

LINKING THE PHILOSOPHY OF GOTONG ROYONG TO CONTEMPORARY INDONESIAN PRODUCT DESIGN

Dr. Ing. Flavia Alice Mameli (Dipl.Des.)

Postdoctoral Research Fellow, Faculty of Art & Design,
University of the Arts Bremen, Germany
E-mail: fmameli@hfk-bremen.de

Abstract

This article examines the relationship between Gotong Royong, a traditional Indonesian philosophy of cooperation, and contemporary sustainable product design in Indonesia. From a design research perspective, this paper aims to investigate the potential for integrating Gotong Royong principles into the practices of designing and manufacturing ecologically and socially conscious products. The objective of this paper is to analyse how the reconsideration of traditional concepts of collaboration, shared local resource utilisation, and community-centric approaches can facilitate transformative changes in the world of product consumption. The author examines the potential and challenges of design thinking practices and business models that involve local knowledge and communities, with the aim of resulting in sustainable and regenerative products. Already well-researched social enterprise models of sustainable and regenerative design, such as fair-trade practices and profit reinvestment concepts, are complemented by the Gotong Royong concept. By aligning the principles of Gotong Royong with contemporary design ventures, Indonesian product design practices have the potential to become role models for sustainable, inclusive, and culturally resonant practices, that bridge tradition and innovation in Southeast Asia and internationally. This would contribute to the relevance of design practices for our anthropogenic (future) realities.

Key words: gotong royong, collaborative design, sustainable materials, community-centric manufacturing, regenerative design, design for the anthropocene.

INTRODUCTION

The traditional Indonesian philosophy of Gotong Royong, which emphasises mutual cooperation and community-centric approaches, offers a valuable perspective in the context of contemporary product design studies. This paper explores the potential for integrating the principles of Gotong Royong principles with contemporary sustainable and regenerative design practices, and their capacity to transform the landscape of product design in Indonesia.

The background and motivation of this research are based on the author's observation of the (internationally) increasing need for sustainable and culturally resonant design solutions that address anthropogenic challenges. The term 'Anthropocene' is a widely discussed concept that defines our current geological epoch as being significantly shaped by humanity's impact on Earth's ecosystems. This impact is evidenced by phenomena such as climate change, biodiversity loss, and pollution (Crutzen & Stoermer, 2000). The concept of the Anthropocene emphasises the interconnectivity between human activity and environmental (in)balance.

This discourse gained prominence around the turn of the millennium (Steffen et al., 2007) and, almost two decades later, has become increasingly pertinent as a perspective (Horn & Bergthaller, 2020). In the context of design research, this implies the necessity for discourses about the reevaluation of contemporary design practices and the role of designers in fostering sustainability and resilience. As humanity navigates the Anthropocene, discussions surrounding the anthropogenic impact on the environment increasingly advocate for more inclusive approaches that incorporate both equity and sustainability goals (Leach et al., 2018; Vallance et al., 2011). In this context, the author considers the convergence of traditional manufacturing techniques and community-based approaches with contemporary sustainable design practices to be of significant value. These approaches have the potential to facilitate a more holistic, resilient, and regenerative response to (future) ecological crises.



Figure 1. Mapping Workshop at Institut Seni Indonesia Yogyakarta.
Source: Author's own, 2023.

In addition to these widely discussed discourses, the study draws upon the author's first-hand observations of the Indonesian sustainable design scene during her extended research visits to the islands of Java and Bali. During these visits, she engaged with a variety of start-ups and not-for-profit organisations involved in the development of upcycled and/or circular products, as well as regenerative material innovations. Two such enterprises are presented as examples in this text. Moreover, the findings are based on the outcomes of a workshop conducted by the author with product design students at the Institut Seni Indonesia in Yogyakarta in October 2023. The one-day workshop, which was attended by 20 participants, was focused on the collective mapping of sustainable and regenerative design practices and product innovations from Indonesia (see Fig.1).

Recent discourses in various research fields indicate a growing interest in the incorporation of traditional values and local knowledge as a means of fostering regenerative and sustainable development. To illustrate, in the context of geography and social sciences, Berkes (2012) examines the significance of local and indigenous knowledge as a supplement to scientific ecology. The indigenous botanist Kimmerer (2015) presents a detailed account of the resilience and adaptability of plants and animals in response to environmental change. In a more recent contribution, as part of the Africa-focused COP28 Resilience Hub (CDKN, 2023) Sabour reiterates the significance of cultural values in this context, proposing that the acknowledgement of local traditions has the potential to foster more resilient and sustainable environments. The interrelation between sustainable design and local, indigenous knowledge systems, suggests that traditional skills can provide contemporary solutions that are ecologically and socially intelligent, while also preserving cultural identity.

The discourse on this topic has been extensively explored in the fields of architecture and design research since the 1960s and 1970s. In the Global North (where the author of this paper originates from) one of the most discussed theorists was the philosopher and designer Victor Papanek. Papanek promoted the now often (mis-)used saying “All men are designers” (1971) to highlight that utilising wisdom of traditional materials and manufacturing would lead to a more sustainable world. In the field of architectural theory similar approaches gained traction, for example with the discourse around so-called anonymous architecture (Rudofsky, 1964). More recently, the design critique presented by Thackara (2015) further reinforces such perspectives by advocating for a paradigm shift in design that embraces local contexts and wisdom. He argues that such integration is imperative for the creation of environmentally sustainable and culturally relevant solutions.

It is noteworthy that such studies, predominantly conducted by academics from the Global North, frequently utilise observations made within indigenous communities in the

Global South to illustrate the convergence of regeneration, circularity, and social enterprise. This provides a conceptual framework for the design of products that are not only environmentally sustainable but also socially responsible. However, it is important to acknowledge that communities in the Global North have also historically embraced collectiveness, particularly in the context of village life, agriculture, and production. The exploration of such practices is a valuable path for further research.

A critical evaluation of the past decade's design research reveals a gap in applying traditional community knowledge, such as the Indonesian principle of Gotong Royong to contemporary design frameworks. Although the discourse about participation and community-led decision-making is multilayered and well-established (see Sanoff, 2000 for an introductory overview), particularly within the fields of architecture and urban planning, only a few have explicitly linked product design to such concepts. Furthermore, there has been no previous attempt to bridge the gap between sustainable design practices with the philosophy of Gotong Royong.

This gap in the discourse indicates a missed opportunity for international design discourses to enhance sustainability by drawing on established communal philosophies that foster collaboration and resilience. This paper aims to address this gap by examining the potential for aligning the principles of Gotong Royong with contemporary product design practices. In particular, it identifies the impact of local knowledge, local resources, and community engagement as Gotong Royong values as part of two example ventures highlighted as case studies in this paper. The objective of this spotlight analysis is to establish a further synthesis between tradition and innovation, emphasising the potential of these traditional community concepts (which can be found in all parts of the world) as a transformative force in the way we produce and consume.

Mapping Sustainable Design in Indonesia

The central qualitative methodology of this study is a comprehensive mapping of the landscape of the sustainable, regenerative, and circular product design landscape in Indonesia. The author initiated this mapping project in July 2023 and regards the progressive expansion of findings as an ongoing, agile process, continuously enhancing the comprehensive database. The mapped entities which include design ventures, non-governmental organisations that develop product innovations, and other relevant designing and manufacturing enterprises are documented, and analysed from a variety of perspectives. This process serves to establish the fundamental data for a series of studies within the author's research field on sustainable design in Indonesia and Southeast Asia. In this paper, the author considers the integration of the principles of Gotong Royong as a perspective within the mapping results.

The following section delineates the methodology employed in the mapping process.

1. Identification of design practices: During her research visits the author engaged with a number of professional networks located across the islands of Bali and Java. These networks focus on sustainable and regenerative product and material innovations, which enabled the author to become acquainted with a multitude of designers and design practices. Furthermore, she employed a variety of digital resources, including thematic WhatsApp groups, newsletters, and social media platforms such as LinkedIn, to identify a diverse range of individuals and organisations in Indonesia, including young designers, established professionals, start-ups, design firms, non-governmental organisations, and other initiatives. These were collated into a preliminary list of potential subjects for further investigation.
2. Implementation of the identification process in a workshop format: In the course of the workshop conducted at the Institut Seni Indonesia in Yogyakarta the author asked the

participants to identify more sustainable design entities in Indonesia. Following an introductory session to define the scope and objectives of the workshop, the students were tasked with researching two to three examples of such design practices. The author considers this student participation to be a particularly valuable source for her database, given that the participants were all Indonesian citizens, born and raised in a range of locations across the country. The author views this as an important means of diversifying perspectives and sources on the topic, which is essential to avoid any potential research bias. With a total of 20 participants, the number of sustainable entities identified (excluding duplicate entries) was 39. When combined with the author's research, this database represents a data set of over 100 mapping results with ongoing growth.

3. Analysis and evaluation: Following the presentation of a series of potential examples, the author evaluates the entities found, from a range of perspectives and with a variety of research questions: How sustainable is the product according to production processes, and materiality? Where and how is the product sold? Is a long-distance transportation necessary to produce and sell the product? Which of the 17 SDGs (United Nations, 2015) are targeted? How are challenges solved? Does the venture address a circular approach? Does the venture highlight social values for their modes of production and employment mechanisms? These are only a few examples of the evaluation process. The same process of analysis and evaluation was conducted with the participants of the workshop.
4. Geographical mapping and regional analysis: The collated data is incorporated into a geographical map of the sustainable design practices that are in operation across Indonesia. This entails the plotting of the locations of design firms, innovation hubs, and notable design projects intending to identify regional trends and clusters. The author plans to digitise this map for open access and agile development.

5. Case studies: The author employs a selected number of illustrative case studies from the aforementioned database to exemplify specific instances of design practices. The case studies are further enhanced by the inclusion of photographic documentation, both by the author and by the entities responsible for the design in question. In addition, they contain narrative and episodic interviews (Mueller, 2019; Anderson & Kirkpatrick, 2015) with key stakeholders, founders, and other relevant experts.

Mapping is an increasingly prevalent qualitative research method in design and architectural research that emphasises the socio-political contexts of spatial relations (kollektiv orangotango+, 2018). The method entails the creation of maps that not only represent the physical spaces in question but also serve to highlight the relationships, power dynamics, and community narratives that shape those spaces. The author has previously employed this research approach in other projects to gain a deeper understanding of the ways in which environments are experienced and shaped by social interactions. This enables designers and architects to create more inclusive and context-sensitive solutions, particularly in the context of anthropogenic challenges. In design thinking contexts, mapping serves not only as a tool for systematisation, but also for reflection and critical analysis (Mameli, 2021).

The author's objective is to provide an in-depth understanding of the status of current sustainable and regenerative product design practices throughout Indonesia by focusing on the combination of a qualitative mapping approach with selected case studies. Concurrently, it is imperative to address the inherent limitations of this approach. Given the qualitative focus of the study and the narrow scope of its regional and sectoral coverage, it is possible that the full spectrum of product design practices in Indonesia may not be adequately represented. The mapping does not yet include regions with less documented design activities or more remote areas. Consequently, the data represents a snapshot in time and

place. Moreover, it should be noted that the use of self-reported data from surveys and interviews in this kind of methodological approach may introduce potential biases. It is possible that designers and stakeholders may provide responses that reflect ideal practices rather than actual implementations. Furthermore, the author acknowledges the potential for bias, whereby she may be drawn to specific projects and products more than others, which implies a certain degree of 'curation of findings'.

Further research and a continuous mapping intend to address existing gaps in the knowledge base. As the research programme is designed to be agile, a more comprehensive picture of the sustainable design landscape in Indonesia over time. Despite the gaps highlighted, the qualitative mixed-method approach implement for this study, allows a reflection on the potentially unconscious implementation of traditional values, such as Gotong Royong, and their influence on current sustainable and regenerative product design practices in Indonesia.

Relating Gotong Royong Principles to Indonesian Product Design Practices

The traditional practice of Gotong Royong, which emphasises communal cooperation, remains a vital aspect of both rural and urban contexts in Indonesia. Historically rooted in village life, this concept is considered to foster social cohesion and mutual assistance among community members (Simarmata et al., 2020).

In rural areas, the practice of Gotong Royong is exemplified primarily through agricultural cooperation, whereby villagers work together during planting and harvest seasons, sharing labour and resources (Rosyani et al., 2019). In urban contexts, this practice has adapted to meet the challenges of our contemporary world (Slikkerveer, 2019). A multitude of community groups organise initiatives such as neighbourhood clean-ups and emergency response teams to enhance local resilience (see Agenda 21 for Culture (n.d.) and Taufiq (2022)

for recent examples). For instance, during the pandemic caused by the SARS-CoV-2 virus, many urban communities mobilised (re-)connecting in the spirit of Gotong Royong to provide food and medical assistance to vulnerable populations, thereby demonstrating the enduring relevance of this concept (Irasanti et al., 2020). These few examples serve to illustrate the resilience of Gotong Royong as a multilayered and fundamental element of Indonesian culture, for some thinkers even evident in the legacy of Pancasila, and contemporary democratic life in Indonesia in general (Simarmata et al., 2020).

Seeing the relation between contemporary design research and design discourses claiming for the reconsideration of traditional practices of collaboration, circularity, and resource conservation, this study regards Gotong Royong principles as a significant philosophy for sustainable product design practices, not only across Indonesia but also internationally. The author's mapping research approach aims to emphasise that regeneration, circularity, and community-centric values are already incorporated in designing and manufacturing ventures in Indonesia at various levels. This spotlight article will focus on two of the interrelated Gotong Royong principles:

The first principle to be discussed is that of collectivity and inclusivity. By incorporating the input of multiple stakeholders, including designers, artisans, manufacturers, and local communities, at each stage of the product design, production, and manufacturing process, collective needs and preferences are integrated into the final product. Such democratic involvement may manifest in a number of ways. In the design phase, these could take the form of workshops and co-creation laboratories, for example. Moreover, the practice of collectivity necessitates the sustained involvement of community members throughout all phases of product development. This ensures that the products are not only relevant and beneficial to potential consumers but also to all stakeholders involved.

A second principle of Gotong Royong is the utilisation of local resources, both material and immaterial, in the form of the usage and leverage of traditional production techniques and

local materials, as well as, where applicable, the concept of circularity. The importance of local empowerment within circular economies (Geissdoerfer et al., 2017) has been thoroughly discussed in a variety of discourses, with the suggestion that the involvement of community stakeholders in the production process can result in more resilient and adaptive economic and social systems.

The utilisation of local materials and traditional techniques for the purpose of sustainable and regenerative product design represents a significant market within the domain of ecologically and socially conscious consumerism. For Indonesia, this could entail the development of products utilising local and traditional materials, such as bamboo and rattan, as the first highlighted example of this paper shows. Additionally, in the context of understanding products at the end of their lifecycle as new anthropogenic resources, the use of recycled materials, such as plastic waste, could be employed as a truly circular design approach (see second example in the following).

The following section presents two case study examples that illustrate the integration of the described key principles of Gotong Royong in two distinct ventures: Handep and Sungai Design. The two enterprises exhibit considerable differences in terms of their structural organisation, their approach to product development, and the products they create. The author deliberately selected these two ventures to illustrate the diverse manifestations of the Gotong Royong philosophy in contemporary Indonesian product design, encompassing its inherent potential and associated challenges.

Village Wisdom and Craftsmanship – Handep

Handep (n.d.) is an Indonesian sustainable design venture that focuses on a close collaboration with Dayak artisans and farmers. Handep's partnership model is explicitly grounded in the principles of fairness, trust, and mutual respect. As Handep states in their 2022 impact report, "Our weavers and farmers are partners and co-creators in the production process, rather than mere workers." (Handep, 2022, p. 12).

Handep's approach to recognise the status of weavers and farmers as partners and co-creators, rather than anonymous suppliers reflects the company's fostering of a community-oriented approach to village economies. By joining Handep, indigenous partners from the Kalimantan region (Indonesian Borneo) are supposed to benefit from a transparent and equitable framework that includes fair compensation, financial literacy support (from workshops to assistance with opening bank accounts), and the opportunity for village communities to run a profitable and sustainable business with their traditional skills (see Fig. 2 and Fig.3). With their approach Handep, which was awarded the Indonesia Brand Founders of the Year accolade in 2022 (Handep, 2022, p. 3) among other recognitions, is not only dedicated to providing its partners with a regular income, but is also committed to contributing to sustainable environments, forest preservation and the safeguarding of the ancestral weaving skills of Dayak culture. As stated in the organisation's 2022 impact report:

"Craft is a people business, deeply entrenched in community. Raw material is processed by farmers, dyers, weavers, and embellishers, before eventually making its way to end-users. It is also frequently one of the few viable sources of income for Indigenous communities, especially women.

Beyond being a commodity, craft embodies the identity and culture of a community. Craft constitutes a physical manifestation of belief and value, a symbolic visual language. It embodies the relationship between a community and its environment. Craft is about a complex and noble relationship, the passing of skills from generation to generation." (Handep, 2022, p.5)

The exponential growth of the extractive industry in Kalimantan has resulted in a significant increase in deforestation, the displacement of indigenous communities from their traditional territories, a decline in sustainable forest-based products, and the erosion of traditional practices. The

forementioned issues have resulted in a situation of structural poverty among the Indigenous Dayak community, a phenomenon that is similarly observed in other Indigenous communities across Indonesia and globally.

Since its establishment in 2019, Handep has collaborated with over 350 local indigenous women artisans in seven partner villages situated in Central and West Kalimantan and Pandeglang (Handep, 2022, p. 16). Handep is a highly versatile enterprise comprising a diverse array of projects and programmes. In addition to exhibitions and workshops (see Fig.2), its activities include a variety of collaborations, such as the development of limited editions with Indonesian creatives and entrepreneurs, with the objective of establishing a sustained dialogue between designers based in urban areas and artisans in rural Indonesia.



Figure 2. Handep Training Sessions with Local Artisans.

Source: Handep, 2024.



Figure 3. Local Rattan Weavers for Handep.
Source: Handep, 2024.

Handep's approach to village economics, its transparent business development and community-centred manufacturing modes align closely with the principles of Gotong Royong, which were previously outlined. As a second and very different approach, the author presents an Indonesian design venture that originated with a not-for-profit organisation and commenced river cleaning in Bali in 2020..

Furniture from Upcycled River Plastic – Sungai Design

The Sungai Design product range has been developed using Bali's river plastic and is intended to exemplify the potential of waste materials to be transformed into products. So far this is a small collection of several chairs and benches (see Fig.5). Sungai Design's objective is to upcycle as much river plastic, with the aim of raising funds for river clean-up operations worldwide. The upcycled river plastic derives mainly from plastic bags rescued and collected by Sungai Design's non-profit sister organisation, Sungai Watch. According to Sungai Design (n.d.), each furniture sale contributes to the funding of Sungai Watch's cleanup efforts.

The plastic bags that are used undergo an extensive cleaning process, during which any residual matter from their

previous use is thoroughly removed. Subsequently, the plastic bags are transformed into hard, durable sheets through the processes of shredding and heat-pressing, which serve to form the foundation of the furniture designs. The sheets are then shaped by CNC technology into a series of panels, which form the structural backbone of the finished product. All offcuts occurring during the furniture production are reused to create other products, demonstrating the venture's commitment to a zero- waste approach (Sungai Design, n.d.). Since their foundation in 2023, and according to their website (Sungai Design, n.d.) Sungai Design has upcycled 10,000 kg of plastic bags sourced from its sister organisation, Sungai Watch.

Until today, Sungai Watch is mainly active on the island of Bali, but recently also commenced the organisation of clean-ups on the island of Java. One of the organisation's principal initiatives was the installation of river barriers for capturing the plastic waste before it reaches the ocean. The installation of these barriers serves to reduce pollution and is simultaneously intended to function as a catalyst for community involvement, as a 'visible reminder' to take action against river pollution. Sungai Watch attempts to raise a sense of responsibility towards local Balinese and Javanese ecosystems (Sungai Watch, n.d.). Additionally, Sungai Watch claims to implement a variety of educational initiatives in academic institutions and local communities with the objective of fostering comprehension of the environmental challenges posed by plastic pollution and the significance of maintaining clean waterways. Sungai Watch's multifaceted approach includes a community engagement in the form of the possibility of joining their river clean-ups and related community events (see Fig.4), with the objective of raising awareness and mobilising local action.

Sungai Watch states that 80% of the ocean's plastic pollution originates from rivers. So far, the non-profit organisation has installed 300 floating barriers throughout Indonesia's rivers and collected over 2,300,000 kg of plastic, 36% of which is plastic bags (Sungai Watch, n.d.).



Figure 4. Gardening Gotong Royong with Sungai Watch and
Astungkara Ways.

Source: author's own, 2024.

Handep as well as Sungai Design demonstrate how diverse contemporary Indonesian attempts are to develop products that are simultaneously functional and culturally meaningful, while also benefiting local environments and communities. The Handep enterprise is specifically facilitating the integration of communities with a strong traditional presence, such as those in rural Java and Bali, where the principles of Gotong Royong are still observed and integrated into product design practices. By establishing a connection between the local and the global, (international) designers are presented with the opportunity to engage with and utilise local craftsmanship and wisdom, employing traditional techniques and resources in the creation of contemporary designs.

The approach adopted by Sungai Designs places greater emphasis on the utilisation of the Gotong Royong principle of community, as evidenced by the numerous river clean-ups conducted together with volunteers by their sister venture Sungai Watch, and their attempt to further develop upcycling technology for the creation of design products. Both initiatives collectively illustrate the potential of Gotong Royong in sustainable ecologically and socially conscious product design.

Discussion

The author's findings suggest that the Gotong Royong principles have the potential to facilitate interconnectivity between Indonesian local wisdom and traditional community presence, such as found in rural Java and Bali, and innovators, designers, and entrepreneurs. Designers in this context engage with local communities, utilise traditional techniques and prioritise resource sharing. This not only upholds the essence of Gotong Royong but also fosters a connection between the community and the design process, thereby facilitating the creation of culturally resonant and sustainable products.

Potential (wealthy) consumers of such socially and ecologically conscious products are typically located in urban areas, too. This observation derives from the exceptionally high population density of Java and Bali, where urban centres like Jakarta, Badung, Surabaya, and Yogyakarta are home to a significant proportion of Indonesia's economic activity and serve as hubs for tertiary education and innovation (UNFPA, 2020). Bali, in particular, occupies a distinctive position as Indonesia's primary tourist destination, attracting millions of visitors on an annual basis (Badan Pusat Statistik, 2024) and with this development also fostering a market for sustainable, artisanal and design products.



Figure 5. Plastic Furniture by Sungai Design.
Source: Sungai Design, 2024.

This issue serves to highlight the significant economic disparities that exist and the inherent difficulty of making sustainable lifestyles a feasible option for a larger proportion of the population. Those engaged in the field of design in the context of the Anthropocene epoch are confronted with a series of pivotal inquiries. The question thus arises as to how such social enterprise principles might be integrated into large-scale industrial design, rather than remaining the preserve of individual brands catering to elite consumers. What designs, what production processes and profit reinvestments would be necessary?

In sectors such as handicrafts and artisanal products, traditional values are often more seamlessly integrated, reflecting a reliance on local knowledge and community collaboration. Future enterprises will have to find a way to scale their business-models in order to broaden their impact.

Conclusion

This paper provides a spotlight analysis of how the traditional philosophy of Gotong Royong of cooperation, participation and local resource utilisation (in the form of raw materials, manufacturing techniques and local traditions) can be visible in contemporary Indonesian sustainable product design practices. The two exemplary design ventures portrayed in this paper underline the relevance of such Gotong Royong principles in contemporary sustainable and regenerative design practices. The design enterprises depicted show the varying levels of cooperation, and local resource utilisation across different impact modes and product design solutions, highlighting both opportunities and challenges in aligning traditional values with contemporary design and consumerism.

Despite the challenge of scalability yet unsolved, Indonesian designers and designing enterprises have the opportunity to pioneer a design paradigm that is both innovative and deeply rooted in Indonesian cultural heritage. The interlinkage of traditional social ecologically conscious

values like the ones embodied in the Gotong Royong principle with sustainable and regenerative design practices, offers valuable lessons for global sustainable design practices.

REFERENCES

- Agenda 21 for Culture. (n.d.). Thematic Kampung and Gotong Royong Culture: Backbone of Sustainable Development. <https://obs.agenda21culture.net/en/good-practices/thematic-kampung-and-gotong-royong-culture-backbone-sustainable-development> [last access 26.9.2024]
- Anderson, C. & Kirkpatrick, S. (2015). Narrative Interviewing. *International Journal of Clinical Pharmacy*. 38. <https://doi.org/10.1007/s11096-015-0222-0>
- Badan Pusat Statistik. (2024). Statistik pariwisata Indonesia 2024 [Tourism statistics Indonesia 2024]. <https://www.bps.so.id/> [last access 26.9.2024]
- Berkes, F. (2012). *Sacred Ecology* (3rd ed.). Routledge. <https://doi.org/10.4324/9780203123843>
- CDKN. (2021). Power, culture, arts and heritage: Shaping climate resilience in Africa. *Climate and Development Knowledge Network*. <https://cdkn.org/story/power-culture-arts-and-heritage-shaping-climate-resilience-africa>
- Crutzen, P. J., & Stoermer, E. F. (2000). The Anthropocene. *IGBP Newsletter*, 41, pp. 17-18. <http://www.igbp.net/download/18.316f18321323470177580001401/1376383088452/NL41.pdf>
- Geissdoerfer, M., Savaget, P., Bocken, N., Hultink, E. J. (2017). The Circular Economy: A New Sustainability Paradigm?, *Journal of Cleaner Production*, Volume 143, 2017, pp. 757-768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Hamilton, C., Gemenne, F., & Bonneuil, C. (Eds.). (2015). *The Anthropocene and the Global Environmental Crisis: Rethinking modernity in a new epoch* (1st ed.). Routledge. <https://doi.org/10.4324/9781315743424>
- Handep. (2022). *Impact Report 2022*. <https://static1.squarespace.com/static/620df53a55a2232>

- 83acdeb7f/t/64c751744bab3c7e4c625bfe/16907841591
18/ENG_Impact+Report+2022_compressed.pdf
[last access 26.9.2024]
- Handep. (n.d.). About us. <http://handep.co> [last access 26.9.2024]
- Harrington, J., Larsen, T.B. (2024). The Anthropocene and Geography. In Warf, B. (Eds.) The Encyclopedia of Human Geography. Springer, Cham. https://doi.org/10.1007/978-3-031-25900-5_312-1
- Horn & Bergthaller (2020). The Anthropocene: Key Issues for the Humanities. Routledge. <https://doi.org/10.4324/9780429439735>
- Irasanti, S. N., Respati, T., Januarita, R., Yuniarti, Y., Chen, H. W. J., & Marzo, R. R. (2023). Domain and Perception on Community Resilience: Comparison Between Two Countries. In *Frontiers in Public Health*, 11, Article 1157837. <https://doi.org/10.3389/fpubh.2023.1157837>
- Kimmerer, R. W. (2013). Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants. Milkweed Editions.
- kollektiv orangotango+ (2018). This is Not an Atlas. Transcript. <https://www.transcript-verlag.de/shopMedia/openaccess/pdf/oa9783839445198.pdf>
- Leach, M. et al (2018). Equity and sustainability in the Anthropocene: a social–ecological systems perspective on their intertwined futures. *Global Sustainability* 1, e13, 1–13. <https://doi.org/10.1017/sus.2018.12>
- Mameli, F. A. (2021). Freiräume kartieren. In S. Hennecke et al. (Eds.), *Freiräume in der Krise* (pp. 121–215). Kassel University Press.
- Mathews, A. S. (2020). Anthropology and the Anthropocene: Criticisms, Experiments, and Collaborations. *Annual Review of Anthropology*, 49, 67–82. <https://doi.org/10.1146/annurev-anthro-102218-011317>
- Mueller, R. A. (2019). Episodic Narrative Interview: Capturing Stories of Experience With a Methods Fusion. *International*

- Journal of Qualitative Methods, 18. <https://doi.org/10.1177/1609406919866044>
- Papanek, V. (1971). *Design for the Real World: Human Ecology and Social Change*. (second edition). Academy Chicago, p.3.
- Rosyani, R., Muchlis, F., Napitupulu, D., & Faust, H. (2019). Gotong Royong (Cooperation) Transformation of Rural Communities in Jambi Province, Indonesia. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, 7(1), pp. 1-12. <https://doi.org/10.22437/ppd.v7i1.7466>
- Rudofksy, B. (1964). *Architecture Without Architects*, an Introduction to Nonpedigreed Architecture. MOMA.
- Sanoff, H. (2000). *Community Participation Methods in Design and Planning*. In *Landscape and Urban Planning*, 50 (4). Wiley. [https://doi.org/10.1016/S0169-2046\(00\)00063-3](https://doi.org/10.1016/S0169-2046(00)00063-3)
- Slikkerveer, L.J. (2019). Gotong Royong: An Indigenous Institution of Communality and Mutual Assistance in Indonesia. In: Slikkerveer, L., Baourakis, G., Saefullah, K. (eds) *Integrated Community-Managed Development. Cooperative Management*. Springer, Cham. https://doi.org/10.1007/978-3-030-05423-6_14
- Simarmata, N., Yuniarti, K. W., Riyono, B., & Patria, B. (2020). Gotong Royong in the Millennial Era. In *Proceedings of the 10th International Conference of Indigenous and Cultural Psychology 2019 (Digital Press Social Sciences and Humanities*, 5: 00007). <https://doi.org/10.29037/digitalpress.45342>
- Steffen, W., Crutzen, P. J., & McNeill, J.R. (2007). The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature? *Ambio*, 40(7), pp.614-621. <https://www.jstor.org/stable/25547826>
- Sungai Design. (n.d.). Sungai Design. <https://sungaidesign.com> [last access 26.9.2024]
- Sungai Watch. (n.d.). Sungai Watch. <https://sungai.watch> [last access 26.9.2024]
- Thackara, J. (2015). *How to Thrive in the Next Economy: Designing Tomorrow's World Today*. Thames & Hudson.

- Taufiq, A. (2022). Championing Gotong Royong Spirit to the Next Level Through Social Innovation Platform. In The Jakarta Post. <https://www.thejakartapost.com/opinion/2022/12/29/championing-gotong-royong-spirit-to-the-next-level-through-social-innovation-platform.html> [last access 26.9.2024]
- UNFPA. (2020). Urbanization in Indonesia: Issues and Challenges (Monograph No. 4). https://indonesia.unfpa.org/sites/default/files/pub-pdf/FA_Isi_BUKU_Monograph_No.4_URBANIZATION_.pdf
- United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development (A/RES/70/1). Retrieved from <https://sdgs.un.org/2030agenda> [last access 26.9.2024]
- Vallance, S., Perkins, H. C., & Dixon, J. E. (2011). What is Social Sustainability? A clarification of concepts. *Geoforum*, 42(3), pp.342-348. <https://doi.org/10.1016/j.geoforum.2011.01.002>