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NEWS, NOTES, & EVENTS

Think Globally, Act Locally – publishing amidst global summits

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We are very pleased to present InJAST Volume 2 Number 2 October 2021 at this exciting time for national and global focus on applied environmental studies. This latest edition contains reviews and research articles such as "Traditional knowledge of biodiversity in the community surrounding Giam Siak Kecil-Bukit Batu Biosphere Reserve, Riau, Indonesia" and "Overview and evaluation of Indonesia's water resources management policies for food security". In addition, our guest editorial explores the topic of "Government, private, and local communities in ecosystem restoration governance and practices". This editorial reminds us all that we are now in the first year of the UN Decade on Ecosystem Restoration (2021-2030), which challenges everyone to massively scale up restoration efforts focussed on our degraded ecosystems.

Environmental studies have never been of such importance nor received as much attention as they are at this time. This fourth issue of our journal is published in the midst of two major global environmental agendas, with both significantly affected by the on-going global ovid-19 pandemic. The biggest biodiversity conference in a decade, the UN Biodiversity Conference of the Parties (CBD COP15), was originally scheduled to take place on 15-28 October 2020, in Kunming, China. After several postponements, it is now taking place in two parts. The first part was the High-Level Summit, in virtual format, on 11-15 October 2021. The second part will be a face-to-face meeting in Kunming, China, on 25 April-8 May 2022. Inger Andersen, Under-Secretary-General of the United Nations and Executive Director of the UN Environment Programme, said in her speech on 12 October that :

COP15 is our chance to shift our course. Together with COP26 on climate, it is our chance to agree on the pathway to the world we want. Because in delivering on biodiversity, we deliver on climate, on pollution, on the UN Decade of Ecosystem Restoration, and on the food and energy system transformation. So, let us ensure that this COP will be remembered as the moment we finally set our societies and economies on the path to rebuilding the biodiversity upon which we all rely.

The first part of CBD CoP15 closed with the adoption of the Kunming Declaration, where all parties committed to develop, adopt, and implement an effective post-2020 global biodiversity framework that would biodiversity put on a path to recovery by 2030 at the latest, towards the full realization of the 2050 Vision of "Living in Harmony with Nature."

Following this successful part one of CBD CoP15, the 26th UN Climate Change Conference of the Parties (COP26) was held in Glasgow, UK, on 31 October – 12 November 2021, bringing 192 parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change, specifically to

1. Secure global net zero by mid-century and keep 1.5oC within reach.
2. Adapt to protect communities and natural habitats.
3. Mobilise finance.
4. Work together to deliver.

Unlike CoP15, this was a summit and so all Heads of State were expected to attend. The debate rages as to whether they have succeeded in pushing forward the operationalisation of the Paris Agreement in any really effective way. We know that if they have not, our children and grandchildren across the globe will hold us all to account for failing them.

Indonesia ratified the Paris Agreement through the Law No. 16/2016 concerning the Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change and has established a Road Map for Climate Change Adaptation until 2030, which is outlined in Indonesia's Updated NDC (Nationally Determined Contribution). Indonesia has a high commitment to climate change adaptation., and on day 1 of CoP26 itself, Indonesian President Joko Widodo signed a declaration with more than 100 other countries leaders committing to work "collectively to halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation". Furthermore, to phase out its coal-fired power plants by the 2040s, as part of another pledge signed at COP26 by 23 countries, Indonesia plans to start with decommissioning a quarter of its coal capacity by 2030, much more ambitious than its initial plan to decommission 1.1 GW of coal power by 2030. Indonesia also hopes that the outcome of COP26 has included a strong agreement between countries on the Global Goal on Adaptation (GGA), as a pivotal component of the Paris Agreement enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change by increasing the quantity, quality, and predictability of funding for adaptation. This includes increasing the accessibility of funding for local action. As a large developing country, with the fourth largest population in the world, of course Indonesia requires large resources. Several things related to policies, programmes, guidelines, tools, and actions in

terms of climate change adaptation have been prepared to show that Indonesia leads by example. In this regard, Indonesia has launched an initiative called the "Indonesia FoLU Net-sink 2030", an implementation, mitigation, and climate adaptation agenda designed to relate to forests and land, including forestry activities and community participation in customary forests and mangroves. In accordance with the Long-Term Strategy for Low Carbon and Climate Resilience (LTS-LCCR) 2050, Indonesia will increase its ambition on GHG reduction, with plans to peak GHG emissions, with a net sink in the FoLU sector by 2030. The FoLU sector is one of the largest emitters in Indonesia, along with energy, waste, industry, and agriculture. CoP26 saw strenuous debate and negotiation around the necessary means of implementation of key actions to operationalise the Paris Agreement. We will see similar efforts associated with CBD CoP15's landmark post 2020 global biodiversity framework, which is due to be adopted at part two of CBD CoP15 in May 2022, following further formal negotiations in January 2022. Means of implementation in line with the CBD and its two protocols, as well as appropriate mechanisms for monitoring, reporting and review, may well see as many debates and challenges as we have just seen in Glasgow, even though the Kunming Declaration gives clear political direction for those negotiations for a successful post-2020 framework: the mainstreaming of biodiversity across all decision-making; phasing out and redirection of harmful subsidies; strengthen the rule of law; recognizing the full and effective participation of indigenous peoples and local communities and ensuring an effective mechanism to monitor and review progress, among others.

For Indonesia, the post 2020 global biodiversity framework will become the standard of survival, to strengthen and augment the frameworks and agreements to counter climate change. As home to more than more than 300,000 wildlife species or 17% of the world's wildlife in 19 types of ecosystems with 74 habitat types, including the third largest tropical rainforest in the world (94.1 million hectares), and the world's largest tropical peatlands (14.9 million hectares) and mangrove forests (3.31 million hectares), Indonesia strongly supports the negotiations on the biodiversity framework. Indonesia already pursues three pillars in accordance with the objectives of the CBD, namely conservation, sustainable use, and access, as well as fair and balanced distribution of genetic resources.

We reflect further of course that we are all, both personally and societally, in a hugely different place from where we were at the start of 2020. The Covid pandemic, so obviously a global tragedy, has changed many people's behavioural patterns and our subsequent impact of nature and the environment. It has in so many ways heightened people's awareness and understanding of nature and environmental issues, and the relationships between unsustainable production and consumption and the nature and climate change crises. A plethora of new research is emerging on these interdisciplinary questions, and we look forward to submissions tackling these questions in future editions of InJAST.

Finally, as Editors-in-Chief, we have been working hard to improve and expand our peer review community, as well as the processes of online submission, reviewing and publishing. We are delighted to be presenting Volume 2 No 2 of InJAST and we encourage our colleagues from all sectors to submit their papers for the next issue. In particular, we remind potential authors that we accept a range of article types and encourage you to contact us to discuss ideas for special issues.

InJAST's website and online submission portal is:
https://journal.unpak.ac.id/index.php/InJAST/index

Submissions can also be directed to the Chief Editors at: **injast@unpak.ac.id**

Comments on InJAST's website, reporting portal issues and other issues, should be addressed to the Editorial Manager at: **editor_injast@unpak.ac.id**

NOTES

Pandemic meets pollution: Poor air quality increases deaths by COVID-19

We study the impact of short-term exposure to ambient air pollution on the spread and severity of COVID-19 in Germany. We combine data at the county-by-day level on confirmed cases and deaths with information on local air quality and weather conditions. Following Deryugina et al. (2019), we instrument short-term variation in local concentrations of particulate matter (PM10) by region-specific daily variation in wind directions. We find significant positive effects of PM10 concentration on death numbers from four days before to ten days after the onset of symptoms. Specifically, for elderly patients (80+ years) an increase in ambient PM10 concentration by one standard deviation between two and four days after developing symptoms increases the number of deaths by 19 percent of a standard deviation. In addition, higher levels air pollution raise the number of confirmed cases of COVID-19 for all age groups. The timing of effects surrounding the onset of illness suggests that air

pollution affects the severity of already-realized infections. We discuss the implications of our results for immediate policy levers to reduce the exposure and level of ambient air pollution, as well as for cost-benefit considerations of policies aiming at sustainable longer-term reductions of pollution levels.

Isphording & Pestel (2021). Pandemic meets pollution: Poor air quality increases deaths by COVID-19. *Journal of Environmental Economics and Management* 108:102448.

Palm oil and the politics of deforestation in Indonesia

This paper studies the interactions between political and economic incentives to foster forest conversion in Indonesian districts. Using a district–level panel data set from 2001 to 2016, we analyze variation in remotely sensed forest losses as well as measures of land-use licensing. We link these outcomes to political incentives arising before idiosyncratically–timed local mayoral elections as well as to price exposure measures based on oil palm soil suitability combined with global price variations for palm oil. Empirical results document increases of about 4% in deforestation in the year prior to local mayoral elections on average. Additionally, palm oil plays a crucial role in driving deforestation dynamics. Deforestation rates increase by 7% in places that experience a one standard deviation increase in local price exposure, but no upcoming elections. These effects are amplified to almost 19% larger forest losses in places that experience pre-election years and a standard deviation higher palm oil price exposure at the same time. We thus find clear evidence for economic and political incentives reinforcing each other as drivers of forest loss and land conversion for oil palm cultivation.

Cisneros, Kis-Katos & Nuryartono (2021). Palm oil and the politics of deforestation in Indonesia. *Journal of Environmental Economics & Management* 108:102453.

Sustainable wastewater management in Indonesia's fish processing industry

The government of Indonesia has pledged to meet ambitious greenhouse gas mitigation goals in its Nationally Determined Contribution as well as reduce water pollution through its water management policies. A set of technologies could conceivably help achieving these goals simultaneously. However, the installation and widespread application of these technologies will require knowledge on how governance affects the implementation of existing policies as well as cooperation across sectors, administrative levels, and stakeholders. This paper integrates key governance variables--involving enforcement capacity, institutional coordination and multi-actor networks--into an analysis of the potential impacts on greenhouse gases and chemical oxygen demand in seven wastewater treatment scenarios for the fish processing industry in Indonesia. The analysis demonstrates that there is an increase of 24% in both CH_4 and CO_2 emissions between 2015 and 2030 in the business-as-usual scenario due to growth in production volumes. Interestingly, in scenarios focusing only on strengthening capacities to enforce national water policies, expected total greenhouse gas emissions are about five times higher than in the business-as-usual in 2030; this is due to growth in CH_4 emissions during the handling and landfilling of sludge, as well as in CO_2 generated from the electricity required for wastewater treatment. In the scenarios where there is significant cooperation across sectors, administrative levels, and stakeholders to integrate climate and water goals, both estimated chemical oxygen demand and CH_4 emissions are considerably lower than in the business-as-usual and the national water policy scenarios.

Gomez-Sanabria et al. (2020). Sustainable wastewater management in Indonesia's fish processing industry: Bringing governance into scenario analysis. *Journal of Environmental Management* 275:111241.

Challenges of soil erosion and sludge management for sustainable development

Most developing countries, particularly Indonesia, will be facing problems of sludge pressure in the next decades due to the increase in practices of legal and illegal logging as well as land and water demands. Consequently, they will also be facing the challenges of soil erosion and sludge management due to increased quantities of sludge coming from several potential sources, such as activated sludge, chemical sludge, fecal sludge and solid wastes as well as erosion and sedimentation. Although the government of Indonesia has enacted laws and policies to speed up the implementation of the programs and activities related to sludge management, the detailed practice concepts in implementing the programs need to be identified. Discussion of role-sharing amongst the related government agencies, private institutions and other stakeholders is urgent for clarifying the participation of each party in the next years to come. This paper proposes a management approach and level of responsibilities in sludge management. Implementation of zero ΔQ, zero ΔS and zero ΔP policies needs to be adopted by local and central governments. Application of sludge on the agricultural lands and other uses will promote sustainable development.

Fulazzaky & Gany (2009). Challenges of soil erosion and sludge management for sustainable development in Indonesia. *Journal of Environmental Management* 90 (8):2387-2392.

Enhancing voluntary participation in community collaborative forest management

This paper examines voluntary participation in community forest management, and characterizes how more participation may be induced. We implemented a survey of 571 respondents and conducted a case study in Central Java, Indonesia. The study's novelty lies in categorizing the degrees of participation into three levels and in identifying how socio-economic factors affect people's participation at each level. The analysis finds that voluntary participation responds to key determinants, such as education and income, in a different direction, depending on each of the three levels. However, the publicly organized programs, such as information provision of benefit sharing, are effective, irrespective of the levels of participation. Overall, the results suggest a possibility of further success and corrective measures to enhance the participation in community forest management.

Lestari, Kotani & Kakinaka (2015). Enhancing voluntary participation in community collaborative forest management: A case of Central Java, Indonesia. *Journal of Environmental Management* 150:299-309.

Multiple Carrying Capacities from a management-oriented perspective

This article describes how the concept of Tourism Carrying Capacity (*TCC*) has shifted from a uni-dimensional approach to incorporating environmental, social and political aspects. This shift is demonstrated by a study of a large, internationally popular protected area used by trekkers, the Mt. Everest Region, where qualitative data collected from visitors was combined with environmental modeling using a participatory framework. Tourist satisfaction showed positive margins for further tourist industry expansion, but current environmental conditions limit growth and further development. Space and time dimensions were also considered. We observed that the limits on growth and further development can be manipulated, with a certain degree of flexibility, through investments and regulatory measures. We hypothesized that *TCC* can play an important role in the management of protected areas only if it is viewed as a systematic, strategic policy tool within a planning process rather than as a unique, intrinsic number that is not modifiable. We conclude that to translate the strategy into action using standard measures, further investigation is needed to balance the various TCC components as a part of a decision-making framework that includes the integration of different cultural approaches and policy needs.

Salerno et al. (2013). Multiple Carrying Capacities from a management-oriented perspective to operationalize sustainable tourism in protected areas. *Journal of Environmental Management* 128:116-125.

Are corporate environmental activities to meet SDGs simply greenwashing?

The purpose of this study is to address the criticism that corporate environmental activities to meet the UN sustainable development goals (SDGs) are simply greenwashing. To this end, we clarify whether and why corporate environmental activities are effective in achieving SDGs from the stakeholder management perspective. Using data on Vietnamese companies, we first empirically clarify the influence of stakeholder pressure on a company's environmental management control system (EMCS) implementation as a comprehensive approach to environmental activities and maintaining a proactive attitude toward the SDGs. Second, we examine the influence of EMCS implementation on environmental performance with or without proactive attitudes. The main findings are as follows. Companies implementing EMCSs normally improve their environmental performance, and pressure from final consumers and the government is a precondition for this accomplishment. However, if these companies incorporate the SDGs into their business targets, they can actually improve their environmental performance somewhat further, and government pressure plays an important role in this additional accomplishment. Therefore, corporate environmental activities to meet the SDGs work better than existing activities in Vietnam, refuting the criticism of greenwashing. Importantly, the Vietnamese government as a powerful stakeholder has proactively promoted domestic structural change to achieve the SDGs and has enacted many policies to encourage companies to be proactive in their environmental activities.

Nishitani et al. (2021). Are corporate environmental activities to meet sustainable development goals (SDGs) simply greenwashing? An empirical study of environmental management control systems in Vietnamese companies from the stakeholder management perspective. *Journal of Environmental Management* 296:113364.

Estimating the impacts of financing support policies

This study develops a hybrid energy agent-based model that integrates the input–output analysis, environmental factors and socioeconomic characteristics of rural and urban households in Indonesia. We use the model to estimate the effects of four solar energy policy interventions on photovoltaic (PV) investments, government expenditure, economic outputs, CO2e emissions and the uses of steel, aluminium, concrete and energy. The results of our analysis call for the abolition

of the PV donor gift policy, the improvement of production efficiency in the PV industry and the establishment of after-sales services and rural financing institutions. A 100 W peak (Wp) PV under this recommendation would be affordable for 80.6% of rural households that are projected to be without access to electricity in 2029. Net metering is the most effective policy for encouraging urban people to invest in PV in a situation where fossil energy prices are increasing and PV prices are declining. A donor gift policy may induce USD 51.9 new economic outputs for every Wp of PV operating to capacity in 2029, but would require a subsidy of USD 18.6/Wp. The recommended policies do not require subsidies and reduce CO_{2eq} emissions and the consumption of aluminium, energy, steel and concrete by between 83.1% and 89.7% more than the existing policy. Several policy implications are discussed in response to these findings. As a contribution to energy modelling literature, the model can be used for other developing countries by merely changing its data.

Irsyad &Nepal (2019). Estimating the impacts of financing support policies towards photovoltaic market in Indonesia: A social-energy-economy-environment model simulation. *Journal of Environmental Management* 230:464-473.

Effectiveness of community-based mangrove management

Community-Based Mangrove Management (CBMM) is implemented with different approaches and outcomes. This study examined the effectiveness of various CBMM practices to achieve sustainable management of mangrove resources. We analyzed local mangrove resource management strategies in four coastal villages (e.g. Sriwulan, Bedono, Timbulsloko, and Surodadi) on Central Java, Indonesia. Local data on institutions, socio-economic conditions and mangrove resources utilization was collected through participatory resource mapping and interviews with 16 key actors and 500 households. The main differences in CBMM-practices that affect the outcomes in each village were the type of community participation, the level of organizational and economic assistance from external institutions, the magnitude of the rehabilitation project, the time selected for rehabilitation and the maintenance strategies applied in each village. Surodadi achieved most in terms of both efficient resource utilization and local livelihood improvement. Bedono's management strategy was most effective in extending and maintaining the rehabilitated mangrove areas but less in terms of livelihood support while the strategy applied in Timbulsloko resulted in higher resource utilization compared to Surodadi. Sriwulan failed on most criteria. This study suggests that combining the management strategies practiced in Bedono and Surodadi and adding external scientific and technological assistance, income diversification, institutional reinforcement and continuous monitoring of the functioning of local institutions can improve the CBMM performance to sustainably manage mangrove resources and improve livelihoods.

Damastuti & de Groot (2017). Effectiveness of community-based mangrove management for sustainable resource use and livelihood support: A case study of four villages in Central Java, Indonesia. *Journal of Environmental Management* 203(1):510-521.

Sustainable irrigation in Indonesia

This study employs Ostrom's Design Principles to examine the robustness of institutional arrangements employed by water user associations to manage access to water resources in Southeast Sulawesi Province, Indonesia. The outcome is a set of eight propositions which, if implemented, can be predicted to significantly improve water use in Indonesia. Emphasis is placed on the development of institutional arrangements that encourage and empower local action within an agreed system-wide framework so that communities can prosper as pressures and demands for water access increase—a requirement generally applicable to situations found in many other countries.

Ma'mun, Loch & Young (2021). Sustainable irrigation in Indonesia: A case study of Southeast Sulawesi Province. *Land Use Policy* 111:105707.

EVENTS

UN Climate Change Conference 2021/COP26: UK in partnership with Italy - Glasgow 31 Oct-12 Nov 2021

The COP26 summit will bring parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. What do we need to achieve at COP26?

Secure global net zero by mid century and keep 1.5 degrees within reach. Countries are being asked to come forward with ambitious 2030 emissions reductions targets (NDCs) that align with reaching net zero by the middle of the century. To deliver on these stretching targets, countries will need to accelerate the phaseout of coal, encourage investment in renewables, curtail deforestation and speed up the switch to electric vehicles.

Adapt to protect communities and natural habitats. The climate is already changing and it will continue to change even as we reduce emissions, with devastating effects. At COP26 we need to work together to enable and encourage countries affected by climate change to protect and restore ecosystems, build defences, put warning systems in place and make infrastructure and agriculture more

resilient to avoid loss of homes, livelihoods and lives.
Mobilise finance. To realise our first two goals, developed countries must deliver on their promise to raise at least $100bn in climate finance per year. International financial institutions must play their part and we need to work towards unleashing the trillions in private and public sector finance required to secure global net zero.
Work together to deliver. We can only rise to the challenges of climate change by working together. At COP26 we must finalise the Paris Rulebook (the rules needed to implement the Paris Agreement). And, we have to turn our ambitions into action by accelerating collaboration between governments, businesses and civil society to deliver on our climate goals faster.
https://ukcop26.org/

Convention on Biological Diversity – UN Biodiversity Conference (COP15) - 11 - 15 October 2021; Online | 25 April - 8 May 2022; In-person, Kunming, China

Despite on-going efforts, biodiversity is deteriorating worldwide and this decline is projected to worsen with business-as-usual scenarios. The UN Biodiversity Conference will convene governments from around the world to agree to a new set of goals for nature over the next decade through the Convention on Biological Diversity post-2020 framework process. The framework sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled.
The Conference will also look at the implementation of the protocols of the Convention on Biological Diversity that deal with the fair and equitable sharing of benefits from the use of nature, and the safe transport, handling and labelling of Living Modified Organisms.
The first part of COP-15 will include the opening of the Meetings and will address agenda items that have been identified as essential for the continuation of the operations of the Convention and the Protocols by the Bureau. This will include meetings about administrative matters and technical issues related to CBD programmes.
There will also be a high-level segment on 12 and13 October 2021. Participants are expected to focus on the development of the post-2020 global biodiversity framework.
All sessions at COP15 will be streamed live at cbd.int/live.
https://www.unep.org/events/conference/un-biodiversity-conference-cop-15

7th International Conference on Environmental Pollution, Treatment and Protection (ICEPTP'22): April 10, 2022 - April 12, 2022 | Lisbon, Portugal

The Conference Proceedings will be published with an ISSN and ISBN, indexed in Scopus and Google Scholar, and archived permanently in Portico. The conference aims to become the leading annual conference in fields related to environmental pollution, treatment and protection. The goal of this environment conference 2022 is to gather scholars from all over the world to present advances in the relevant fields and to foster an environment conducive to exchanging ideas and information. This conference will also provide an ideal environment to develop new collaborations and meet experts on the fundamentals, applications, and products of the mentioned fields.
https://iceptp.com/

ICENS 2022: International Conference on Environment and Natural Science: January 07-08, 2022 in Singapore, Singapore

The International Research Conference is a federated organization dedicated to bringing together a significant number of diverse scholarly events for presentation within the conference program. Events will run over a span of time during the conference depending on the number and length of the presentations. With its high quality, it provides an exceptional value for students, academics and industry researchers.
International Conference on Environment and Natural Science aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Environment and Natural Science. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Environment and Natural Science.
https://waset.org/environment-and-natural-science-conference-in-january-2022-in-singapore