



# SUSTAINABLE BLUE ECONOMY FOR INTER-GENERATIONAL FUTURE



● Global & National Issues

● Blue Economy Status

● Blue Economy Principles



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- Indonesia Development Planner, DGA-MMF (Social & Economic)
- Environmentalist, Policy analys, free writer, book writer.
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# Global Issues

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# Changing Tides

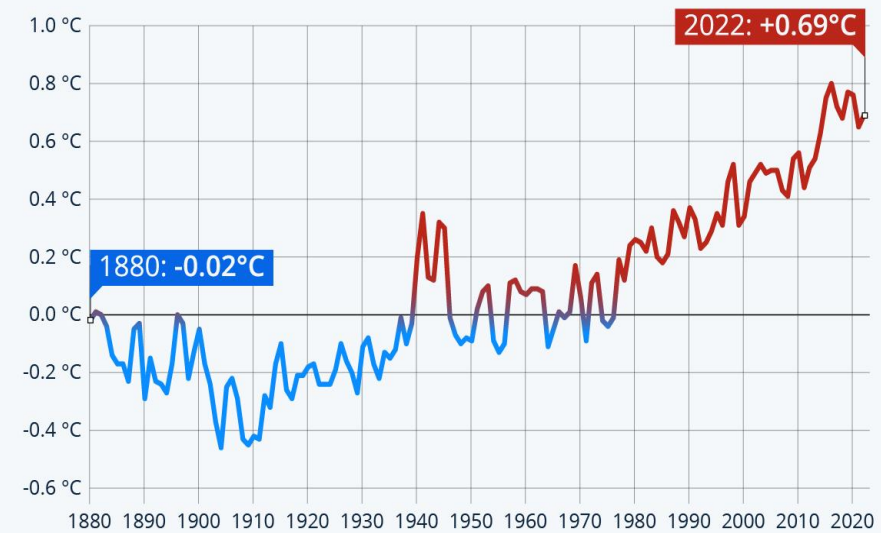
A Sustainable Blue Economy





## The Oceans Are Getting Warmer

Annual divergence of global ocean surface temperature from 20th century average



Source: NOAA National Centers for Environmental Information (NCEI)

world's coral reef  
system destroyed

≈ 50%



Dalam kurun waktu tahun 2010 hingga tahun 2014, hampir **870 juta** jiwa diseluruh dunia mengalami kekurangan gizi kronis (FAO, 2015).

Global Stunting Prevalences **21,80% – 22,90%** (WHO, 2023)



What do you  
think about Blue  
Economy ?







Blue economy is related the sustainable use of ocean resources for **economic growth, improved livelihoods and jobs**, and **ocean ecosystem and health** (World Bank, 2017).

Sustainable blue economy’, defined as “one in which **the sustainable use of ocean and coastal resources generates equitably and inclusively distributed benefits for people, protects and restores healthy ocean ecosystems**, builds resilience and contributes to the delivery of global ambitions for a sustainable future (UNEP,2023).



Profesor Gunter Pauli dalam bukunya yang berjudul ***The Blue Economy, 10 Years, 100 Innovation, 100 Million Jobs*** yang diterbitkan tahun 2010. Menurut Pauli, Blue Economy merupakan konsep optimalisasi sumber daya yang bertujuan untuk meningkatkan pertumbuhan ekonomi dengan kegiatan yang inovatif dan kreatif dengan tetap menjamin keberlanjutan usaha dan kelestarian lingkungan.

(Pauli, Gunter. 2010. *Blue Economy-10 Years, 100 Innovations, 100 Million Jobs*. New Mexico US: Paradigm Pubns).

Filosofi '***blue sky, blue ocean***' artinya di mana ekonomi tumbuh, rakyat sejahtera, namun langit dan laut tetap biru.

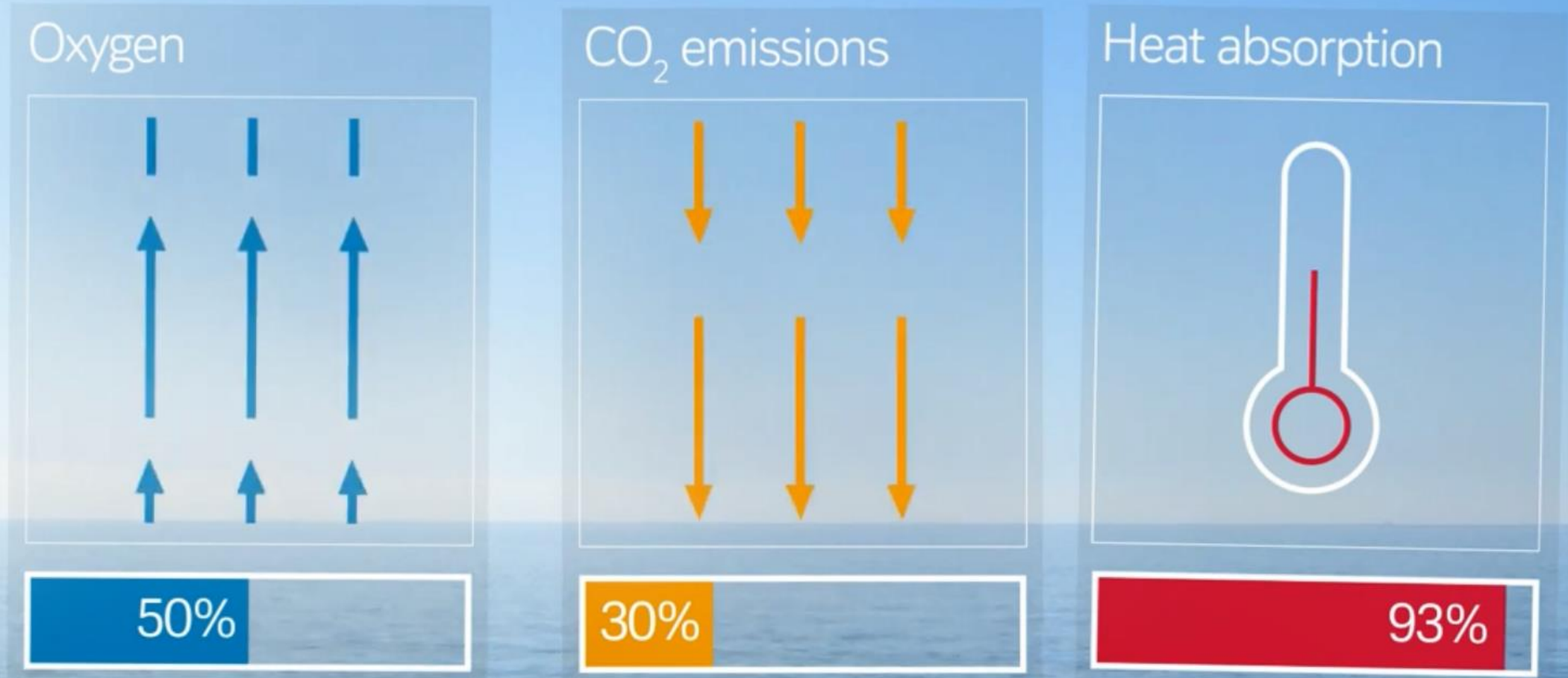


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# The Global Blue Economy Preview

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# Ocean for Human Being



# The Global Blue Economy Focus



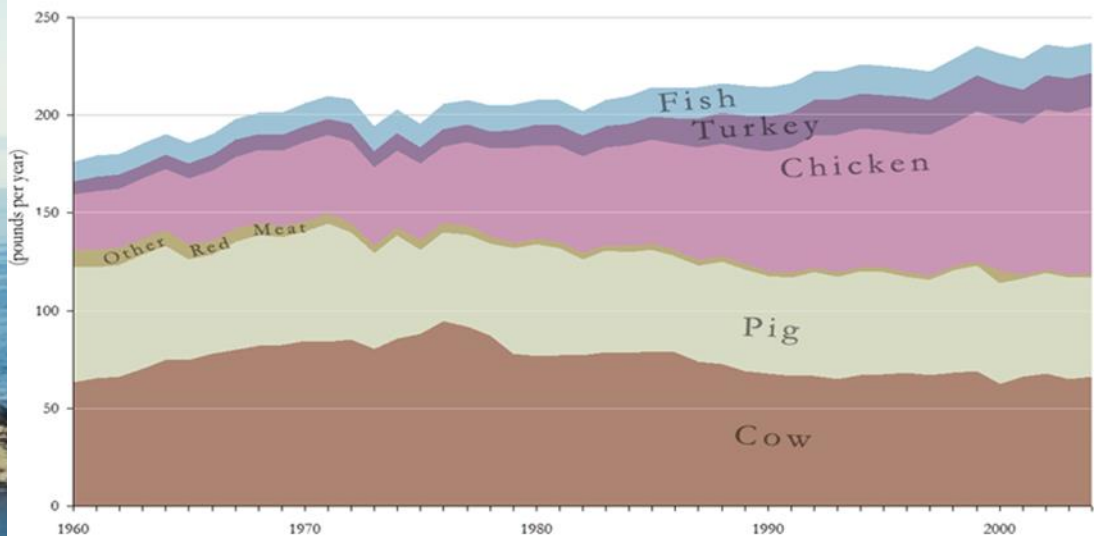


World apparent food fish consumption is expected to increase over the next decade, reaching **21.2 kg** in 2032 in per capita terms, up from an average of **20.4 kg** in 2020-22

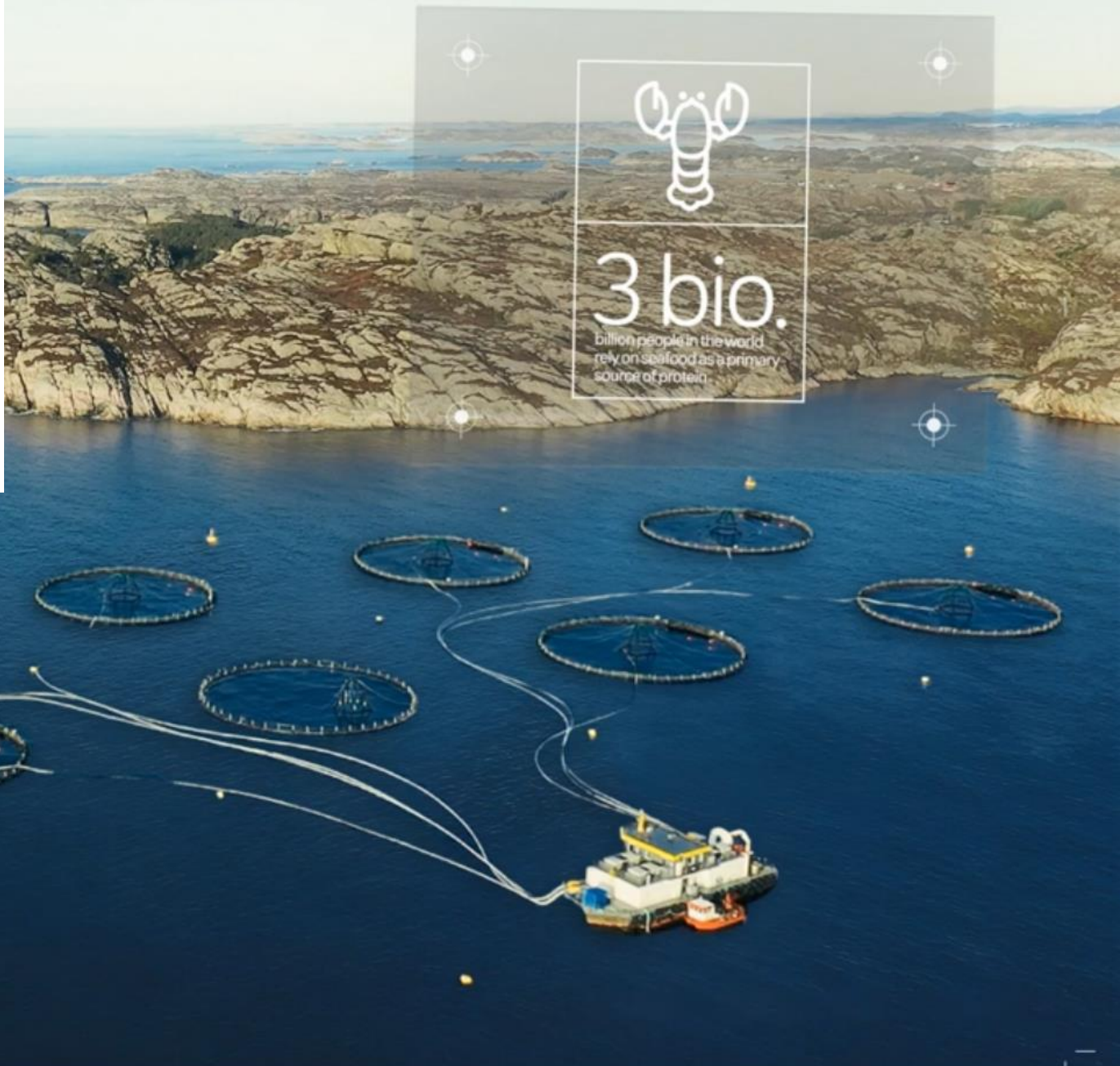
covered by  
industrial fishing

>50%

US Per Capita Meat Consumption, 1960-2004



Tren konsumsi daging masyarakat global  
(Sumber : [www.languagesoftheworld.info](http://www.languagesoftheworld.info))







90%

of international commerce  
is nowadays transported  
by sea



USD 24.2 trillion  
in terms of assets



2.8 mio.

people earn a living through  
coastal tourism in Europe



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# National Issues

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**NILAI STRATEGIS BLUE ECONOMY  
INDONESIA**

Luas Laut ± 3,26 juta m<sup>2</sup>

Panjang garis pantai 108.000 km

Nilai ekonomi maritim 280 milyar US dollar

- fisheries & aquaculture
- marine eco-tourism
- renewable energy
- logistic
- renewable natural resources



**NILAI STRATEGIS SDA MARITIM INDONESIA**

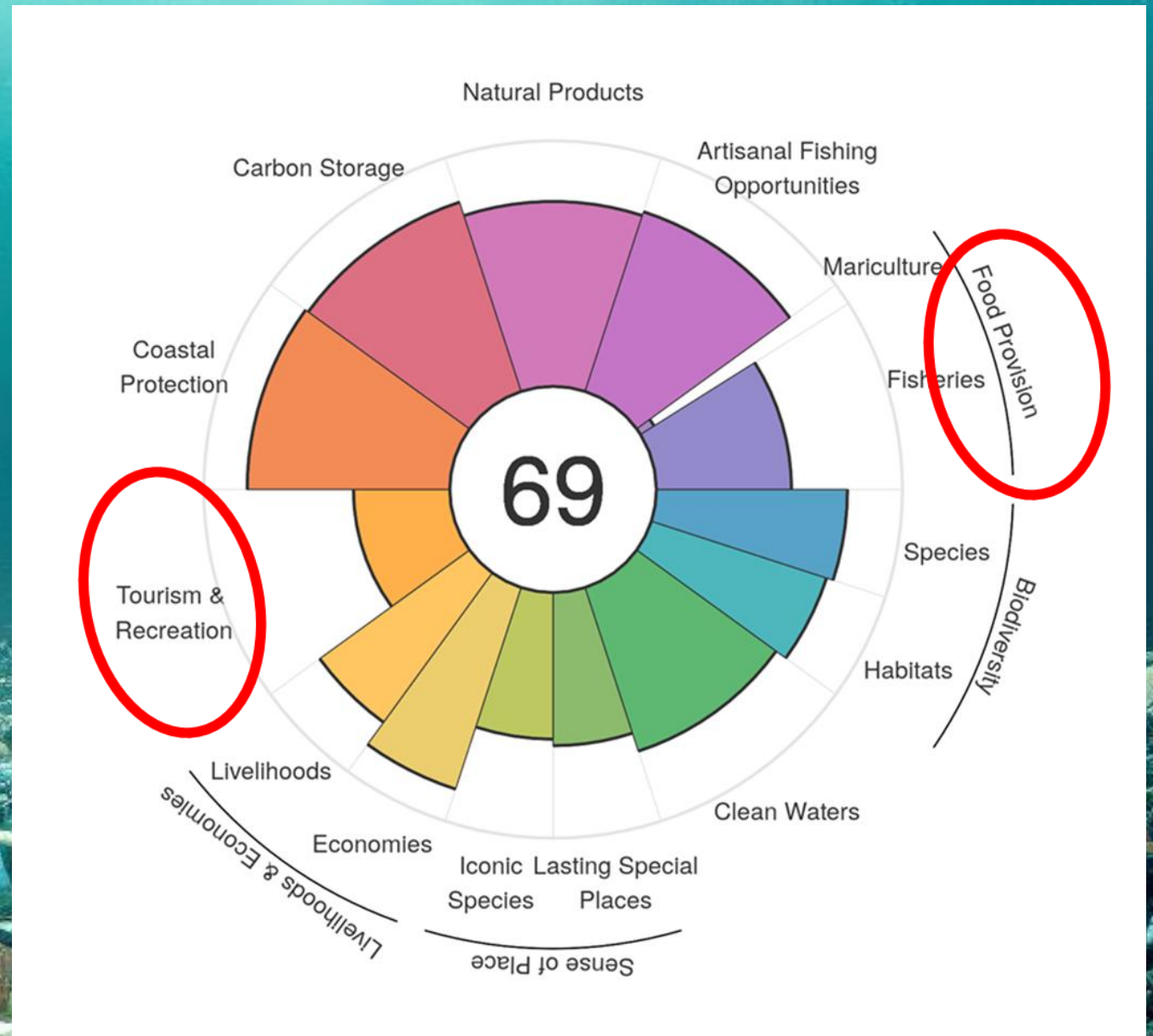
**Luas Laut ± 3,26 juta m<sup>2</sup>**

**Panjang garis pantai 108.000 km**

**Nilai ekonomi maritim 280 milyar US dollar**

# Ocean Health Index

Berdasarkan indeks kesehatan laut (Ocean Health Index atau OHI), Indonesia berada di peringkat **181** dari 220 wilayah dengan laut tersehat untuk kurun waktu 2012-2022. Dengan indeks rata-rata OHI dunia adalah 69 (dari skala 100), Indonesia berada cukup jauh lebih rendah dengan nilai **63**. (sumber : OHI, 2022)



## IUU Fishing

Kerugian ekonomi akibat  
IUU Fishing diperkirakan  
**Rp. 30 Trilyun** per tahun  
(KKP, 2021)







Luas terumbu karang Indonesia 2,5 juta hektar dengan jumlah spesies mencapai 569 spesies. Sebesar **33,82%** dalam keadaan rusak (Sumber : KKP, 2023)



Badan Restorasi Mangrove dan Gambut (BRGM) menyatakan luas hutan mangrove di Indonesia mencapai 4.120.263 hektare. Namun, **700.000 hektare** di antaranya telah mengalami deforestasi.

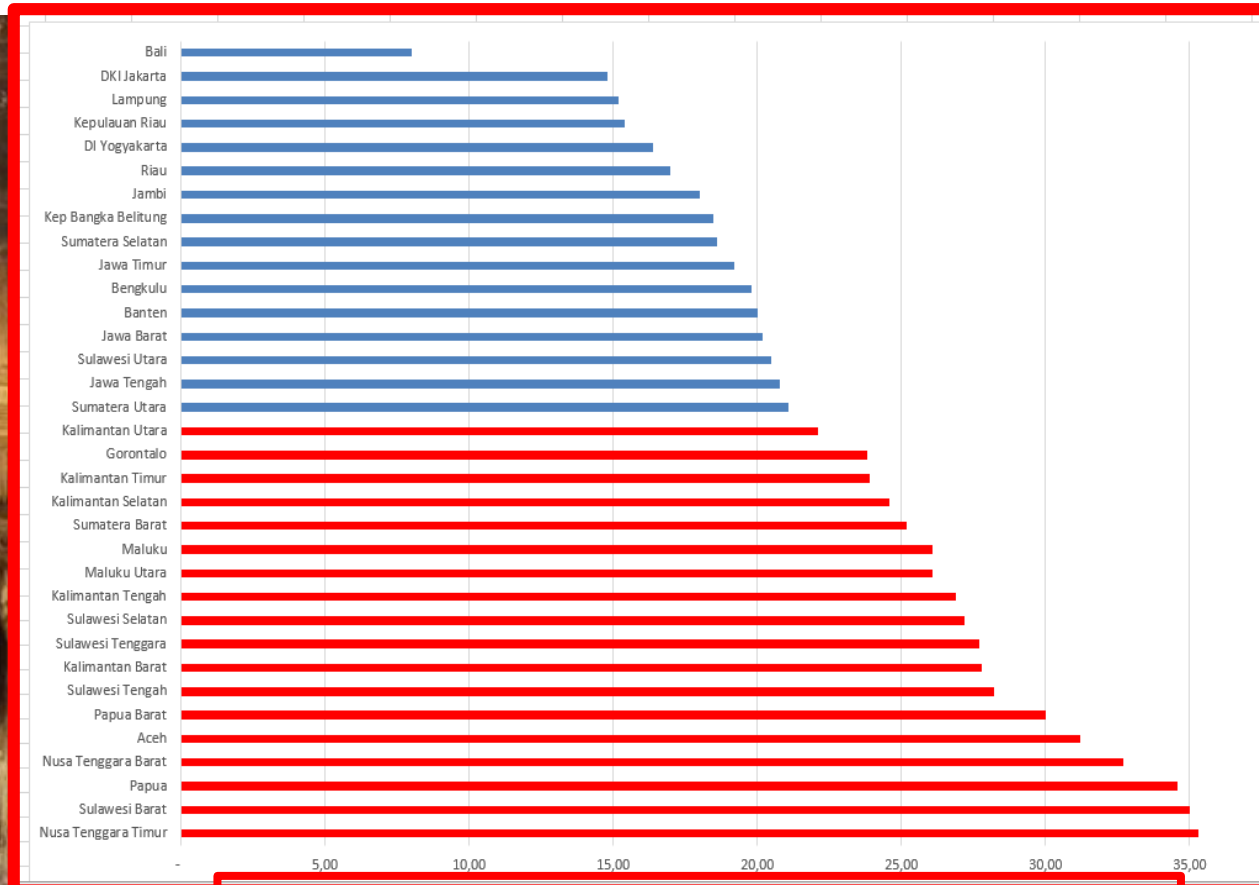
Indonesia berada di nomor dua sebagai penyumbang sampah plastik ke lautan di dunia. China menghasilkan jumlah sampah terbesar di laut, yaitu 262,9 juta ton sampah, Indonesia **(187,2 juta ton)**, Filipina (83,4 juta ton), Vietnam (55,9 juta ton), dan Sri Lanka (14,6 juta ton) (*sumber : Jurnal Plastic Waste Inputs From Land Into The Ocean diakses dari indonesiabaik.id*)



| Wilayah Pengelolaan Perikanan Negara Republik Indonesia (WPPNRI)   |            | Ikan Pelagis Kecil     | Ikan Pelagis Besar* | Ikan Demersal | Ikan Karang | Udang Penneid | Lobster | Kepiting | Rajungan | Cumi-cumi |        |
|--|------------|------------------------|---------------------|---------------|-------------|---------------|---------|----------|----------|-----------|--------|
| Perairan Selat Malaka dan Laut Andaman   | WPPNRI 571 | Estimasi Potensi (ton) | 157,151             | 75,095        | 230,000     | 34,518        | 47,610  | 477      | 10,870   | 2,906     | 32,511 |
|  |            | JTB (ton)              | 141,436             | 37,548        | 115,000     | 31,066        | 23,805  | 239      | 5,435    | 2,034     | 22,758 |
|  |            | Tingkat Pemanfaatan    | 0.3                 | 1.4           | 1.2         | 0.4           | 1.6     | 1.4      | 1.5      | 0.8       | 0.7    |
| Perairan Samudera Hindia sebelah Barat Sumatera dan Selat Sunda  | WPPNRI 572 | Estimasi Potensi (ton) | 479,503             | 438,877       | 204,500     | 33,429        | 35,560  | 2,722    | 6,787    | 2,533     | 26,039 |
|  |            | JTB (ton)              | 431,553             | 219,439       | 143,150     | 16,715        | 17,780  | 1,361    | 6,108    | 1,267     | 23,435 |
|  |            | Tingkat Pemanfaatan    | 0.2                 | 1.1           | 0.9         | 1.1           | 1.5     | 1.6      | 0.1      | 1.6       | 0.4    |
| Perairan Samudera Hindia sebelah Selatan Jawa hingga sebelah Selatan Nusa Tenggara, Laut Sawa, dan Laut Timor bagian Barat | WPPNRI 573 | Estimasi Potensi (ton) | 624,366             | 354,215       | 299,600     | 23,725        | 8,514   | 1,563    | 585      | 3,750     | 22,124 |
|  |            | JTB (ton)              | 437,056             | 247,950       | 269,640     | 11,863        | 4,257   | 782      | 410      | 2,625     | 11,062 |
|  |            | Tingkat Pemanfaatan    | 0.6                 | 0.9           | 0.2         | 2.5           | 1.2     | 2.0      | 0.7      | 0.6       | 1.1    |
| Perairan Selat Karimata, Laut Natuna, dan Laut Natuna Utara  | WPPNRI 711 | Estimasi Potensi (ton) | 536,917             | 163,744       | 289,300     | 197,580       | 71,810  | 1,467    | 3,388    | 9,804     | 32,369 |
|  |            | JTB (ton)              | 375,842             | 114,621       | 202,510     | 138,306       | 50,267  | 734      | 1,694    | 4,902     | 22,658 |
|  |            | Tingkat Pemanfaatan    | 0.9                 | 0.7           | 0.8         | 0.5           | 0.6     | 1.1      | 1.9      | 1.2       | 0.5    |
| Perairan Laut Jawa   | WPPNRI 712 | Estimasi Potensi (ton) | 275,486             | 145,863       | 358,832     | 71,526        | 83,820  | 1,481    | 7,360    | 23,508    | 66,609 |
|  |            | JTB (ton)              | 247,937             | 72,932        | 179,416     | 57,221        | 58,674  | 1,037    | 5,152    | 16,456    | 46,626 |
|  |            | Tingkat Pemanfaatan    | 0.4                 | 1.3           | 1.1         | 0.8           | 0.8     | 0.5      | 0.9      | 0.7       | 0.9    |
| Perairan Selat Makasar, Teluk Bone, Laut Flores, dan Laut Bali   | WPPNRI 713 | Estimasi Potensi (ton) | 284,302             | 162,506       | 374,500     | 167,403       | 56,835  | 765      | 6,213    | 9,253     | 11,370 |
|  |            | JTB (ton)              | 142,151             | 113,754       | 337,050     | 83,702        | 39,785  | 383      | 4,349    | 4,627     | 5,685  |
|  |            | Tingkat Pemanfaatan    | 1                   | 0.8           | 0.3         | 1.3           | 0.8     | 1.3      | 0.7      | 1.5       | 1.2    |
| Perairan Teluk Tolo dan Laut Banda   | WPPNRI 714 | Estimasi Potensi (ton) | 222,881             | 370,653       | 292,000     | 121,326       | 6,472   | 724      | 1,758    | 4,705     | 13,460 |
|  |            | JTB (ton)              | 156,017             | 259,457       | 204,400     | 60,663        | 3,236   | 362      | 879      | 3,294     | 9,422  |
|  |            | Tingkat Pemanfaatan    | 0.7                 | 0.7           | 0.7         | 1.3           | 1       | 1.7      | 1.4      | 0.6       | 0.5    |
| Perairan Teluk Tomini, Laut Malaka, Laut Halmahera, Laut Seram, dan Teluk Berau  | WPPNRI 715 | Estimasi Potensi (ton) | 443,944             | 74,908        | 80,226      | 105,336       | 5,295   | 1,217    | 336      | 157       | 3,874  |
|  |            | JTB (ton)              | 310,761             | 52,436        | 56,158      | 52,668        | 3,707   | 609      | 235      | 110       | 2,712  |
|  |            | Tingkat Pemanfaatan    | 0.7                 | 0.7           | 0.7         | 1.3           | 0.7     | 1.2      | 0.7      | 0.7       | 0.9    |
| Perairan Laut Sulawesi dan sebelah Utara Pulau Halmahera   | WPPNRI 716 | Estimasi Potensi (ton) | 197,012             | 176,382       | 215,900     | 24,909        | 6,705   | 1,494    | 1,470    | 265       | 1,908  |
|  |            | JTB (ton)              | 137,908             | 123,468       | 194,310     | 12,455        | 4,694   | 1,046    | 1,029    | 186       | 1,336  |
|  |            | Tingkat Pemanfaatan    | 0.7                 | 0.5           | 0.4         | 1.6           | 0.5     | 0.9      | 0.8      | 0.5       | 0.9    |
| Perairan Teluk Cendrawasih dan Samudera Pasifik  | WPPNRI 717 | Estimasi Potensi (ton) | 135,140             | 189,718       | 69,210      | 19,814        | 7,423   | 736      | 545      | 291       | 1,826  |
|  |            | JTB (ton)              | 121,626             | 132,803       | 48,447      | 10            | 6,681   | 515      | 491      | 146       | 1,278  |
|  |            | Tingkat Pemanfaatan    | 0.3                 | 0.9           | 0.5         | 1.2           | 0.5     | 0.8      | 0.2      | 1.5       | 0.6    |
| Perairan Laut Aru, Laut Arufara, dan Laut Timor bagian Timur   | WPPNRI 718 | Estimasi Potensi (ton) | 836,973             | 818,870       | 876,722     | 29,485        | 62,842  | 1,187    | 1,498    | 775       | 9,212  |
|  |            | JTB (ton)              | 669,579             | 655,096       | 701,378     | 23,588        | 50,274  | 950      | 1,198    | 620       | 7,370  |
|  |            | Tingkat Pemanfaatan    | 0.51                | 0.99          | 0.67        | 1.07          | 0.86    | 0.97     | 0.85     | 0.77      | 1.28   |

Sumber : KepmenKP 19 Tahun 2022

Keterangan : \*Ikan Pelagis Besar selain Tuna dan Cakalang



Berdasarkan hasil Survei Status Gizi Indonesia (SSGI) Tahun 2022, angka **21,6%** di tahun 2022



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# Indonesia Blue Economy

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# Indonesia Blue Economy Status

● Economic Status

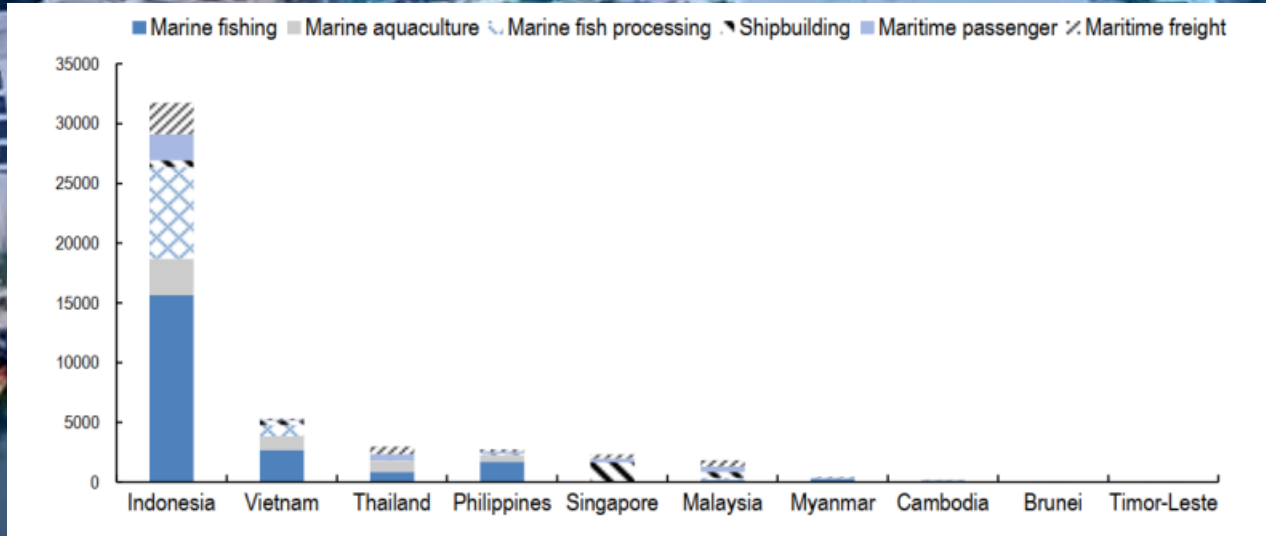
● Environmental Status

● Social Status



# Indonesian Blue economy Focus





In 2015, **84 percent** of the value added generated from marine fish processing in ASEAN countries was attributable to Indonesia, as was **73 percent of marine capture fisheries**, and **54 percent of marine aquaculture**. Indonesia also generated the largest value added from maritime freight (USD 2.6 billion) and maritime passenger transport (USD 2.2 billion) among ASEAN countries in 2015 (worlfish, 2015)

Jumlah potensi lestari sumber daya ikan diperkirakan sebesar **12,54 juta ton** per tahun yang tersebar di perairan wilayah Indonesia dan perairan Zona Ekonomi Eksklusif Indonesia (ZEEI). Tahun 2022 Pemanfaatan baru **59,12%** yakni 7,39 juta ton (Satu Data KKP, 2022)



Potensi lahan indikatif perikanan budidaya diperkirakan mencapai **17,8 juta hektar**. Masing-masing untuk budidaya laut mencapai 12 juta ha, budidaya payau 2,88 juta ha, dan budidaya air tawar mencapai 2,83 juta ha. Total potensi produksi diperkirakan mencapai **311 juta ton per tahun**. Saat ini pemanfaatan baru - **4,75%** yakni 14,77 juta ton (Cocon (2020); Satu Data KKP, 2022).



Fisheries contributed around **USD 32.11 billions** of GDP in 2022, with the share of **2,6 percent** of the country's GDP (BPS, 2023)



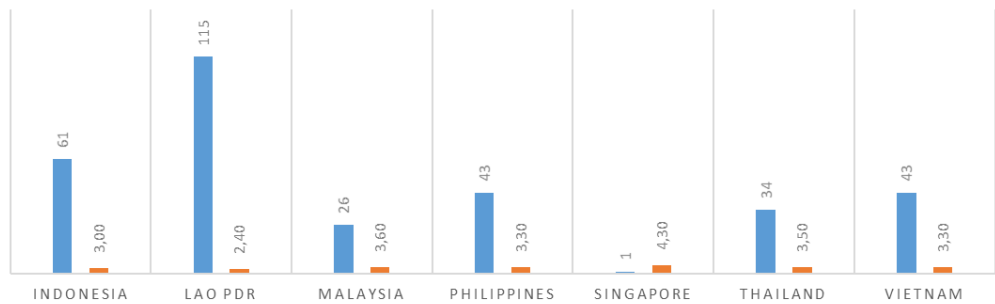
These sectors involved around **2.93 million fishers** in marine capture fisheries and **2,25 fish farmers** in 2021, with more **3,76 millions of household** relies on these sectors for the main sources of income (KKP, 2022)



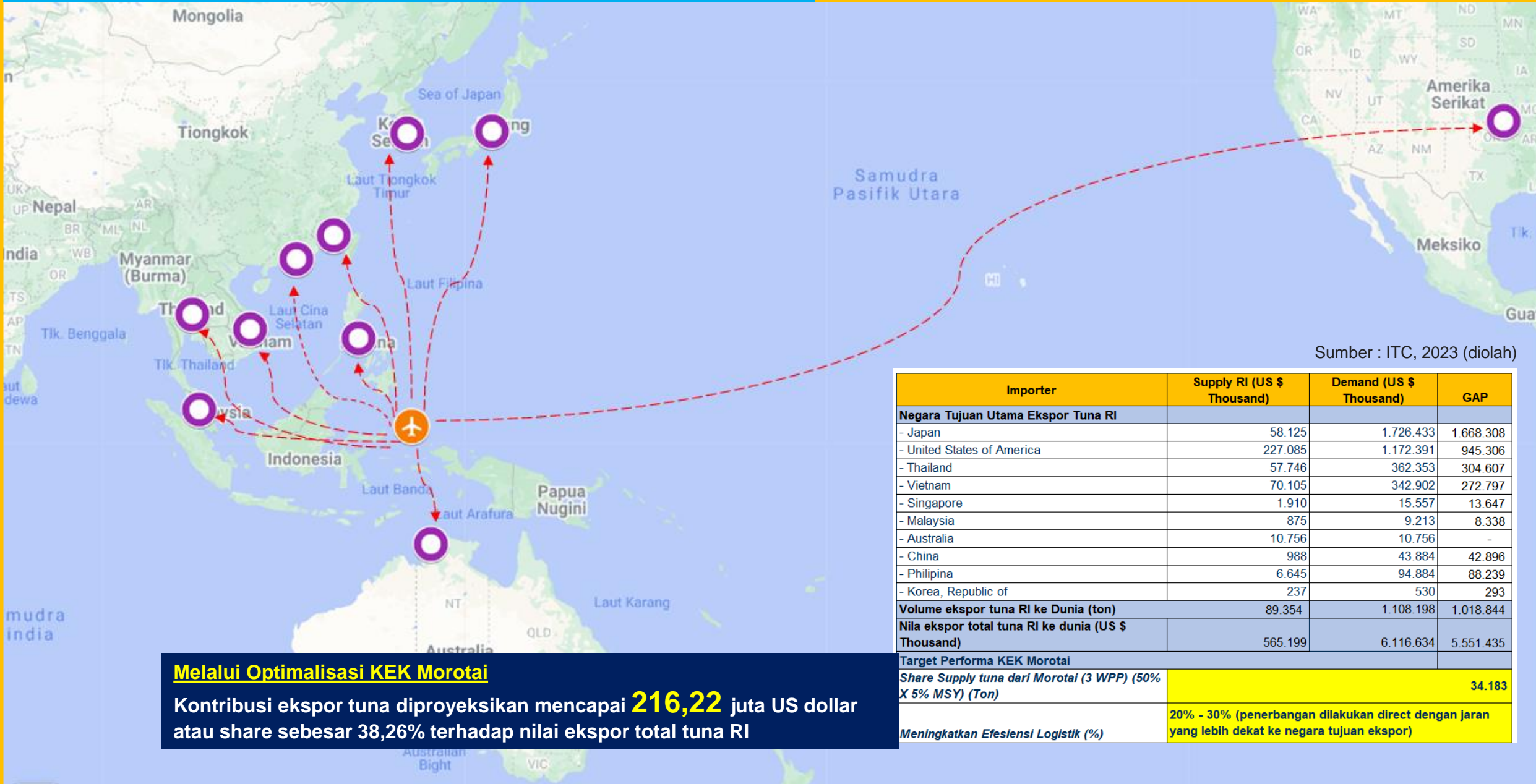
The contribution of tourism to GDP is still low at only less than **5 percent** (*Kemenparekraf, 2020*). The contribution is lower than other G20 countries such as Spain (14 percent), Italy (13 percent), Turkey (11 percent), as well as an ASEAN country such as Thailand (12 percent) (*ILO, 2022*)

### LOGISTIC PERFORMANCE INDEX DIANTARA NEGARA ASEAN

■ LPI Rank ■ LPI Score



# Mewujudkan Morotai sebagai *HUB* perdagangan ekspor ikan Tuna




Sumber : ITC, 2023 (diolah)

| Importer   | Supply RI (US \$ Thousand)  | Demand (US \$ Thousand) | GAP              |
|--|---|-------------------------|------------------|
| <b>Negara Tujuan Utama Ekspor Tuna RI</b>                          |   |                         |                  |
| - Japan  | 58.125  | 1.726.433               | 1.668.308        |
| - United States of America   | 227.085   | 1.172.391               | 945.306          |
| - Thailand   | 57.746  | 362.353                 | 304.607          |
| - Vietnam  | 70.105  | 342.902                 | 272.797          |
| - Singapore  | 1.910   | 15.557                  | 13.647           |
| - Malaysia   | 875   | 9.213                   | 8.338            |
| - Australia  | 10.756  | 10.756                  | -                |
| - China  | 988   | 43.884                  | 42.896           |
| - Philipina  | 6.645   | 94.884                  | 88.239           |
| - Korea, Republic of   | 237   | 530                     | 293              |
| <b>Volume ekspor tuna RI ke Dunia (ton)</b>                        | <b>89.354</b>   | <b>1.108.198</b>        | <b>1.018.844</b> |
| <b>Nilai ekspor total tuna RI ke dunia (US \$ Thousand)</b>        | <b>565.199</b>  | <b>6.116.634</b>        | <b>5.551.435</b> |
| <b>Target Performa KEK Morotai</b>                                 |   |                         |                  |
| <b>Share Supply tuna dari Morotai (3 WPP) (50% X 5% MSY) (Ton)</b> | <b>34.183</b>   |                         |                  |
| <b>Meningkatkan Efisiensi Logistik (%)</b>                         | <b>20% - 30% (penerbangan dilakukan direct dengan jaran yang lebih dekat ke negara tujuan ekspor)</b> |                         |                  |

## Melalui Optimalisasi KEK Morotai

Kontribusi ekspor tuna diproyeksikan mencapai **216,22** juta US dollar atau share sebesar **38,26%** terhadap nilai ekspor total tuna RI



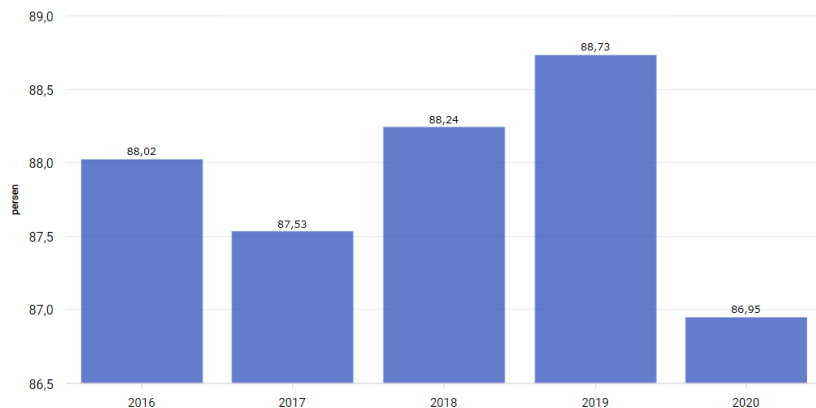
Indonesia has an extensive marine area with a wealth of diverse natural marine assets and ecosystems. The global market of marine biotechnology was estimated at **USD 5.9 billion in 2022** and is estimated to grow to USD 11,7 billion in 2032 (Precedence Research, 2022)



## Renewable Energy

Proporsi Produksi Listrik Indonesia dari Bahan Bakar Fosil (2016-2020)

databoks




Potensi Energi dari Sumber Daya Laut Diperkirakan mencapai lebih dari **70 GW** dengan kecepatan gelombang mencapai 6 meter per detik. Pemanfaatan saat ini hanya sekitar 0,1 GW yang dimanfaatkan secara komersial (Sumber : BPPT)

The image is a vertical split. The top half shows a dense mangrove forest with green leaves and brown, woody prop roots against a clear blue sky. The bottom half shows the same mangrove roots extending into clear, shallow water, with some green algae or plants visible at the bottom. The water surface is slightly rippled, creating a clear boundary between the air and water environments.

Potensi blue carbon di Indonesia sangatlah besar yakni mencapai **3.4 Giga Ton** (GT) atau sekitar **17%** dari seluruh blue carbon di dunia. Khusus Mangrove nilai ekonomi blue carbon mencapai **> Rp. 4.000 triliun** (estimasi nilai per ha 90.000 US dollar) (sumber : CIFOR, 2021)



Tahun 2022 luas kawasan konservasi telah mencapai **28,9 juta hektare** yang terdiri dari 21,5 juta hektare yang ditetapkan dan 7,4 juta hektare yang dicadangkan (KKP, 2022)



According to OECD's Sustainable Ocean Economy data, 95 percent of Indonesia's population lives within 100 km of the coastline, and 40 million rural Indonesians depend on biodiversity for subsistence. Currently, most coastal communities engage in traditional sectors – particularly fisheries, and to some extent marine-based processing.



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**The Blue Economy  
Principle**  
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**Provides social and economic benefits for current and future generations**, by contributing to food security, poverty eradication, livelihoods, income, employment, health, safety, equity, and political stability



**Restores, protects and maintains the diversity, productivity, resilience, core functions, and intrinsic value of marine ecosystems** – the natural capital upon which its prosperity depends.



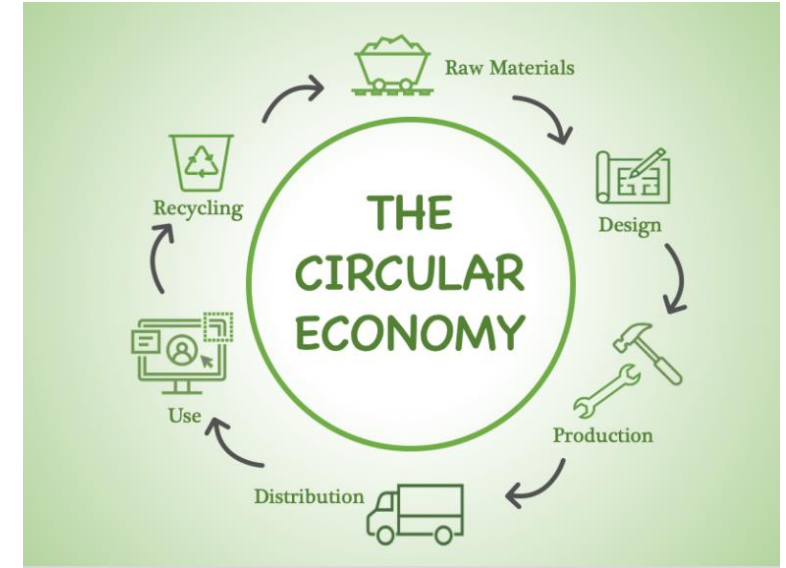
**Is based on clean technologies, renewable energy, and circular material flows** to secure economic and social stability over time, while keeping within the limits of one planet.



**Production efficiency and encouraging added value (Eco-efficiency)** - utilize efficient inputs, but are able to increase high economic added value without having external effects on the environment



**Zero Waste** - The production process does not produce waste output, so it does not have external effects on the environment



**Multiple Cashflow** - able to create various other derivative economic activities as added economic value. So, the key word is innovation, how to create multiple businesses, including waste output resulting from the production process which can be transformed into added economic value and become further input.



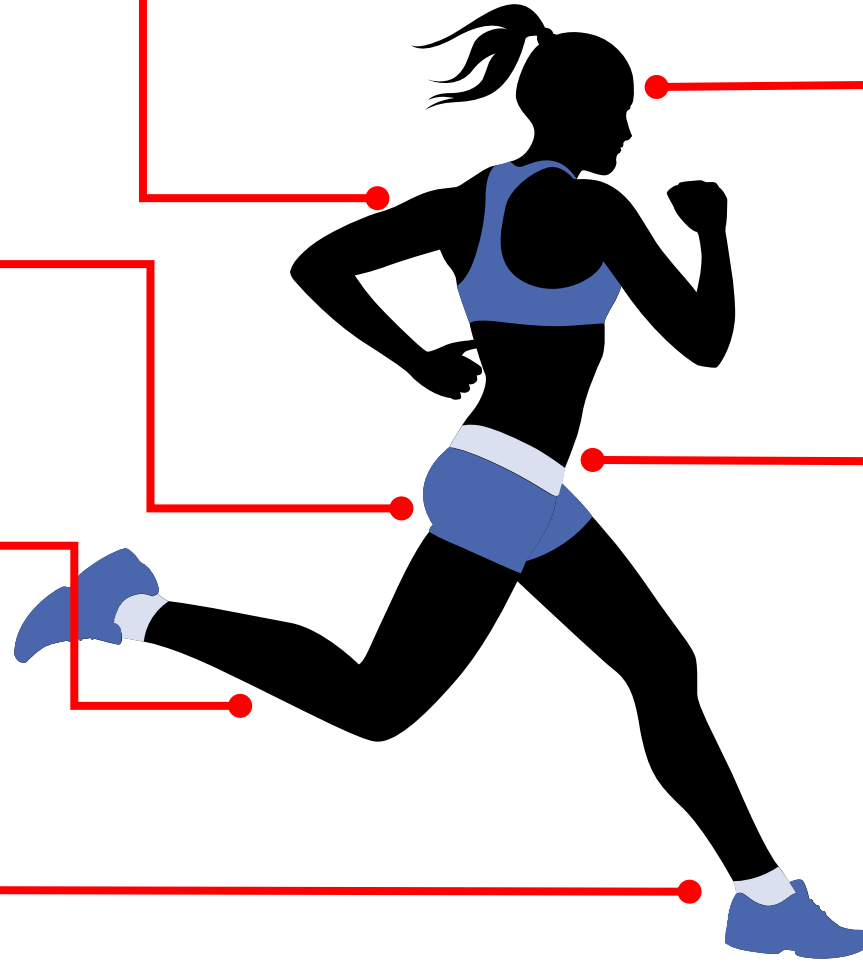


Mendorong regulasi yang mendukung penerapan **Blue Financing**

Menetapkan tujuan dan sasaran yang jelas, terukur, dan konsisten secara internal untuk Blue Economy Berkelanjutan

Melakukan monitoring secara berkala terhadap pencapaian target Blue Economy secara transparan dan mudah diakses

Mendorong insentif bagi private sector yang mampu mendorong kegiatan usaha berbasis Blue Economy



Membuat perencanaan, pengaturan dan pengelolaan secara integrative untuk mendorong kompatibilitas kegiatan di in-land dengan di laut, guna meminimalisir dampak terhadap kelestarian SDA dan lingkungan laut.

Mengembangkan dan menerapkan standar, pedoman dan praktik terbaik yang mendukung keberlanjutan Blue Economy dalam kegiatan produksi, khususnya sector perikanan



**Thank You**