evil and evil actions. The next thing is to teach children to do good to others so that goodness will give birth to noble attitudes and morals. The method of advice and habituation is the main key to the successful application of this character education pattern. The pattern of character education in the Luqmanul Hakim story begins with the role of parents instilling tauhid, syari'at to do good to parents, worship, and instill good and noble morals in a child.

Keywords: Character Education, Role of Parents, Surah Luqman

Psychology



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The Application of Play Socialization Therapy on Concentration and Impressive Development of Children with ADHD (Attention Deficit Hyperactive Disorder)

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ABSTRACT

ADHD (Attention Deficit Hyperactive Disorder) or commonly referred to as concentration disorders is a disorder of being unable to focus, focus on something, which is accompanied by excessive motor behavior, and is impulsive above normal people in general. People who have a hereditary history of people with ADHD will be more susceptible to exposure to this disease, in Indonesia people with this disease are quite high, but it is not certain that the number of people with ADHD is due to an increase in the number of cases that vary.(Cortese et al., 2007). In the world, millions of children and adolescents suffer from ADHD. People who suffer from this disease will find it difficult to manage themselves, it is difficult to control their emotions and daily activities. Adolescents with this disease find it very difficult to participate in learning activities optimally, so that it can affect their future. This of course cannot be underestimated, children who suffer from this disease if not handled properly will continue and be carried over to adolescence which will certainly cause even greater problems because adolescents are the generation of the nation's hope whose contribution is greatly needed. One of the efforts that can be made to increase concentration is by applying play socialization therapy to children with ADHD. Knowing the effectiveness of play socialization therapy to foster the development of concentration in children with ADHD. This test is carried out using a quasi-experimental method with a time series design and provides a pre-test and post-test for children with ADHD. The pre-test was carried out 4 times before playing socialization therapy in children, while the post-test was carried out after being given the treatment. The test was carried out repeatedly to determine the stability and clarity of the respondent's emotional state. In this study, the research subjects were Kindergarten class C children at the Gedangan State School, Sidoarjo. The technique used in sampling using purposive sampling technique. From this it is observed that the results of treatment using social games such as playing football, assembling toys, and so on. As a measurement tool for researcher observation using a Likert rating scale, Based on research (Erinta & Budiani, 2012) stated that socialization games are very effective in increasing children's concentration levels on things they like and effective in reducing impulsive behavior in ADHD sufferers at SLBN Gedangan, Sidoarjo. Through various socialization games such as playing football, swinging, unloading pairs of toys, and relaying, children are taught to work together, focus and control themselves in playing games, so they can slowly increase concentration in ADHD children. The application of play socialization therapy is very effective in increasing concentration and decreasing impulsivity in children with ADHD. If done continuously, it is very possible for the child to recover from concentration and impulsive disorders.

Keywords: *Play socialization therapy*, ADHD children, adolescents, concentration, impul

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Case Study: Entrepreneurial Resilience of Students in Ketundan Magelang

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ABSTRACT

Entrepreneurship is one way that students do in order to develop their potential and overcome concerns about the work that will be obtained after graduating. Entrepreneurial activities are one of the most popular activities for students, but have many obstacles in their implementation. The purpose of this study was to determine the resilience ability of students. This research was conducted in Ketundan Village, Pakis District, using qualitative methods with a case study approach. Data collection was carried out by interview and observation. The research subjects were 4 students who had been self-employed for at least 6 months and involved 4 non-participants who were related to the subject as supporting informants in order to obtain valid information. Based on the results of the study, it was found that the dynamics of the ability of student resilience to entrepreneurship as a whole have this ability well, where this ability consists of emotional regulation, impulse control, optimism, empathy, problem cause analysis, self-efficacy, and achievement. Although not all subjects show excellent resilience by having the seven resilience components above, in fact entrepreneurship has been able to give confidence and optimism to students with less prominent achievements.

Keywords: Entrepreneurship, Resilience, Resilience of Entrepreneurial

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Korean Drama And Pandemic Covid-19

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ABSTRACT

The COVID-19 pandemic that has occurred since the end of 2019 until now has caused various changes in people's behavior. One of the significant changes is the existence of social restrictions, where people are asked to stay at home and avoid activities in a crowd. One of the things that many people, especially students, do to fill their activities at home is watching Korean dramas. Over the past few years Korean entertainment fever has occurred in Indonesia, but during the pandemic there has been an increase in people watching Korean dramas. This study aimed to determine the impact of watching Korean dramas on the psychological condition of respondents during the pandemic. This study used a qualitative exploratory method, in which there were five respondents (4 women, 1 man), all of whom were students in Central Java who watched Korean dramas. The data collected from interview and data analysis used was coding and categorization. The results showed that the five respondents experienced an increase in the frequency and duration of watching Korean dramas during the pandemic. They felt various negative thoughts and feelings related to the pandemic. The impact felt by watching Korean dramas is this activity was seen as a distraction from abundance and stressful information about the pandemic, to entertain, to reduce stress, to improve mood, and help them to stay at home. On the other hand, the negative effects were forgetfulness of time, reluctance to do other activities outside of watching drama, extravagant internet quotas, physical impacts, and frequent fantasies. Nonetheless, the respondents rated that watching Korean dramas helped them through the period of social distancing during the pandemic.

Keywords: Korean drama, pandemic COVID-19, social distancing, improve mood, stay at home

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Self Resiliency Process: Breast Cancer Survivor (Post-Treatment)

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ABSTRACT

Cancer is one of the most deadly diseases. Many cancer sufferers cannot cope with stress after going through the treatment period or post-treatment. Self-resiliency power is an important component for the success of individuals to carry out life after treatment. The ability of self-resiliency power possessed by each individual varies and is unique to each other.The purpose of this study was to look at and explore more deeply about the process of arousing self resiliency in post-treatment survivors of breast cancer. This study uses a qualitative method of grounded theory involving 3 (three) survivors of breast cancer as participants of the study. The results of the present study indicate that I found an interesting theme from the open coding, axial coding and selective coding process. The results of this study answered questions and problem formulations because they had found patterns of self-resiliency in post-treatment breast cancer survivors. Each participant is unique so that the process pattern of their self-resiliency is different.

Keywords: Self-resiliency, ressilience, grounded theory, cancer survivor, breast cancer

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The Rush Before The Storm: Assessing The Role Of Fear Of Covid-19 Toward Panic Buying Behaviors In The Covid-19 Pandemic In Indonesia

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ABSTRACT

COVID-19 is an infectious disease caused by a type of coronavirus discovered in 2019. This phenomenon has a major impact on lives globally. Public anxiety and fear of the virus create a new lifestyle that must be controlled by individuals. Onse of the behavioral impacts that occur during a pandemic is panic buying. This study uses quantitative methods with simple regression data analysis techniques. The study used a purposive sampling technique. Subject criteria and this study is Indonesian citizens (WNI) who were affected by the COVID-19 pandemic both (economically, educationally, socially, healthily, and others). The scale used to measure fear of COVID-19 is the Fear of COVID-19 Scale with a reliability of 0.82. Panic Buying Scale with the reliability of 0.945. This study aims to examine the role of fear of COVID-19 in panic buying behavior during the COVID-19 Pandemic in Indonesia. This study involved 990 respondents who are people in Indonesia. The results showed that there was a role from Fear of COVID-19 to Panic Buying behavior during the COVID-19 pandemic in Indonesia. Based on the results of research conducted by researchers on 990 respondents who are Indonesian citizens (WNI), at least 18 years old and affected by the COVID-19 pandemic, it can be concluded that there is a role for *fear of* COVID-19 to behavior *panic buying* in the community during the COVID-19 pandemic in Indonesia. The study had a positive and significant role in panic buying behavior.

Keywords: *COVID-19, fear of COVID-19, panic buying*.

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COVID-19 : Assessing the Role of Citizen Trust to Governments on Panic Buying Behavior in the COVID-19 Pandemic

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ABSTRACT

COVID-19 has an impact on instability in all aspects of Indonesian people's lives, one of which is the disruption of supply caused by panic buying behavior as a form of community reaction in surviving the COVID-19 outbreak. Based on this phenomenon, this study aims to determine the role of citizen trust in the government on panic buying behavior during the Pandemic COVID-19. This study involved 990 participants who were Indonesian citizens, aged at least 18 years, and had been affected by the Pandemic COVID-19 (in the social, economic, educational, etc. fields). The participants obtained by using the purposive sampling technique. Citizen Trust is measured using the Citizen Trust in Government Organization (CTGO) scale belonging to Stephan Grimmelikhuijsen and Eva Knies (2015) with a reliability of 0.949 and Wijaya's panic buying (2020) with the reliability of 0.945. Research data analysis was carried out using quantitative methods with simple regression techniques. The results showed that there was a role for citizen trust in the government on panic buying behavior during the COVID-19 pandemic in Indonesia. Based on the result of research conducted by researchers on 990 respondents who are Indonesian citizen (WNI), at least 18 years old and affected by the COVID-19 pandemic. It can be concluded that public trust (citizen trust) to the Government is one of the factors in the formation of panic buying behavior during the COVID-19 pandemic.

Keywords: *Citizen Trust,* COVID-19, *Panic Buying*

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Coping Strategies Among College Students During Covid-19 Pandemic

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ABSTRACT

Due to the Coronavirus disease (COVID-19) outbreak in December 2019 , the government around the world has closed all the educational institutions and change the system of education to control the spread of disease. The sudden shift from the physical classroom to virtual space impacts on the mental health of the college students. The purpose of this study was to explore the coping strategies among college students around the world during the Pandemic Covid-19. This paper used descriptive explorative analysis, through literature review**.** A literature search on Google Scholar using keywords "coping strategies", "college students", "pandemic", "covid-19" revealed 15 articles with a total of 12,532 participants of college students around the world. The findings of this study reveal that the coping strategies used by college students are (1) Problem-focused coping by (a) Seeking social support (friends, family, school) and (2) Emotion-focused coping by (a) Positive reappraisal (praying to God, do hobby) (b) Accepting responsibility (Understand students' role, self talk) and (c) Distancing (Avoid going to public)**.** The COVID-19 pandemic have given a significant adverse impact on the mental health of college students. Major coping strategy adopted by the students is problem-focused coping by seeking social support from their friends, family members and university. Educational institutions should work together with the government of each country to maintain the college students' mental health.

Keywords: *Coping strategies, college students, pandemic, covid-19*

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Risk And Resilience On Employees During Covid-19 Pandemic

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ABSTRACT

The Covid-19 pandemic brought enormous changes and forced employees working in healthcare as well as industrial setting to adapt their daily works. This study aims to review the employee's risks and resilience during covid-19 pandemic. We performed a systematic-review literature by searching published reports on risks and resilience on employees during covid-19 pandemic. Systematic search was conducted on Google Scholar using the following keywords: "employee resilience" AND "COVID-19" and additional keywords "workers resilience" AND "COVID-19. Inclusion criteria comprised original article, written in English, fulltext available, and published on 2020. During the Covid-19 pandemic, employees were at risks for increased workload and work intensity, psychological changes in the form of ambivalence, emotional exhaustion, distress, and job insecurity. Individual as well as organizational resilience are put under tested. At the organizational level, company may adapt their corporate social responsibility (CSR) and other development programs to response to societal challenges during covid-19 pandemic, create flexible working hours or arrangements, develop intervention programs for mental and physical health and well-being, provide financial supports, and creating a safe and supportive work environment. At the individual level, resilience can be built by applying effective coping strategies focusing on tasks, stress management, social, cognitive strategies, faith-based learning activities, and promoting meaning-based coping strategies. This later strategy helps employees search for meaning in their lives related to family, life goals, values and personal strengths. The leaders' caring and emotional intelligence greatly associated with employees' resilience. The COVID 19 pandemic put employees at risks for increased workloads, emotional exhaustion, increased distress, and low levels of job security. However, pandemic also brings opportunities for building resilience at the individual and organizational levels. Company leaders play pivotal roles in endorsing programs for employee resilience.

Keywords: risk, resilience, employees, COVID-19 pandemic

Health

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Anti-Metastatic And Anti-Proliferative Effect Of Clove Essential Oil Extract In Reduction Of Breast Cancer Cell

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ABSTRACT

Breast cancer is 2nd leading cause of death in developing countries, including Indonesia. Incidence of breast cancer continues to increase in worldwide and the mortality is increasing in developing countries too. This disease has heterogeneous and multifactorial character so the treatment is the key to reducing mortality and increasing life expectancy. Current treatment using chemotherapy turned to be toxic for a long time and had unwanted effects. Cloves are native to Maluku, Indonesia, which are widely used for medical purposes because its contain antimicrobial, antiseptic, and anesthetic compounds. Research in 2018 showed that clove extract was also able to reduce the growth and spread of cancer cells, especially breast cancer. The ease of making clove extract is an advantage that should not be wasted considering its potential. This study uses scooping review method to search various journals in English and Indonesian through Pubmed, Google Scholar and Scopus database in 2010-2019. The keyword used were “breast cancer” AND “eugenol” OR “breast cancer” AND “clove”.The studies showed that eugenol contained in cloves was able to inhibit proliferation of breast cancer cells in 4µM and 8µM with average inhibition is 76,4 % and doses of 5µM and 10µM with average inhibition is 68,1%. Eugenol capable to reduce matrix metalloprotein (MMP-2 and MMP-9) which play role in metastatic process and increase apoptosis genes Caspase-3, Caspase-7, and Caspase-9.Clove extract has potential to reduce breast cancer cells through anti-metastatic and anti-proliferative effect.

Keywords: *"breast cancer", "clove", "clove extraction", "eugenol”*

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Bisneco: Functional Biscuit To Prevent Anemia And Covid-19 From Moringa Leaves, Red Dragon Fruit, And Red Ginger

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ABSTRACT

Anemia is one of the most nutritional problem in the world, including Indonesia. The World Health Organization (WHO) stated that the prevalence of anemia in the world reachs 40-88% and in Indonesia reach 26%. Anemia sufferers can decreased immunity, thus increasing the risk of being infected with the virus during the COVID-19 pandemic. The efforts to prevent anemia and increase body immunity have to be done, one of which is by eating food that rich in iron and immunomodulator sources. Therefore, BISNECO was created by formulation of mashed red dragon fruit, moringa leaves powder, and red ginger powder. It is an innovative biscuit that substituted with natural iron sources and immunomodulators. Biscuits as the most favorite snack of various people, such as children, adolescents, and adults with varoius economic conditions. BISNECO was made on baking principle, while the subtitients was made by drying and milling principle. The substituents were added to the biscuit dough and then baked at 120°C for 10 minutes. The Critical Control Points (CCPs) on BISNECO production are baking and cooling. The result of the analysis conducted showed that BISNECO has iron content as much as 29.064 mg/100 g with 22.836 mg/100 g degradated cause of baking process. If BISNECO consume as much as 100 grams for 21 consecutive days will increase Hb in the blood by 1.96 g/dl. BISNECO also contains 6-shogaol and 1-dehydro-6-gingerdion which effectively inhibit the production of nitric oxide and prostagladin E2 by activating macrophages to control immunity. Based on that role, BISNECO can prevent anemia and risk of Covid-19 infection. BISNECO is packaged in a multilayer standing pouch packaging with a zipper lock. The standing pouch packaging was made from polypropylene, aluminium, and enamel. It be done to keeps it's quality and safety during the distibutions to consumers.

Keywords: anemia, BISNECO, COVID-19, immunity

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Anti-Obesity Properties Of Katuk Leaves (*Sauropus Androgynus*) Extract To Reduce Risk Factor Diabetes Type 2

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ABSTRACT

Obesity is a condition of excess fat accumulation in adipose tissue that affects human health. Cause of obesity is imbalance of calories entered and expended. Obesity can affect anyone of any age and in children is more dangerous because of high risk to get health problems in adult. Diabetes is non-communicable disease and closely related to obesity, especially type 2. More severe obesitycondition, the higher possibility of developing diabetes type 2. Prevention and treatment of diabetes can be done through lifestyle changes. However, this prevention are ineffective cause of minimal participation so another effective ways are needed. *Sauropus androgynus* or katuk leaves is vegetable that is often found in Indonesia. Katuk leaves have anti-obesity properties because it contain flavonoid and polyphenol.Study use scooping review by searching for journals that match keyword "Obesity", "Diabetes Type 2", "Sauropus androgynus", "," Polyphenol", "Flavonoid" . Journals full text in English and Indonesia which can be accessed from 2014-2019. Study using mice strains *Swiss Webster* show that katuk leaves had potential to reduce weight, appetite, and fat storage contribute to obesity with effective dose of 400mg/kg. This effect cause of their compounds that contribute to anti-obesityproperties. Flavonoid playrole in lowering blood glucose level so reducing fat accumulation too. Another study explain effect of katuk leaves is comparable to atidiabetic drugs, gibenclamide and miglitol. Next, polyphenol have function to lower fat proliferation cell, adipose cell differentiation, increase lipolysis, and increase b-oxidation of fatty acid. Also polyphenol induce activation of several enzyme, such as *sirtuin-1*, and *nf kappa B* which regulates adipogenesis and antioxidant. All of them play a role in decreasing body mass, triglyceride and increasing use of body fat. Katuk leaves extract had anti-obesity properties to reduce risk of diabetes type 2.

Keyword : *Sauropus androgynus*, obesity, flavonoid, polyphenol, diabetes type 2

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Economic

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Analysis for Evaluating the Impact of COVID-19 on the Indonesian Composite Stock Price Index

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ABSTRACT

Currently the world is facing a global problem in the form of the COVID-19 pandemic. The spread of the COVID-19 outbreak continues to move significantly, especially in Indonesia. Since it was announced by President Joko Widodo in early March until now, the number of positive cases of COVID-19 has reached 418.375 cases. The impact of COVID-19 is a serious threat to the global economy. COVID-19 attacks the movement of stocks on global exchanges. The Composite Stock Price Index (IHSG) has touched its lowest level in history due to COVID-19. COVID-19 can be considered as an event that occurs out of control, so of course it will affect various sectors, particularly the economic sector, by spreading fear for investors and creating uncertainty in the global economy. The purpose of this study is to determine the impact of COVID-19 on the IHSG and to build a model that can be used for forecasting. The analytical method used is intervention analysis. The intervention model is used to model data that contains shocks. In this case, the suspected shock is the COVID-19. The intervention function used is the step function. Furthermore, risk measurement will be carried out so that risk is at a controllable level. Measurable risk can reduce the chance of loss that may be borne by investors. The method used is Value at Risk (VaR). The risk measurement is applied to the outcome forecasting data from the intervention model. Based on the results analysis, intervention model shows that COVID-19 has had an impact and a harsh slap on IHSG. Forecasting results from the intervention model have a good accuracy, with MAPE from in-sample is 0,76%. Then the forecasting results from the intervention model have a Value at Risk (VaR) which ranges from 0,45% to 1,96% with a confidence level of 95%.

Keywords **:** IHSG, Intervention Analysis, Value at Risk

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I-VEE (Intelligent Livestock Commodity Prices Forecasting System): An Integrated Application Based on Time Series Arima Forecasting Model for Predicting The Livestock Commodity Prices

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ABSTRACT

Presently, animal food commodity prices have fluctuated in recent years. These fluctuations generally occur on the eve of a holiday or other feast day. Fluctuations are caused by market dynamics that can change supply and demand, resulting in market prices (animal food commodities) becoming unstable. Meanwhile, the availability of animal food commodities should always be monitored to maintain price stability and economic stability in a macro-region. Therefore, a system that can monitor and predict the changes of animal food commodities prices in the domestic market is indispensable. This paper aims to convey a system that works in the form of an application called I-VEE (Intelligent Livestock Commodity Prices Forecasting System). I-VEE is a system that implements the Autoregressive Integrated Moving Average (ARIMA) model as its working principle. I-VEE serves to monitor the market and provide early warning through analysis of price movements. This analysis aims to provide early warning, predict prices in the short term and provide scientific decision references to local governments during fluctuations occurrence, in hopes of stabilizing prices in the region. This research was conducted to design and construct frameworks on I-VEE. The research uses qualitative writing methods, namely by surveying and studying literature through books, journals, and news. This research implements observation-applied research methods (practical problem solving). The expected research is a system that can be implemented in case studies in the field directly. Thus, if market price stabilization can be done then people (consumers) and producers can benefit.

Keywords: ARIMA, Fluctuation, Forecasting

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Optimization of Local Commodity Distribution System: Case Study Seaweed Distribution from Kalimantan to Makassar

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ABSTRACT

The existence of Presidential Regulation Number 33/2019 concerning the Roadmap for the Development of the National Seaweed Industry indicates that it is time for Indonesia to be more serious in developing the seaweed resource industry to meet domestic and international demands. In line with the volume of seaweed traffic in Indonesia of 36.942 tons per year, as well as the production capacity of Indonesian seaweed which controls more than 70% of the global seaweed market, this situation will have a very good impact on seaweed farmers to continue production of seaweed. However, behind the enormous amount of demands for seaweed, there are serious problems experienced by seaweed farmers, especially for seaweed farmers in Borneo. Majority of seaweed produced in Kalimantan cannot be distributed properly to importing areas due to the lack of seaweed transportation. This paper evaluates the current distribution system to find suitable payload for planning a new distribution system by operating either a non-propelled or a self-propelled barge. The non propelled barge will be operated by chartering a tugboat (time charter). Therefore, the manning cost and capital cost for tugboat construction will be the owner's responsibility. Every options are calculated to find feasible dimension. Unit cost that may be charged to consumers also calculated to provide the comparison with the current unit cost paid by seaweed farmers at Rp 550.000/ton. Unit cost calculation result for the 1st option (Non-propelled barge) is at Rp 367.200/ton and for the 2nd option (Self-propelled barge) is at Rp 870.100/ton. Therefore, the most optimum solution is a non-propelled barge, around 27% cheaper than the current unit cost charged.

Keywords: seaweed, distribution, local commodity, maritime, supply chain

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Level Up: As A Community Financial Resilience Strategy

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ABSTRACT

According to the Central Statistics Agency (BPS), Indonesia's Gross Domestic Product is minus 5.32% and this is a decline at the lowest level for the last 17 years. From a socio- economic perspective, several institutions predict an additional 1.16 million (+ 0.44%) and 9.6 million (+ 3.6%) poor people in 2020, depending on the degree of economic damage that will occur. Likewise, the number of unemployed is expected to increase by 2.91 Million (2.17% of the workforce) to 5.23 million (3.79% of the workforce) in 2020 (Indonesia, 2020). According to the OECD Survey, the opinion that Indonesia is not ready to face an economic crisis is one indicator because the emergency funds from Indonesia are only sufficient for one week. The research method in this paper is qualitative research and research and development methods as the development of the Level Up application. Level Up is an application that aims to maintain public financial resilience. Level Up has several features, such as Financial Planning, Business Development, Brand Development and Consultation. The Level Up application has advantages when compared to other similar applications, such as in Level Up there is a Consultation feature related to psychology, Business Development and Brand Development related to the development of a business and Brand Development related to the development of a business and brand. With the Level Up application, hoped that the community's financial resilience will be better than before.

Keywords: Central Statistics Agency (BPS), Economic Crisis, Level Up

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Prediction of Ornamental Plant's Sales from Monte-Carlo Simulations

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ABSTRACT

Indonesia is projected to become the world's number four economic power with a demographic bonus. The demographic bonus is obtained from the size of the middle class and the productive age population in Indonesia. With this opportunity, Indonesia has a chance to achieve target number 8 of the SDGs. However, during the current COVID-19 pandemic, the Indonesian economy is experiencing a recession. This can be restored with the contribution of the middle class in increasing sales of ornamental plants which are in great demand by the public during the pandemic. Indra Garden's ornamental plants, located in Pondok Ranji, is one of the MSMEs that sells various types of ornamental plants. The research objective was to predict future sales and profit figures from Indra Garden's ornamental plants. This study uses secondary data with data collection techniques, namely direct interviews from Indra Garden. The data used are sales data caladium of ornamental plants with various species for 1 month in October 2020 using the Monte-Carlo method. Based on simulation using the Monte-Carlo method, the prediction results obtained from the sales of caladium types of ornamental plants are 3 per day in a month. This simulation was carried out 7 times and obtained a prediction of the sales profit of Rp. 4,802,500 with an accuracy rate of 97.41%. Meanwhile, the data examiner using MAPE showed that the prediction error rate was 46.51% so it can be stated that the prediction success was 55.49%. The Monte-Carlo method can predict the sales of ornamental plants in the next period with an accuracy rate of 97.41% and a MAPE of 46.51%. So it can be concluded that the simulation results are accurate and suitable for use in making sales decisions in the future.

Keywords: Monte-Carlo, MAPE, Ornamental Plants, Sales Predictions, Profit Predictions

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Barriers For The Halal Food Industry To Penetrate The International Market

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ABSTRACT

The natural wealth in Indonesia is a big potential in Indonesia's economic development in the future, especially in the halal food industry. The development of halal food and drinks continues to increase along with the growth of the Muslim population in Indonesia. This study aims to look at the condition of the halal food industry in Indonesia and everything related to the halal food industry as well as the dangers, opportunities and threats to halal food from international market penetration. In order to develop the halal food industry in Indonesia and the world, it is necessary to have halal equality in each country and to have halal food certification. So that they are not involved in the halal food industry such as restaurants, cafes and other food places that have special regulations that prohibit the halal food industry. In this export process, a product must pass quality assurance certification. Among the names of product quality assurance agencies is ISO (International Standardization Organization). To get a product guarantee license is very difficult because developing countries like Indonesia and developing countries do not pay attention to product quality such as developed countries. However, Indonesia has the opportunity to develop halal standardization such as ISO quality assurance certification, seeing the large Muslim population in Indonesia as regular consumers of halal food products. With this opportunity, it is hoped that the government or related agencies can develop the Indonesian halal food industry so that Indonesia will not only become a target market for products but become a major player in the marketing of halal products. The research research method used is descriptive qualitative with literature data sources.

Keywords: Halal Food Industry, Halal Certification, Halal Standardization

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