Climate Change in the Indonesian Mind

YALE PROGRAM ON
Climate Change
Communication
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This report is based on findings from a nationally representative survey of individuals in Indonesia (aged 16 years and above) conducted by Development Dialogue Asia, the Yale Program on Climate Change Communication (YPCCC), Communication for Change (C4C), and Kantar Indonesia. Interview dates: June 7 – July 30, 2021. Interviews: 3,490 adults. Average margin of error: +/- 1.7 percentage points at the 95% confidence level. The research was supported by Development Dialogue Asia, King Philanthropies, the MacArthur Foundation, and the Grantham Foundation.

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Cite as:
Leiserowitz, A., Rosenthal, S., Verner, M., Lee, S., Ballew, M., Carman, J., Goldberg, M., Marlon, J., Paramita, E., Chamim, M., Mohamad, P. & Daggett, M. (2023). *Climate Change in the Indonesian Mind*. Yale University. New Haven, CT: Yale Program on Climate Change Communication.

Executive Summary

From June 7 to July 30, 2021, a research team from Development Dialogue Asia, the Yale Program on Climate Change Communication, Communication for Change, and Kantar Indonesia conducted a nationally representative survey of 3,490 Indonesian adults (ages 16+). The study was designed to investigate public climate change awareness, beliefs, and attitudes, as well as perceived risks of environmental problems (e.g., deforestation, forest fires), awareness and beliefs about Indigenous peoples, and other responses to environmental protection (e.g., norms, values, activism).

Global Warming Awareness and Beliefs

- 76% say they either know "a little" about global warming (55%) or "have never heard of it" (20%). When asked to assess several potential definitions, 44% of Indonesians correctly said that climate change involves "significant changes in weather patterns, temperature, wind, and rainfall that occur over a long period of time (decades or more)."
- After reading a short definition of global warming, 63% think global warming is happening.
- 29% think that global warming is happening and that it is caused mostly by human activities, while 23% think it is happening and caused more or less equally by human activities and natural changes in the environment. By contrast, only 8% think global warming is happening and caused mostly by natural changes in the environment.

Perceived Risks of Global Warming

- 73% say they are either "very worried" (26%) or "worried" (47%) about global warming.
- Majorities of Indonesians think global warming will cause either "a great deal" or "a moderate amount" of harm to plant and animal species (73%), people in Indonesia (72%), future generations of people (72%), people in their community (67%), their family (66%), and themselves personally (64%).
- 33% think people in Indonesia are already being harmed by global warming. Only 2% of Indonesians think people in Indonesia will never be harmed by global warming, but one in three (33%) don't know when people will be harmed.

Perceived Risks of Deforestation

- 80% say they are either "very worried" (34%) or "worried" (45%) about the rate of deforestation in Indonesia today.
- Majorities of people in Indonesia think deforestation is either "very harmful" or "somewhat harmful" to citizens all across Indonesia (89%), people who live near the forest (87%), the local government where the forest is located (77%), the central or national government (77%), and business people who have invested to open up the forest (59%).
- People in Indonesia most frequently say that floods (71%), landslides (68%), and loss of water reserves (46%) are their top three worries about deforestation.
- 40% say cutting down a bigger area of the forest in Indonesia is never justified. However, the majority of Indonesians (60%) say cutting down a bigger area of the forest *is* justified if it is for building public infrastructure (32%), lifts more people out of poverty (17%), increases people's income (15%), opens more jobs (14%), and/or increases the state's revenue (4%).

Perceived Risks of Forest Fires

- 81% say they are either "very worried" (32%) or "worried" (49%) about forest fires in Indonesia today.
- 63% think forest fires are caused mostly by human activities.

Perceived Local Environmental Risks

- Large majorities of Indonesians are either "very worried" or "moderately worried" about harm to their local area from water shortages (91%), whirlwinds/small tornados (88%), droughts (87%), wildfires (86%), water pollution (85%), air pollution (83%), flooding (83%), rising sea levels (77%), and extreme heat (69%).

Awareness and Understanding of Indigenous People in Indonesia

- 62% say they either "have never heard of" (15%) or know "a little about" (47%) "Masyarakat Adat" – the Indigenous people of Indonesia.
- Only 4% of Indonesians understand that the term "Masyarakat Adat" does not refer to "all people or all tribes in Indonesia."

Environmental Norms, Values, and Efficacy

- 83% say it is "extremely important" or "important" to their family and friends that they take action to reduce human-made environmental destruction (i.e., an injunctive norm). A majority of people in Indonesia (64%) also say their family and friends make either "a lot of effort" or "enough effort" to reduce human-made environmental destruction (i.e., a descriptive norm).
- 91% of Indonesians agree that they feel morally obligated to protect the environment from human-made destruction for the common good today, while 90% say they have a duty to reduce human-made environmental destruction for future generations. 82% also say that they feel guilty about the negative things humans have done to the environment.
- 90% agree that they share the same values with people who save and protect nature. Additionally, 70% say that they like to be identified as an "environmental activist."
- 26% think humans can reduce environmental destruction and that we will, while 63% think humans *could* reduce environmental destruction, but either say "it's unclear at this point whether we will do what's needed" (32%) or "people aren't willing to change their behavior, so we're not going to" (31%). Very few Indonesians (4%) think humans can't reduce environmental destruction.
- Majorities of Indonesians say they are "extremely sure" or "sure" that the government (75%), their community (73%), and citizens of Indonesia (71%) can work together to reduce human-made environmental destruction.

Environmental Activism

- When asked about actions to protect the environment from human-made destruction, few people in Indonesia say they have donated to a group working on environmental issues (18%); expressed their views to others using social media (16%); encouraged others to take action directly or through social media (10%); joined or volunteered in a group working on environmental issues (9%); attended peaceful demonstrations (9%); signed a petition, including online (8%); organized political activities, events, or protests using social media or directly (8%); contacted a government official, indirectly (through social media, letters, or emails) or directly (5%); and/or joined in boycotts (4%).

Introduction

Indonesia is home to more than 275 million people – the fourth most populous country in the world – and has been ranked as one of the top ten emitters of global greenhouse gasses (World Resources Institute, Friedrich et al., 2023). Indonesia is rich in natural resources (UNFCCC, 2022): most of the country's emissions stem from land use, particularly from deforestation and the clearance of carbon-rich peatlands for agriculture development – often for oil palm plantations (Groom et al., 2022; The World Bank Group and Asian Development Bank, 2021). Emissions from land use represent over half of Indonesia's total emissions (The Ministry of National Development Planning/National Development Planning Agency (Bappenas), 2019), which significantly contribute to the country's ranking as a major emitter of greenhouse gasses. Another primary source of Indonesia's emissions is the energy sector's use of fossil fuels – representing about one-quarter of the country's total emissions (Carbon Brief, Dunne, 2019).

Indonesia is highly exposed to various climate hazards and vulnerable to the impacts of climate change (The World Bank Group and Asian Development Bank, 2021). According to the 2023 INFORM Risk Index, Indonesia has been ranked in the top third of countries most at risk to climate hazards (48th out of 191), including flooding, droughts, and heatwaves (European Commission, 2023). The frequency and intensity of climate hazards are expected to grow as climate change worsens. With Indonesia's large low-elevation coastal population – ranked 5th in the world – the country is especially vulnerable to the impacts of flooding and sea-level rise, including harmful effects to the communities living in coastal areas, as well as to the agricultural and fishing industries (Neumann et al., 2015). For example, Indonesia's capital city, Jakarta, on the island of Java, has been ranked as the world's most vulnerable city to environmental threats (Environmental Risk Outlook, Nichols, 2021). It is estimated that by 2050, up to 95% of Jakarta's coastal areas could be submerged due to sea-level rise (The World Bank Group and Asian Development Bank, 2021). Given that a majority of Indonesia's population live in coastal areas – particularly on the island of Java – many communities, especially rural communities, are at an increased risk to climate change-related hazards, including tidal floods and storms (Rudiarto et al., 2018).

Because of its geographical location, Indonesia is also among the countries most at risk to extreme heat caused by global warming (Matthews et al., 2017; Mora et al., 2017). In 2015, El Niño reduced rainfall in parts of Indonesia's Borneo and Sumatra islands, resulting in drought and more intensive seasonal fires (NASA, Jenner, 2016). Indonesia's agriculture is particularly vulnerable to climate change. The provinces of East and West Nusa Tenggara, which are prone to drought, are those that are most at risk from food insecurity (USAID, 2022). For instance, the production of rice, a key food staple in Indonesia, is sensitive to fluctuations in the start and duration of the wet season. El Niño events have an impact on rice production by delaying rainfall and increasing chances of yearly rice shortages, and these events are predicted to become more frequent due to climate change (The World Bank Group and Asian Development Bank, 2021).

Indonesia's large tropical rainforests make it among the most biodiverse countries in the world (Margono et al., 2014). However, deforestation and forest loss (including peatlands), mainly due to the rise of agriculture development (e.g., palm oil plantations, illegal logging), threatens the growth of these carbon-rich forests and has implications for Indonesia's climate change mitigation efforts (Earth.Org, Shahreen, 2022). It is estimated that Indonesia lost over 28 million hectares of tree cover from 2001 to 2021 (Global Forest Watch, 2023) – an area larger than the United Kingdom. Degradation and

deforestation of mangroves, in particular, was responsible for 10% of the country's overall forestry-related greenhouse gas emissions, even though mangroves make up only 2.6% of Indonesia's total forest area (Budi Arifanti et al., 2022). Indonesia has also experienced a rise in wildfires in recent years, increasing the country's carbon emissions and threatening the preservation of forests (Earth.Org, Shahreen, 2022). The 2019 fires (mainly among peatlands) were especially damaging, emitting twice the amount of carbon pollution released by fires in the Amazon during the same year (Mongabay, Jong, 2019). To address these issues, the Indonesian government has created new policies for the land use sector by creating a moratorium on new permits, and increasing the preservation of forests and peatlands through improved sustainability management (UNFCCC, 2022). In 2015, President Jokowi started a social forestry program to give people legal access to 12.7 million hectares of forests. The initiative includes land rezoning, capacity building, and enhancing the value chain for sustainable livelihoods (The World Bank, 2021).

Indonesia is home to about 50–70 million Indigenous people – about 18–25% of the total population (IWGIA, n.d.). For Indigenous people in Indonesia, the loss of land has greatly impacted their livelihoods including threats to their homes, identity and culture, access to food and water, economic structures, and well-being. Indigenous populations (Masyarakat Adat) are especially affected by deforestation and forest loss, particularly as a result of oil palm plantation development (Human Rights Watch, 2019). Conflicts regarding land are common and have been frequently connected to oil palm plantations (Human Rights Watch, Nnoko-Mewanu, 2019). This often leads to the forced displacement of Indigenous people to relocate their homes and communities. There has been a great deal of criticism about government oversight and corporate accountability arguing that the government has failed to protect Indigenous people and has ignored massive forest clearance, allowing for the expansion of oil palm plantations (Human Rights Watch, Nnoko-Mewanu, 2019). In May 2023, the Nusantara Fund was launched, which is Indonesia's first program to directly support Indigenous populations and local communities (Mongabay, Jong, 2023). The Nusantara Fund aims to reach $20 million in funding from donors and will enable Indigenous populations and local communities in Indonesia to map, protect, and rehabilitate millions of acres of land.

Indonesia is prioritizing the development of clean energy sources in national policy, eventually putting the country on a path toward decarbonization. While Indonesia is one of the largest global producers of coal and the largest gas supplier in Southeast Asia, the country has ambitious plans to become one of the world's largest biofuel producers (IEA, n.d.; UNFCC, 2022), and to cut emissions by about 32% on their own or 43% with international support, exceeding the goals set by the Paris Climate Agreement (Reuters, 2022). During the G20 event in November 2022, Indonesia signed the Just Energy Transition Partnership (JETP) with international lenders and the G7 nations to help reduce dependency on fossil fuels and increase the use of renewables. The USD 20 billion funding will be disbursed in the next five years and expects to see the early retirement of coal-fired plants (Mongabay, Jong, 2022). Also, the Asian Development Bank (ADB) will incorporate climate change adaptation and mitigation measures into its infrastructure investments and assist Indonesia's nationally set contribution goal of 23% renewable energy production by 2025. ADB will assist gas-fired power production facilities to provide backup capacity for intermittent usage of renewable energy and the replacement of diesel in Indonesia. Importantly, Indonesia has significant solar photovoltaic and wind resources that can be used on a massive scale (The World Bank Group and Asian Development Bank, 2021).

An effective national strategy in Indonesia, however, must consider the public's beliefs and attitudes about climate change, risk perceptions, and other responses to the environment (e.g, values, behavior). People in Indonesia will play a critical role in the success or failure of this strategy through their actions as citizens, consumers, and communities. Understanding how Indonesians respond to climate change and environmental problems – including what they know, believe, and support, as well as what they misunderstand, disbelieve, or oppose – has important implications for educating and communicating with the public to build more support and demand for climate policy.

In an effort to understand public responses to climate change and the environment in Indonesia, Development Dialogue Asia, the Yale Program on Climate Change Communication, Communication for Change, and Kantar Indonesia collaborated to conduct a nationally representative survey of Indonesian adults (18+). This research investigated the public's climate change awareness, beliefs, and attitudes, as well as perceived risks of environmental problems (e.g., deforestation, forest fires), awareness and beliefs about Indigenous peoples, and other responses to the environment (e.g., norms, values, activism). The goals of this research include contributing to both scientific and public understanding and dialogue about climate issues, and providing relevant information for the climate change community in Indonesia.

References

Budi Arifanti, V., Boone Kauffman, J., Subarno, Ilman, M., Tosiani, A., & Novita, N. (2022). Contributions of mangrove conservation and restoration to climate change mitigation in Indonesia. *Global Change Biology*, *28*(15), 4523–4538.

Dunne, D. (2019, March 27). *The Carbon Brief Profile: Indonesia*. Carbon Brief. https://www.carbonbrief.org/the-carbon-brief-profile-indonesia/

European Commission. (n.d.). *INFORM Risk*. DRMKC - INFORM. Retrieved July 17, 2023, from https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk

Friedrich, J., Ge, M., Pickens, A., & Vigna, L. (2023, March 2). *This Interactive Chart Shows Changes in the World's Top 10 Emitters*. World Resources Institute. https://www.wri.org/insights/interactive-chart-shows-changes-worlds-top-10-emitters

Global Forest Watch. (n.d.). *Indonesia*. Retrieved July 17, 2023, from https://www.globalforestwatch.org/dashboards/country/IDN

Groom, B., Palmer, C., & Sileci, L. (2022). Carbon emissions reductions from Indonesia's moratorium on forest concessions are cost-effective yet contribute little to Paris pledges. *Proceedings of the National Academy of Sciences*, *119*(5), e2102613119. https://doi.org/10.1073/pnas.2102613119

IEA. (n.d.). *Indonesia*. Retrieved July 17, 2023, from https://www.iea.org/countries/indonesia

IWGIA. (n.d.). *Indigenous peoples in Indonesia*. Retrieved July 17, 2023, from https://www.iwgia.org/en/indonesia.html#

Jenner, L. (2016, January 13). *El Niño Brought Drought and Fire to Indonesia*. NASA. http://www.nasa.gov/feature/goddard/2016/el-nino-brought-drought-and-fire-to-indonesia

Jong, H. N. (2019, November 25). *Indonesia fires emitted double the carbon of Amazon fires, research shows*. Mongabay. https://news.mongabay.com/2019/11/indonesia-fires-amazon-carbon-emissions-peatland/

Jong, H. N. (2022, November 16). *Indonesia seals $20 billion deal with G7 to speed up clean energy transition*. Mongabay. https://news.mongabay.com/2022/11/indonesia-seals-20-billion-deal-with-g7-to-speed-up-clean-energy-transition/

Jong, H. N. (2023, May 23). *Indonesian project shows how climate funding can—and should—go directly to IPLCs*. Mongabay. https://news.mongabay.com/2023/05/indonesian-project-shows-how-climate-funding-can-and-should-go-directly-to-iplcs/

Margono, B. A., Potapov, P. V., Turubanova, S., Stolle, F., & Hansen, M. C. (2014). Primary forest cover loss in Indonesia over 2000–2012. *Nature Climate Change*, *4*(8), Article 8. https://doi.org/10.1038/nclimate2277

Matthews, T. K. R., Wilby, R. L., & Murphy, C. (2017). Communicating the deadly consequences of global warming for human heat stress. *Proceedings of the National Academy of Sciences*, *114*(15), 3861–3866. https://doi.org/10.1073/pnas.1617526114

Mora, C., Dousset, B., Caldwell, I. R., Powell, F. E., Geronimo, R. C., Bielecki, C. R., Counsell, C. W. W., Dietrich, B. S., Johnston, E. T., Louis, L. V., Lucas, M. P., McKenzie, M. M., Shea, A. G., Tseng, H., Giambelluca, T. W., Leon, L. R., Hawkins, E., & Trauernicht, C. (2017). Global risk of deadly heat. *Nature Climate Change*, *7*(7), Article 7. https://doi.org/10.1038/nclimate3322

Neumann, B., Vafeidis, A. T., Zimmermann, J., & Nicholls, R. J. (2015). Future Coastal Population Growth and Exposure to Sea-Level Rise and Coastal Flooding—A Global Assessment. *PLOS ONE*, *10*(3), e0118571. https://doi.org/10.1371/journal.pone.0118571

Nichols, W. (2021, May 12). *Asian Cities in Eye of Environmental Storm – Global Ranking*. Verisk Maplecroft. https://www.maplecroft.com/insights/analysis/asian-cities-in-eye-of-environmental-storm-global-ranking/

Nnoko-Mewanu, J. (2019, September 22). *"When We Lost the Forest, We Lost Everything."* Human Rights Watch. https://www.hrw.org/report/2019/09/23/when-we-lost-forest-we-lost-everything/oil-palm-plantations-and-rights-violations

Reuters. (2022, October 25). *Indonesia pledges more ambitious carbon emission cut*. https://www.reuters.com/world/asia-pacific/indonesia-pledges-more-ambitious-carbon-emission-cut-2022-10-25/#

Rudiarto, I., Handayani, W., & Sih Setyono, J. (2018). A Regional Perspective on Urbanization and Climate-Related Disasters in the Northern Coastal Region of Central Java, Indonesia. *Land*, *7*(1), Article 1. https://doi.org/10.3390/land7010034

Shahreen, S. (2022, February 2). *Deforestation in Indonesia*. Earth.Org. https://earthorg.mystagingwebsite.com/vanishing-act-deforestation-in-indonesia/

The Ministry of National Development Planning/National Development Planning Agency (Bappenas). (2019). *Low Carbon Development: A Paradigm Shift Towards a Green Economy in Indonesia*. https://www.wavespartnership.org/sites/waves/files/kc/09_LCDI_2019.pdf

The World Bank. (2021, October 21). *Opening the Door to Community Forest Access and Management in Indonesia*[Text/HTML]. World Bank. https://doi.org/10/21/opening-the-door-to-community-forest-access-and-management-in-indonesia

The World Bank Group & Asian Development Bank. (2021). *Climate Risk Country Profile: Indonesia*. World Bank. https://doi.org/10.1596/36379

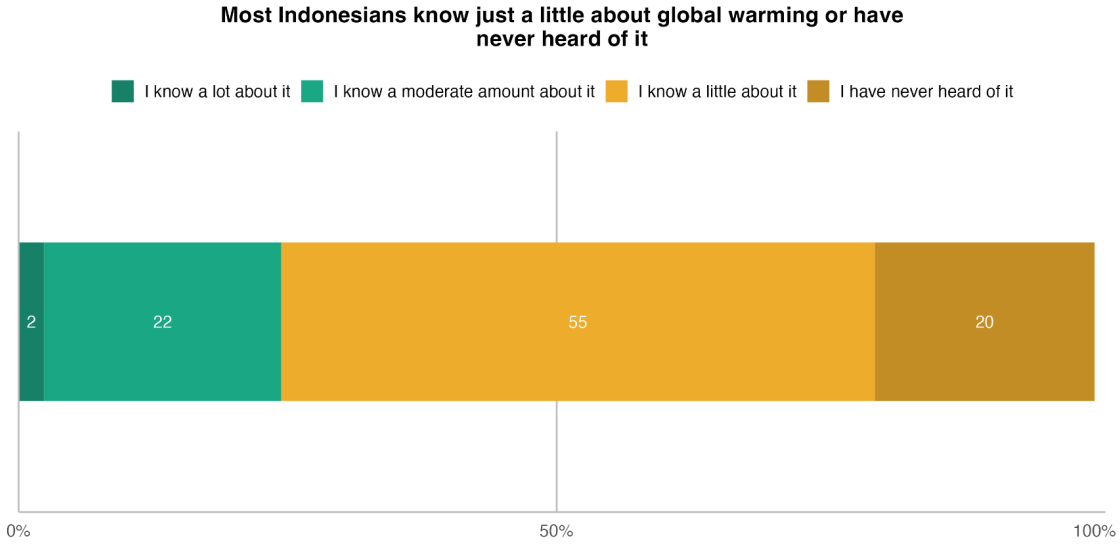
UNFCCC. (2022). *Enhanced Nationally Determined Contribution: Republic of Indonesia*. https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf

USAID. (2023, March 17). *Indonesia Climate Change Country Profile: Fact Sheet*. U.S. Agency for International Development. https://www.usaid.gov/climate/country-profiles/indonesia

1. Global Warming Awareness and Beliefs

1.1. Most Indonesians know just a little about global warming or have never heard of it.

Before receiving a description of global warming, respondents were asked how much they know about it. In that context, most people in Indonesia (76%) say they either know “a little” about global warming (55%) or “have never heard of it” (20%). By contrast, 22% of people in Indonesia say they know “a moderate amount” about global warming and only 2% say they know “a lot.”



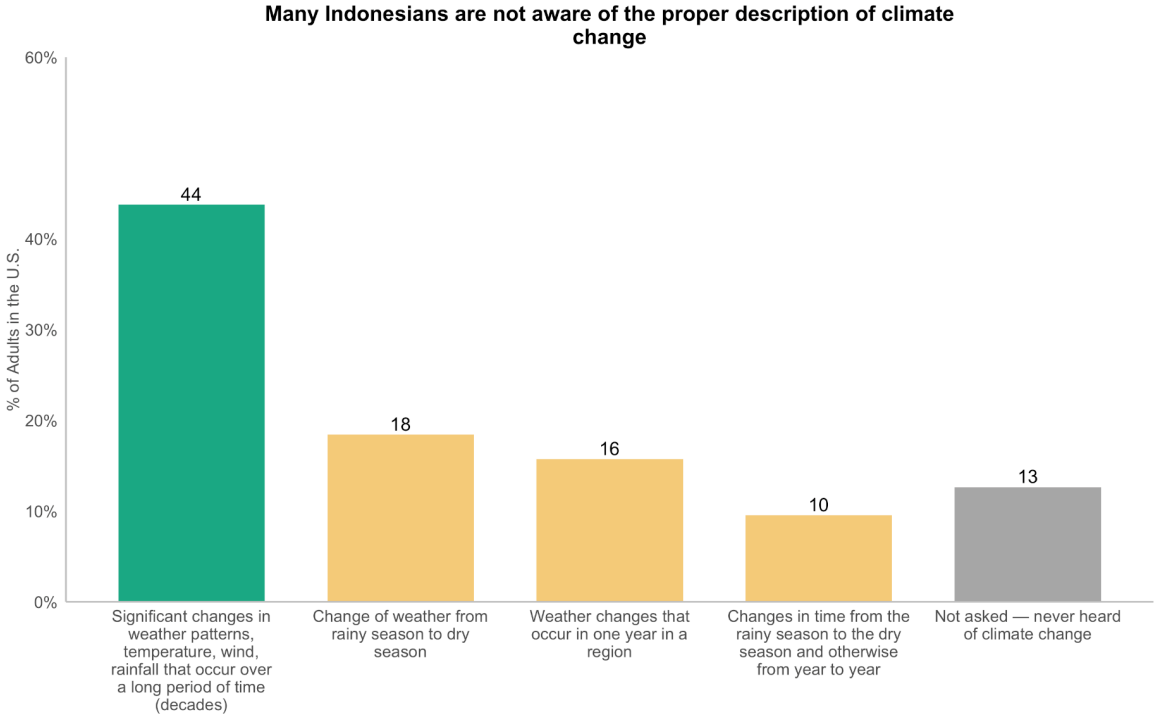
How much do you know about global warming? Do you know a lot about it, something about it, just a little about it, or have you never heard of it?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

1.2. Many Indonesians are not aware of the proper description of climate change.

Indonesians who said they know at least "a little" about climate change[1] were then asked to assess four possible descriptions of it. 44% of Indonesians understand that climate change involves "significant changes in weather patterns, temperature, wind, and rainfall that occur over a long period of time (decades or more)." By contrast, 18% of Indonesians mistakenly thought climate change is "change in the weather from rainy season to dry season," 16% thought it is "weather changes that occur in one year in a region," 10% thought it is "changes in time of changing from the rainy season to dry season … from year to year."

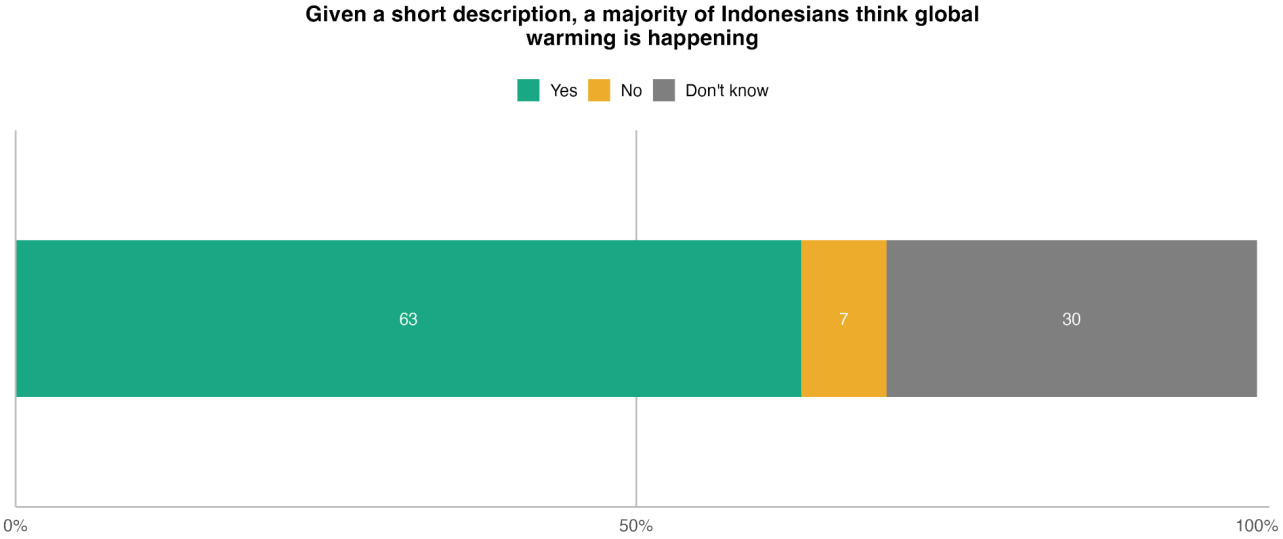


[1] While most items included in this report used the term "global warming," this question used the term "climate change."

1.3. Given a short description, a majority of Indonesians think global warming is happening.

After being asked to assess their level of knowledge about global warming (Section 1.1) and the correct description of climate change (Section 1.2) without additional context, survey respondents were then provided with a short definition of global warming: “Global warming refers to the idea that the world’s average temperature has been increasing over the past 150 years, will increase more in the future, and that the world’s climate will change as a result.” Then they were asked, “Do you think global warming is happening?”

After reading the short definition, a majority of people in Indonesia (63%) think global warming is happening. By contrast, only 7% think global warming is not happening, while 30% don't know.



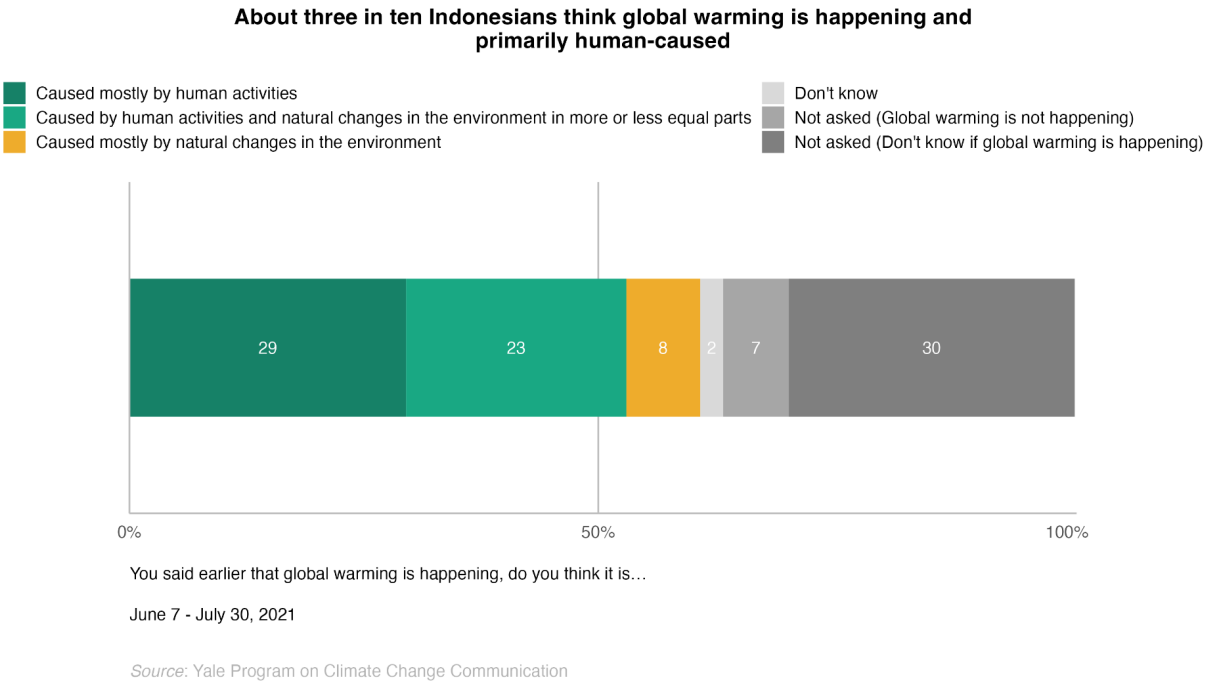
Now we are going to talk about global warming. Global warming refers to the idea that the world’s average temperature has been increasing over the past 150 years, will increase more in the future, and that the world’s climate will change as a result. Do you think global warming is happening?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

1.4. About three in ten Indonesians think global warming is happening and primarily human-caused.

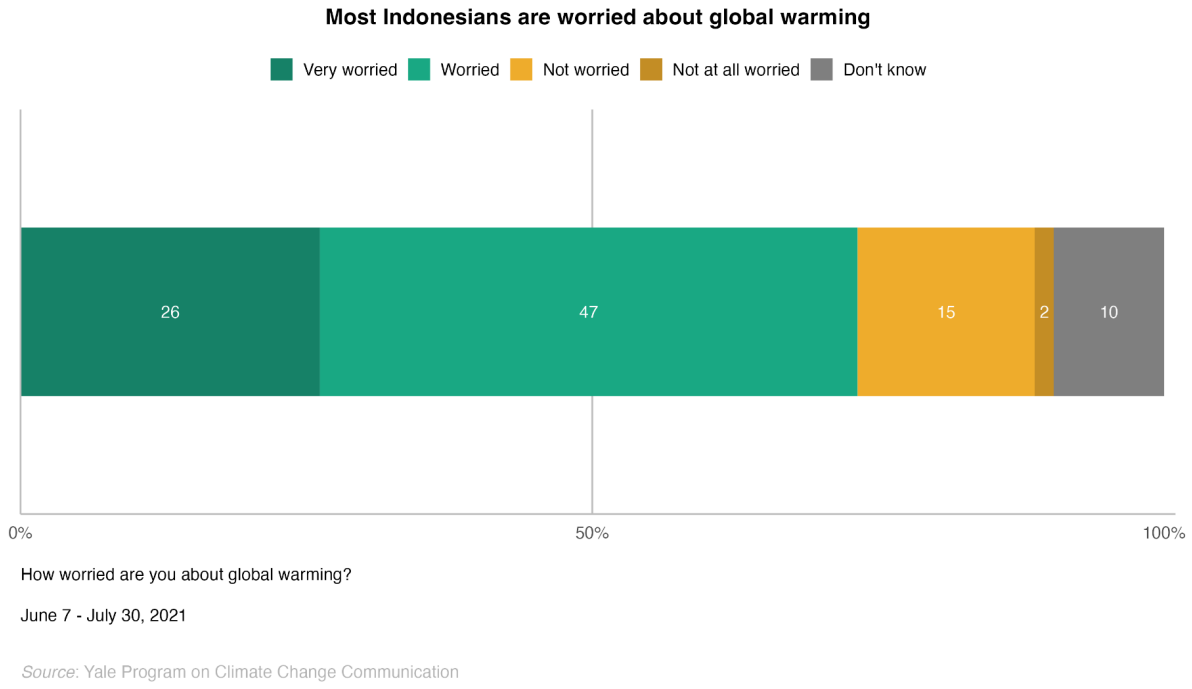
Survey respondents who indicated that they thought global warming was happening (Section 1.3) were then asked what they think causes global warming. About three in ten Indonesians (29%) think both that global warming is happening and that it is caused mostly by human activities, and an additional 23% think it is happening and caused more or less equally by human activities and natural changes in the environment. By contrast, only 8% think global warming is happening and caused mostly by natural changes in the environment, and 2% think it is happening but do not know the cause. Finally, as indicated in Section 1.3, the remaining 37% of Indonesians either don't know if global warming is happening or think it is not happening.



2. Perceived Risks of Global Warming

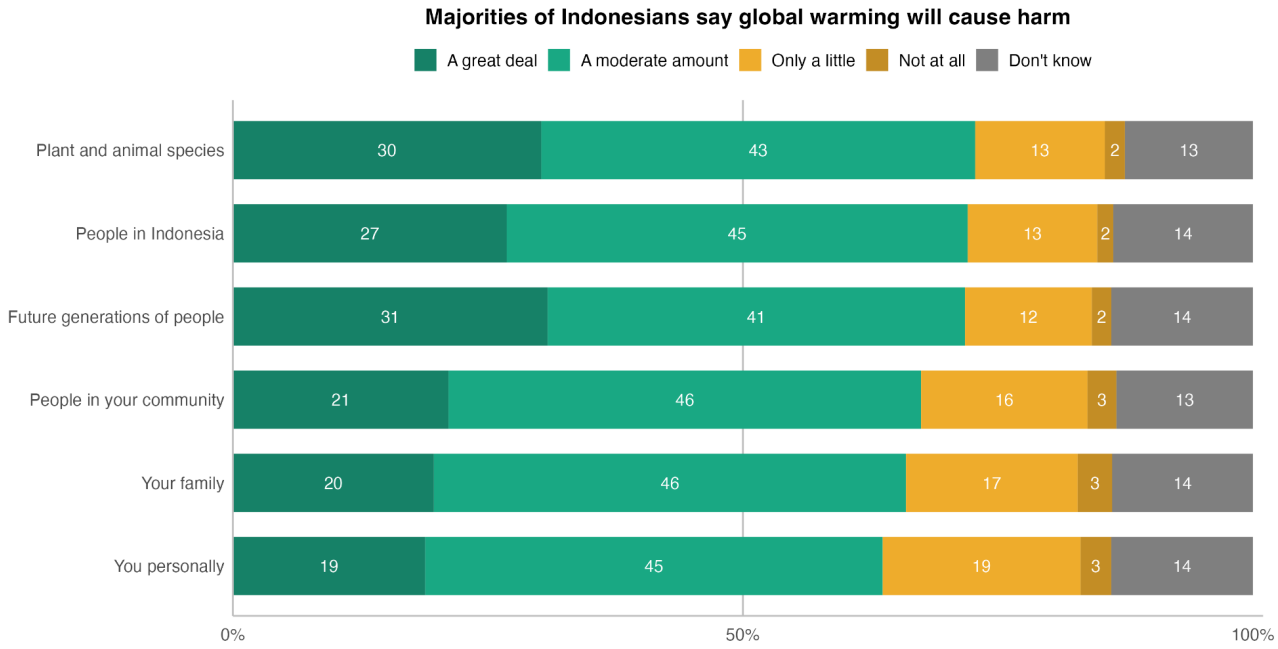
2.1. Most Indonesians are worried about global warming.

A large majority of Indonesians (73%) say they are either “very worried” (26%) or “worried” (47%) about global warming. About one in six (17%) say they are either “not worried” (15%) or “not at all worried” (2%) about it, and one in ten (10%) don't know.



2.2. Majorities of Indonesians say global warming will cause harm.

Majorities of Indonesians think global warming will cause either “a great deal” or “a moderate amount” of harm to plant and animal species (73%), people in Indonesia (72%), future generations of people (72%), people in their community (67%), their family (66%), and themselves personally (64%).



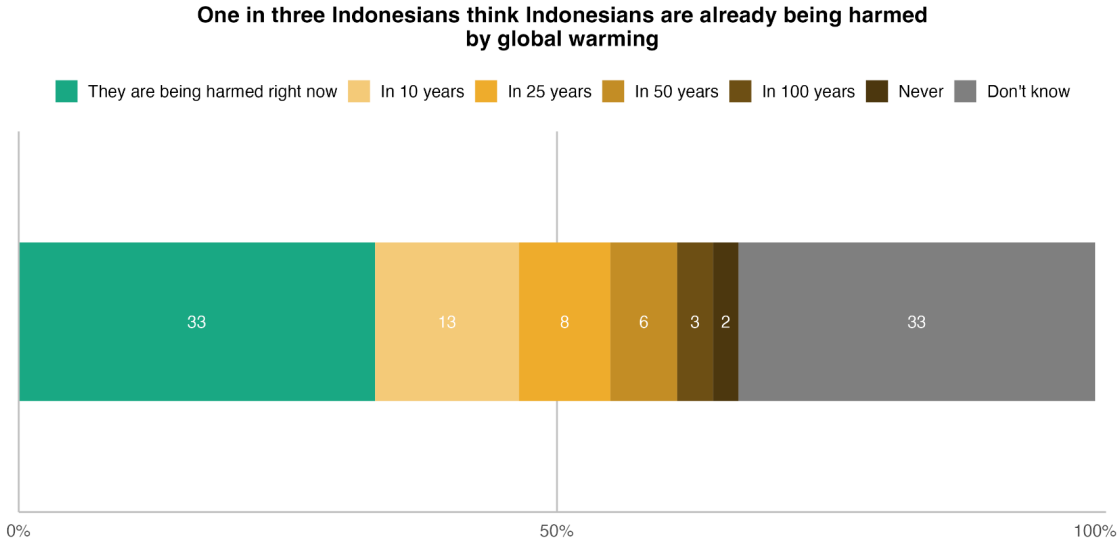
How much do you think global warming will harm [X]? Would you say a great deal, a moderate amount, only a little, not at all, or do you not know?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

2.3. One in three Indonesians think people in Indonesia are already being harmed by global warming.

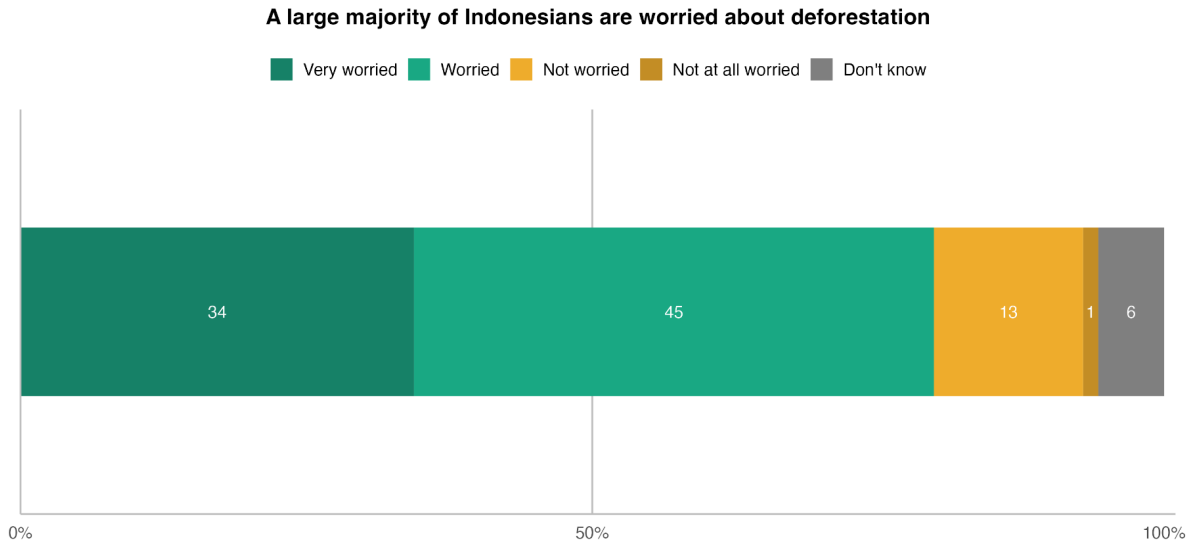
One in three Indonesians (33%) think people in Indonesia are already being harmed by global warming. A similar percentage (31%) think Indonesians will either be harmed in 10 years (13%), 25 years (8%), 50 years (6%), or 100 years (3%). Only 2% of Indonesians think people in Indonesia will never be harmed by global warming. Additionally, one in three (33%) don't know.



3. Perceived Risks of Deforestation

3.1. A large majority of Indonesians are worried about deforestation.

A large majority of Indonesians (80%) say they are either “very worried” (34%) or “worried” (45%) about the rate of deforestation in Indonesia today. By contrast, 14% say they are either “not worried” (13%) or “not at all worried” (1%) about it, and 6% don’t know.



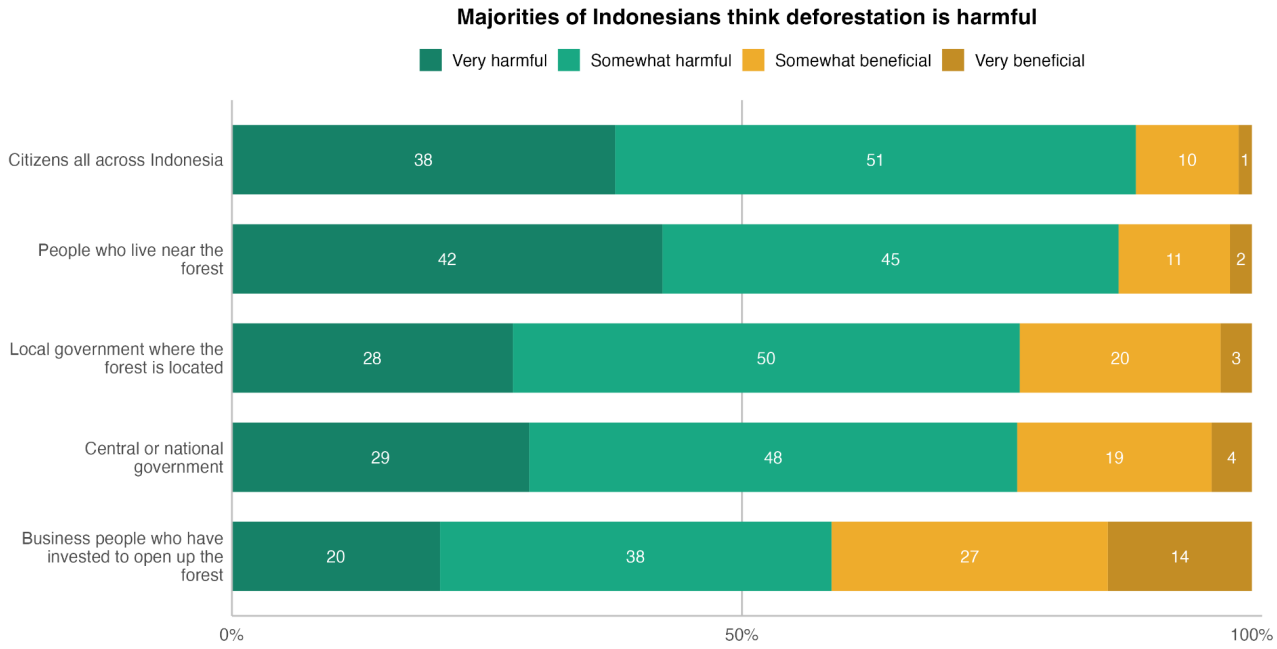
How worried are you about the rate of deforestation in Indonesia today?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

3.2. Majorities of Indonesians think deforestation is harmful.

Majorities of people in Indonesia think deforestation is either “very harmful” or “somewhat harmful” to citizens all across Indonesia (89%), people who live near the forest (87%), the local government where the forest is located (77%), the central or national government (77%), and business people who have invested to open up the forest (59%).



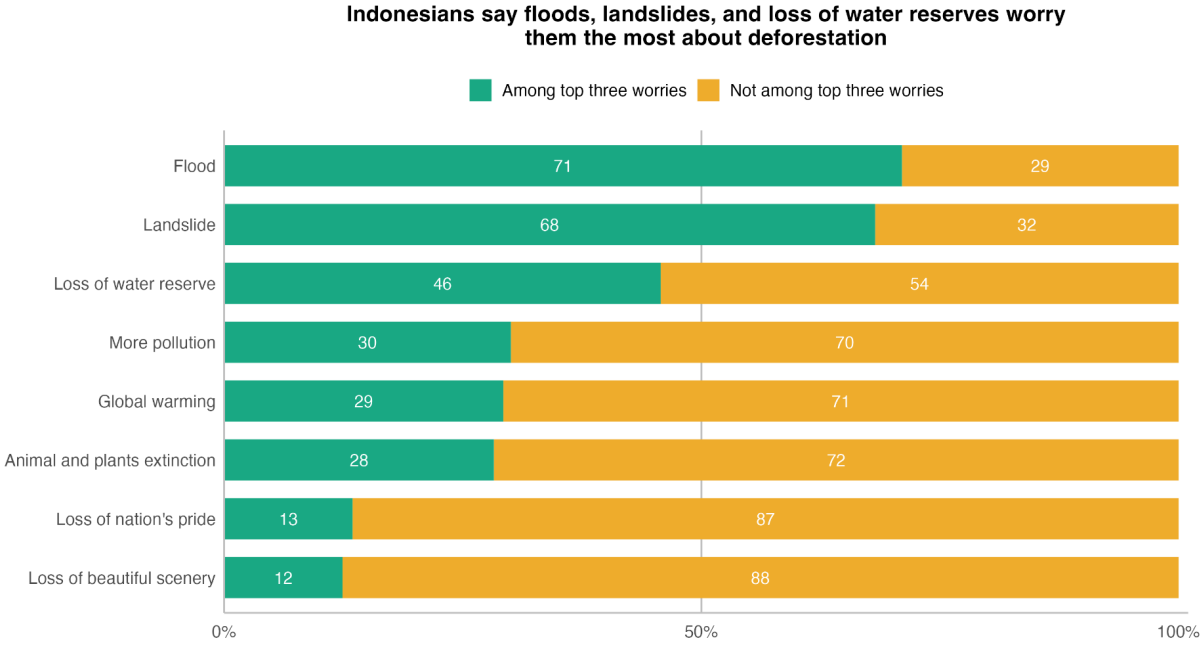
How beneficial or harmful is deforestration to [x]? Would you say very harmful, somewhat harmful, somewhat beneficial, or very beneficial?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

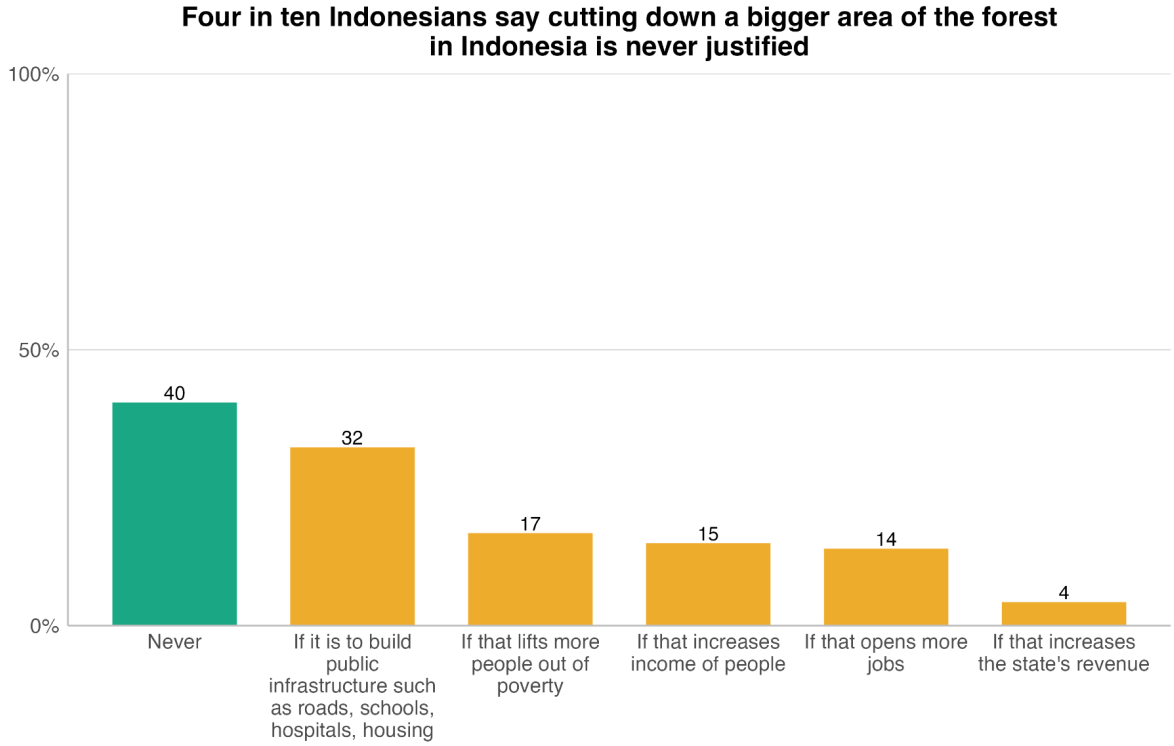
3.3. Indonesians say floods, landslides, and loss of water reserves worry them the most about deforestation.

Respondents were asked to choose and rank the three things that worry them the most about deforestation. People in Indonesia most frequently say that floods (71%), landslides (68%), and loss of water reserves (46%) are among their top three worries about deforestation. Fewer Indonesians say more pollution (30%), global warming (29%), animal/plant extinctions (28%), loss of the nation's pride (13%), and loss of beautiful scenery (12%) are among their top three worries about deforestation. Less than 1% have no concerns because they are not worried about deforestation in Indonesia.



3.4. Four in ten Indonesians say cutting down a bigger area of the forest in Indonesia is never justified.

Four in ten Indonesians (40%) say cutting down a bigger area of the forest in Indonesia is never justified. However, the majority of Indonesians (60%) say cutting down a bigger area of the forest *is* justified if it is for building public infrastructure (32%) or if it lifts more people out of poverty (17%), increases people's income (15%), opens more jobs (14%), and/or increases the state's revenue (4%).



In your opinion, when is it justified to cut down a bigger area of the forest in Indonesia? You can choose more than one answer

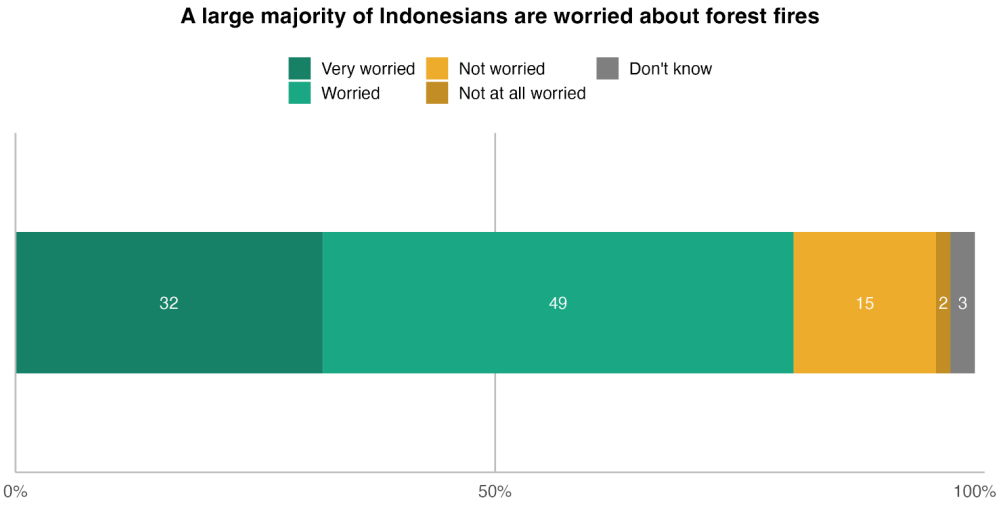
June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

4. Perceived Risks of Forest Fires

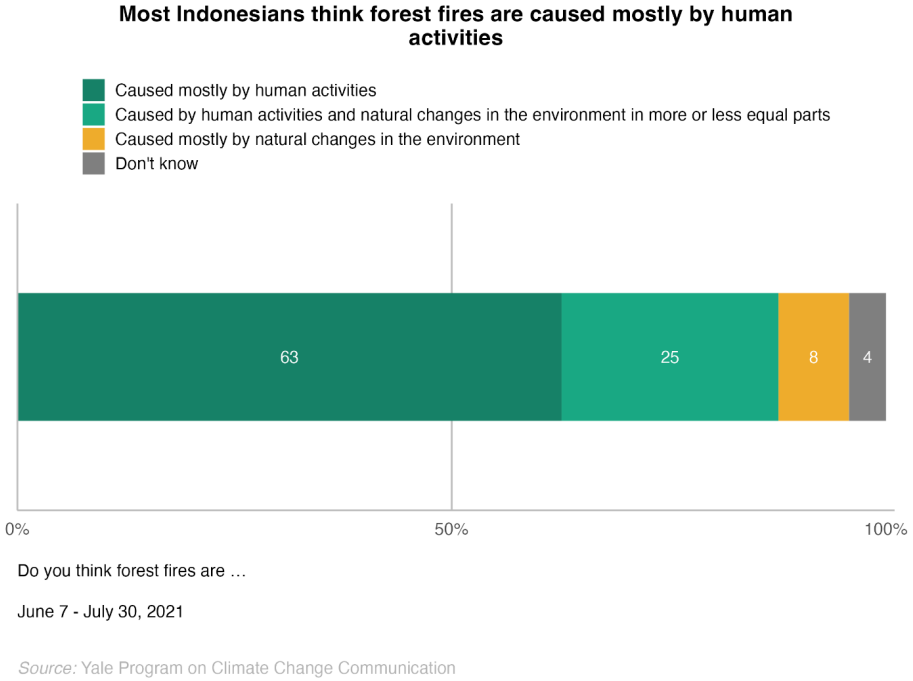
4.1. A large majority of Indonesians are worried about forest fires.

A large majority of Indonesians (81%) say they are either “very worried” (32%) or “worried” (49%) about forest fires in Indonesia today. Fewer Indonesians (16%) say they are either “not worried” (15%) or “not at all worried” (2%) about forest fires, and 3% don’t know.



4.2. Most Indonesians think forest fires are caused mostly by human activities.

A majority of Indonesians (63%) think forest fires are caused mostly by human activities. Fewer Indonesians think they are caused by human activities and natural changes in the environment in more or less equal parts (25%) or by natural changes in the environment (8%). Only 4% don't know.

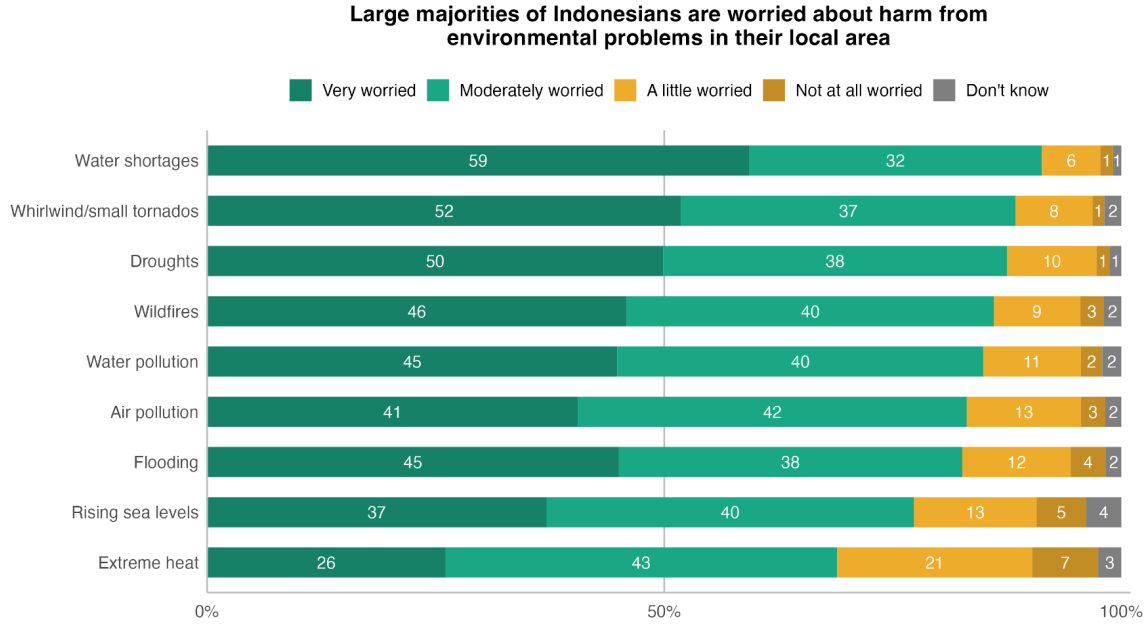


Source: Yale Program on Climate Change Communication

5. Perceived Local Environmental Risks

5.1. Large majorities of Indonesians are worried about harm from environmental problems in their local area.

Large majorities of Indonesians are either “very worried” or “moderately worried” about harm to their local area from water shortages (91%), whirlwinds/small tornados (88%), droughts (87%), wildfires (86%), water pollution (85%), air pollution (83%), flooding (83%), rising sea levels (77%), and extreme heat (69%).



How worried are you that [each of the following] might harm your local area?

June 7 - July 30, 2021

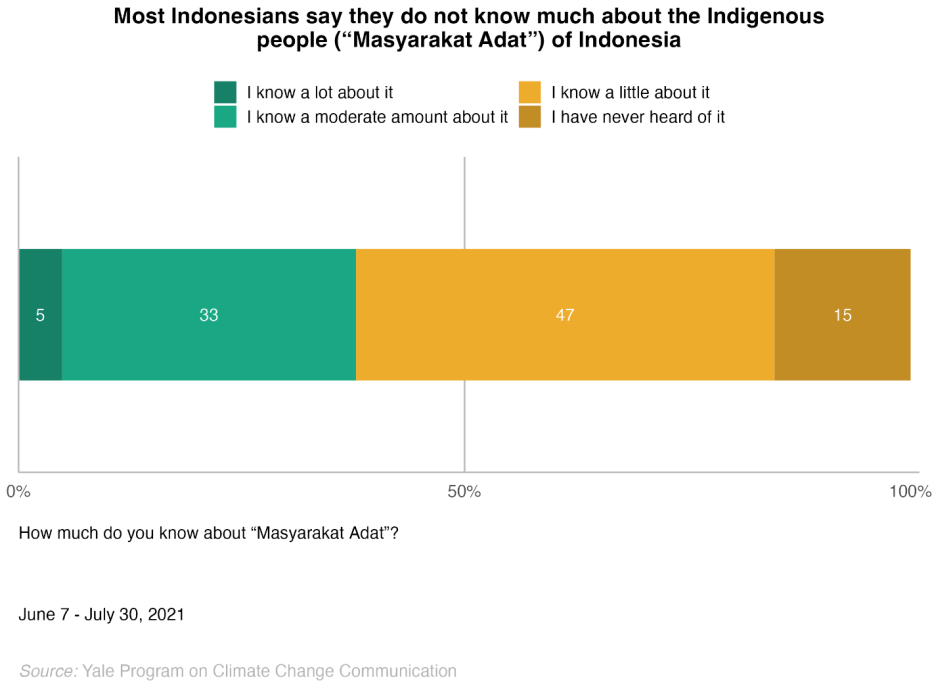
Source: Yale Program on Climate Change Communication

6. Awareness and Understanding of Indigenous People in Indonesia

6.1. Most Indonesians say they do not know much about the Indigenous people ("Masyarakat Adat") of Indonesia.

About 50 - 70 million Indigenous people ("Masyarakat Adat") live in Indonesia, making up 18%–25% of the country's total population.[2] The loss of land has significantly impacted the livelihoods of Indonesia's Indigenous people, posing risks to their homes, identities, and cultures as well as their access to food and water, economic systems, livelihoods, and general well-being.

Most people in Indonesia (62%) say they either "have never heard of" (15%) or know "a little about" (47%) "Masyarakat Adat" – the Indigenous people of Indonesia. Fewer Indonesians (38%) say they either know "a moderate amount" (33%) or "a lot" (5%) about the Indigenous people of Indonesia.

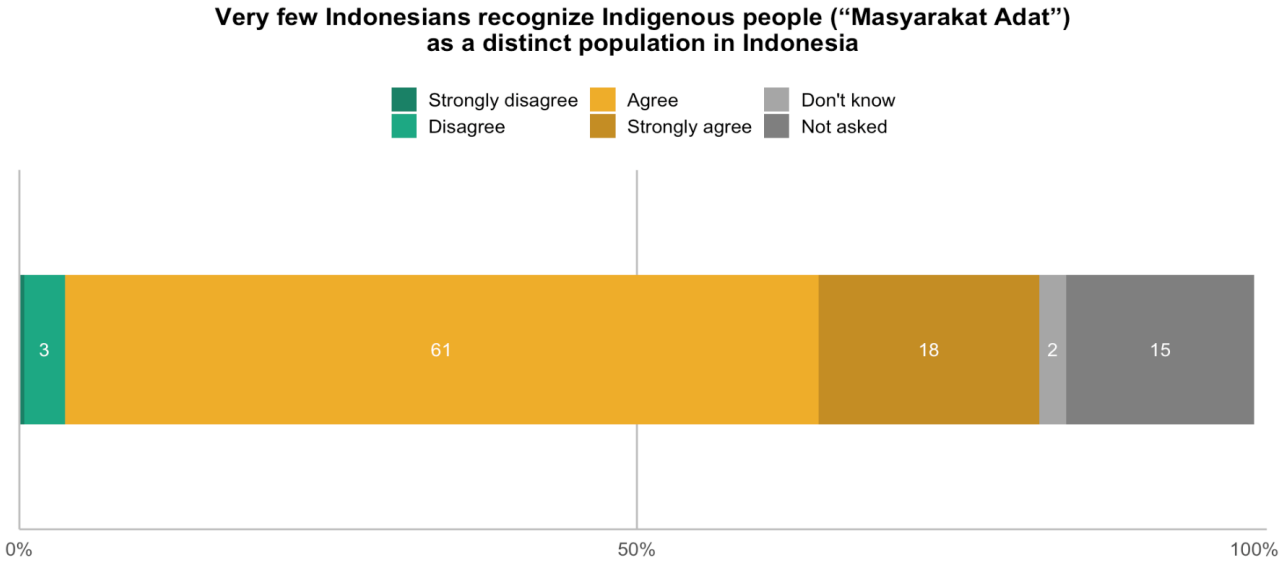


[2] IWGIA. (n.d.). Indonesia. International Work Group for Indigenous Affairs. Retrieved March 18, 2023, from https://www.iwgia.org/en/indonesia.html#:~:text=Indonesia%20is%20the%20home%20of,to%2070%20million%20Indigenous%20Peoples.

6.2. Very few Indonesians recognize Indigenous people ("Masyarakat Adat") as a distinct population in Indonesia.

Respondents who said they know at least "a little" about the Indigenous people ("Masyarakat Adat") of Indonesia were asked a follow-up question about whether they think (incorrectly) that "Masyarakat Adat" refers to "all people or all tribes in Indonesia from Sabang to Merauke."

Only 4% of Indonesians (correctly) *disagree* with the statement that Indigenous people ("Masyarakat Adat") include all people and tribes of Indonesia, while most (incorrectly) either "strongly agree" (18%) or "agree" (61%) with that statement.



According to you, how much do you agree or disagree with below statement about "Masyarakat Adat"? Masyarakat Adat are all people or all tribes in Indonesia from Sabang to Merauke.

June 7 - July 30, 2021

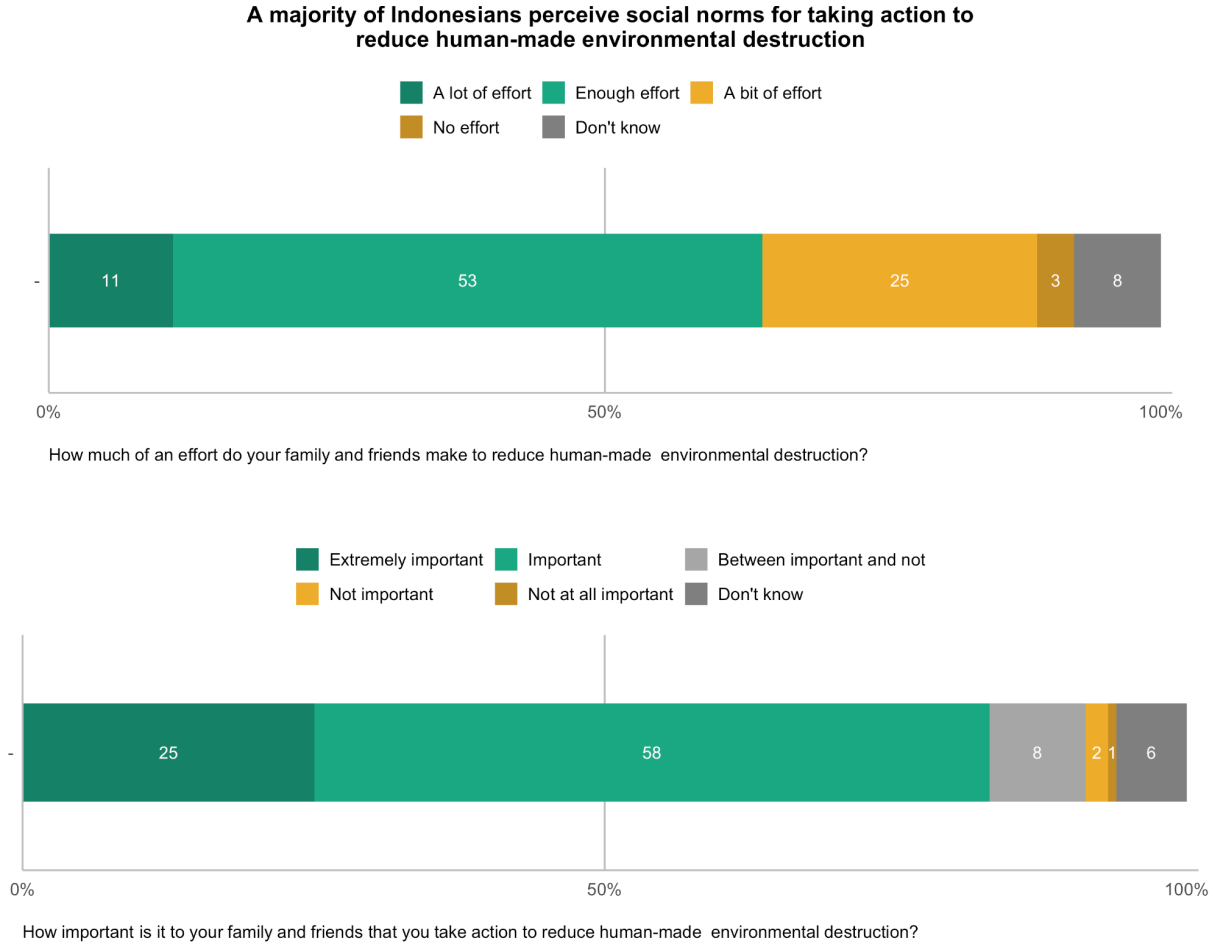
Source: Yale Program on Climate Change Communication

7. Environmental Norms, Values, and Efficacy

7.1. A majority of Indonesians perceive social norms for taking action to reduce human-made environmental destruction.

Social science research has found that two types of social norms can have a powerful effect on people's behavior: descriptive norms (the belief that friends and family are themselves behaving in a given way) and injunctive norms (the belief that friends and family expect you to behave in that way).[3]

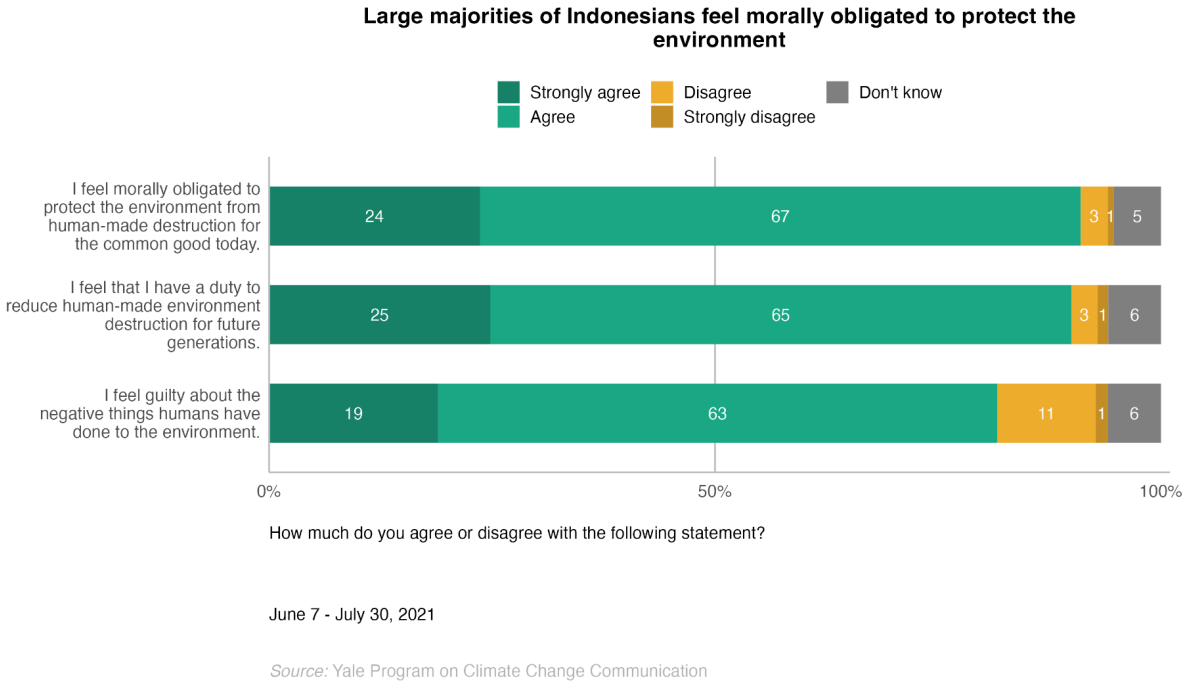
A majority of people in Indonesia (64%) perceive a descriptive norm, saying that their family and friends make either "a lot of effort" (11%) or "enough effort" (53%) to reduce human-made environmental destruction. A large majority of Indonesians (83%) also perceive an injunctive norm, saying it is "extremely important" (25%) or "important" (58%) to their family and friends that they take action to reduce human-made environmental destruction.



[3] Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science, 18*(5), 429-434. https://journals.sagepub.com/doi/10.1111/j.1467-9280.2007.01917.x

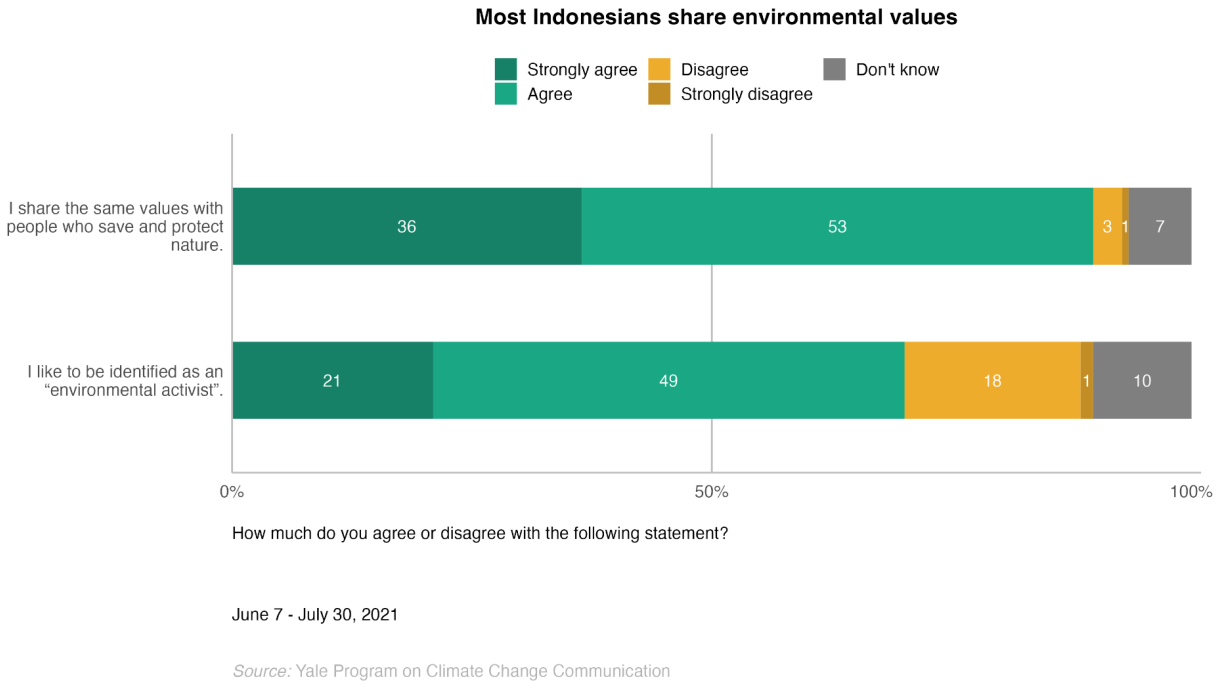
7.2. Large majorities of Indonesians feel morally obligated to protect the environment.

About nine in ten Indonesians (91%) agree that they feel morally obligated to protect the environment from human-made destruction for the common good today, including 24% who "strongly agree." Similarly, nine in ten Indonesians (90%) agree that they have a duty to reduce human-made environmental destruction for future generations, including 25% who "strongly agree." A large majority of Indonesians (82%) also agree that they feel guilty about the negative things humans have done to the environment, including 19% who "strongly agree."



7.3. Most Indonesians share environmental values.

Nine in ten Indonesians (90%) agree that they share the same values with people who save and protect nature, including 36% who "strongly agree." Additionally, a majority of Indonesians (70%) agree that they like to be identified as an "environmental activist," including 21% who "strongly agree."



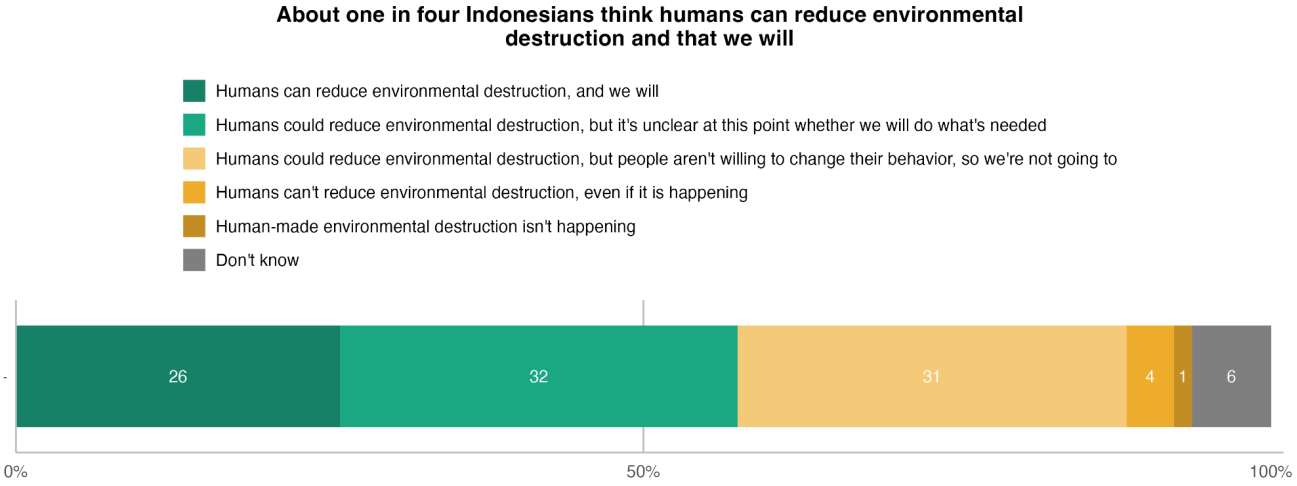
How much do you agree or disagree with the following statement?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

7.4. About one in four Indonesians think humans can reduce environmental destruction and that we will.

About one in four Indonesians (26%) think humans can reduce environmental destruction and that we will. Most Indonesians (63%) think humans *could* reduce environmental destruction, but either say "it's unclear at this point whether we will do what's needed" (32%) or "people aren't willing to change their behavior, so we're not going to" (31%). Very few Indonesians (4%) think humans can't reduce environmental destruction. Only 1% say human-made environmental destruction is not happening, and 6% don't know.



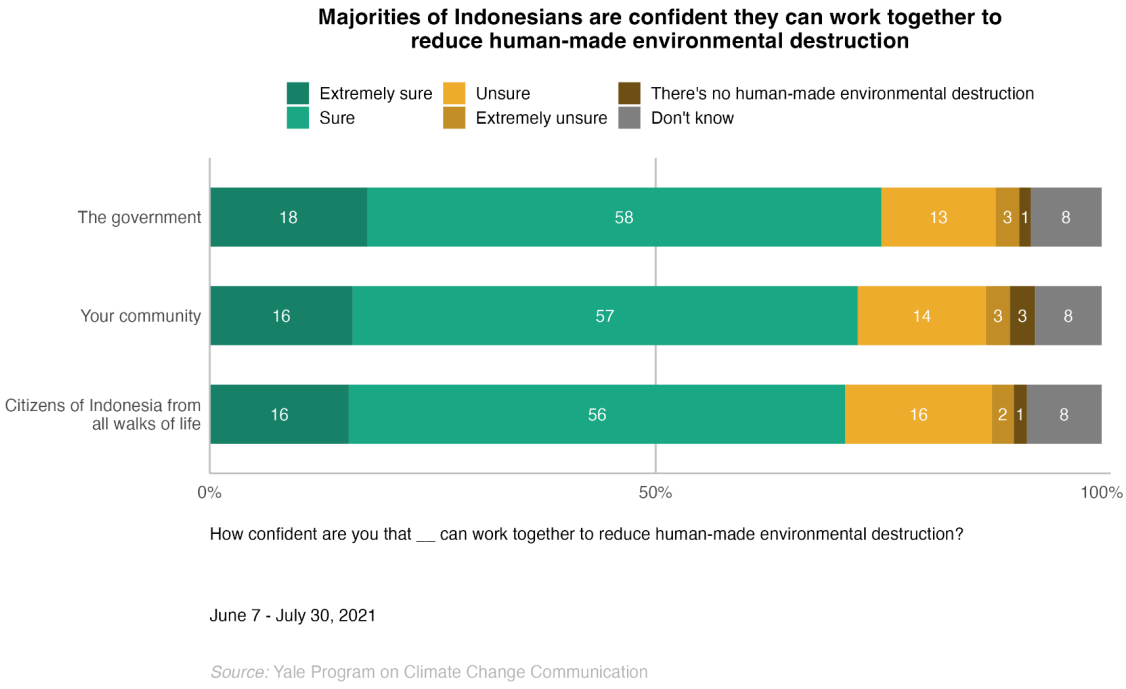
I am going to talk about human-made environmental destruction, including deforestation, but excluding littering. Which of the following statements comes closest to your view?

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

7.5. Majorities of Indonesians are confident they can work together to reduce human-made environmental destruction.

Perceived collective efficacy – the belief that people can work together to reach a desired outcome or goal – is an important motivator for people to take collective action.[4] Majorities of Indonesians say they are "extremely sure" or "sure" that the government (75%), their community (73%), and citizens of Indonesia (71%) can work together to reduce human-made environmental destruction.



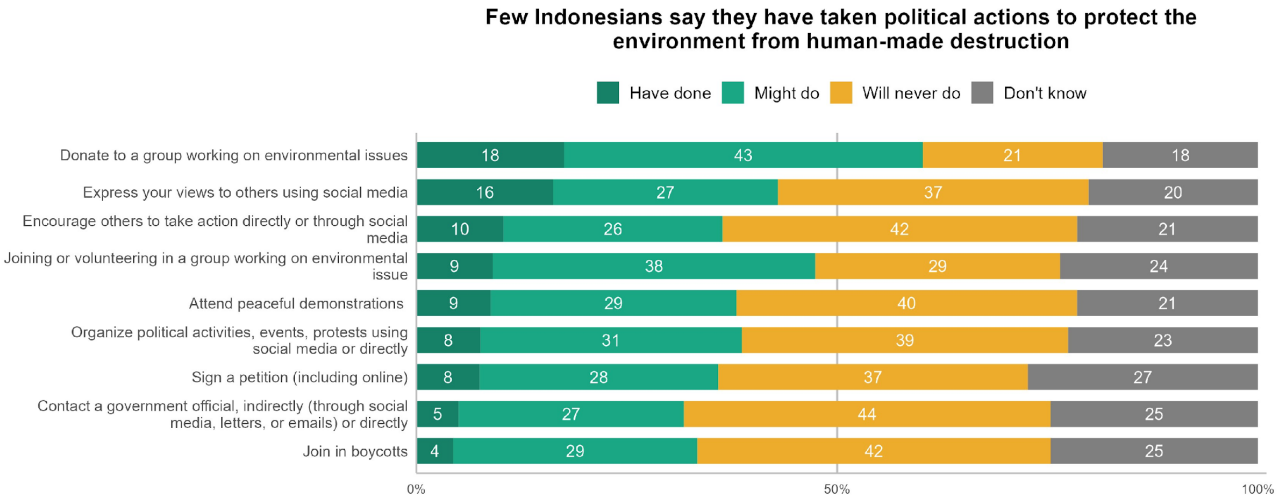
[4] Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*, 75-78. https://doi.org/10.1111/1467-8721.00064

8. Environmental Activism

8.1. Few Indonesians say they have taken political actions to protect the environment from human-made destruction.

When asked about actions to protect the environment from human-made destruction, few people in Indonesia say they "have done" the following actions: donate to a group working on environmental issues (18%); express their views to others using social media (16%); encourage others to take action directly or through social media (10%); join or volunteer in a group working on environmental issues (9%); attend peaceful demonstrations (9%); sign a petition, including online (8%); organize political activities, events, or protests using social media or directly (8%); contact a government official, indirectly (through social media, letters, or emails) or directly (5%); and/or join in boycotts (4%).

Many Indonesians say they "might do" the following actions to protect the environment from human-made destruction: donate to a group working on environmental issues (43%) and/or join or volunteer in a group working on environmental issues (38%). However, with regards to other actions, majorities of Indonesians say they either "will never do" them or "don't know."



For the next following questions, we are going to read some activities that people like you can do, to protect the environment from human-made destruction, including deforestation, but excluding littering. For each activity, we want you to choose whether you have done, might do, or will never do under any circumstances.

June 7 - July 30, 2021

Source: Yale Program on Climate Change Communication

Appendix I: Methods

This report is based on findings from a nationally representative survey of individuals in Indonesia (aged 16 years and above) conducted by Development Dialogue Asia, the Yale Program on Climate Change Communication, Communication for Change, and Kantar Indonesia, an international survey company headquartered in Jakarta, Indonesia. Using the probability proportional to size sampling method, sampling points (Kecamatan) were randomly selected across all 34 provinces in Indonesia. In each selected sampling point (Kecamatan), households were randomly selected, and one respondent was randomly selected within each household. Respondents were recruited to participate in the questionnaire in-person, via door-to-door household interviews that occurred seven days per week (from 7 a.m. – 7 p.m.) from June 7 – July 30, 2021. Interviews were conducted in person using Computer Aided Self Interviewing (CASI) via a tablet device. The initial screening questionnaire was conducted by the interviewers, and the main questionnaire was self-administered offline by respondents using the interviewers' tablet device. National Census-based demographic parameters were used to create sampling targets. The main sample was divided into urban and rural in each province. The proportion of urban and rural was obtained from the urban and rural proportion of the particular province based on 2010 Population Census data. The sample was weighted after completion of the data collection to adjust the final sample to match national demographic parameters. Interviews: 3,490 adults. Average margin of error: +/- 1.7 percentage points at the 95% confidence level.

Achieved sample

Total Main Sample	2990
Total Booster Sample	500

Province	Main Sample			Booster Sample		
	Total Sample	Urban	Rural	Total Sample	Urban	Rural
Aceh	60	20	40			
North Sumatra	160	45	115			
West Sumatra	60	40	20			
Riau	60	35	25	120	40	80
Jambi	40	20	20			
South Sumatra	100	40	60			
Bengkulu	20	5	15			
Bangka Belitung	20	10	10			
Lampung	80	10	70			
Riau Island	20	10	10			
DKI Jakarta	120	120	0			
West Java	540	395	145			
Central Java	420	185	235			
DI Yogyakarta	40	20	20			
East Java	500	240	260			
Banten	140	90	50			
Bali	60	40	20			

Province	Main Sample			Booster Sample		
	Total Sample	Urban	Rural	Total Sample	Urban	Rural
West Nusa Tenggara	60	20	40			
East Nusa Tenggara	60	20	40			
Central Kalimantan	20	5	15			
West Kalimantan	60	10	50	240	40	200
South Kalimantan	40	25	15			
East Kalimantan	20	15	5			
North Kalimantan	20	5	15			
Central Sulawesi	40	10	30			
North Sulawesi	20	5	15			
South Sulawesi	80	20	60			
West Sulawesi	20	10	10			
Gorontalo	10	0	10			
Southeast Sulawesi	20	5	15			
Maluku	20	5	15			
North Maluku	20	5	15			
Papua	20	10	10	70	40	30
West Papua	20	5	15	70	25	45

KANTAR Footer 9

In the data tables, bases specified are unweighted while percentages are weighted to match national population parameters. For tabulation purposes, percentage points are rounded to the nearest whole number. As a result, percentages in a given chart may total slightly higher or lower than 100%. Summed response categories (e.g., "strongly agree" + "somewhat agree") are rounded after sums are calculated. For example, in some cases, the sum of 25% + 25% might be reported as 51% (e.g., 25.3% + 25.3% = 50.6%, which, after rounding, would be reported as 25% + 25% = 51%).

The survey instrument was designed by Enggar Paramita and Mardiyah Chamim of Development Dialogue Asia; Matthew Daggett; Paramita Mohamad of Communication for Change; and Anthony Leiserowitz, Seth Rosenthal, Jennifer Carman, and Jennifer Marlon of Yale University. This report was written by Matthew Ballew, Marija Verner, Seth Rosenthal, Jennifer Carman, and Anthony Leiserowitz of Yale University; Enggar Paramita of Development Dialogue Asia; and Matthew Daggett. Data analyses were conducted by Matthew Ballew, Marija Verner, Sanguk Lee, and Seth Rosenthal of Yale University. All graphics (including charts and tables) in this report were created by Sanguk Lee, Marija Verner, Matthew Ballew, and Liz Neyens of Yale University.

Appendix II: Demographic Tables

Demographics: Table 1

Age of respondent

Age groups	n (unweighted)	% (weighted)
16-24	775	22
25-34	916	25
35-44	910	26
45-54	577	17
55-64	229	7
65+	83	2

Gender of respondent

Gender	n (unweighted)	% (weighted)
Male	1681	50
Female	1809	50

Respondent's area of residence

Area	n (unweighted)	% (weighted)
Urban	1645	54
Rural	1845	46

Respondent's province of residence

Province	n (unweighted)	% (weighted)
Bali	60	2
Banten	140	5
Bengkulu	20	1
D.I. Yogyakarta	40	2
DKI Jakarta	120	4
Gorontalo	10	0
Jambi	40	1
Jawa Barat	540	19
Jawa Tengah	420	13
Jawa Timur	500	16
Kalimantan Barat	300	2
Kalimantan Selatan	40	2
Kalimantan Tengah	20	1
Kalimantan Timur	20	1
Kalimantan Utara	20	0
Kep. Bangka Belitung	20	1
Kepulauan Riau	20	1
Lampung	80	3
Maluku	20	1
Maluku Utara	20	0
Nanggroe Aceh Darussalam	60	2
Nusa Tenggara Barat	60	2
Nusa Tenggara Timur	60	2
Papua	90	1
Papua Barat	90	0
Riau	180	2
Sulawesi Barat	20	0
Sulawesi Selatan	80	3
Sulawesi Tengah	40	1
Sulawesi Tenggara	20	1
Sulawesi Utara	20	1
Sumatera Barat	60	2
Sumatera Selatan	100	3
Sumatera Utara	160	5

Demographics: Table 2

Marital status?

Marital status	n (unweighted)	% (weighted)
Married	2312	66
Single	876	25
Widowed	302	9

What was the highest level of education that you completed?

Level of education	n (unweighted)	% (weighted)
No formal education	39	1
Primary school	618	18
Junior high school	823	24
High school	1535	44
Vocational School	152	4
Diploma	78	2
Undergraduate	221	6
Postgraduate	10	0
Informal (religious school)	3	0
Other	5	0
Don't know	6	0

What is your relationship to the household head?

Status to Head of Household	n (unweighted)	% (weighted)
Head	1477	43
Spouse	1137	31
Son/Daughter	390	12
Father/Mother	351	10
Sister/Brother	58	2
Grandparents	10	0
Grandchild	2	0
Other relative	12	0
Other non-relative	4	0
Don't know	49	1

What is your current job?

Occupation	n (unweighted)	% (weighted)
Farm/fisheries owners	292	8
Farm/fisheries workers	328	9
Government employees / Managers	45	1
Professionals (e.g., doctors, teachers, nurses)	89	3
Administrative clerks	127	4
Technicians / Professional assistants	44	1
Service providers / Traders or shop owners	511	15
Manufacturing and factory workers /	73	2
Machine operators or assemblers	35	1
Laborers / Cleaners / Office boys	349	11
Drivers (private or public transportation)	51	2
Military / Police	8	0
No response	263	7
Other	1275	37

Demographics: Table 3

Which of the following best represents your total monthly household

Monthly HH Expenditure	n (unweighted)	% (weighted)
Up to Rp 300,000	105	3
Rp 300,001 - Rp 400,000	39	1
Rp 400,001 - Rp 500,000	42	1
Rp 500,001 - Rp 600,000	44	1
Rp 600,001 - Rp 700,000	42	1
Rp 700,001 - 750,000	30	1
Rp 750,001 - 800,000	44	1
Rp 800,001 - 900,000	43	1
Rp 900,001 - 1,000,000	179	5
Rp 1,000,001 - 1,250,000	223	6
Rp 1,250,001 - 1,500,000	367	10
Rp 1,500,001 - 1,750,000	266	8
Rp 1,750,001 - 2,000,000	485	15
Rp 2,000,001 - 2,250,000	225	6
Rp 2,250,001 - 2,500,000	255	7
Rp 2,500,001 - 2,750,000	108	3
Rp 2,750,001 - 3,000,000	385	11
Rp 3,000,001 - 3,250,000	150	4
Rp 3,250,001 - 3,500,000	110	3
Rp 3,500,001 - Rp 4,000,000	158	5
Rp 4,000,001 - Rp 4,500,000	43	1
Rp 4,500,001 - Rp 5,000,000	64	2
Rp 5,000,001 - Rp 6,000,000	39	1
Rp 6,000,001 - Rp 7,000,000	17	1
Rp 7,000,001 - Rp 8,000,000	15	0
Rp 8,000,001 - Rp 9,000,000	1	0
Rp 9,000,001 - Rp 10,000,000	4	0
Rp 12,500,001 - 15,000,000	4	0
More than Rp 15,000,000	3	0

Demographics: Table 4

Which of the following that you use most often in your household as source of drinking water

Source of Drinking Water	n (unweighted)	% (weighted)
Branded packaged water	268	9
Refill water	1574	45
Tap water in meter	223	7
Tap water in retail	27	1
Artesian well/pump	540	17
Protected well	415	12
Unprotected well	18	1
Protected spring	227	6
Unprotected spring	26	1
River	25	1
Rain	132	1
Other	15	0

Which of the followings that you use most often in your household as fuel for daily cooking?

Fuel Used for Cooking Needs	n (unweighted)	% (weighted)
Electricity	56	2
Gas tank 12 kg / Bright gas / Blue gas	82	2
Gas tank 5.5 kg	44	1
Gas tank 3 kg	2902	86
Natural gas	10	1
Kerosene	237	4
Wood / bricket / other	136	4
Not cooking	23	1

Socio-economic status (class)

SES	n (unweighted)	% (weighted)
15 - 18 (Upper 1)	50	2
13 - 14 (Upper 2)	410	13
11 - 12 (Middle 1)	1172	34
8 - 10 (Middle 2)	1019	28
5 - 7 (Lower 1)	660	19
2 - 4 (Lower 2)	179	5

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