

Keywords for this news article include: Tamil Nadu, India, Asia, Sustainability Research, Bannari Amman Institute of Technology.

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Sustainability Research

Researchers at University of Jaen Target Sustainability Research (Lightweight Artificial Aggregates From Ornamental Rock Cutting Sludge and Aggregate Washing Sludge: Raw Material for Sustainable Construction and Agriculture)

2025 NOV 19 (NewsRx) – By a News Reporter-Staff News Editor at Economics Daily Report – Current study results on Sustainability Research have been published. According to news reporting originating in Jaen, Spain, by NewsRx journalists, research stated, “Lightweight aggregates (LWAs) were produced exclusively from waste-derived raw materials: aggregate washing sludge, granite cutting sludge, slate cutting sludge and cork dust. The composition and number of mixtures were designed following a protocol based on Mixture Experiments-Design of Experiments (M E-DOE).”

Funders for this research include Avanzando hacia la neutralidad climática, Andalusian Regional Government, Incentives for Excellence Research Projects, R + D + I Andalusian Plan.

The news reporters obtained a quote from the research from the University of Jaen, “The produced materials were technologically characterized by determining the bloating index (BI), oven-dry density (ρ_{rd}), water absorption (WA(24)), strength (S), and additional parameters such as porosity and open porosity volume per specimen. Statistical models developed for BI, ρ_{rd} , WA(24) and S provided a more accurate understanding of the behavior of the mixture components and their synergistic effects, using response surface and effect plots. A cork dust content of approximately 1.5 % was established as the optimal value for maximizing BI and WA(24), while minimizing ρ_{rd} . The resulting models are statistically significant (p-value <0.05) and showed high coefficients of determination (R²: 0.80-0.94), suggesting a strong correlation with the experimental data. Moreover, predictive models were developed for the operational variables temperature (T) and optimum water content for extrusion (W_{op}) as a function of the mixture composition, supporting process manufacturing.”

According to the news reporters, the research concluded: “Finally, the use of these residues in the production of LWAs has environmental benefits, with GWP reductions of between 13 and 36 % for SCS and 56-78 % for GCS compared to expanded clay lightweight aggregates, resulting in products with a lower environmental footprint.”

This research has been peer-reviewed.

For more information on this research see: Lightweight Artificial Aggregates From Ornamental Rock Cutting Sludge and Aggregate Washing Sludge: Raw Material for Sustainable Construction and Agriculture. *Environmental Research*, 2025;285. *Environmental Research* can be contacted at: Academic Press Inc Elsevier Science, 525 B St, Ste 1900, San Diego, CA 92101-4495, USA. (Elsevier - www.elsevier.com; Environmental Research - <http://www.journals.elsevier.com/environmental-research/>)

Our news correspondents report that additional information may be obtained by contacting Maria Teresa Cotes-Palomino, University of Jaen, Higher Polytech Sch Linares, Dept Chem Environm & Mat Engr, Jaen 23700, Spain. Additional authors for this research include Alejandro Dubbelman Vizcaino, Ana B. Lopez, Carmen Martinez-Garcia, Ana Cecilia Revelo Rodriguez, Francisco Jose Troyano Perez, Carlos Javier Cobo-Ceacero, Jacinto Alonso-Azcarate, Antonio Conde-Sanchez and Ana M. Martinez-Rodriguez.

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[j.envres.2025.122321](https://doi.org/10.1002/envres.2025.122321). This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Jaen, Spain, Europe, Agriculture, Sustainability Research, University of Jaen.

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Sustainability Research

New Sustainability Research Research from Tanjungpura University Described (Farming Sustainability in Peatlands Following Restoration Programme in West Kalimantan)

2025 NOV 19 (NewsRx) – By a News Reporter-Staff News Editor at Economics Daily Report – New research on sustainability research is the subject of a new report. According to news reporting from Pontianak, Indonesia, by NewsRx journalists, research stated, “The Indonesian government’s peat restoration program, which began in 2016, is alleged to have an impact on the sustainability of peatland farming, because rewetting has the potential to cause waterlogging, limiting the crop commodities that can be cultivated.”

The news editors obtained a quote from the research from Tanjungpura University: “This project will look at the viability of small-scale farming on restored peatlands. To fulfill the study’s objectives, we used a combination of quantitative and qualitative methods. The quantitative technique included an analysis of agricultural income to determine the economic sustainability, whereas the qualitative approach explains social sustainability. The environmental sustainability was assessed using the carbon sequestration acquired after rewetting. The findings revealed that rewetting had little effect on the income from vegetable and fruit crops. The farming income, which remains relatively high, demonstrates that farming’s economic sustainability is viable.”

According to the news editors, the research concluded: “Similarly, the social dimension does not detract from the sustainability aspect, because the rewetting of the land did not significantly alter the social structures and institutions that had been built in the farmer’s community. Meanwhile, from an environmental standpoint, the impact of rewetting is quite favorable, as every 1 cm increase in water table level has the potential to conserve at least 0.71 tons of CO₂ per acre per year, or around IDR 13,888-26,993.”

For more information on this research see: Farming Sustainability in Peatlands Following Restoration Programme in West Kalimantan. *Jurnal Ilmu Pertanian Indonesia*, 2025,31(1). (*Jurnal Ilmu Pertanian Indonesia* - <http://journal.ipb.ac.id/index.php/JIPI/index>). The publisher for *Jurnal Ilmu Pertanian Indonesia* is Bogor Agricultural University.

A free version of this journal article is available at <https://doi.org/10.18343/jipi.31.1.83>.

Our news journalists report that additional information may be obtained by contacting Jajat Sudrajat, Study Program of Agribusiness, Department of Agricultural Socio-Economics, Faculty of Agriculture, Tanjungpura University, Pontianak 78124, Indonesia. Additional authors for this research include Evi Gusmayanti, Rossie Wiedya Nusantara, Siti Sawerah.

Keywords for this news article include: Tanjungpura University, Pontianak, Indonesia, Asia, Sustainability Research.

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