



COORDINATING MINISTRY FOR  
MARITIME AND INVESTMENT AFFAIRS

# Value Added Seaweed Investment

(Discussion Material for Indonesia – Korean Dialog)

May, 2023

# Seaweed Development

## World Seaweed Producers

Indonesia is the **second largest seaweed producer in the world after China** (FAO 2020) and supplies seaweed raw materials specifically for the *Euchema cottonii* species.

## Mariculture Land Potential

The area of mariculture land is very large, 12.3 million hectares and has great development potential, because the utilization rate of mariculture is only 102 thousand hectares (0.8%). In addition, seaweed is suitable for culture in Indonesian waters.

## Nutrient Contents

High nutritional content of seaweed in various types of food and beverage industry products, especially as a fulfillment of food fiber.

## Market Demand Increase

Seaweed market share in global and domestic markets is not limited due to high market demand

## Diverse Derivative Products

Seaweed as raw material for various derivative products (more than 35 derivatives can be produced) for industry, health, pharmaceutical, food, etc.

## Against the Climate Change through Absorbing Carbon Emissions

Seaweed can play a huge role in fighting climate change by absorbing carbon emissions, regenerating marine ecosystems, creating biofuel and renewable plastics as well as generating marine protein.





# INDONESIA'S LARGEST SEAWEED PRODUCER BY PROVINCES



No	Province	Production Volume in 2020 (Ton)
1	SOUTH SULAWESI	3.442.076,11
2	<b>EAST NUSA TENGGARA</b>	<b>2.158.902,59</b>
3	CENTRAL SULAWESI	927.786,52
4	EAST JAVA	699.235,92
5	WEST NUSA TENGGARA	677.110,76
6	NORTH KALIMANTAN	523.257,56
7	SOUTH-EAST SULAWESI	272.324,57
8	NORTH SULAWESI	247.024,07
9	MALUKU	191.489,17
10	WEST SULAWESI	94.187,07

# Seaweed Commodity in Indonesian



**Kappa Carageenan producers**  
- *Euchema cottonii*



**Lambda Carageenan producers**  
- *Haliminea* sp



**Alginate producers**  
*Sargassum*



**Agar producers**  
- *Gracillaria* sp



**Agar producers**  
- *Gracillaria* sp



# COUNTRIES OF DESTINATION FOR INDONESIA DRY SEAWEED EXPORT 2016 - 2022

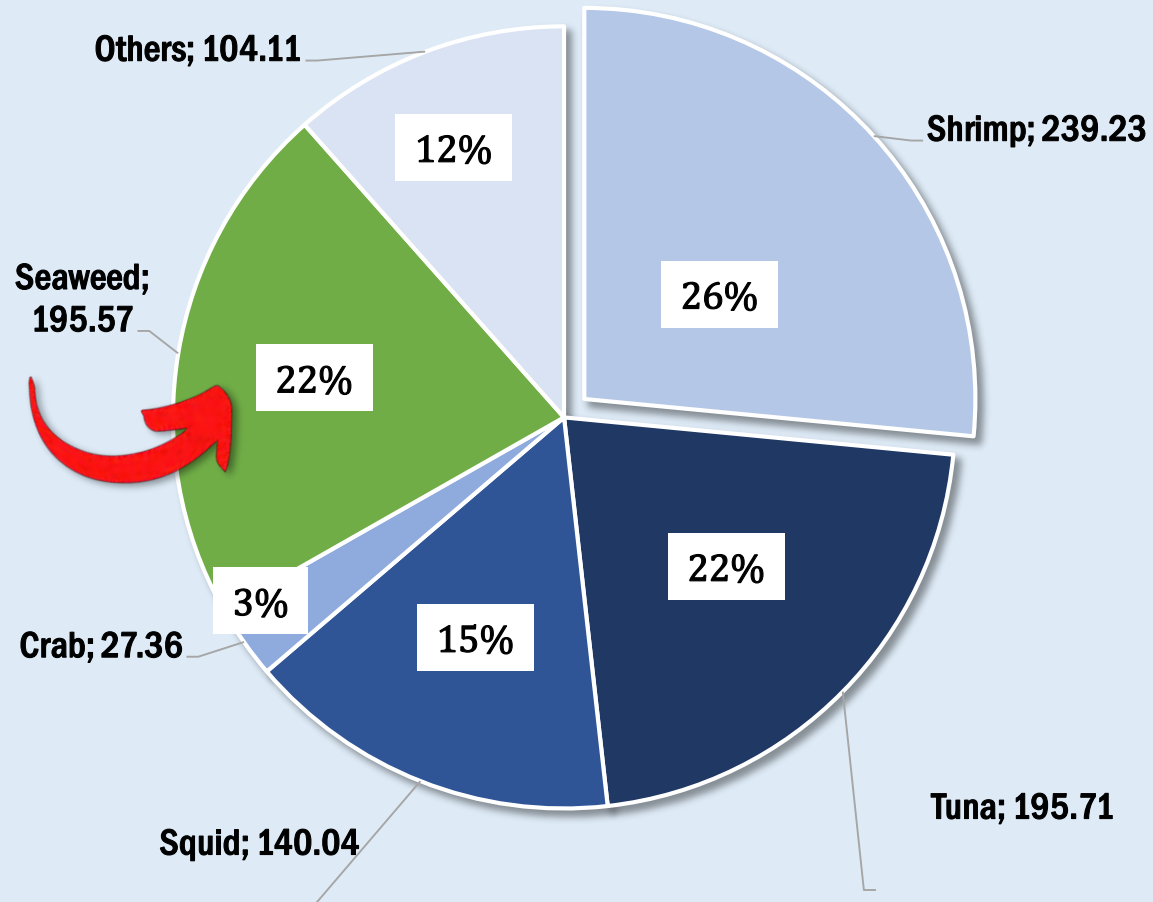
NO	COUNTRY	VALUE (USD)						
		2016	2017	2018	2019	2020	2021	2022*
1	China	59.253.905	116.299.905	155.369.988	171.554.599	147.511.813	185.637.421	167.446.006
2	Viet Nam	450.767	2.480.481	3.465.612	2.695.606	3.678.098	5.437.531	1.477.385
<b>3</b>	<b>Republic of Korea,</b>	<b>974.765</b>	<b>4.894.788</b>	<b>12.368.509</b>	<b>8.614.740</b>	<b>9.618.373</b>	<b>5.403.065</b>	<b>4.594.364</b>
4	Canada	186.200	80.850	217.637	40.425	906.123	5.148.501	1.316.750
5	Chile	4.544.255	5.722.833	6.406.560	8.488.228	5.865.051	4.561.942	1.027.080
6	United States	52.546	1.218	785.866	6.749.857	2.269.341	3.461.123	5.776.488
7	France	362.932	1.197.641	4.004.006	4.627.021	3.605.548	3.134.892	4.577.500
8	Philippines	1.679.872	1.263.176	1.232.330	1.305.320	678.857	2.225.632	1.000.834
9	United Kingdom		418.742	1.175.678	2.570.416	1.855.045	1.200.681	
10	Spain	122.646	424.402	2.387.101	1.963.485	914.011	1.039.697	973.298
11	Other Country	2.567.396	2.443.808	3.258.177	4.257.194	1.916.635	1.860.118	1.117.725
<b>Grand Total</b>		<b>70.195.284</b>	<b>135.227.844</b>	<b>190.671.464</b>	<b>212.866.891</b>	<b>178.818.895</b>	<b>219.110.603</b>	<b>189.307.430</b>

Source: BPS (2022)

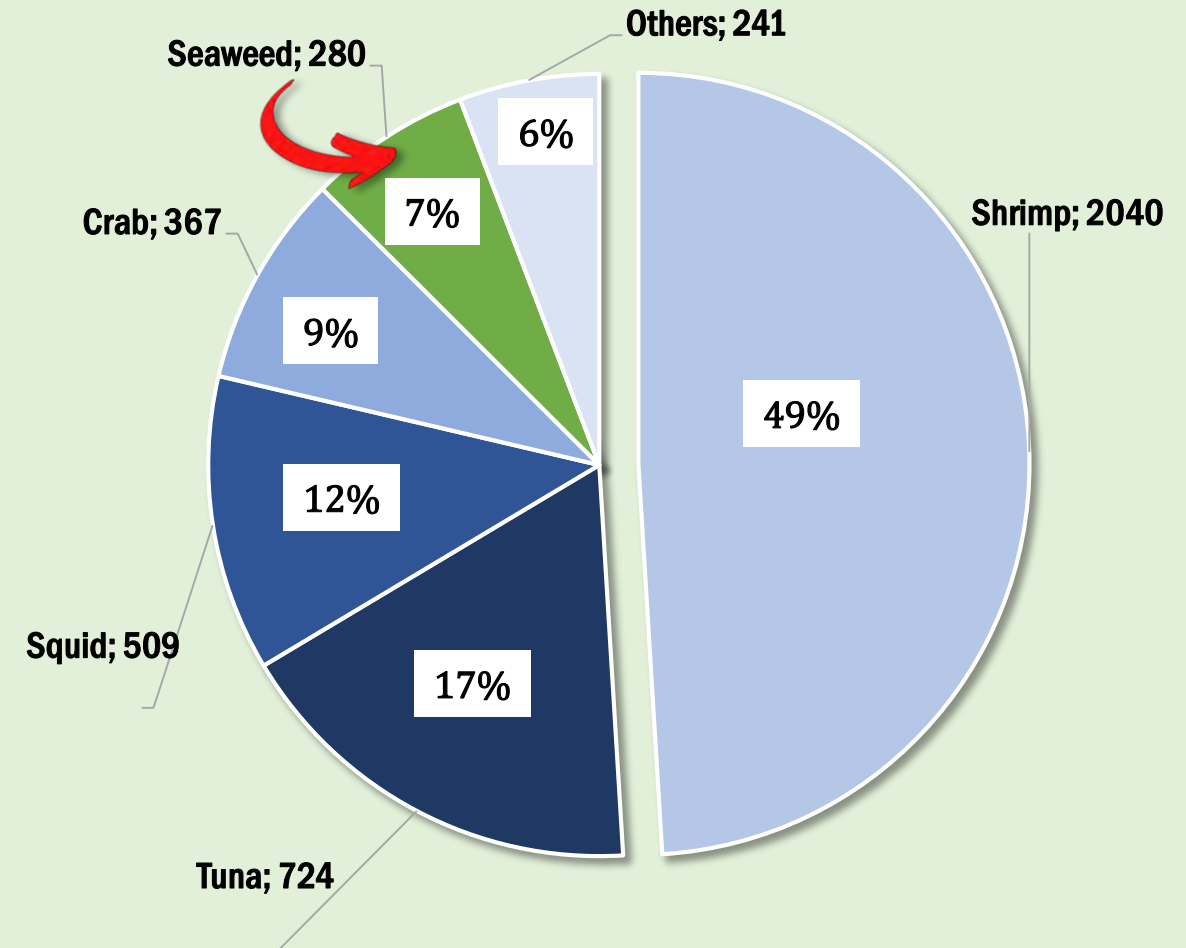
\*June 2022

# FISHERIES EXPORT PROPORTION (Tahun 2020)

Export Volume (Thausand Ton)

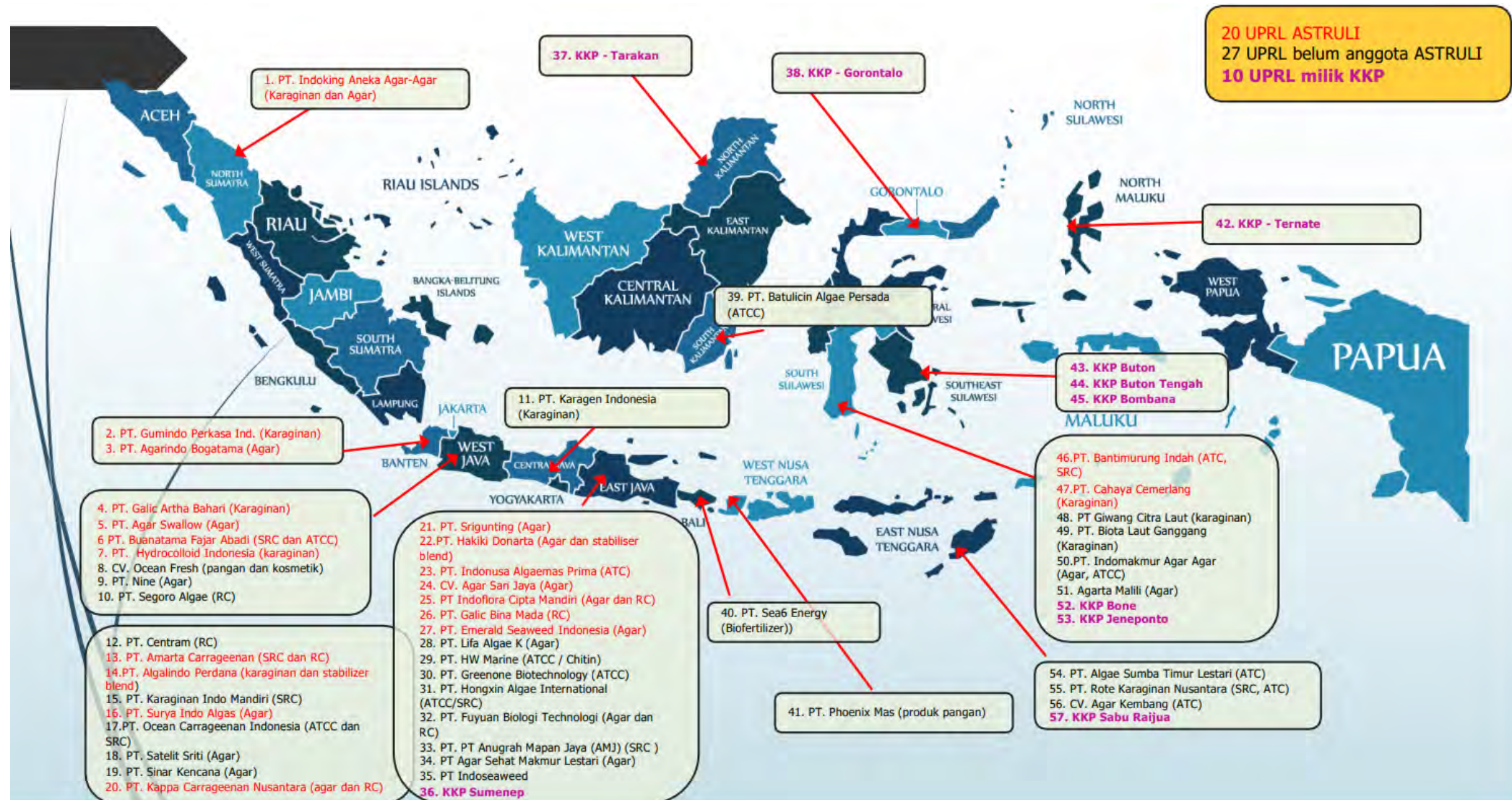


Export Value (Billion USD)





# DISTRIBUTION OF SEAWEED PROCESSING INDUSTRIES IN INDONESIA





# DISTRIBUTION OF SPECIAL ECONOMIC ZONE IN INDONESIA

## 1. KEK Arun Lhokseumawe

**Aceh Utara & Lhokseumawe, Aceh**  
(PP No. 5/2017 - Februari 2017)  
**Beroperasi Desember 2018**

Kegiatan Utama:  
- Industri Energi  
- Industri Petrokimia dan Kimia Lainnya  
- Industri Pengolahan Kelapa Sawit  
- Industri Pengolahan Kayu  
- Logistik

## 2. KEK Sei Mangkei

**Kab. Simalungun, Sumatera Utara**  
(PP No. 29/2012 - Februari 2012)  
**Beroperasi Januari 2015**

Kegiatan Utama:  
- Industri Pengolahan Kelapa Sawit  
- Industri Pengolahan Karet  
- Pariwisata  
- Logistik

## 3. KEK Batam Aero Technic

**Kota Batam, Kepulauan Riau**  
(PP No. 67/2021 - Juni 2021)

Kegiatan Utama:  
- Industri MRO (Maintenance, Repair, Overhaul) Pesawat

## 4. KEK Nongsa

**Kota Batam, Kepulauan Riau**  
(PP No. 68/2021 - Juni 2021)

Kegiatan Utama:  
- IT-digital  
- Pariwisata

## 5. KEK Galang Batang

**Kab. Bintan, Kepulauan Riau**  
(PP No. 42/2017 - Oktober 2017)  
**Beroperasi Desember 2018**

Kegiatan Utama:  
- Industri Pengolahan Bauksit  
- Logistik

## 6. KEK Sei Mangkei

**Kab. Belitung, Bangka Belitung**  
(PP No. 6/2016 - Maret 2016)  
**Beroperasi Maret 2019**

Kegiatan Utama:  
- Pariwisata

## 7. KEK Tanjung Lesung

**Kab. Pandeglang, Banten**  
(PP No. 26/2012 - Februari 2012)  
**Beroperasi Februari 2015**

Kegiatan Utama:  
- Pariwisata

## 8. KEK Lido

**Bogor, Jawa Barat**  
(PP No. 69/2021 - Juni 2021)

Kegiatan Utama:  
- Pariwisata  
- Industri Kreatif

## 9. KEK Kendal

**Kab. Kendal, Jawa Tengah**  
(PP No. 85/2019 - Desember 2019)  
**Beroperasi Mei 2021**

Kegiatan Utama:  
- Industri Tekstil dan Busana  
- Industri Furnitur dan Alat Permainan  
- Industri Makanan dan Minuman  
- Industri Otomotif  
- Industri Elektronik  
- Logistik

## 10. KEK Gresik

**Kab. Gresik, Jawa Timur**  
(PP No. 71/2021 - Juni 2021)

Kegiatan Utama:  
- Industri Metal  
- Industri Elektronik  
- Industri Kimia  
- Industri Energi  
- Logistik

## 11. KEK Singrasari

**Kab. Malang, Jawa Timur**  
(PP No. 68/2019 - September 2019)  
**Beroperasi Desember 2018**

Kegiatan Utama:  
- Pariwisata  
- Pengembangan Teknologi

## 12. KEK Sanur

**Denpasar, Bali**  
(PP No. 41/2022 - November 2022)

Kegiatan Utama:  
- Kesehatan  
- Pariwisata

## 13. KEK Mandalika

**Kab. Lombok Tengah, NTB**  
(PP No. 52/2014 - Juni 2014)  
**Beroperasi Oktober 2017**

Kegiatan Utama:  
- Pariwisata

## 14. KEK MBTK

**Kab. Kutai Timur, Kalimantan Timur**  
(PP No. 85/2014 - Oktober 2014)  
**Beroperasi April 2019**

Kegiatan Utama:  
- Industri Pengolahan Kelapa Sawit  
- Industri Energi  
- Logistik

## 15. KEK Palu

**Kota Palu, Sulawesi Tengah**  
(PP No. 31/2014 - Mei 2014)  
**Beroperasi September 2017**

Kegiatan Utama:  
- Industri Logam Dasar  
- Logistik

## 16. KEK Likupang

**Kab. Minahasa Utara, Sulawesi Utara**  
(PP No. 84/2019 - Desember 2019)

Kegiatan Utama:  
- Pariwisata

## 17. KEK Bitung

**Kota Bitung, Sulawesi Utara**  
(PP No. 32/2014 - Mei 2014)  
**Beroperasi April 2019**

Kegiatan Utama:  
- Industri Pengolahan Kelapa  
- Industri Pengolahan Perikanan  
- Logistik

## 18. KEK Morotai

**Kab. Pulau Morotai, Maluku Utara**  
(PP No. 50/2014 - Juni 2014)  
**Beroperasi April 2019**

Kegiatan Utama:  
- Industri Pengolahan Perikanan  
- Pariwisata  
- Logistik

## 19. KEK Sorong

**Sorong, Papua Barat**  
(PP No. 31/2016 - Agustus 2016)  
**Beroperasi Oktober 2019**

Kegiatan Utama:  
- Industri Pengolahan Nikel  
- Industri Pengolahan Kelapa Sawit  
- Industri Hasil Hutan dan Perkebunan (Sagu)  
- Logistik





# Value Pyramid of Seaweed



# Investment Criterias for Seaweed Industry



**Vertically integrated**



**Closed-loop system**



**High-capacity utilization**



**Higher-end in the value  
chain**



# Questions and Answers

## 1. The Challenge for Seaweed Industries in **Upstream Side** :

- The **limitation of Seaweed Seed** Availabilities to Fulfil the demand for Seaweed Farm cross over Indonesia
- **Low productivities** of Seaweed Farming due to the quality of seed and traditional technology practices
- Vulnerable to ice-ice disease and climate change impact

## 2. The Challenge for Seaweed Industries in **Downstream Side**

- The Main Export of seaweed is dominated by **drying material seaweed** which is low value
- Lack of Application of Standards (SNI) for seaweed cultivation and postharvest
- The **limitation of seaweed company operated in Eastern Indonesia**, on the other hand the centre of Indonesia seaweed production is in that region
- Improving Quality Standard

# Questions and Answers

## 3. The Investment Need

- Greenfield Investment : Companies can built its own, brand new facilities from the beginning
- Brownfield Investment : Company can purchase or leases an exiting facilities to takeover and optimizing the production

## 4. Value Added and Product Diversification Production

- The government having the highest concern **on down streaming of seaweed industries and high value added production**
- The seaweed product for **cosmetic, food, bio degradable plastic and also biofuel** will be fully endorsed
- **Establishes Large Seaweed Seed Facilities. And Mechanization** of Farming, Harvesting
- Indonesia export some raw material seaweed to Korea for cosmetic and food industries → Korea Company can built the factory in Indonesia, it will be beneficial

## 4. Industrial Cluster Zone

- Some incentive for investment will be granted also tax incentive and suitable marine spatial planning
- The Licence mechanism will make simpler
- It will prefer the company can conduct **a integrated industries** : from farming, harvesting, and processing industries