

BAB V

PENUTUP

5.1 Kesimpulan

Dengan semakin bertambahnya jumlah penduduk, berdampak pada semakin besarnya volume sampah yang dihasilkan, dan berpengaruh pada permintaan rumah. Penelitian ini bertujuan untuk mengkaji seberapa besar pengaruh penurunan kualitas lingkungan yang dihasilkan dari TPA Sarimukti-Bandung terhadap harga rumah di sekitar TPA, dengan menggunakan teknik *Ordinary Least Squares* (OLS). Variabel determinatif seperti kualitas lingkungan dilihat dari bau sampah, kualitas udara dan frekuensi peristiwa angin puting beliung yang disebabkan oleh perubahan iklim berkaitan dengan permintaan rumah di kawasan tersebut. Berdasarkan dari hasil uji t (parsial), secara parsial variabel X5 menunjukkan nilai t-stat $10,840 > t$ tabel 1,671, artinya bau sampah berpengaruh secara signifikan terhadap variabel harga rumah (Y). Variabel X6 menunjukkan nilai t-stat $1,840 < t$ tabel - 1,671, artinya kualitas udara berpengaruh secara signifikan terhadap variabel harga rumah (Y). Variabel X7 menunjukkan nilai t-stat $-3,535 < t$ tabel - 1,671, artinya peristiwa angin puting beliung berpengaruh secara signifikan terhadap variabel harga rumah (Y). Sedangkan pada uji f (simultan), menunjukkan variabel jumlah kamar tidur, jumlah kamar mandi, luas bangunan, luas tanah, jarak tempat tinggal dari TPA, PM10, dan peristiwa angin puting beliung signifikan menunjukkan nilai f-stat $53,835 > f$ tabel 3,13, artinya variabel independen yang digunakan dalam penelitian ini secara simultan mempengaruhi variabel harga rumah (Y).

Penurunan kualitas lingkungan yang dihasilkan dari TPA Sarimukti menurunkan harga rumah di sekitar TPA. Temuan ini menunjukkan faktor lingkungan berperan penting dalam menentukan harga rumah, sehingga mempengaruhi keputusan individu dalam memilih tempat tinggal. Rumah yang terletak dengan tingkat kualitas lingkungan rendah kurang diminati karena meningkatkan risiko kesehatan dan mengurangi kualitas hidup, mereka lebih memilih untuk tinggal di lingkungan bersih dan sehat, serta terhindar dari bencana alam. Kecuali mereka tidak memiliki pilihan lain, seperti rumah dekat dengan tempat kerja, aksesibilitas, dan fasilitas yang lebih baik (Azmi et al., 2012), serta tidak semua rumah yang ditempati adalah rumah yang baru dibeli, bisa saja sudah dimiliki sejak lahir atau diwariskan.

Keterbatasan dalam penelitian ini adalah peneliti hanya menggunakan *Ordinary Least Squares* (OLS) tanpa memperhitungkan nilai ekonomi eksternalitas kondisi TPA. Hal ini dikarenakan peneliti ingin membatasi ruang lingkup penelitian agar tidak terlalu luas dan menghemat waktu. Kedua,

peneliti tidak memasukkan variabel peristiwa banjir terhadap harga rumah, variabel ini penting untuk dipertimbangkan dalam penelitian lanjutan.

5.2 Saran

Menurut penelitian Chang et al., (2021), harga rumah di dekat lokasi TPA rata-rata meningkat sebesar 2,2% dalam dua tahun pertama setelah TPA dipulihkan menjadi taman kota atau fasilitas publik lainnya. Penghapusan stigma negatif terhadap keberadaan TPA menjadi faktor utama (fasilitas publik atau fasilitas kota) memiliki fungsi strategis dalam mengubah lingkungan dari tidak *hygiene* menjadi lingkungan *hygiene*, sehingga harga rumah di sekitarnya naik.

1. Merubah perilaku masyarakat saja tidak cukup. Diperlukan modifikasi atau reformasi TPA dengan menggunakan sistem *sanitary landfill/waste management recycling program*. Oleh karena itu, dibutuhkan investasi di bidang teknologi *waste management*.
2. Peristiwa angin puting beliung merupakan kejadian alam yang sulit diprediksi. Meminimalisir risiko dengan memasukkan *risk insurance* ke dalam harga rumah, mengingat sifat angin puting beliung yang tidak dapat diprediksi.
3. Meningkatkan sarana dan prasarana angkutan sampah, karena ketersediaan sarana dan prasarana angkutan sampah yang aktif hanya mampu mengangkut 157,5 ton sampah.

DAFTAR PUSTAKA

- Abhyankar, A. A., Prakash, A., & Singla, H. K. (2023). Impact of solid waste landfill proximity on residential property offer values: A case study of Pune. *International Journal of Housing Markets and Analysis*. <https://doi.org/10.1108/IJHMA-08-2023-0109>
- Adji, W. (2007). *Ekonomi Jilid I*. Jakarta: PT Gelora Aksara Pratama.
- Akinjare, O. A., Oluwatobi, A. O., & Iroham, O. C. (2011). Impact of sanitary landfills on urban residential property value in Lagos State, Nigeria. *Journal of Sustainable Development*, 4(2), 48. <https://doi.org/10.5539/jsd.v4n2p48>
- Anantanatorn, A., Yossomsakdi, S., Wijaya, A. F., & Rochma, S. (2015). Public service management in local government, Thailand (Case study of solid waste management in Pattaya City). *International Journal of Applied Sociology*, 5(1), 5-15.
- Anggraeni, D. A. R., Ati, N. U., & Sekarsari, R. W. (2021). Kualitas pelayanan publik di Dinas Lingkungan Hidup Kota Batu dalam pengelolaan sampah di TPA. *Respon Publik*, 15(6), 43-49.
- Arat, S. A. (2024). Microplastics in landfill leachate: Sources, abundance, characteristics, remediation approaches and future perspective. *Desalination and Water Treatment*, 319, 100445. <https://doi.org/10.1016/j.dwt.2024.100445>
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of The American Institute of Planners*, 35(4), 216-224. <https://doi.org/10.1080/01944366908977225>
- Arouri, M., Nguyen, C., & Youssef, A. B. (2015). Natural disasters, household welfare, and resilience: Evidence from rural Vietnam. *World development*, 70, 59-77. <https://doi.org/10.1016/j.worlddev.2014.12.017>
- Asim, M., Batool, S. A., & Chaudhry, M. N. (2012). Scavengers and their role in the recycling of waste in Southwestern Lahore. *Resources, Conservation and Recycling*, 58, 152-162. <https://doi.org/10.1016/j.resconrec.2011.10.013>
- Azmi, A. S. M., Azhar, R. F., & Nawawi, A. H. (2012). The relationship between air quality and property price. *Procedia-Social and Behavioral Sciences*, 50, 839-854. <https://doi.org/10.1016/j.sbspro.2012.08.086>

- Barrett, G. V., & Blair, J. P. (1988). *How to conduct and analyze real estate market and feasibility studies*.
- Bell, F. G. (1999). *Geological hazards: Their assessment, avoidance, and mitigation* (1st ed.). CRC Press.
- Bello, V. A., & Bello, M. O. (2005). Environmental contamination and urban property values. *Environmental Sustainability and Conservation in Nigeria*, 220-224.
- Bello, V. A. (2007). The effects of Ojota waste dump site on surrounding property values in Lagos metropolis. *Journal of Environmental Conservation and Research*, 1(1&2), 136-142.
- Bello, V. A. (2009). The effects of waste dump sites on proximate property values in Lagos, Nigeria.
- Bihałowicz, J. S., Rogula-Kozłowska, W., Krasuski, A., & Salamonowicz, Z. (2021). The critical factors of landfill fire impact on air quality. *Environmental Research Letters*, 16(10), 104026. <https://doi.org/10.1088/1748-9326/ac27cd>
- Boruff, B. J., Easoz, J. A., Jones, S. D., Landry, H. R., Mitchem, J. D., & Cutter, S. L. (2003). Tornado hazards in the United States. *Climate Research*, 24, 103-117. <https://doi.org/10.3354/cr024103>
- Chalvatzaki, E., Kopanakis, I., Kontaksakis, M., Glytsos, T., Kalogerakis, N., & Lazaridis, M. (2010). Measurements of particulate matter concentrations at a landfill site (Crete, Greece). *Waste management*, 30(11), 2058-2064. <https://doi.org/10.1016/j.wasman.2010.05.025>
- Chang, Z., Li, W., Li, X., & Deng, C. (2021). Waste disposal and housing price: New evidence from the landfill clean-up program in Hong Kong. *Journal of Environmental Planning and Management*, 64(10), 1795-1815. <https://doi.org/10.1080/09640568.2020.1838265>
- Changnon, S. A. (2003). Shifting economic impacts from weather extremes in the United States: A result of societal changes, not global warming. *Natural Hazards*, 29, 273-290. <https://doi.org/10.1023/A:1023642131794>
- Chen, S., & Jin, H. (2019). Pricing for the clean air: Evidence from Chinese housing market. *Journal of Cleaner Production*, 206, 297-306. <https://doi.org/10.1016/j.jclepro.2018.08.220>
- Cheshire, P., & Sheppard, S. (1995). On the price of land and the value of amenities. *Economica*, 62(246), 247-267. <https://doi.org/10.2307/2554906>
- Chou, C. H., Ogden, J. M., Pohl, H. R., Scinicariello, F., Ingberman, L., Barber, L., & Citra, M. J. (2016). *Toxicological profile for hydrogen sulfide and carbonyl sulfide*.

- Christensen, T. H., Kjeldsen, P., Albrechtsen, H. J. R., Heron, G., Nielsen, P. H., Bjerg, P. L., & Holm, P. E. (1994). Attenuation of landfill leachate pollutants in aquifers. *Critical Reviews in Environmental Science and Technology*, 24(2), 119-202. <https://doi.org/10.1080/10643389409388463>
- Cutter, L. S., Boruff, J. B., & Shirley, L. W. (2003). Social vulnerability to environmental hazards. *Social Science Quarterly*, 84(2), 242-261. <https://doi.org/10.1111/1540-6237.8402002>
- Dinas Lingkungan Hidup Kabupaten Bandung Barat. (2022). *Dokumen Informasi Kinerja Pengelolaan Lingkungan Hidup Daerah Kabupaten Bandung Barat*. DLH Kabupaten Bandung Barat.
- Doan, Q. C., Chen, C., He, S., & Zhang, X. (2024). How urban air quality affects land values: Exploring non-linear and threshold mechanism using explainable artificial intelligence. *Journal of Cleaner Production*, 434, 140340. <https://doi.org/10.1016/j.jclepro.2023.140340>
- Du, H., Ma, Y., & An, Y. (2011). The impact of land policy on the relation between housing and land prices: Evidence from China. *The Quarterly Review of Economics and Finance*, 51(1), 19-27. <https://doi.org/10.1016/j.qref.2010.09.004>
- Dube, E. (2020). The build-back-better concept as a disaster risk reduction strategy for positive reconstruction and sustainable development in Zimbabwe: A literature study. *International Journal of Disaster Risk Reduction*, 43, 101401. <https://doi.org/10.1016/j.ijdrr.2019.101401>
- Eves, C. (2004). The impact of flooding on residential property buyer behavior: An England and Australian comparison of flood affected property. *Structural Survey*, 22(2), 84-94. <https://doi.org/10.1108/02630800410538613>
- Fang, L., Li, L., & Yavas, A. (2021). The impact of distant hurricane on local housing markets. *The Journal of Real Estate Finance and Economics*, 66, 327-372. <https://doi.org/10.1007/s11146-021-09843-3>
- Fatmawati, A., Muhsin, M. A., & Taufik, A. (2019). Kinerja pelayanan bank sampah Kota Makassar. *Jurnal Inovasi dan Pelayanan Publik Makassar*, 1(2), 1-15.
- Ginger, J., Henderson, D., Edwards, M., & Holmes, J. (2010). Housing damage in windstorms and mitigation for Australia.
- Greiving, S., Fleischhauer, M., & Lückenkötter, J. (2006). A methodology for an integrated risk assessment of spatially relevant hazards. *Journal of Environmental Planning and Management*, 49(1), 1-19. <https://doi.org/10.1080/09640560500372800>

Hamideh, S., Peacock, W. G., & Van Zandt, S. (2021). Housing type matters for pace of recovery:

Evidence from hurricane ike. *International Journal of Disaster Risk Reduction*, 57, 102149.

<https://doi.org/10.1016/j.ijdrr.2021.102149>

Hanley, N., & Spash, C. L. (1993). *Cost Benefit Analysis and The Environmental*. Edward Elgar.

Hasibuan, R. (2016). Analisis dampak limbah / sampah rumah tangga terhadap pencemaran lingkungan hidup. *Jurnal Ilmiah Advokasi*, 4(1), 42-52.

Heyman, A. V., & Sommervoll, D. E. (2019). House prices and relative location. *Cities*, 95, 102373.

<https://doi.org/10.1016/j.cities.2019.06.004>

Hite, D., Chern, W., Hitzhusen, F., & Randall, A. (2001). Property-value impacts of an environmental disamenity: The case of landfills. *The Journal of Real Estate Finance and Economics*, 22, 185-202.

Jim, C. Y., & Chen, W. Y. (2007). Consumption preferences and environmental externalities: A hedonic analysis of the housing market in Guangzhou. *Geoforum*, 38(2), 414-431.
<https://doi.org/10.1016/j.geoforum.2006.10.002>

Jim, C. Y., & Chen, W. Y. (2009). Value of scenic views: Hedonic assessment of private housing in Hong Kong. *Landscape and Urban Planning*, 91(4), 226-234.
<https://doi.org/10.1016/j.landurbplan.2009.01.009>

Keputusan Menteri Negeri Lingkungan Hidup Nomor 50. 1996. Baku Tingkat Kebauan. Jakarta, 25 November 1996.

Khatib, I. A. (2011). Municipal solid waste management in developing countries: Future challenges and possible opportunities. *Integrated Waste Management*, 2, 35-48.

Khatib, I., & Al-Khateeb, N. (2009). Solid waste treatment opportunities in the Palestinian authority areas. *Waste Management*, 29(5), 1680-1684. <https://doi.org/10.1016/j.wasman.2008.10.022>

Koshy, L., Jones, T., & BéruBé, K. (2009). Characterization and bioreactivity of respirable airborne particles from a municipal landfill. *Biomarkers*, 14(1), 49-53.<https://doi.org/10.1080/13547500902965351>

Lim, S. J., & Missios, P. (2007). Does size really matter? Landfill scale impacts on property values. *Applied Economics Letters*, 14(10), 719-723. <https://doi.org/10.1080/13504850600592531>

- Marshall, T. (2020). Risk perception and safety culture: Tools for improving the implementation of disaster risk reduction strategies abstract. *International Journal of Disaster Risk Reduction*, 47, 101557. <https://doi.org/10.1016/j.ijdrr.2020.101557>
- McDonald, J. F. (1980). The use of proxy variables in housing price analysis. *Journal of Urban Economics*, 7(1), 75-83. [https://doi.org/10.1016/0094-1190\(80\)90027-3](https://doi.org/10.1016/0094-1190(80)90027-3)
- Misra, V., & Pandey, S. D. (2005). Hazardous waste, impact on health and environment for development of better waste management strategies in future in India. *Environment international*, 31(3), 417-431. <https://doi.org/10.1016/j.envint.2004.08.005>
- Muchtar, A. N., Zaman, B., & Samadikun, B. P. (2022). Environmental risk analysis of final processing sites using the integrated risk-based approach (IRBA) method: A case study of TPA with landfill control system. *Journal of Environmental and Agricultural Studies*, 3(3), 58-65. <https://doi.org/10.32996/jeas.2022.3.3.7>
- Onuma, H., Shin, K. J., & Managi, S. (2017). Household preparedness for natural disasters: Impact of disaster experience and implications for future disaster risks in Japan. *International Journal of Disaster Risk Reduction*, 21, 148-158. <https://doi.org/10.1016/j.ijdrr.2016.11.004>
- Owusu, G., Nketiah-Amponsah, E., Codjoe, S. N. A., & Afutu-Kotey, R. L. (2014). How do Ghana's landfills affect residential property values? A case study of two sites in Accra. *Urban Geography*, 35(8), 1140-1155. <https://doi.org/10.1080/02723638.2014.945261>
- Peraturan Pemerintah Republik Indonesia Nomor 41. 1999. Pengendalian Pencemaran Udara. Jakarta, 26 Mei 1999.
- Putri, D. V. S., Sakti, H. P. N., & Walid, A. (2020). Pengaruh TPA terhadap pencemaran udara di lingkungan Sebakul Kota Bengkulu. *Jurnal Pengabdian Masyarakat Ilmu Terapan*, 2(2), 117-122. <https://doi.org/10.33772/jpmi.v2i2.15169>
- Rahim, F., & Camin, Y. R. (2018). Kondisi kualitas udara (So2, No2, Pm10 dan Pm2) di dalam rumah di sekitar Cilegon dan gangguan pernapasan yang diakibatkannya. *Jurnal Biologi*, 11(2), 82-90.
- Ramachandra, T. V., Bharath, H. A., Kulkarni, G., & Han, S. S. (2018). Municipal solid waste: Generation, composition and GHG emissions in Bangalore, India. *Renewable and Sustainable Energy Reviews*, 82, 1122-1136. <https://doi.org/10.1016/j.rser.2017.09.085>
- Ready, R. (2010). Do landfills always depress nearby property values?. *Journal of Real Estate Research*, 32(3), 321-340. <https://doi.org/10.1080/10835547.2010.12091279>

Reddy, V. R., & Syme, G. (2019). Addressing the scale issues in watershed development. *Current Directions in Water Scarcity Research*, 1, 275-297. <https://doi.org/10.1016/B978-0-12-814851-8.00010-0>

Rifani, D. N., & Jalaluddin, A. M. (2019). Pengelolaan sampah secara bersama: Peran pemerintah dan kesadaran masyarakat. *Jurnal Paradigma*, 7(1), 45-54.

Rosiers, F. D., Lagana, A., & Theriault, M. (2001). Size and proximity effects of primary schools on surrounding house values. *Journal of Property Research*, 18(2), 149-168. <https://doi.org/10.1080/09599910110039905>

Saptutyningsih, E. (2013). Impact of air pollution on property values: A hedonic price study. *Jurnal Ekonomi Pembangunan*, 14(1).

Sembiring, E., & Nitivattananon, V. (2010). Sustainable solid waste management toward an inclusive society: Integration of the informal sector. *Resources, Conservation and Recycling*, 54(11), 802-809. <https://doi.org/10.1016/j.resconrec.2009.12.010>

Sheldon, T. L., & Zhan, C. (2018). The impact of natural disasters on US home ownership. *Journal of the Association of Environmental and Resource Economists*, 6(6), 1169-1203. <https://doi.org/10.7910/DVN/8EC9FK>

Sirmans, G., Macpherson, A. D., & Zietz, E. (2005). The composition of hedonic pricing models. *Journal of Real Estate Literature*, 13(1), 3-43. <http://dx.doi.org/10.1080/10835547.2005.12090154>

Smith, V. K., & Deyak, T. A. (1975). Measuring the impact of air pollution on property values. *Journal of Regional Science*, 15(3), 277-288. <https://doi.org/10.1111/j.1467-9787.1975.tb00931.x>

Sonibare, O. O., Adeniran, J. A., & Bello, I. S. (2019). Landfill air and odor emissions from an integrated waste management facility. *Journal of Environmental Health Science and Engineering*, 17(1), 13-28. <https://doi.org/10.1007%2Fs40201-018-00322-1>

Sutarmen, S., Sukanti, L., Riyanto, S., & Irwansyah, N. (2024). Pemberdayaan masyarakat korban angin puting beliung di Kabupaten Sumedang dan Kabupaten Bandung. *Jurnal Hasil Pengabdian Masyarakat Indonesia*, 3(1), 75-83. <https://doi.org/10.58192/karunia.v3i1.2004>

Tietenberg, T., & Lewis, L. (2018). *Environmental and natural resource economics* (11th ed.). Routledge.

Wamsler, C., & Johannessen, A. (2020). Meeting at the crossroads? Developing national strategies for disaster risk reduction and resilience: Relevance, scope for, and challenges to, integration. *International Journal of Disaster Risk Reduction*, 45, 101452. <https://doi.org/10.1016/j.ijdrr.2019.101452>

Wibowo, Y. A., Dewi, R. P., Ronggowulan, L., Anjarsari, R. Y., & Miftakhunisa, Y. (2020). Penguatan literasi mitigasi bencana angin puting beliung untuk peningkatan kapasitas masyarakat Desa Munggur, Kabupaten Boyolali, Jawa Tengah. *Warta LPM*, 23(2), 165-179. <https://doi.org/10.23917/warta.v23i2.10571>

Wijekoon, P., Koliyabandara, P. A., Cooray, A. T., Lam, S. S., Athapattu, B. C., & Vithanage, M. (2022). Progress and prospects in mitigation of landfill leachate pollution: Risk, pollution potential, treatment, and challenges. *Journal of Hazardous Materials*, 421, 126627. <https://doi.org/10.1016/j.jhazmat.2021.126627>

Zhang, Y., & Peacock, W. G. (2009). Planning for housing recovery? Lessons learned from hurricane andrew. *Journal of The American Planning Association*, 76(1), 5-24. <https://doi.org/10.1080/01944360903294556>