

QDD.

**A Question of
Development**

Synthesis of

AFD studies and

research

JULY 2025

N° 92

Can social inclusion benefit ecosystems?

Achieving joint environmental and social outcomes through better Marine Protected Areas (MPAs) management in Indonesia

Integrating local populations and socio-economic issues in the management of Marine protected areas (MPA) makes conservation actions more effective, fair and sustainable. This translates directly into improved biological indicators such as specific richness, abundance of animal populations, and state of natural habitats. To improve the practice of MPA managers in Indonesia, social and economic skills should also be considered in the profile of recruitment of MPAs managers, and existing officers, having usually a natural science or ecological profile, should be fully trained on these social issues. In this perspective, the SMERU –an Indonesian research institute– has developed a toolkit for awareness-raising and training of MPA managers in Indonesia, offering ready-to-use approaches to better involve populations in management. Based on this tool, the Indonesian Ministry

in charge of MPAs has organized a first pilot training of its managers, prefiguring a more systematic and operational socio-economic approach to marine conservation.

Indonesia is a vast archipelagic nation committed to protecting the marine ecosystems its population heavily relies on

Indonesia is comprised of 17,500 islands in the Indian Ocean totalling 54,716 km of coastline (more than the length of the equator and ranking 3rd of the world) and offering an Exclusive Economic Zone of 6 million km² (ranking 6th in the world). Moreover, there are 280 million Indonesians, with more than half living on Java Island alone. The rest is spread over 921 permanently occupied islands, leaving more than 95% of the islands uninhabited. To further highlight the importance of coastal areas, over 180 million people, or more than 65% of the total population, live near the sea.

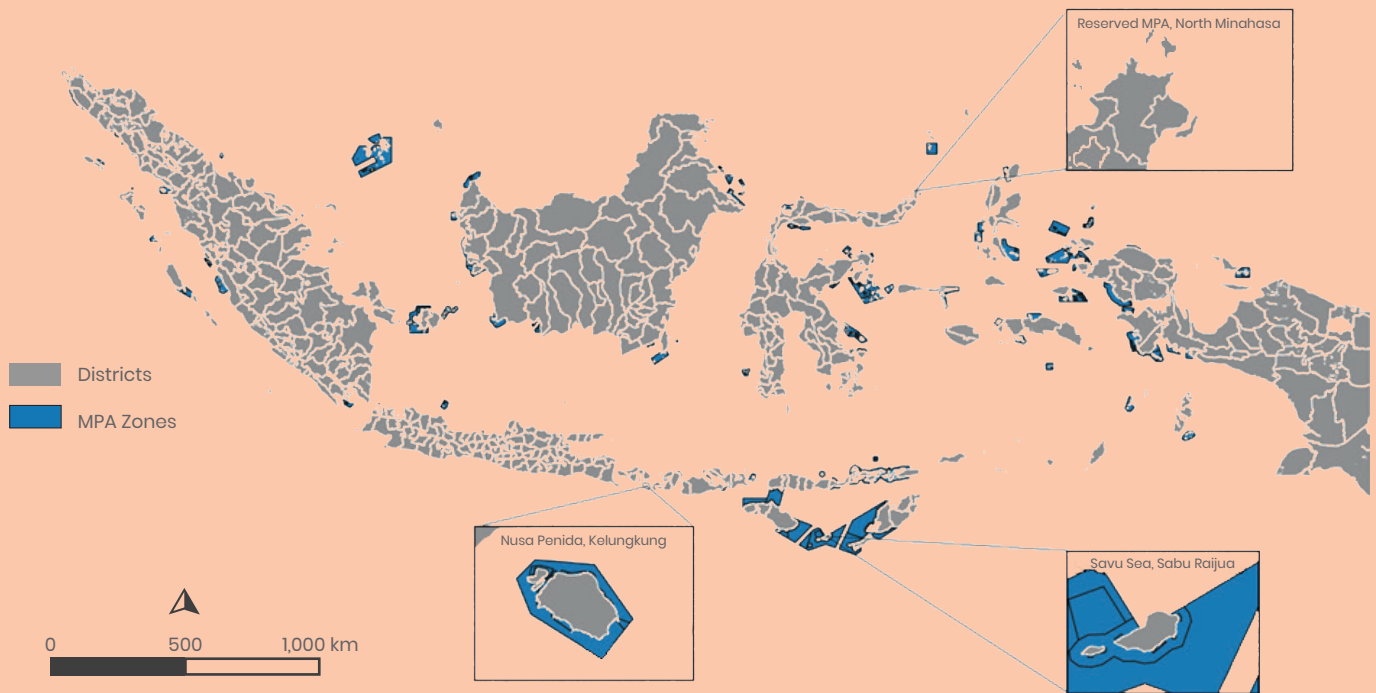
Indonesia is home to 10% of the world's coral reefs and 20% of all mangrove forests, supporting more than 6 million people who are directly employed in the fishery and aquaculture sector. These coastal ecosystems are under threat from various demographic and economic factors. Population growth, soil erosion, invasive species and damaging fishing practices put marine environments under pressure. Additionally, the expansion of coastal tourism, limited waste management and water sanitation, industrial and agricultural pollution, marine plastic debris, and the overexploitation of marine resources further increase this pressure.

Authors

Muhammad SYUKRI (SMERU)

Emmanuel FOURMANN (AFD)

Oskar LECUYER (AFD)



Source: authors (data: Indonesian Ministry of Marine Affairs and Fisheries).

Marine protected areas are one of the few available tools to address these concerns, along with education and outreach, and improved practices of all stakeholders. In various declarations, Indonesia has committed to developing marine protected areas^[1]. As of 2025, Indonesia has already protected about 30 million hectares of its seas and set a national target of 32.5 million ha by 2030. MPAs bring multiple benefits to the country. By conserving the biodiversity and the landscape, they allow sustainable fishing and marine tourism. By protecting nurseries such as coral reefs and mangroves, they foster fish reproduction and catching. They also offer increased resilience in the face of global changes, allowing for stronger ecosystems and mitigating impacts of extreme events such as tsunamis in a very seismic zone.

In Indonesia, there are both centrally and locally managed MPAs: national MPAs are managed by the central administration and local MPAs are managed by provincial governments. Since 2014, there has been a shift toward more centralized management. National regulations specify that each MPA needs to have at least four zones: a core zone or no-take zone; a sustainable fishing zone; an utilization zone; and other unspecified zones. The national and provincial MPA management units are responsible for writing the technical rules and regulations in the MPA management plan based on this zoning.

[1] "We are committed to achieving the target of marine conservation areas covering an area of 32.5 million hectares by 2030. In 2021, we managed to protect an area of 28.1 million hectares or 86.5%. We are optimistic that our commitments in 2030 can be materialized," the President Joko Widodo said in his remarks at the One Ocean Summit 2022. He also highlighted Indonesia's commitment to reduce 70% of marine plastic waste by 2025. "The mangrove ecosystem is also our concern. We are targeting the rehabilitation of 600,000 hectares of mangroves by 2024. We believe all these efforts will not only bring an impact on the preservation of the marine environment and sustainable development, but also on climate change," he added. Read more: Office of Assistant to Deputy Cabinet Secretary for State Documents and Translation. 2022. "Indonesia Reinforces Commitment in Marine Protection". Cabinet Secretariat of the Republic of Indonesia, February 11, 2022. <https://setkab.go.id/en/indonesia-reinforces-commitment-in-marine-protection/>.

Coastal villages neighbouring protected areas show higher poverty and inequality levels

Poverty and inequality have been persistent social issues in Indonesia (LPEM FEB UI. 2023), especially between rural and urban households, and between regions. The incidence of poverty has steadily decreased in the last couple of decades. In Indonesian villages, poverty decreased from above 23% in 1999 to around 10% in 2017, and approaching 8% in 2024. In contrast, inequality tends to remain unchanged, and even increases in coastal areas, as measured by the Gini coefficient.

Coastal areas hold 15% of Indonesian villages and 63% of districts/municipalities. On the one hand, some coastal villages are among the richest villages in Indonesia, especially in touristic areas. On the other, these villages are also among the most unequal, since traditional standards of living are juxtaposed with modern ways of life benefiting from world-class levels of income. Crucially for coastal areas, the economic dividends of tourism (41 billion USD, 4.1% of GDP, over 12 million jobs) are unequally benefiting the population.

MPAs tend to have been created in areas where biodiversity stayed untouched, that is where economic activity and pollution are the weakest. These areas also tend to be remote, poor and under-developed. In villages near MPAs, poverty has decreased quite slowly and inequality levels (measured by the Gini index) tend to rise.

Not only are the villages near MPAs poor and unequal, but they also have more limited access to various amenities, infrastructure and financial support to different types of public service and facilities compared to the non-MPA villages. Data shows that households near MPA have

less access to adequate sanitation, phone signals and community credit banks, compared to the national figure or to the non-MPA villages. The number of villagers who get covered by government-sponsored health insurance is also slightly lower in MPA villages. The availability of midwife, as the primary health care provider in the village, is fewer than in non-MPA villages. Regarding education however, MPAs villages show a comparable or even higher level of participation in various stages of education.

Merging ecological, economic and sociological concerns improve marine conservation

MPAs can greatly benefit neighbouring communities by increasing ecosystem service provision for alimentation and health, and by providing new alternative livelihood opportunities such as ecotourism. The reverse is true as well, numerous studies show that ecological conservation is more efficient when local communities are involved, informed and taken into account (Syukri 2025).

Seeking community participation is both moral and strategic. Nearby communities usually have a strong connection with their environment. Most of the time, the restrictions attached to environmental protection (no-take zones, protected plants and animals, restricted access) directly affect their lives, habits and customs. When creating or managing an MPA, it is morally right to hear and accommodate their voices in the decision-making process, especially if the communities are indigenous, having thus an even deeper reliance and alliance with nature, sometimes involving their spiritual and cosmologic universe. It is also pragmatic to fully collaborate with the local community, as they must be the strongest ally in managing the MPA. Failing to persuade them to become an MPA advocate will turn them into an immediate threat to the success of the MPA.

Even if they have no mandate to manage the MPA, district and municipal governments are key stakeholders through their mandate to reduce poverty and inequality in coastal areas. They have authority and dedicate substantial resources to local development. By coordinating their efforts with the provincial-led MPA program, their participation would make MPAs much more effective and efficient to empower local communities.

To make MPA governance more effective in reducing poverty and inequality, the guiding policies need also to be made responsive to such issues. Any regulation affecting the living conditions and livelihood of coastal communities should be carefully prepared, with the active participation of all neighboring villages. Any such regulation should moreover explicitly incorporate inequality and poverty issues.

Improving governance to improve conservation effectiveness: toolbox and training

The international practice of MPA management has shifted quite long from focusing solely on conserving biodiversity and ecology. In more integrated approaches, the focus on the people who live around MPAs, and their interests is an integral part of MPA objectives. Such integrated

approaches have yet to be fully adopted in Indonesia. Integrating local populations and socio-economic issues in the management of MPAs makes conservation actions:

- more effective: when local people participate, they can improve monitoring and control, and the enforcement of use restriction;
- fairer: the economic benefits of MPAs (tourism, fish abundance) can be shared with the riparian population;
- and sustainable, because local people usually rely on ecosystems for their livelihood, and therefore an improved biological conservation secures their own supply and welfare.

Most of MPA managers in Indonesia have precise tools and incentives on ecological conservation, but often struggle to take into account neighbouring communities, whose livelihoods heavily depend on those marine resources. Most of the time, MPA managers are coming from biological or ecological curricula, and social or economic considerations can prove difficult to grasp. MPA managers must be specifically recruited with social competences, and trained on inequality and poverty issue, e. g. regarding community empowerment and development, conflict resolution, and others.

With support from AFD, SMERU has conducted a study using qualitative and quantitative approach to investigate how Indonesian MPAs have addressed inequality and poverty (*ibid.*), with a focus on three case studies (see Map 1). The purpose of this work is to describe the current situation, identify the good practices allowing to address jointly social and environmental matters linked to marine conservation, to enhance both the living conditions of local communities and ecological performance.

Although MPA governance allows for productive activities such as sustainable fishing, aquaculture, and tourism, the way those activities are managed does not yet consider important social outcomes such as inequality and poverty reduction. This can be seen in the main technical regulations for the management of MPAs that lack any mention of alleviating poverty and inequality. EVIKA, the main platform of MPA monitoring and evaluation, also has very limited socio-economic indicators when measuring the performance of MPA management. Above all, the interviews –conducted as part of the study– with MPA managers at both national and local levels show that, for most of them, the socio-economic aspects in general, and inequality and poverty in particular, are not considered primary objectives of MPA management.

Following this diagnostic, and because of the importance of blue economy for Indonesia, the SMERU Institute, with the support of AFD and the EU Research Facility on Inequality, has developed a “Toolbox of Mainstreaming Welfare Improvement of the Poor and Inequality Reduction in Marine Protected Area Management”. It provides, some ready-to-use tools to mainstream poverty and inequality reduction in several MPA governance processes such as developing legal basis for MPA, participative planning and budgeting, networking, monitoring and evaluation.

The toolbox addresses various dimensions such as:

- Developing legal basis of an MPA and other regulations;
- Proposing, reserving, and stipulating new MPA;
- Developing the activities planning and budgeting of an MPA unit;
- Executing activities;
- Developing the MPA networking;
- And monitoring and evaluation of MPA performance.

The toolkit offers concrete methods to involve riparian populations and stakeholders in the governance of marine protected areas, including rules-setting, zoning (buffer zone, core zone), business and expense planning. It aims to help managers of MPAs identify issues, actors and influence in the service of biologically enhanced conservation.

This very practical tool will soon be available online (in Bahasa and in English) and free to access by any MPA managers and other stakeholders with a general interest in marine protected areas. In parallel, the Indonesian Ministry of Maritime Affairs and Fisheries (*Kementerian Kelautan dan Perikanan* [KKP]) –in charge of most MPAs– has organized in April 2025 a successful pilot training using this reference manual, which, in the future, will enrich, beside biological matters, the recruitment and standard on-boarding of public MPA managers.

References

Hanri, Muhammad, Andhika Pratama, Lili Yunita, Atiqah Siregar, Chairina Siregar, Wildan Anky, and Oskar Lecuyer. 2023. *The Benefits of Marine Protected Areas in Fighting Inequality and Fostering Environmental Sustainability in Indonesia*. Research Papers 232. Paris: Éditions Agence française de développement.

LPEM FEB UI. 2023. *The Inequality Diagnostic Report: Indonesia*. n.l.: BPS-Statistics Indonesia, LPEM FEB UI, AFD.

Rahman, Muhammad Khalilur, Muhammad Mehedi Masud, Rulia Akhtar and Mohammad Mainul Hossein. 2021. "Impact of Community Participation on Sustainable Development of Marine Protected Areas: Assessment of Ecotourism Development". *International Journal of Tourism Research* 24(1): 33–43. <https://doi.org/10.1002/jtr.2480>.

Syukri, Muhammad, Sul-ton Mawardi, Lia Amelia, Annabel Noor Asyah and Made Anthony Iswara. 2024. *Balancing Conservation and Community Welfare: Enhancing the Management of Marine Protected Areas in Indonesia*. Research Papers 308. Paris: Éditions Agence française de développement.

Syukri, Muhammad. 2022. "Participatory Governance in New Developmental State: Assessing its Efficacy". PhD Thesis. University of Western Australia.

Triyanti, Annisa, Mochamad Indrawan, Laely Nurhidayah and Muh Aris Marfai (eds). 2023. *Environmental Governance in Indonesia*. Cham: Springer Nature.

Agence française de développement (AFD)
5, rue Roland Barthes | 75012 Paris | France
Publishing director Rémy Rioux
Editor-in-chief Thomas Mélonio
Graphic design MeMo, Juliegilles, D. Cazeils
Layout PUB

Legal deposit 3th quarter 2025 | **ISSN** 2428-8926
Credits and authorizations
License Creative Commons CC-BY-NC-ND
<https://creativecommons.org/licenses/by-nc-nd/4.0/>
Printed by the AFD reprographics department

The analyses and conclusions of this document are entirely those of their authors. They do not necessarily reflect the official views of the AFD or its partners institutions.

To consult other publications: <https://www.afd.fr/collection/question-de-developpement>

