

PAPER • OPEN ACCESS

## Preface

To cite this article: 2022 *IOP Conf. Ser.: Earth Environ. Sci.* **1111** 011001

View the [article online](#) for updates and enhancements.

### You may also like

- [Welcome address](#)  
Hiroshi Yasuoka
- [23rd National Symposium on Plasma Science & Technology \(PLASMA-2008\)](#)  
V K Mago, P V Ananthapadmanabhan, D S Patil et al.
- [Preface](#)



245th ECS Meeting • May 26-30, 2024 • San Francisco, CA

[Learn more & submit!](#)

Present your work at the leading electrochemistry & solid-state science conference.

Network with academic, government, and industry influencers!

Submit abstracts by December 1, 2023



## Preface

This year, Journal of Environmental Science and Sustainable Development (JESSD) is proud to hold its second international virtual symposium, featuring world-class speakers and editors worldwide. We were incredibly honored to have invited RR. Ratih Dyah Kusumawati, Ph.D. from Center for Resilience and Sustainability Studies (CRESS), Department of Management, Faculty of Economics and Business, Universitas Indonesia, Assoc. Prof. Hui Nee Au Yong, Ph.D. from Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR), Mari Eko Mulyani, Ph.D. from School of Geography and The Environment, University of Oxford, Oxford, United Kingdom and School of Environmental Science, Universitas Indonesia, Indonesia, Assoc. Prof. Hironori Hamasaki from Graduate School of Fisheries and Environmental Sciences, Nagasaki University, Japan, Dian Novarina, M.Sc. from Deputy Director of Sustainability and Stakeholder Engagement, PT Riau Andalan Pulp and Paper (APRIL), Jessica Hanafi, Ph.D. from Executive Director PT. Life Cycle Indonesia, and Dr. Ir. Haruki Agustina M.Sc. from Director of Contaminated Land Recovery and Emergency Response Hazardous and Toxic Waste and Non-Hazardous and Toxic Materials, Ministry of Environment and Forestry.

The symposium was held in virtual format due to related restrictions during COVID-19 pandemic. I appreciate everyone's participation in the second JESSD Symposium: International Symposium of Earth, Energy, Environmental Science, and Sustainable Development, despite the restrictive situation caused by the global COVID-19 pandemic. Instead of being postponed, this symposium was conducted virtually in response to emerging issues mainly related to earth science, energy, environmental science, and sustainability. Moreover, this symposium also facilitates the publications of qualified research on COVID-19 to contribute to the global response towards the pandemic situation.

This symposium is slightly different from the previous symposium and conference held last year. By making the best use of development in telecommunication platforms, we are able to gather virtually to share our insights and progress covering numerous subjects ranging from: the broad earth science, energy, and environmental science, and the special issues of COVID-19 Research as well as Community Engagement for Better Environment. This symposium utilized Zoom and Youtube, a widely known cloud-based video conferencing tool, as its telecommunication platform.

The symposium was held on 27-28 August 2022. Committees are based in School of Environmental Science, Universitas Indonesia, Jakarta, Indonesia. We are aware that a virtual setup will not provide the same experience as an on-site symposium. However, it is in our nature as researchers to be undeterred by new challenges. The opportunity to host this event virtually allows us to facilitate cross-borders discussion and collaboration at lower cost and less impact on the environment through reducing carbon footprint. We have invited some prominent speakers from various regions to provide lectures on a wide range of environmental research. In addition, we have also invited world-class speakers and editors to help with your scientific publication process. The participants (presenters) are



coming from 16 different countries all around the world, including: Malaysia, South Korea, Netherland, Ukraine, Thailand, Uzbekistan, Vietnam, Nigeria, Bangladesh, Russia, Brazil, Poland, China, Germany, Tunisia, and Indonesia.

We are glad that we received lots of submissions from the symposium and selected a bunch of high-quality papers and compiled them into the proceedings after reviewing them using the double-blind peer review procedure. The symposium is considered successful. Signal loss and some technical issues happened during parallel sessions but had been well and quickly addressed by technical assistants, without causing any significant delay. I express my deep gratitude to the editors: Editors committee: Dr. Ahyahudin Sodri, Dr. Herdis Herdiansyah, Mari E. Mulyani, D.Phil., Dr. Stefanie Steinebach, Prof. Dr. Ing. Ir. Misri Gozan, M.Tech., Dr. Djoni Hartono, Ratih Dyah Kusumastuti, Ph.D., Prof. Dr. Ivandini Tribidasari Anggraningrum, and committees Dr. Herdis Herdiansyah, Nova Amalia Sakina, Azhar Firdaus, Arty Dwi Januari, Hafizha Ilma Qadriina, Sinan Vidi Lazuardi, Salma Mar'atus Sholihah, and HIMPASILING UI Team for their time, hard work, and contribution to support this symposium during this challenging time.

I would like to take this opportunity also to express my gratitude for our sponsors, (Danone Indonesia, Induk Koperasi Kepolisian Negara Republik Indonesia (Inkopol), PT Arlindo Grafimedia, PT Riau Andalan Pulp and Paper (April Group), Bank Rakyat Indonesia, APP Sinar Mas, Harita Nickel, Greenera Consulting, Pertamina Patra Niaga, Starborn Chemical, PT. Prima Kana Energy, Waskita, Roatex, One Global Synergy, and Lintasarta) and also for Himpasiling (Himpunan Mahasiswa Pascasarjana Ilmu Lingkungan) Universitas Indonesia 2022 period for conducting the joint session. Last but not the least, we send our sincere thanks to the IOP publisher for publishing the proceedings.

Jakarta, 27 August 2022  
Editor-in-Chief,

Dr. Herdis Herdiansyah

## List of committees

### Steering committee:

Chairman : Dr. Ahyahudin Sodri  
Editor-in-Chief : Dr. Herdis Herdiansyah  
Editorial Board : Mari E. Mulyani, D.Phil.  
Dr. Stefanie Steinebach  
Prof. Dr. Ing. Ir. Misri Gozan, M.Tech.  
Dr. Djoni Hartono  
Ratih Dyah Kusumastuti, Ph.D.  
Prof. Dr. Ivandini Tribidasari Anggraningrum

### Organizing committee:

Chairman : Dr. Herdis Herdiansyah  
Treasurer Section : Nova Amalia Sakina  
IT Section : Azhar Firdaus  
Program Section : Arty Dwi Januari  
Hafizha Ilma Qadriina  
Sinan Vidi Lazuardi  
Salma Mar'atus Sholihah  
Event Section : HIMPASILING UI Team (<https://sil.ui.ac.id/himpasiling-ui-2/>)

# Table of contents

Volume 1111

**2022**

[◀ Previous issue](#)      [Next issue ▶](#)

**3rd International Symposium of Earth, Energy, Environmental Science, and Sustainable Development 27/08/2022 - 28/08/2022  
Depok, Indonesia**

Accepted papers received: 15 November 2022

Published online: 22 December 2022

[Open all abstracts](#)

---

## Preface

---

**OPEN ACCESS** 011001

### Preface

[+ Open abstract](#)      [View article](#)      [PDF](#)

---

**OPEN ACCESS** 011002

### Peer review declaration

[+ Open abstract](#)      [View article](#)      [PDF](#)

---

## Earth and Environmental Science

---

**OPEN ACCESS** 012001

### Life Cycle Sustainability Assessment Review: Decision Making Category in Electrical-Vehicle Type

Salsa Bila Dian Islami, Faradhina Azzahra and Diana Puspita Sari

[+ Open abstract](#)      [View article](#)      [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



OPEN ACCESS

012002

## Environmental Challenges of The Green Economy: Case of Ukraine

Oleksandr Yermakov and Iryna Kostetska

+ Open abstract



View article



PDF

---

OPEN ACCESS

012003

## Carbon Emission Assessment of Bioplastics from Durian Peel

Krittaphas Mongkoldhumrongkul and Phatcharapron Sukkanta

+ Open abstract



View article



PDF

---

OPEN ACCESS

012004

## Creating Peatland Restoration Policy for Supporting in Indonesian Economic in a Sustainable Way

Irfandi Pratama, Eko Priyono Purnomo, Dyah Mutiaran, Maisarah Mitra Adrian and Cici Sundari

+ Open abstract



View article



PDF

---

OPEN ACCESS

012005

## Sustainable Forest Governance: A New Policy Strategy in Handling Forest Fires in Jambi Province

Cici Sundari, Eko Priyo Purnomo, Dyah Mutiarin, Maisarah Mitra Adrian, Cindy Fabrizia Suling and Irfandi Pratama

+ Open abstract



View article



PDF

---

OPEN ACCESS

012006

## Carbon Monoxide (CO) and Particulate Matter (PM<sub>2.5</sub>) Concentration at Central Kalimantan, Indonesia

Kitso Kusin, Yustinus Sulistiyanto, Aswin Usup and Ardianor

+ Open abstract



View article



PDF

---

OPEN ACCESS

012007

## Decoding Spatial Configuration: Resiliency in the

## Periphery (Case Study: Sedati Sidoarjo)

Fairuz Mutia, Muchlisiniyati Safeyah and Wiwik Dwi Susanti

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012008

### **Spatial Study of Oil Palm Plant Health Using Sentinel 2 Imagery at PTPN VIII Cikasungka Plantation, Bogor, West Java**

Zakiy Akmal, Adi Wibowo, Revi Hernina and Tjong Giok Pin

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012009

### **Spatial and Prevalence Analysis of Behavioral Non-Communicable Diseases on Soppeng Regency: Results of Health Survey 2016-2018**

Basri, Tasrifin Tahara and Andi Tilka Muftiah Ridjal

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012010

### **The Role of Food Waste Management in Green City Development**

Salma Mar'atus Sholihah, Tia Rizka Nuzula Rachma and Uswatun Khasanah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012011

### **Utilization of Denim Waste into Debric Board**

Winda Oktaviani and Yunita Ismail Masjid

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012012

### **The Strategy of Organic Farming Development for Environment, Social, and Economic Improvement from Farmers Perspective**

M. Octorayanti, K. Mizuno and S. Setiawati

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012013

## **A Study the Relationship of Soil Quality with Land Suitability for Coconut (*Cocos nucifera L.*) Development in Kebonagung Sub-district, Pacitan District**

Suko Irawan, Ernoiz Antriyandarti and Dea Haganía Laia

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012014

## **Ensuring Environmental Sustainability of Infrastructure Projects: A Perspective Review in A Case Of Indonesia**

Alti Kusmayadi and Raldi Hendro Koestoer

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012015

## **What Should We Do with the Oil Palm Solid Waste?**

Illyin Abdi Budianta and Misri Gozan

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012016

## **Determining A Model for Municipal Solid Waste Treatment using Mixture Design**

Christia Meidiana, Ratan Kumar Gosh and Kartika Eka Sari

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012017

## **Study of The Efficiency of A Drip Irrigation System Model Based on the Internet of Things (IoT)**

Eko Noerhayati, Difadila Alif Tasarlik, Anita Rahmawati and Soraya Norma

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012018

## **Review of Environmental Management System**



# Implementation in The Oil and Gas Company in Indonesia

Adonis Muzanni, Tri Edhi Budhi Soesilo, Dwi Nowo Martono,  
Udi Syahnoedi Hamzah, Wezia Berkademi and David Febraldo

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012019

## Diagenesis of Subang Formation in Cibeet River, Bogor, West Java

R S Nasution, A Luthfiyyah, Rezky Aditiyo and M R Septyandy

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012020

## Facies, Facies Association, and Depositional Environment of The Klapanunggal Formation, Klapanunggal District, West Java

Desy Rinikasari, Rezky Aditiyo, Khalisha Shafa Yumnanisa and Natasya Alia Zahran

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012021

## Projection of The Effect of Climate Change on Crop Water Requirements for Rice Plants in Majalengka Regency

Adam Hastara Aji, Adi Wibowo, Mangapul Parlindungan Tambunan and Dennish Ari Putro

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012022

## Environmental Impact Assessment on Plastic Waste Recycling Business in Bengkulu City, Indonesia

Sisilia Dwi Puspita, Ahyahudin Sodri and Suyud Warno Utomo

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012023

## Rice Plant Health Spatial Study with Sentinel and SPOT

# Imagery in Parakansalak District

Muthia Tri Octavia and S. Supriatna

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012024

## Spatial Study of Land Cover Changes and Land Surface Temperature in Bekasi Regency, West Java, Indonesia

Ariella Novita Hot Asi, S. Supriatna and Faris Zulkarnain

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012025

## Identification of Potential Groundwater Recharge Zone Using Remote Sensing and GIS in Upstream Cibeet Sub-watershed, Bogor, West Java

Jessica Ivana, L. Supriatna and Tri Rani Puji Astuti

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012026

## Effect of Control Temperature on The Performance of PV Modules Using Active Water-Spray Cooler

Le Vinh Thang, Ngo Xuan Cuong, Nguyen Duc Minh and Do Nhu Y

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012027

## Processing Efforts and Resource Efficiency in Achieving Green Campus at the State University of Surabaya, Indonesia

Tjitik Rahaju, Suci Megawati, Meirinawati, Indah Prabawati, Eva Hany Fanida, Kurniawan Fery Arianto and Faza Saila Salsabila

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012028

## The Management Concept of Mountain-Based Destination through Carrying Capacity Analysis

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012029

## **Study the Relationship of Soil Fertility with Land Suitability For Arabica Coffee (*Coffea arabica* L.) Development in Bandar Sub-district, Pacitan District**

Suko Irawan, Ernoiz Antriyandarti, Dewi Nawang Suprihatin and Anggityas Werdining Pangesti

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012030

## **Environmental Awareness Based on Community Knowledge, Attitude, and Behavior of The Environmental Impact of Plastic Packaging Use in Urban Areas**

Herdis Herdiansyah, Salma Mar'atus Sholihah and Evi Frimawaty

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012031

## **Coastal Settlement Planning based on the Network Density in Small Island: A Study on Sulabesi Island, Indonesia**

L M Lautetu, H S Hasibuan and R P Tambunan

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012032

## **The Usage of Public Open Spaces in Candi Baru, Semarang**

Maria Damiana Nestri Kiswari, Nany Yuliasuti and Budi Sudarwanto

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012033

## **The Drivers of Food Loss at the Farm Level: A Study of Farmers in Salatiga, Central Java, Indonesia**

Liska Simamora, Damara Dinda Nirmalasari Zebua and Widhi Handayani

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012034

## Monitoring 20 Years of Land Cover Change Dynamics in The Satellite Cities of Jakarta, Indonesia

Tia Rizka Nuzula Rachma, Florence Elfriede Sinthauli Silalahi and Nadya Oktaviani

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012035

## Synergizing Food Security With Forest Conservation: Preliminary Insights From Social Forestry Implementation In Riau, Indonesia

Rizky Januar, Dean Affandi and Smita Tanaya

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012036

## Positive Water Impact Validation: Study Case at Kubang Water Sources AQUA Operation Sukabumi, West Java, Indonesia

Rachmat Fajar Lubis, Asep Mulyono, Arif Fadillah, Hendra Bakti, Gumilar Utama Nugraha, Azwar Satya Muhammad, Raditya Pramudiantoro and Arman Abdurrohman

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012037

## Sustainability of Slum Upgraded Area, Case of Mojosongo, Surakarta, Indonesia

S Sunarti, Nany Yuliasuti, Annisa Amellia Purwanto and Kharunia Putri

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012038

## Environmental Aspects of City Participatory Budgeting in Poland

Brygida Klemens

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012039

## **Water Quality Status and Water Quality Index of Selulu Reservoir, East Kalimantan, Indonesia**

Vita Pramaningsih, Agus Dwi Purwanto, Ratna Yulawati and Deny Kurniawan

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012040

## **Environmental Assessment Using Integrated Risk Based Approach (IRBA) at Jabon Landfill, Sidoarjo**

Arlini Dyah Radityaningrum, Talent Nia Pramestyawati, Achmad Chusnun Ni'am, Eko Wahyudi, Mohamad Ferdaus Noor Aulady and Nur Laila Hamidah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012041

## **Planning and Implementation of Hazardous Waste Management Emergency Response Program – A Case Study of PT. X Medical Hazardous Waste Treatment**

M Candra Nugraha Deni and Aulia Shabirah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012042

## **The Effect of Chimney Size on Knock-Down Pyrolysis Tank Design as Rice Husk Burner Using CFD Simulation**

Mohamad Ramadani Rudiantama, Hamdi Hamdi, Dianta Mustofa Kamal, Johny Wahyuadi M. Soedarsono and Ahmad Maksum

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012043

## **Implementation of REDD+ Policies in Indonesia to Reducing Deforestation Amid Rising Earth's Temperature**

Galih W. Pradana, Hamsinah Djaing, Badrudin Kurniawan and Alycia Putri Febriani

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012044

## **Independent Smallholders Farmers Group Sustain Biodiversity, Social and Economy After a Roundtable on Sustainable Palm Oil Certification: Case Study Sites in Jambi Province, Indonesia**

Rosyani, D C Zemp, B Irawan, Ermadani and A Nizori

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012045

## **Self-Reported Pharmaceutical Storage, Use, and Improper Disposal to The Environment Among Urban Parents in Indonesia**

Anindrya Nastiti, Arlieza Raudhah Riyanto, Ade Supriatin, Dwina Roosmini, Siska WD Kusumah, Rumaisha Milhan and Gertjan Geerling

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012046

## **Land Conservation and The Potential Goal for Food Security in Urban City**

Ketut Sumantra and Ni Gst.Ag. Gde Eka Martiningsih

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## **Energy and Environmental Engineering**

---

**OPEN ACCESS**

012047

## **Effect of Permanent Magnet Structure on The Performance of LSPMSM with a Power of 22 kW and 3000 rpm**

NY Do, TA Le and XC Ngo

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012048

## **Comparison Performances of Microfiltration and Rapid Sand Filter Operated in Water Treatment Plant**

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012049

### **Isotherm Coefficient for Benzene and Toluene Adsorption on Granular Activated Carbon for Preparation of Biobarrier**

Galih Rineksa, Achmad Bustomy, Don-Hee Park and Misri Gozan

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012050

### **Effect of Voltage Unbalances on the Performance of a Three-phase Transformer**

Ngo Xuan Cuong, Le Anh Tuan and Y Do Nhu

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012051

### **Detection of Sea Level Rise Monitored from Surabaya Tidal Station Data from 2013 to 2021**

Dina Fitriana, Mufti Petala Patria and Eko Kusratmoko

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012052

### **Detection of Red-Eared Slider (*Trachemys scripta elegans*) using Environmental DNA with Cytochrome b Primer**

Shafa Talitha Risti, Andi Eko Maryanto and Noviar Andayani

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012053

### **Evaluation of Slope Stability at Interface using Thin Soil Material Model in Finite Element Software**

Fathiyah Hakim Sagitaningrum, Samira Albati Kamaruddin, Ramli Nazir,

Budi Susilo Soepandji and Idrus Muhammad Alatas

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Heat Effectiveness Analysis of Knock Down Smoke LCS (Liquid Collection System) Design with a Mixture of Ethylene Glycol and Water as Cooling Media

Faiz Irza Ramadhan, Johny Wahyuadi M. Soedarsono, Rini Riastuti and Ahmad Maksum

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The Effect of The Combination of Zeolite and Activated Biochar-Based Sugarcane Bagasse on The Increase of CH<sub>4</sub> in Biogas with A Different Time Variation

Adinda Putri Amalia, Ambar Pertiwiningrum and Nanung Agus Fitriyanto

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Capturing Carbon Dioxide from Human-Driven Vehicles by Green Structures for Carbon Neutrality

Tetiana Tkachenko and Viktor Mileikovskiy

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Velcro Product Design with Biomimicry Approaches

Filia Nauli Hapsari, Ratna Purwaningsih, Faradhina Azzahra and Diana Puspita Sari

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Research of The Reasons for Decreasing the Degree of Desliming of The Sylvinite Ore of the Tyubegatan Deposit

Murodjon Samadiy, Jasur Makhmayorov, Bakhodir Abdullayev, Shokir Rakhimkulov and Ilkham Usmanov

[+ Open abstract](#)

[View article](#)

[PDF](#)



## Optimization Model of Cirata Reservoir Management Using Discrete Markov and ARIMA Discharge Forecasting Methods

Dhita Septiani Yogo Sri Waluyo and Mariana Marselina

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The Study of Biopore Infiltration Holes (BIH) Implementation to Reduce Waterlogging in President University Campus Area

Alifah Shafina Ashabie and Yunita Ismail Masjud

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Potential Distribution of Skipjack Tuna Using MODIS Satellite Imagery in The Southern Waters of West Java - Banten

Mamat Suhermat, Muhammad Dimiyati, Supriatna Supriatna and Martono

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The Effect of Washing and Air Scouring on The Performance of Immersed Membrane Microfiltration

Bowo Djoko Marsono and Virginia Jane Ujjane

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Pressure And Spacer Effect On The Performance Of Immersed Microfiltration Membrane

Bowo Djoko Marsono, Inayah Agustina, Adhi Yuniarto and Joni Hermana

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The Influence of Storage on Structural Damage of Vegetable-Tanned Goat Skin by Microbes

Muhammad Iwan Alwan, Arnieda Asfarina Parameswari, Ambar Pertiwinigrum,  
Nanung Agus Fitriyanto and Viagian Pastawan

+ Open abstract

 View article

 PDF

---

## Urban, Community, and Environment

---

OPEN ACCESS

012065

### An Overview of Creative Cities and Ecotourism Development in Jepara District, Indonesia

Lala Hucadinota Ainul Amri, Nova Amalia Sakina, Noor Azly Mohammed Ali and  
Rusmadiyah Anwar

+ Open abstract

 View article

 PDF

---

OPEN ACCESS

012066

### Sustainable Development in the Context of the Architecture of Environmental Friendly Medical Centers in Rural Areas (Case for Ukraine)

Iryna Bulakh

+ Open abstract

 View article

 PDF

---

OPEN ACCESS

012067

### The Urban Environment and Public Health: Associations Between COVID-19 Cases and Urban Factors in Semarang City, Central Java, Indonesia

Wewin Wira Cornelis Wahid and Jawoto Sih Setyono

+ Open abstract

 View article

 PDF

---

OPEN ACCESS

012068

### The Performance of Companies in Assisting the Environment By Issuing Green Bond

Pandior Benget Namora Tua and Rofikoh Rokhim

+ Open abstract

 View article

 PDF

## The Role of Indonesian Investors in Achieving SDGs Through Green Bonds

Hallira Husin Haddad and Rofikoh Rokhim

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## Greener Communication: To Make Better Understand the Interaction between Aging and the Environment

Irwansyah and Niken Febrina Ernungstya

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## Environment, Social, Governance, and Performance in Far East Asia for the Period of 2018-2021

H A B Sarwono

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## Analysis of Students' Participation in Practicing the Concept of Green Campus

DE Eprilianto, MF Ma'ruf, GW Pradana, AN Hilmi and UN Habibah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## Community Resilient from Anak Krakatau Eruption: Lesson Learn from The Tale of Lampung Submerged to Increase Environmental Awareness

Azhar Firdaus, Suraya Abdulwahab Afiff and Herdiansyah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

## Determination Strategies for HDI Improvement Using SWOT Matrix Toward Sustainable Development and Good

## Environment

Nurul Listiyani, Rizka Zulfikar, Achmad Jaelani and Didi Susanto

---

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012075

### **Performance of Green Environmental Governance at State University of Surabaya, Indonesia**

Suci Megawati, Raden Roro Nanik Setyowati, Revienda Anita Fitrie, Trena Aktiva Oktariyanda, Jauhar Wahyuni, Meki Wastiti and Tamianingsih

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012076

### **Stakeholder Roles on Tourism Management, Environment Protection, and Conservation in Post Covid-19**

D Handayani and S V Lazuardi

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012077

### **Preventing Fuel Station Accidents: The Importance of Community Involvement**

Aryo Wibowo, Fatma Lestari and Robiana Modjo

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012078

### **The Effect of Age, Knowledge, and Community Attitudes Against COVID-19 Prevention Behaviour in Balikpapan City, East Kalimantan**

Desy Arianti and Ratna Purwaningsih

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012079

### **Leadership as the Main Driving Factor of Regional Sustainable Development Cooperation: A Case Study of ASEAN Tuna Ecolabelling (ATEL)**

Andre Notohamijoyo, Martani Huseini, Hendra Sugandhi,

Elishabeth Srihayu Harsanti, Adhi Setya Wiyata and Mustaidz Billah

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012080

## **Economic aspects of Green Energy Development in The Context of Maintaining Strategic Sustainability and Environmental Conservation**

Andrey Zaytsev, Nikolay Dmitriev and Tonny Sebbaggala

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012081

## **Environmental Self-Identity and Pro-Environmental Behavior in Climate Change Issue: Mediation Effect of Belief in Global Warming and Guilty Feeling**

Muhammad Abdan Shadiqi, Ratna Djuwita, Silvia Kristanti Tri Febriana,

Lulu Septiannisa, Muhammad Wildi and Yuli Rahmawati

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012082

## **Improving Urban Resilience During COVID-19 Pandemic by Implementing Smart City Initiatives: A Case of Tangerang City, Indonesia**

Ratih Dyah Kusumastuti, Nurmala, Juliana Rouli, Ledi Trialdi and Rahayu Safitri

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012083

## **The Effectiveness of Community Participation in Urban Water Supply: A Narrative Review**

Debora E. Purba and Agung Minto Wahyu

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012084

## **Nyepi and the Efforts to Save the Environment**

Ni Kadek Surpi

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012085

## Challenges and Chances of Sustainable Construction in Indonesia: Policy Insights

MA Hapsari, WH Putri and Sarju

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012086

## Affective Dimensions in Community Responses to the Free COVID-19 Vaccination Program and Its Relationship with Public Health in Sidoarjo Regency

Trenda A. Oktariyanda, Meirinawati, Eva H. Fanida, Fitrotun Niswah and Ngukup C. Achmadja

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012087

## The Green Economy and Decentralization of Natural Resources Management (DNRM) Policy in Indonesia under the International Law Framework: *Quo Vadis?*

Dian Parluhutan, Satya Arinanto and Velentina Napitupulu

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

**OPEN ACCESS**

012088

## Environmental Governance in Response to Pollution Threats from Dry Bulk Cargo Spill Accidents at Sea

Silmina Sabila, Suyud Warno Utomo and Haruki Agustina

[+ Open abstract](#)

[View article](#)

[PDF](#)

---

### JOURNAL LINKS

[Journal home](#)

---

[Journal scope](#)

[Information for organizers](#)

---

[Information for authors](#)

---

[Contact us](#)

---

[Reprint services from Curran Associates](#)





PAPER • OPEN ACCESS

## Determination Strategies for HDI Improvement Using SWOT Matrix Toward Sustainable Development and Good Environment

To cite this article: Nurul Listiyani *et al* 2022 *IOP Conf. Ser.: Earth Environ. Sci.* **1111** 012074

View the [article online](#) for updates and enhancements.

You may also like

- [Flood Mitigation in Banjar Regency, South Kalimantan, Indonesia in 2021: Between Hydro-meteorological factor and Anthropogenic factor](#)  
Novitasari Novitasari and Holdani Kurdi
- [Spatial autocorrelation analysis of Covid-19 cases in South Kalimantan, Indonesia](#)  
O N Amaliah, Y Sukmawaty and D S Susanti
- [Socio-Economic Analysis of Traditional Diamond Mining Community in Banjarbaru City, South Kalimantan](#)  
N Akmyati, RM Damoiko, R Ulfah et al.



**244<sup>th</sup> Electrochemical Society Meeting**

October 8 – 12, 2023 • Gothenburg, Sweden

50 symposia in electrochemistry & solid state science

Abstract submission deadline:

**April 7, 2023**

Read the call for papers &

**submit your abstract!**

# Determination Strategies for HDI Improvement Using SWOT Matrix Toward Sustainable Development and Good Environment

**Nurul Listiyani<sup>1</sup>, Rizka Zulfikar<sup>2\*</sup>, Achmad Jaelani<sup>3</sup> and Didi Susanto<sup>4</sup>**

<sup>1</sup> Law Department, Faculty of Law, Islamic University of Kalimantan MAB Banjarmasin, South Kalimantan, Indonesia, 0000-0002-2572-3673

<sup>2</sup> Management Department, Economic Faculty, Islamic University of Kalimantan MAB Banjarmasin, South Kalimantan, Indonesia, 0000-0002-9257- 6781

<sup>3</sup> Animal Husbandry Department, Agricultural Faculty, Islamic University of Kalimantan MAB Banjarmasin, South Kalimantan, Indonesia, 0000- 0002-1908-5847

<sup>4</sup> Communication Department, Social and Politics Faculty, Islamic University of Kalimantan MAB Banjarmasin, South Kalimantan, Indonesia, ORCID ID : 0000- 0002-1908-5847

<sup>1</sup>nurullistiyani05@gmail.com, <sup>2\*</sup>rizkazulfikar@gmail.com,

<sup>3</sup>ach\_jaelaniborneo@yahoo.com, <sup>4</sup>didisusanto@fkip.uniska-bjm.ac.id

**Abstract.** The SWOT matrix is used in this study. This study aimed to determine strategies to improve the Human Development Index through the dimensions of education in Banjar Regency, South Kalimantan, Indonesia. The data used primarily comes from interviews with respondents who can represent a conclusion. The results of this study indicate that the SWOT matrix can be used to determine strategies to increase the Human Development Index in Banjar Regency is still very large, considering the program synergy carried out by the Education Office and the Ministry of Religion in the commission for education improvement with various policies including the implementation of PKBM and Equality Education in Islamic Boarding Schools. In order to increase the HDI of Banjar Regency through the education dimension, especially the indicator of the average length of schooling, and produce seven strategies that policymakers can use in Banjar Regency. The results of this study, the educational dimension is an essential factor that must be a concern in improving HDI. The education dimension is also part of the SDGs that the government strives to continue to implement in order to create human resources that have an environmental orientation.

## 1. Introduction

Economic development from a broad perspective is seen as a multidimensional process that includes various fundamental changes to the social structure, society's attitudes, and national institutions, and continuing to pursue the acceleration of economic growth, reducing income distribution inequality, and alleviating poverty [1]. One of the indicators of development progress is economic growth. This indicator measures a country's ability to develop.

Human development is defined as expanding more choices to the population through empowerment efforts that prioritize improving basic human capabilities to participate in all areas of development two fully. In principle, the primary purpose of this development is to increase the choice of the population where these options are not limited and can change at any time so that the population can get greater access to knowledge and education, better nutrition and health services, safe livelihoods, etcetera. The elements of human development expressly underline the goals to be achieved, namely healthy and long-



lived, educated and able to enjoy life decently [2]. This means that human development aims to improve the welfare of society related to the quality of people and society. Therefore, humans are central to the development process [3].

One of the benchmarks for increasing public welfare is the *Human Development Index* (HDI) increase. HDI is an important indicator to measure success in efforts to build the quality of life of humans (society/population). HDI can determine the ranking or level of development of a region/country. For Indonesia, HDI is a strategic data because apart from being a measure of government performance, HDI is also used as one of the allocators for determining the General Allocation Fund (DAU) [4]. A high HDI indicates high public welfare as well and can be interpreted as his government's success in developing and improving community welfare. HDI explains how residents can access development outcomes in income, health, education, etcetera. The United Nations Development Programme (UNDP) introduced the HDI in 1990, and it is published regularly in the annual Human Development Report (HDR). HDI is formed by three primary dimensions: longevity and healthy life, knowledge, and a decent standard of living. HDI is an important indicator to measure success in efforts to build the quality of life of humans (society/population). Therefore, HDI can determine a region or country's ranking or level of development.

The current development paradigm is economic growth as measured by human development, seen by the level of quality of human life in each country. One of the benchmarks used in looking at the quality of human life is the Human Development Index (HDI) which is measured through the quality of education, health, and economic levels (purchasing power). Through the improvement of these three indicators, it is hoped that there will be an improvement in the quality of human life. This is because the heterogeneity of individuals, geographical disparities, and diverse social conditions of society cause the income level to no longer be the leading benchmark in calculating the success rate of development [5].

Placing human development as the ultimate goal of the development process is expected to create opportunities that directly contribute to efforts to expand and improve human capabilities and their quality of life, among others, through the improvement of health services, primary education, and social security [6]. As the development implementer, the government needs qualified human beings as the primary capital for development [7].

Humans, in their role, are subjects and objects of development, which means that humans, in addition to being development actors, are also development targets [8]. In this case, various facilities and infrastructure are needed to encourage the role of humans in development. Therefore, investment is needed to create productive human resources [9]. Government spending can be used as a reflection of policies taken by the government in an area. Government spending is used to finance critical public sectors, including investment in the education and health sectors, which are expected to improve human resources quality [4].

One form of successful development can be seen in an area's level of human development. Therefore, the government's seriousness is needed in dealing with the problem of improving human development [10]. One of the proofs of the seriousness of the government is through government spending, which is a reflection of concrete evidence of the government's role in regulating the economy. The government spending sector that is quite important and affects human development is expenditure on education and health [11].

Previously study showed that education factors, especially the average indicator of school length, were the dominant factor for determining strategies for increasing HDI in an area [12] and in the province of South Kalimantan, which is the location and focus of research, it showed that this indicator is an indicator that is still not of concern to local governments and so it should be sought that prioritizes increasing education sector [13]. HDI has a strong correlation with the environmental conditions of an area, where the higher the HDI indicator will show, the more advanced the area and the macro-environmental conditions will be better, and the higher the HDI, the average greenhouse emissions per capita will be more significant [14].

SWOT analysis is a straightforward tool that can help build and develop a strategy to achieve much better results[15,16]. SWOT is a term and abbreviation for Strength, Weakness, Opportunities, and Threats. SWOT is used as a benchmark for business people to look at the plan carefully, whether the plan can have a good impact in the short or long term. In simple terms, SWOT analysis means approaching several factors related to Strengths, Weaknesses, Opportunities, and Threats. If interpreted in more detail, SWOT analysis is a technique carried out for planning a strategy that can be used to evaluate [17,18]. In

order to determine strategies that can improve the Human Development Index in Banjar Regency, the SWOT matrix is used as a strategy determination analysis tool.

## 2. Methods

This research was conducted in the province of South Kalimantan, starting from June 2021 – July 20, for one year. This research is descriptive quality research described in the form of S-O (Strength-Opportunity), W-O (weakness – Opportunity), S-T (Strength-Threats), and W-T (Weakness- Threats) strategies. The data used are primary data derived from the respondents' interviews that can represent concluding.

### 2.1 Qualitative Design

The design in this study is qualitative research with a descriptive approach because the data obtained qualitatively by the researcher is intended as secondary data that strengthens the findings of the quantitative data results so that what is obtained from quantitative research is strengthened and deepened by qualification analysis.

### 2.2 Validity of Qualitative Data

The secondary data assessment on a descriptive qualitative approach still pays attention to the technique of data validity through data triangulation, with source triangulation, namely multiplying data from various parties, which are considered able to explain the influence of education indicators as leverage for increasing the human development index (HDI) of Banjar Regency.

The qualitative analysis used in this study using the opinions of [10] suggests that analysis data (*data analysis*) consists of three interrelated sub-processes. Data reduction, data presentation, and conclusion/verification. Our Qualitative Instrumental Grid is shown in table 1.

**Table 1.** Research indicators and sub-indicators

Indicators	Sub Indicators
Factors Affecting HDI	a. Old School Expectations b. Expenditure Figures
HDI Improvement Strategy	a. Equitable Distribution of Education b. Quality and Competitiveness Improvement c. Strengthening Governance

The results of the qualitative analysis will then be plotted in the SWOT Analysis Matrix, which aims to formulate the results of the study by considering the Strengths, Weaknesses, Opportunities, and Threats presented in the form of a matrix (S-O, S-T, W-O, W-T *strategy*) which will then be used as a policy recommendation. The overview of the SWOT matrix is illustrated in table 2.

**Table 2.** SWOT Matrix Components

	Strength – S Strength	Weakness – W Debilitation
Opportunity – O Chance	<b>S-O Strategy</b> Using power to seize opportunities	<b>W-O Strategy</b> Overcoming weaknesses by seizing opportunities
Threat – T Threat	<b>S-T Strategy</b> Use force to avoid threats	<b>W-T Strategy</b> Minimize weaknesses and avoid threats

## 3. Results and Discussion

The average length of schooling (RLS) in Banjar Regency is still increasing; it is suspected that the most influential on RLS are Islamic Boarding Schools, while many Islamic boarding schools have been open to policies on education equity from 38 numbers. There are 26 Islamic boarding schools in Banjar

Regency that provide equal education, the rest are still in the process of being submitted, and others still need socialization.

From 2012 to 2022, the number of participants for equality education recorded by the Ministry of Religion of Banjar Regency was 18,210. There are around 7,438 students at the Ula, Wustha, and Ulya levels. Divided into 915 educational activities at the Ula level, 4,549 students at the Wustha level, and 1974 students and students at the Ulya level.

The percentage of students who take equivalence education is still not optimal when compared to the number of students, as many as 18,210 students compared to the number of equivalence students of 7,438 students, which is about 41% of students who have attended equality education. School Operational Fund Assistance (BOS) is often delayed, so it is feared that it will disrupt the fun of the learning process inequality education in Islamic boarding schools.

The School Operational Funds (BOS) received by Salafiyah Boarding Schools in remote areas, such as the Rantau Balai Kecamatan Aranio, have not been sufficient for the operational activities of the cottage, let alone coupled with the school's equity program activities. There has been continuous socialization and education from the Education Office through PKBM education and equality education conducted by the Ministry of Religion and socialization carried out by the "Pondok" so that people are aware of the importance of equality education. The SWOT analysis result was:

### 3.1 *Strength*

The resulting strength points are (a) appointment of P3K Teachers and contract workers following the needs of the district, (b) the Banjar School Santri Program gets two diplomas or known as (sajadah), and (c) incentives for equality of education teaching staff, (d) there are already 26 Islamic boarding schools that carry out equality education, (e) equality education is already included in the category of recipients of School Operational Assistance (BOS).

### 3.2 *Weakness*

The resulting weakness points are (a) the geographical condition of the Banjar district is extensive so that the distribution of schools is uneven in various sub-districts, *and* (b) there has not been an inclusion of students who go to school in the calculation of PBS, Banjar Regency, (c) There are still some sub-districts that do not have high schools (SMA), (d) Only 7 of the 26 cottages received financial assistance for the payment of teaching staff, (e) there is no regulation on the requirement that a public official must have formal education in Banjar district, (f) teachers who provide equality education are still paid far from what was expected, namely between IDR 200,000 to IDR 300,000 and paid within every six months, (g) teachers in some Salafiyah huts with an equalization system are still not following the field of only cottage graduates and with information that they have studied general lessons only and most of them are equivalent high school graduates.

### 3.3 *Opportunity*

The resulting opportunity points are (a) Pondok is increasingly open to local government policies with the implementation of PBM education and Equality Education, and (b) the number of recipients of school operational assistance (BOS) in equalization schools in Islamic boarding schools is increasing, (c) the number of huts that provide equality education in Banjar Regency will continue to increase, because some cottages still complement the requirements in the Ministry of Religious Affairs of Banjar Regency, (d) the law on Islamic boarding schools paves the way for huts to increase independence as an effort to take part not only in the field of religion but also in other public fields, (e) the cooperation between the local government and the community through religious leaders has been well established, (f) adding and providing unique locations for equalization schools in every sub-district that is prone to dropping out of school, for example, sub-districts that have been isolated.

### 3.4 *Threats*

The resulting threats points are (a) delays in the distribution of school operational assistance and incentives in Islamic boarding schools are often felt by cottage managers in implementing equality education, and (b) perceptions of the school community of equality change the educational traditions of Islamic boarding school, (c) people still feel that general education and equality are less critical than religious education in the cottage, (d) there are already 26 cottages that carry out equalization education,

but about only seven cottages have received the assistance of equalization teachers, (e) some Islamic boarding schools still rely on independent funding in implementing equality education, (f) there are still regions that until now have difficulty using the internet network, making it difficult to take the national equalization examination system online. Based on the results of the SWOT analysis above, a strategy can be formulated using a SWOT matrix, a combination of all components in the analysis shown in table 3.

**Table 3.** Strategy analysis results

	<i>Strength – S</i>		<i>Weakness – W</i>
<b>Opportunity – O</b>	<b>S-O Strategy</b>		<b>W-O Strategy</b>
	1. Increased education budget for incentives for equality education teaching staff.	1.	Policy/rulemaking on the conversion of subjects from trainees to formal schools.
	2. Increased School Operational Fund (BOS) Assistance	2.	Data collection of the latest educational status of Islamic boarding school students
	3. Determination of 12-Year Compulsory Education Program		
<b>Threat – T</b>	<b>S-T Strategy</b>		<b>W-T Strategy</b>
	4. Integrated policymaking between the Education Office and the Ministry of Religious Affairs.	3.	Implementation of equalization activities that can be carried out with an online system.
		4.	Increased assistance for transitional scholarships between school levels, especially to underprivileged students

#### 4. Conclusion

This research is a qualitative descriptive study that is described in the form of S-O (Strength-Opportunity), W-O (Weakness – Opportunity), S-T (Strength- Threatens), and W-T (Weakness-Threatens) strategies. Various obstacles and disturbances can be overcome by researchers with the help of various parties so that the implementation of the research cycle can run smoothly. The results of the study carried out resulted in several conclusions, including the following : (1) The opportunity to increase HDI through efforts to increase the average length of schooling in Banjar Regency is still huge, considering the synergy of programs carried out by the Education Office and the Ministry of Religion in the commission to improve education with various policies including the implementation of PKBM and Equality Education in Islamic Boarding Schools; (2) In order to increase the HDI of Banjar district through the education dimension, especially the average length of schooling indicator, the recommendations that can be given are (1) Increased education budget for incentives for equality education teaching staff and School Operational Fund (BOS) Assistance; (2) Determination of 12-Year Compulsory Education Regulation; (3) Policy/rulemaking on the conversion of subjects from boarding schools to formal schools by Designing a policy for converting subjects from entrepreneurs to formal schools; (4) Data collection of the latest educational status of Islamic boarding school students with digital data collection; (5) The integrated policy between the Education Office and the Ministry of Religious Affairs; (6) Implementation of equalization activities that can be carried out with an online system by Making guidelines for the implementation of online equalization activities; and (7) Increased assistance for transitional scholarships between school levels, especially to underprivileged students by Submission of a proposal to increase the education budget in the Regional Budget of Banjar Regency for transition between school levels and underprivileged students.

This study's limitation was using qualitative data, which is sourced from the results of observations and interviews, so that further research can be carried out using a mixed method that combines quantitative data and qualitative data.

## References

- [1] Todaro M P and Smith S C 2006 *Pembangunan Ekonomi* (Jakarta: Penerbit Erlangga)
- [2] Haq M 1995 *Reflections on Human Development: How the Focus of Development Economics Shifted from National Income Accounting to People-centred Policies, Told by One of the Chief Architects of the New Paradigm* (Oxford University Press)
- [3] UNDP 2000 *Human Development Report 2000* (New York)
- [4] Alam H V, Baruwadi M H, Mopangga H, Tantawi R and Yulia Akib F H 2021 Human Capital Quality Development Strategy in Efforts To Improve Economic Growth in Boalemo District, Gorontalo Province . *Ilkogor. Online* **20** 296–312
- [5] McGillivray Mark and White Howard 1993 Measuring Development? The UNDP 's Human Development Index *J. Int. Dev.* **5** 183–92
- [6] Rescue G 2021 Wealth-adjusted Human Development Index *J. Clean. Prod.* **318** 128587
- [7] Türk U, Östh J, Toger M and Kourtit K 2021 Using individualised HDI measures for predicting educational performance of young students—A Swedish case study *Sustain.* **13** 1–13
- [8] Khan N H, Ju Y and Hassan S T 2019 Investigating the determinants of human development index in Pakistan: an empirical analysis *Environ. Sci. Pollut. Res.* **26** 19294–304
- [9] Indri Arrafi Juliannisa and Siswantini T 2019 Improving Human Development Index (HDI) by Illiteracy Eradication (Case Study in Cibadak Village) *J. Samudra Ekon. dan Bisnis* **11** 29–42
- [10] Alam H V and Baruwadi M H 2020 The Role of Local Governments in Increasing the Human Development Index as a Barometer in Achieving SDGs in Boalemo District *Conf. Ser.* 817–25
- [11] Desmaryani S 2021 Strategy To Improve Human Development Index In Education Author *Multidisciplinary Multidimensional J.* **1**
- [12] Baqtiar Arifin and Ahmadi Murjani 2017 The Impact Of Local Government Spending On Education, Health, And Poverty On The Human Development Index (Study On The Regencies/Cities In South Kalimantan) *J. Transform. Adm.* **7** 1352–68
- [13] Listiyani N, Zulfikar R, Jaelani A and Susanto D The Years Of Schooling Contribution As Factors That Most Considered In Increasing Human Development Index 1599–606
- [14] Ramani A 2014 Hubungan Indeks Pembangunan Manusia dengan Indikator Penyakit, Lingkungan dan Gizi Masyarakat *Ikesma* **10** 13–21
- [15] Benzaghta M A, Elwalda A, Mousa M, Erkan I and Rahman M 2021 SWOT analysis applications: An integrative literature review *J. Glob. Bus. Insights* **6** 55–73
- [16] Delu N, Weibin W, Xiyong H, Zhiyuan F and Ting M 2019 Development status and SWOT analysis of tree nuts industry in Yunnan province . 650201
- [17] Quezada L E, Reinao E A, Palominos P I and Oddershede A M 2019 Measuring performance using SWOT analysis and balanced scorecard *Procedia Manuf.* **39** 786–93
- [18] Bordoloi R 2021 Contribution Of Kkhsou To Human Resource Development : A Swot Analysis *Online J. Sci. Technol.* **11** 95–108