



## CONTRIBUTION FISHERIES MANAGEMENT OF CONSERVATION TO SOCIETY 5.0

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### ABSTRACT

Mangunharjo Beach in Semarang, Indonesia, is a popular coastal destination known for its beautiful scenery and recreational activities, which focus on integrating technology and innovation for the betterment of society. Some potential contributions are (1) Smart City Integration and (2) Community Engagement. By embracing these contributions, creating a sustainable and inclusive destination leverages technology for the betterment of visitors and the local community. The availability of technologies and their broad humanitarian applications allow economically strong countries to create a comfortable living environment and gain a leading position in the practical propagation for best conservation with fisheries management of Society 5.0, which takes place in Mangunharjo Beach and its area; it becomes an integral part of the country.

**Keywords: Beach; Contribution; Mangunharjo; Society; Conservation**

### INTRODUCTION

Mangunharjo Beach in Semarang, Indonesia, is a popular coastal destination known for its beautiful scenery and recreational activities (Natalia et al., 2020). While the concept of Society 5.0 is primarily associated with Japan's vision for the future of society, we can explore how Mangunharjo Beach can contribute to the broader ideas encompassed by Society 5.0, which focuses on the integration of technology and innovation for the betterment of society (Salimova et al., 2019). Here are some potential contributions (Nadhira, Wulandari, & Pramastyaningtyas, 2023; Purnomo, Asitah, Latukismo, Rosyidah, & Kurniawan, 2021).

**Sustainable Tourism:** Mangunharjo Beach can serve as a model for sustainable tourism practices. Promoting responsible travel and minimizing environmental impact can involve implementing eco-friendly initiatives such as waste management systems and renewable energy sources and promoting awareness about environmental conservation among tourists and local communities (Aznar, 2021).

**Digital Transformation:** In line with the Society 5.0 concept, Mangunharjo Beach can leverage digital

technologies to enhance visitor experiences and improve efficiency. One move to consider is developing a mobile app or website that provides information about the beach, nearby attractions, and activities and facilitates online bookings and payments for accommodations, tours, and services (Benzaken et al., 2022).

**Smart City Integration:** Semarang, where Mangunharjo Beach is located, can integrate the beach area into its broader intelligent city initiatives (Gurjanov et al., 2020). These initiatives can involve deploying smart sensors and monitoring systems to collect data on water quality, weather conditions, and crowd management, allowing authorities to make informed decisions and ensure the safety and comfort of visitors.

**Community Engagement:** Mangunharjo Beach can act as a platform to foster community engagement and empowerment. Programs can be implemented to educate and train the local community in sustainable tourism, hospitality, and digital skills, enabling them to participate in the beach's development and contribute to its success (Consignado et al., 2022; Lamya et al., 2020). This approach can create employment opportunities and improve the overall socioeconomic well-being of the local population.

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DOI: <http://dx.doi.org/10.15578/ifrj.30.2.2024.1-6>

Cultural Preservation: Mangunharjo Beach can serve as a venue for preserving and promoting local culture and traditions (Deli, 2018). Cultural events, exhibitions, and festivals can be organized to showcase the region's unique heritage, providing tourists with a deeper understanding of the local community and fostering cultural exchange.

By embracing these contributions, Mangunharjo Beach can align itself with the principles of Society 5.0, creating a sustainable and inclusive destination that leverages technology for the betterment of visitors and the local community (Utami et al., 2021). This paper will make a new contribution and pressure society from this above. Now we can make a new season for a new life.

### Society 5.0

Society 5.0 is a concept that originated in Japan and envisioned the next stage of human society. It represents a future society that integrates the physical and digital realms to create a harmonious and sustainable environment for all individuals (Gurjanov et al., 2020). Society 5.0 aims to leverage technological advancements and innovation to address societal challenges and improve the quality of life. Society 5.0 envisions a future society where technology (Plakitkin, 2020), innovation, and human values converge to create a better and more sustainable world for future generations. It was

engaging in initiatives that create positive and lasting impacts on individuals and communities.

### Coastal city

A coastal city is a city that is situated along a coastline, typically near an ocean or a sea. These cities have the advantage of being near water bodies, offering various benefits and opportunities (Carvache-Franco et al., 2021; Kojio, 2020). However, coastal cities face coastal erosion, rising sea levels, natural disasters, and environmental degradation. Coastal cities must implement sustainable development practices, coastal management strategies, and climate change adaptation measures to ensure the long-term resilience and well-being of both the city and its coastal ecosystem.

### Concern society

A concerned society is an organized group or community that addresses specific social or environmental issues and works toward positive change. These societies are formed by individuals who share common concerns and come together to advocate for solutions and impact the targeted areas meaningfully (Fauziah & Karjo, 2023).

Concerned societies are crucial in addressing social and environmental challenges, promoting awareness, and advocating positive change. They

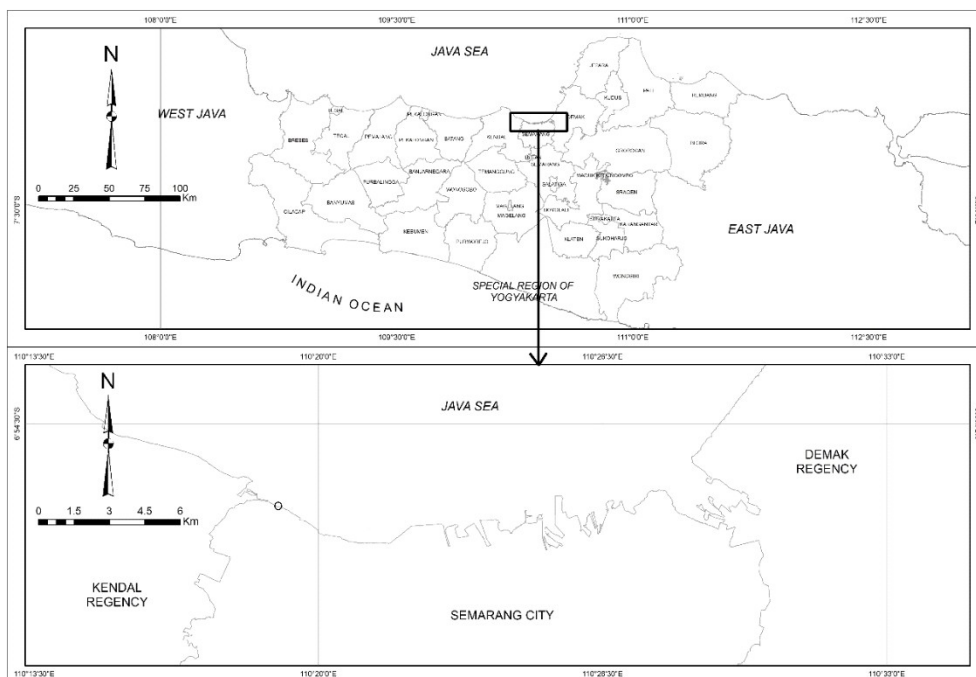


Figure 1. Location Selected

create spaces for individuals to unite, voice their concerns, and work toward a better society (Salimova et al., 2019). Through their efforts, they strive to create a more equitable, sustainable, and compassionate world.

## METHODS

The research used a qualitative methods case study approach combining an analysis of crucial action humans, 11 interviews with key actors selected for their role in Society 5.0, and collected by the lead author as an independent advisor in 2023.

Figure 1 shows that the research location is in Mangunharjo, Semarang City, an area whose activities are obtained through various things related to the coast and sea, this is part of the planning and management of social-based areas. In-depth structured interviews (n11) were conducted with key actors selected for their role in Society 5.0, including government (1), politicians (1), and society (9). They were administered remotely over one month (June 2023) (Table 1). The interview protocol investigated the following broad topics: **coastal city** and **concern society**.

The analysis will continue with an explanation of the analysis for Table 1.

Table 1. Respondent Description

Category of Respondent	Number	Feedback
Government	1	Full Feedback and full enthusiasm
Politician	1	Full Feedback and full enthusiasm
Society	8	Full Feedback and full enthusiasm

Source : (Bakogiannis et al., 2020; Yulianda, 2021)

Table 2. Coastal city

No.	Category	Accept	Decline
1.	<b>Economic Opportunities:</b> Coastal cities often have thriving economies due to their access to ports, harbours, and waterways. These locations facilitate international trade, import-export activities, and the shipping industry. Coastal cities may also have a strong tourism sector, attracting visitors with their beaches, water sports, and recreational activities.	3	8*
2.	<b>Natural Beauty and Recreation:</b> Coastal cities offer scenic views, beautiful beaches, and opportunities for outdoor activities such as swimming, surfing, boating, fishing, and coastal hikes. The coastal environment provides a relaxing and enjoyable atmosphere for residents and visitors alike.	6	5
3.	<b>Marine Resources:</b> Coastal cities have access to abundant marine resources, which can support industries such as fishing, aquaculture, and seafood processing. These resources can contribute to the local economy and provide livelihoods for communities.	9	2
4.	<b>Environmental Benefits:</b> Coastal cities often have diverse ecosystems, including coastal wetlands, mangroves, and coral reefs. These ecosystems provide habitats for various marine species and contribute to overall biodiversity. Additionally, coastal areas can act as natural buffers against storms and protect against coastal erosion.	10	1
5.	<b>Cultural and Historical Significance:</b> Coastal cities often have a rich history and cultural heritage tied to maritime connections. They may have historic ports, lighthouses, and maritime museums that showcase the city's maritime traditions and contribute to its identity and tourism appeal.	8	3
6.	<b>Climate and Recreation:</b> Coastal cities may experience more moderate climates compared to inland regions. The ocean's influence can help regulate temperatures and provide coastal cities with milder weather conditions. This climate advantage can attract residents and visitors seeking a comfortable living environment and recreational opportunities year-round.	7	4
7.	<b>Blue Economy:</b> Coastal cities have the potential to develop a "blue economy" by utilizing and conserving ocean resources sustainably, which can involve renewable energy generation through offshore wind farms, marine research and innovation, ocean conservation efforts, and sustainable coastal development practices.	1	10*

## RESULTS AND DISCUSSION

Evaluation of the indicator measurement with contribution means how to make a new paradigm contribution of society 5.0, include this Table 2 (explain with coastal city indicators) until Table 3 (explain with concern society indicators).

Conservation is the most important for coastal cities, and concerned society has just wearable energy for coastal society (Árva et al., 2021; Nia et al., 2020). Remember that the problem for the coastal cities is a blue economy factor and economic opportunities. Two reasons are unknown by society in Mangunharjo Beach, near the village.

The purpose for life, policy, and fundraising in concerned society is weak for collaboration between

society and stakeholders (Benzaken et al., 2022; Zhao & Li, 2023). In addition, it would be better to know that policy and concern are our responsibility for a better region.

## CONCLUSION

Construction of Society 5.0 includes an informative knowledge base and improved thinking in social life, which contains applicable and fundamental social and economic technologies that form customers to solve real humanitarian problems. The availability of technologies and their broad humanitarian applications allow economically strong countries to create a comfortable living environment and gain a leading position in the practical propagation of Society 5.0, which takes place in Mangunharjo Beach and its area; it becomes an integral part of the country.

Table 3. Concern society

No.	Category	Accept	Decline
1.	<b>Purpose:</b> A specific purpose that drives concerned societies or causes they are passionate about could include environmental conservation, social justice, human rights, poverty alleviation, education, healthcare, animal welfare, and more.	5	6*
2.	<b>Awareness and Advocacy:</b> Concerned societies work to raise awareness about the issues they focus on terribly. They educate the public, organize campaigns, and engage in advocacy efforts to draw attention to the problems and encourage action from individuals, communities, and policymakers.	8	3
3.	<b>Volunteering and Community Engagement:</b> Concerned societies often engage in hands-on volunteering activities within their communities. They may organize events, initiatives, and projects that directly address the concerns they are working forward. By actively participating in community engagement, they foster a sense of collective responsibility and create positive change at the grassroots level.	1	10*
4.	<b>Collaboration and Partnerships:</b> Concerned societies understand the importance of collaboration and often seek partnerships with like-minded organizations, government bodies, businesses, and individuals. By joining forces and leveraging combined resources, they can have a broader impact and implement more effective solutions to the challenges they are addressing.	8	3
5.	<b>Fundraising and Resource Mobilization:</b> To sustain their activities will come true and initiatives, concerned societies often engage in fundraising efforts. They organize events, campaigns, and initiatives to raise funds and gather resources to support their cause, including donations from individuals, corporate sponsorships, grants, and partnerships with funding organizations.	4	7*
6.	<b>Policy and System Change:</b> Concerned societies recognize that long-term impact often requires systemic change. To create lasting change on a larger scale, they work to influence policies, advocate for legal reforms, and engage in dialogue with decision-makers.	5	6*
7.	<b>Collaboration with Experts and Research:</b> Some concerned societies collaborate with experts, researchers, and academics to gather data, conduct studies, and develop evidence-based strategies that can help them better understand the issues they are tackling and develop practical solutions and recommendations.	8	3

## REFERENCES

- Árva, D., Mozsár, A., Barta, B., Specziár, A., Tóth, M., Bohus, A., ... Schmera, D. (2021). Effects of recreational beaches on chironomid assemblages in a large, shallow lake. *Ecological Indicators*, 125(27209), 107469. <https://doi.org/10.1016/j.ecolind.2021.107469>
- Aznar, J. P. (2021). Differentiation and pricing strategies for hotels in sun and beach destinations. *Managerial and Decision Economics*, 42(2), 289–293. <https://doi.org/10.1002/mde.3234>
- Bakogiannis, E., Vlastos, T., Athanasopoulos, K., Vassi, A., Kyriakidis, C., Noutsou, M., & Siti, M. (2020). Exploring Motivators and Deterrents of Cycling Tourism Using Qualitative Social Research Methods and Participative Analytical Hierarchy Process ( AHP ). *Sustainability (Switzerland)*, 12(2418), 1–15.
- Benzaken, D., Voyer, M., Pouponneau, A., & Hanich, Q. (2022). Good governance for sustainable blue economy in small islands: Lessons learned from the Seychelles experience. *Frontiers in Political Science*, 4(1040318). <https://doi.org/10.3389/fpos.2022.1040318>
- Carvache-Franco, M., Alvarez-Risco, A., Carvache-Franco, W., Carvache-Franco, O., Estrada-Merino, A., & Rosen, M. A. (2021). Coastal cities seen from loyalty and their tourist motivations: A study in Lima, Peru. *Sustainability (Switzerland)*, 13(21), 1–16. <https://doi.org/10.3390/su132111575>
- Consignado, G. D., Marie, J., Amparo, S., & Gaspar, E. (2022). Community-Based Violence Against Women ( VAW ) Desks in the Philippines/ : A Multi-Level Assessment. *Pertanika Journal of Social Sciences and Humanities*, 30(2), 901–926.
- Deli, N. (2018). A Cultural Trans-generational Process on Low-Carbon Society in Family with Parents with Different First Language: Indonesian and Javanese. *E3S Web of Conferences*, 73. <https://doi.org/10.1051/e3sconf/20187308020>
- Fauziah, R. N., & Karjo, C. H. (2023). Exploring Covid-19 Hoaxes in the Post Pandemic Society. *E3S Web of Conferences*, 388(04039), 1–5. <https://doi.org/10.1051/e3sconf/202338804039>
- Gurjanov, A. V., Zakoldaev, D. A., Shukalov, A. V., & Zharinov, I. O. (2020). The smart city technology in the super-intellectual Society 5.0. *Journal of Physics: Conference Series*, 1679(3), 0–5. <https://doi.org/10.1088/1742-6596/1679/3/032029>
- Kojio, R. (2020). Sustainable Workplace in Kyoto - “Kyo-sei” in Society 5.0. *IOP Conference Series: Earth and Environmental Science*, 588(5), 0–4. <https://doi.org/10.1088/1755-1315/588/5/052010>
- Lamya, L., Fauzia, J., & Shilpa, I. (2020). Prioritizing theme park service quality in Islamic contexts: an analytic hierarchy process approach. *International Journal of Culture, Tourism and Hospitality Research*, 14(2), 225–237. <https://doi.org/10.1108/IJCTHR-10-2018-0147>
- Nadhira, S., Wulandari, A. P. J., & Pramastyaningtyas, A. D. A. (2023). The Relationship Between Resilience and Subjective Well-Being Among Employees on the Work-From-Home Scheme in South Jakarta. *E3S Web of Conferences*, 388(04015). <https://doi.org/10.1051/e3sconf/202338804015>
- Natalia Siahaan, I., Wasiq, J., & Kismartini. (2020). Mangrove management strategy to support fisheries in mangunharjo village, semarang city. *E3S Web of Conferences*, 202. <https://doi.org/10.1051/e3sconf/202020206016>
- Nia Sarinastiti, E., & Sidiq Wicaksono, M. (2020). Mapping Coastal Ecotourism Potential in Panggul District, Trenggalek, East Java. *IOP Conference Series: Earth and Environmental Science*, 530(1). <https://doi.org/10.1088/1755-1315/530/1/012024>
- Plakitkin, Y. (2020). Energy of Virtual and Real Reality in Post-Crisis future Projects. *E3S Web of Conferences*, 209(01004). <https://doi.org/10.1051/e3sconf/202020901004>
- Purnomo, A., Asitah, N., Latukismo, T. H., Rosyidah, E., & Kurniawan, B. K. (2021). Society 5.0 publication mapping using a scientometric perspective. *IOP Conference Series: Earth and Environmental Science*, 729(1), 0–9. <https://doi.org/10.1088/1755-1315/729/1/012141>
- Salimova, T., Guskova, N., Krakovskaya, I., & Sirota, E. (2019). From industry 4.0 to Society 5.0: Challenges for sustainable competitiveness of Russian industry. *IOP Conference Series: Materials Science and Engineering*, 497(1), 0–7. <https://doi.org/10.1088/1757-899X/497/1/012090>
- Utami, W., Wibowo, Y. A., Hadi, A. H., & Permadi, F. B. (2021). The impact of mangrove damage on tidal

- flooding in the subdistrict of Tugu, Semarang, Central Java. *Journal of Degraded and Mining Lands Management*, 9(1), 3093–3105. <https://doi.org/10.15243/jdmlm.2021.091.3093>
- Weinberger, F., Sundt, S., Staerck, N., Merk, C., Karez, R., & Rehdanz, K. (2021). Shifting beach wrack composition in the SW Baltic Sea and its effect on beach use. *Ecology and Society*, 26(4). <https://doi.org/10.5751/ES-12759-260443>
- Yulianda, F. (2021). Coastal rehabilitation efforts through community perception/ : A case study in Karawang Regency , Indonesia. *AACL Bioflux*, 14(1), 72–90.
- Zhao, Y., & Li, Y. (2023). Blue transition for sustainable marine fisheries: Critical drivers and evidence from China. *Journal of Cleaner Production*, 421(June), 138535. <https://doi.org/10.1016/j.jclepro.2023.138535>