WIDER Development Conference – Reducing Inequality

The Benefits of Marine Protected Areas in Fighting Inequality and Fostering Environmental Sustainability in Indonesia

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About this paper

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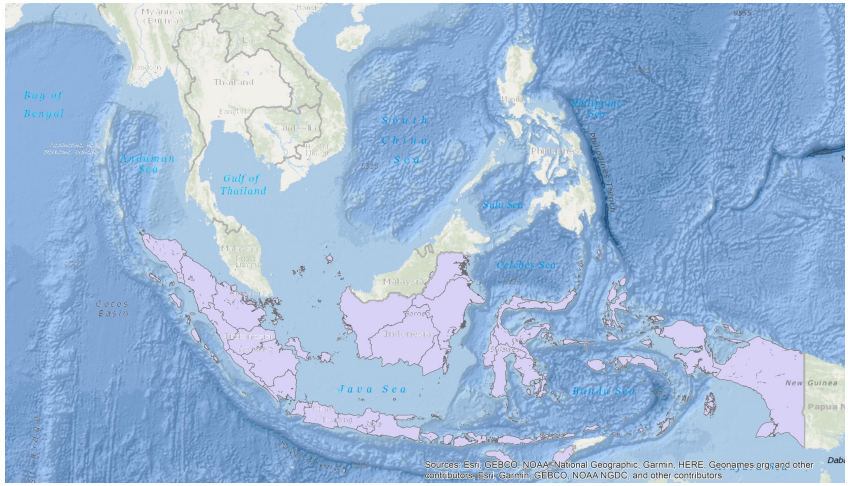
- The **review of channels** on how MPA can reduce inequality while promoting a sustainable environment.
- Show case of the **current condition of inequality in Indonesia**.
  - Heterogeneity of inequality in Indonesia
  - Coastal areas vs non-coastal areas
  - MPA vs Non-MPA
- Description of the **current situation of MPA** in Indonesia
  - Government policies
  - How policies went
- Scoping of several **issues in MPA implementation** in Indonesia
  - And the possible improvement for the future.

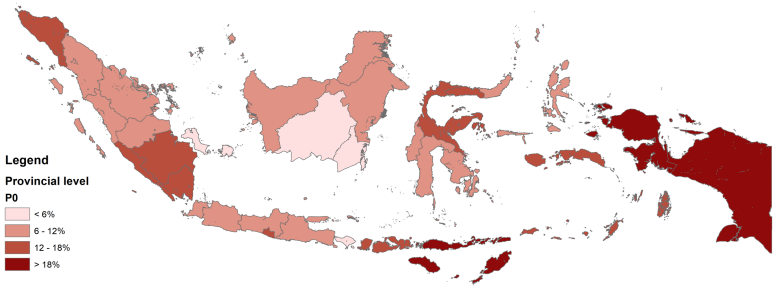
Introduction to the Project

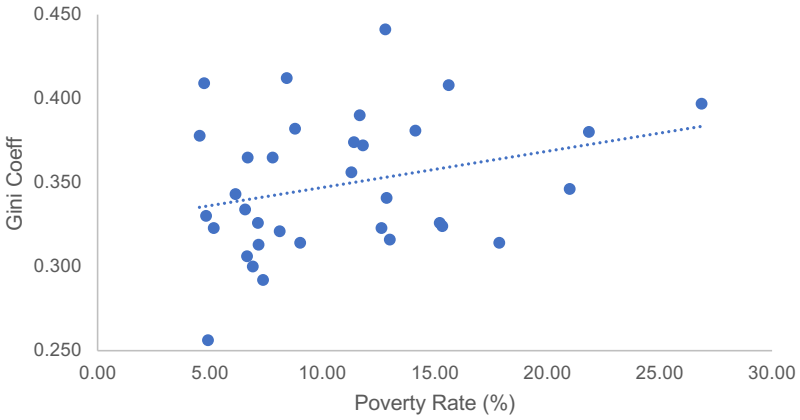
- In 2021, LPEM and AFD initiated a collaboration in preparing the implementation of the Extension of the Research Facility on Inequality in Indonesia with a focus on climate change risks and impacts.
  - Consultation with **6 ministries and identified 28 policy initiatives** consisting of various topics, including energy, transport, fiscal, marine, social protection, waste management, land-use, and others
- Through discussion with AFD, we decided to explore the topic of Marine Protected Areas considering:
  - **Clear transmission** to both climate change and inequality
  - Potential **high and measurable impact** on climate change and inequality
  - Also, Indonesia is a **vast archipelagic country**. Marine is vital for the population and for the economy.
- This paper is a scoping paper that aims to identify the benefits of MPA for Indonesia.
  - Regulation, implementation report, academic literature review
  - Secondary data analysis
  - Workshop and FGDs with academicians, practitioners, local and central government officials

Indonesia: A Glance

- An archipelagic country in South-east Asia (see picture); 1.9 million km^2; over 17,000 islands
- GDP: 1,186,092.99 million USD (Current USD 2021); 16th largest.
- Population: 276 million (4th largest)
- GDP per cap: USD 4,291 (2021); ranks on the 127th
- Poverty and Inequality
  - Poverty Rate: 9.54% (national poverty line)
  - Gini Coefficient: 0.384
  - While the poverty profile on province level is clear (eastern Indonesia with higher poverty line), its relationship with Inequality is not that clear

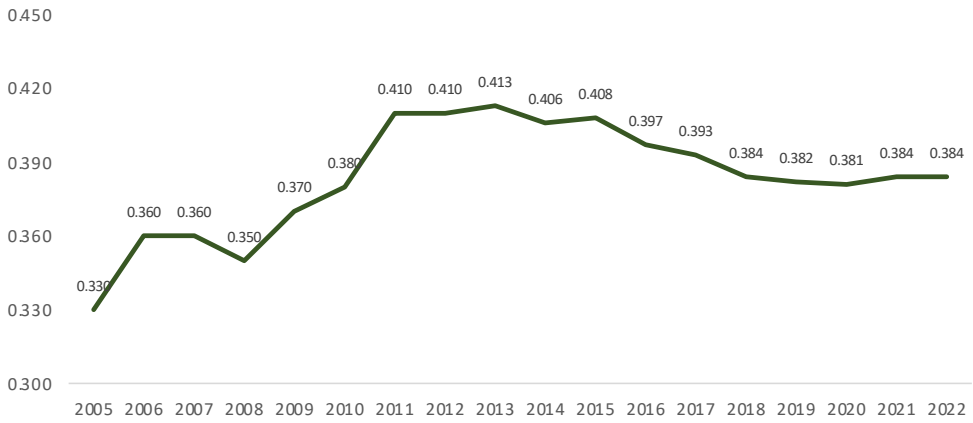






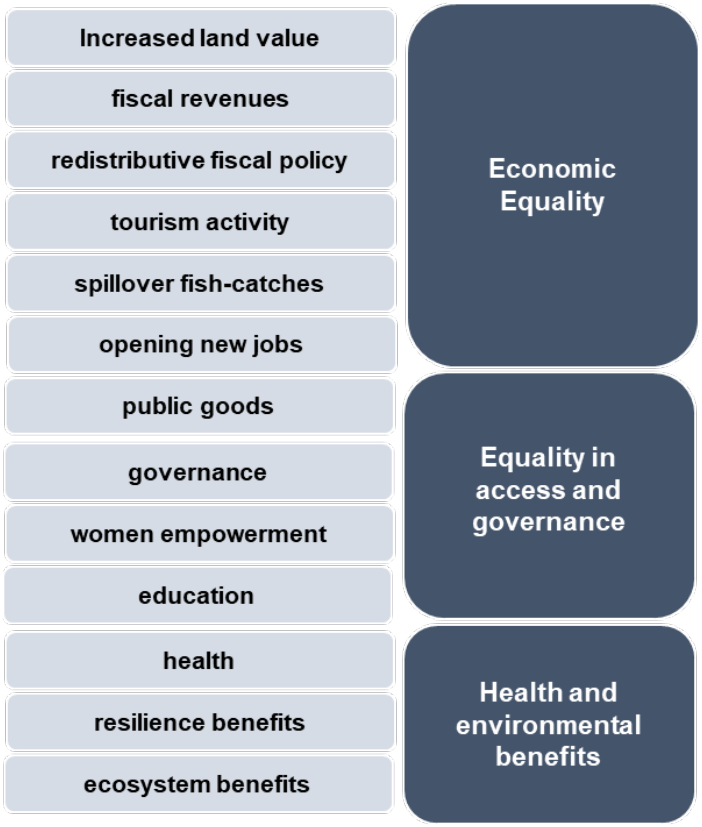
Inequalities Does Matter in Indonesia

- In the past, Indonesia has experienced rapid increase in Inequality
  - Inequality has risen from 0.350 to 0.413 from 2008 to 2013
- The COVID-19 pandemic has turned back the progress of inequality reduction in Indonesia
  - Gini coefficient rises slightly from 0.381 to 0.384 in 2021
- Why focus on MPA?
  - Indonesia is an archipelagic country
  - 16% population relies on the fisheries sector (National Statistics, 2021)
  - Median expenditure per capita in fisheries sectors is 18% lower than other sectors and even lower up to 49.6% in lagging provinces. (National Statistics, 2021)



Transmission Mechanism

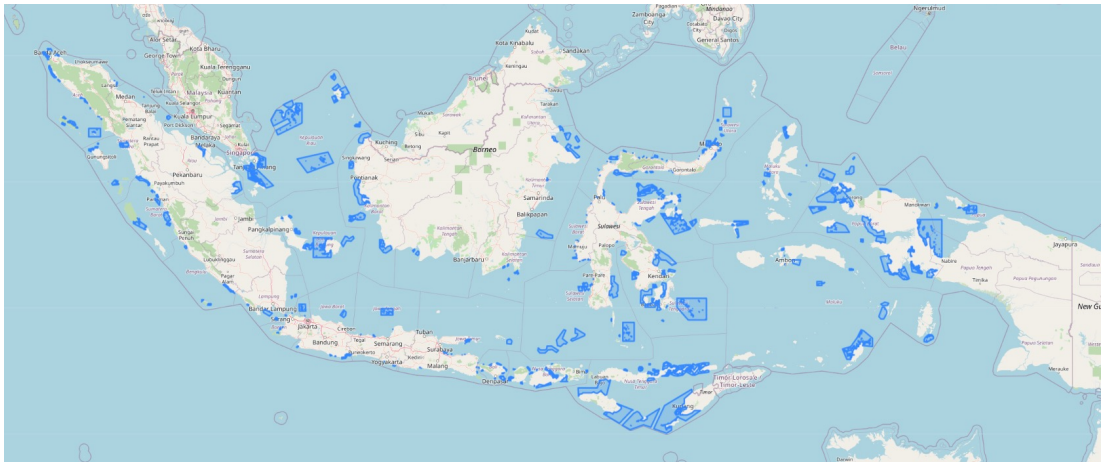
- Positive impacts of MPA have been documented well in the literature (Ban, et al., 2019)
  - MPAs have the potential to not only reduce economic inequality but also equality in governance and other social aspects.
- MPA induces economic inequality reduction through:
  - Opening new jobs from tourism and other new economic activity surrounding MPA (Pham, 2020)
  - Spillover of fish catches (Yunanto, Halimatussadiah, Zakaria, 2019)
  - Higher fish productivity (Prisanti and Halimatussadiah, 2020)
  - Increased land value (Ban, et al., 2019)
  - Redistributive fiscal policies (Ban, et al., 2019)
- MPA reduce non-economic inequality through:
  - Improved governance and women empowerment (Leisher, van Beukering, & Scherl, 2008).
  - Education and health access (Leisher, van Beukering, & Scherl, 2008).
  - Ecosystem benefits (Costello, 2014)



Government's Policies Related to MPAs

- Government of Indonesia (GoI) targets 32.5 million Ha (10% of its Sovereign Territory Sea Area) as MPAs
  - Until the end of 2021, 18.4 million Ha are MPAs (64.7%)
- Government's role in MPAs
  - MPA Roadmap 2030
  - Evaluation and verification of MPA
    - The government categorize MPA into three level based on its sustainability of management: Gold, Silver, and Bronze*
    - Of 410 MPAs, 61 have been evaluated, of which Gold (0%); Silver (40%); Bronze (60%).
  - Financing MPAs
    - Special Allocation Funds (DAK)
      - Central government to local government transfer
    - Grants for community movement on conservation (KOMPAK)
  - International partnership
    - Monitoring partnership with CSIRO (Australia)

Coverage of MPA in Indonesia (2021)



Source: Ministry of Marine Affairs (2021)

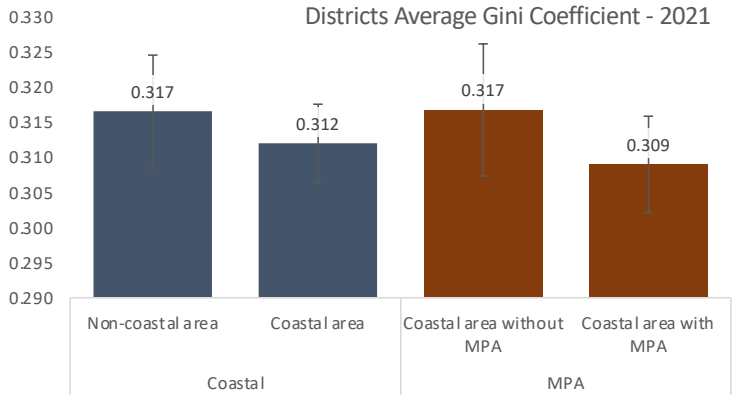
Up until 2019, the category was Green, Yellow, and Red

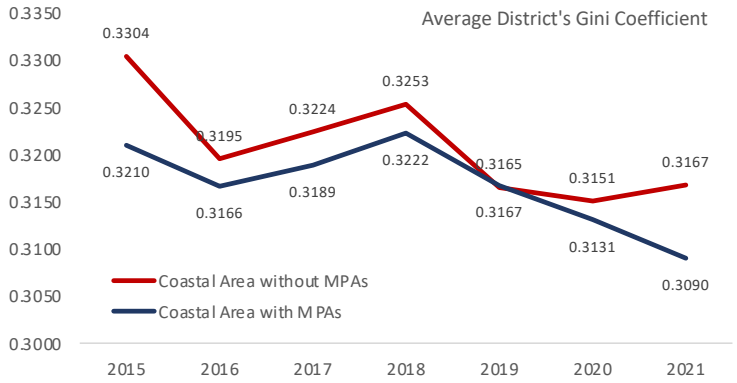
How the Policies Went

- On the macro level, the government is still on track to meet its target of 32.5 million Ha MPAs in 2030
  - It could be an "*aim low-shoot high*" problem
    - 10% of the marine area is not an aggressive target to be achieved in the first place
    - But again, difficult to compare to other countries (limited numbers of archipelagic countries)
      - The Philippines has 1.4-1.7% of its sea as MPAs (Phil CHM, 2022; UNEP-WCMC, 2021; WDPA, 2021)
      - Japan has 13.89% of its territorial sea (UNEP-WCMC, 2021; WDPA, 2021)
      - Australia has 44.34% of its territorial sea (UNEP-WCMC, 2021; WDPA, 2021)
  - Limited documentation of the quality of all management and/or monitoring of MPA
- On the micro level, several challenges remain:
  - Sustainability of awareness
    - In some cases, lacks understanding of marine ecosystems and support from local government is an obstacle to MPA management (Kusumawati, 2015; Bennet, et.al 2014)
    - Communities in MPAs are more likely to be aware of the sustainability of the area, but external visitors (tourist) may not
  - Sustainability of MPA Implementation
    - Positive impact of MPA programs was limited to the implementation period (e.g., Gurney et al., 2014; Andam et al., 2010; Sims 2010)
  - Quality of human resources
    - Poverty and the quality of human resources are the obstacles in MPA program implementation (Ministry of Marine Affairs, 2020)

MPAs, Coastal Population, and Inequality

- Using the national socio-economic survey data, we try to map current inequality in coastal areas[1]
  - On average, districts located in the coastal area have a lower inequality (0.312) rather than non-coastal area (0.317)
  - Since 2015, districts located in the coastal area with MPA consistently have a lower Gini coefficient compared to similar districts without MPA
  - Since 2018, districts with MPA experience a more consistent decline in inequality compared to similar districts without MPA designated area
- While it indicates a better inequality in districts in MPAs, it does not yet address the reverse causality problem
  - Government may put MPA in areas with an already better inequality condition
  - A further causal evaluation needed
  - We may answer this with the upcoming inequality research diagnostic





[1] *the best proxy that we can get using secondary data*

Moving Forward

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- On policy perspective:
  - Monetary and non-monetary incentives
    - Coastal eco-tourism, sustainable fishing, conditional payment for services
  - Co-management systems
    - Currently management of MPAs in Indonesia is heavily reliant on the central government.
    - Co-management with communities and the private sector is an option to expand
  - Strong collaboration and monitoring
    - Marine is common property, thus difficult to monitor. Learn from international best practices.
  - Improvement in institutional capacity
    - Better MPA management needed
- Avenue for future research:
  - Impact evaluation of MPAs to find any **causal evidence** between MPAs and well-being or inequality in the coastal area
    - Area with MPAs as the treatment group, while Non-coastal area with MPAs as the control group
  - **Inequality diagnostic research**
    - Deeper assessment of inequality in coastal area
    - Understanding inequality issues among coastal communities

TERIMA KASIH
MUCHAS GRACIAS
THANK YOU

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