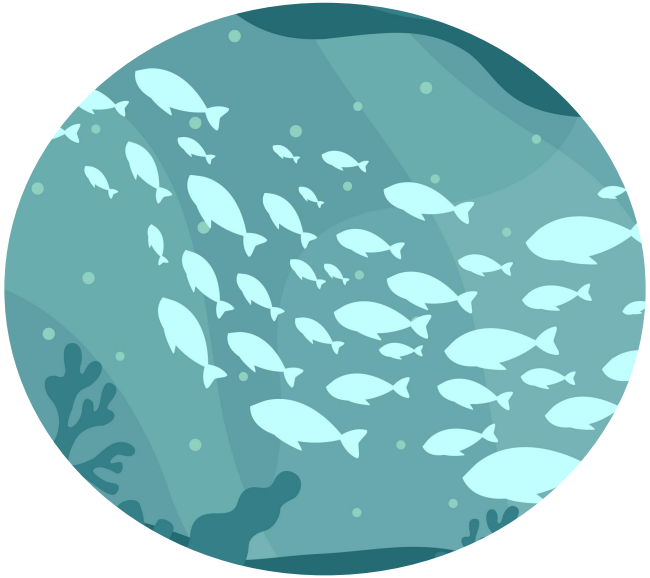


Aquaculture Opportunity in Indonesia

Data Source Dashboard

About Me

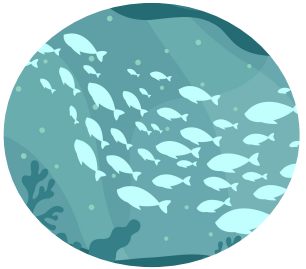
Hary R
Nasution

Table of Content

01 Introduction

QBZ Fishery

PT.QBZ is a company specializing in fish production, currently employing **two methods** in fish production—aquaculture and fish capture. Established in **1960**, the business has expanded its operations across various countries and continents.



The company leadership aims to assess the profitability of the aquaculture method, and **Indonesia** is seen as a potential pioneer in adopting this approach."

Objectives Question:

Does Aquaculture have the potential for growth and success in Indonesia?

Business Question

- Bagaimana tren produksi dilihat dari jenis produksi ikan?
- Apakah ada peluang pertumbuhan bisnis berdasarkan jenis produksi ikan secara global?
- Apakah Indonesia bisa menjadi pionir untuk produksi aquaculture?

Root Cause

Opportunities for Developing Aquaculture Methods in Indonesia

Different Production Techniques

Identification and evaluation of production techniques

Different Production Locations

Geographical and Environmental Factors

Types of Produced Products

02 Data & Methodology

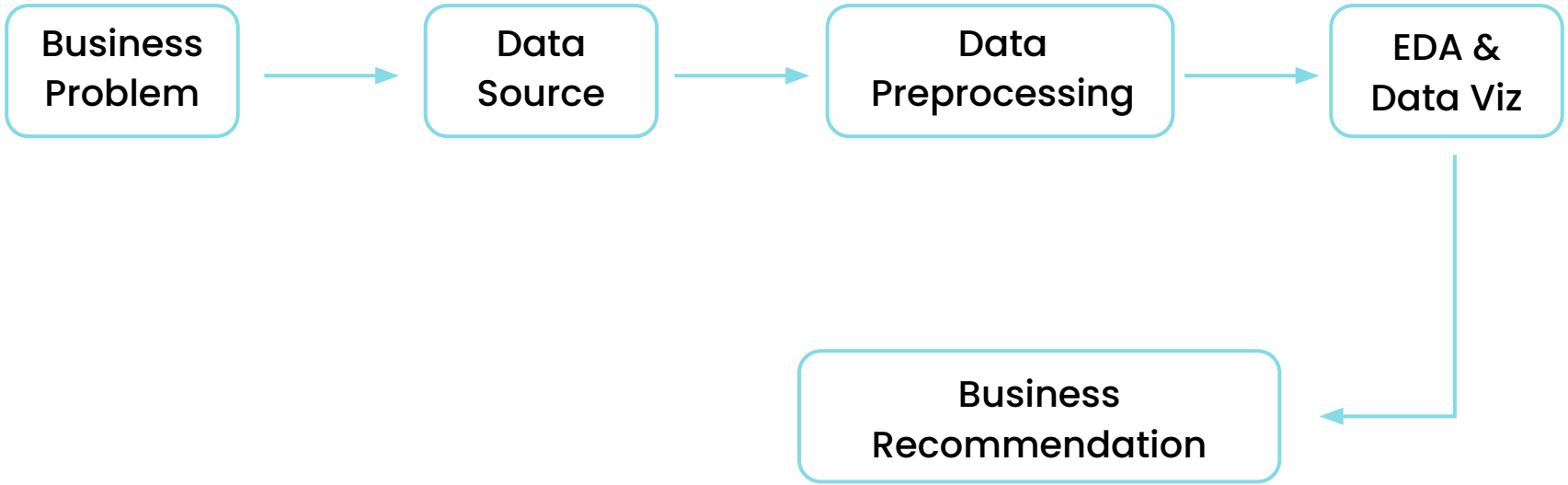
Dataset Description

This data presents the global fish production over the past **50 years**, incorporating both **aquaculture** and **capture fish** methods, spanning various regions worldwide

Column Description

1. **Entity** (Country name)
2. **Code** (Country international code)
3. **Year** (Year of data collection)
4. **Aquaculture Production** (Aquaculture production in metric tons)
5. **Capture Fisheries** (Capture Fisheries production in metric tons)

Dataset Steps



Data Analytics Tools

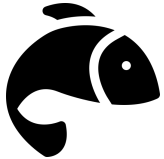
Google Spreadsheets are used for data storage and initial analysis before conducting a more in-depth analysis

Tableau is used in the process to visualize data and create data dashboards

Dataset Scope

The data spans from the year **1960 to 2018**

Data is taken from **216 countries** and **5 continents**



There are two techniques for fish production, **aquaculture**, and **capture fish**

Dataset Preparation

	A	B	C	D	E	F	G
1	Entity	Code	Year	Aquaculture	Capture fish		
2	Afghanistan	AFG	1969	60	400	Data kosong	5948
3	Afghanistan	AFG	1970	60	400		
4	Afghanistan	AFG	1971	60	500		
5	Afghanistan	AFG	1972	60	500		

The received data has **two empty** rows and columns, in addition to which there are also **5948 empty** data points without explanations.

We remove unnecessary columns and rows. Next, we **fill in 0 for empty values** in the Aquaculture and Capture Fish columns. The processed data is then transferred to new columns called Aquaculture Clean and Capture Fish Clean. Afterward, we **add a new column** called Range Year, which is useful for grouping each data based on its year range.

	A	B	C	D	E	F	G	H
1	Entity	Code	Year	Aquaculture	Capture fish	Aquaculture clean	Capture Clean	Range Year
2	Afghanistan	AFG	1969	60	400	60	400	1960-1970
3	Afghanistan	AFG	1970	60	400	60	400	1970-1980
4	Afghanistan	AFG	1971	60	500	60	500	1970-1980
5	Afghanistan	AFG	1972	60	500	60	500	1970-1980

Fill Blank Data

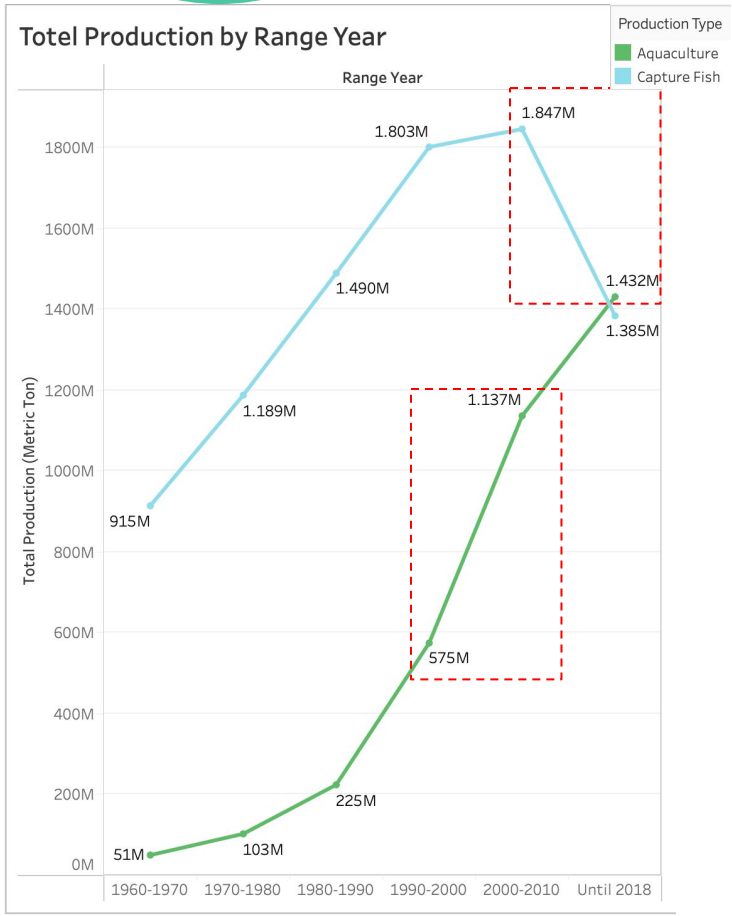
```
=IF(ISBLANK(D2),0,D2)
```

Group Range Year

```
=IF(AND(C2>=1960, C2<1970), "1960-1970",
IF(AND(C2>=1970, C2<1980), "1970-1980",
IF(AND(C2>=1980, C2<1990), "1980-1990",
IF(AND(C2>=1990, C2<2000), "1990-2000",
IF(AND(C2>=2000, C2<2010), "2000-2010", "Until " &
MAX(C:C) ) ) ) ) )
```

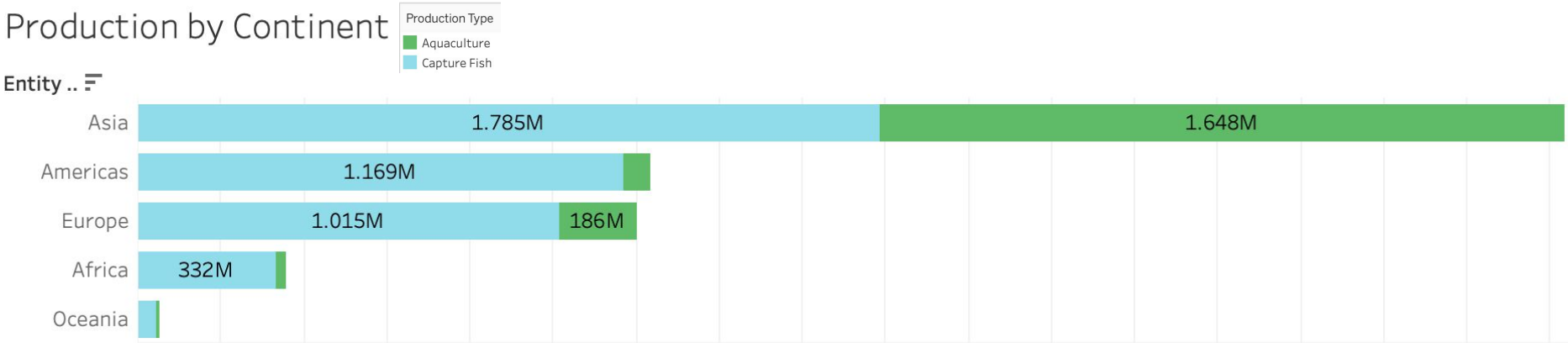
03 Exploratory Data Analysis (EDA)

Total Production



PT.QBZ achieved a total production of **12.152M** metric tons. Despite consistently **high** annual catch fish production, a consistent upward trend is evident in aquaculture production. The most **significant decline** occurred in the 20s compared to the subsequent decades for catch fish production, while aquaculture production continues to increase, with the highest production **increase** observed between the 90s and 20s.

Production by Continent

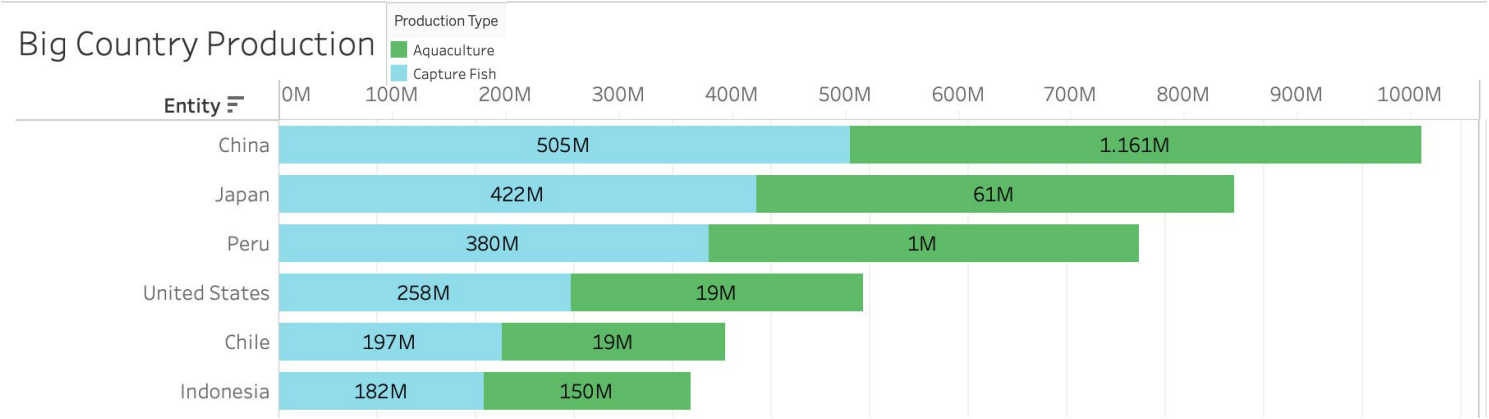


54 countries

3.433M (metric tons)

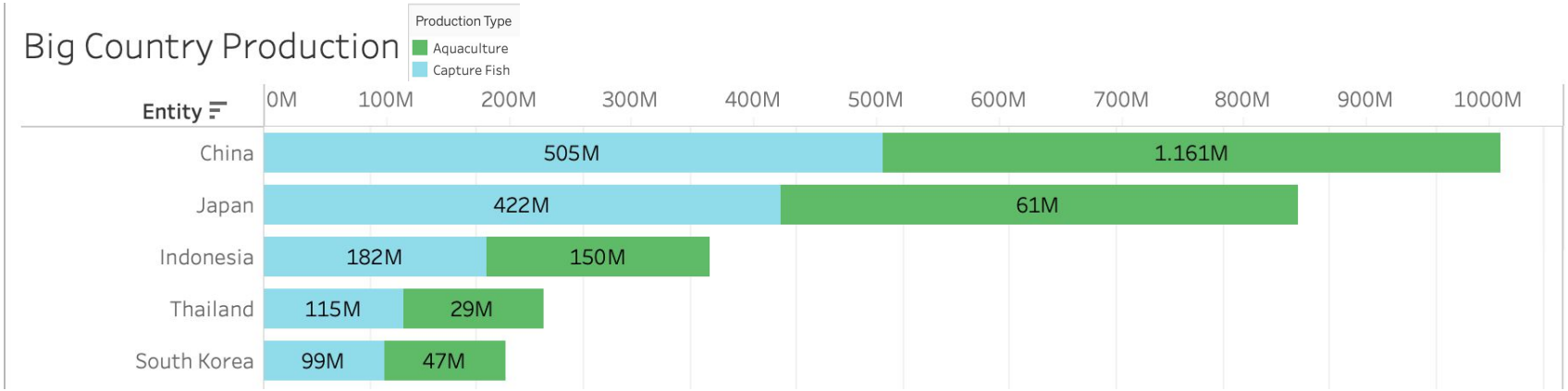
Asia leads in total production with a relatively small difference between capture fish and aquaculture production. Following closely are the continents of **America with 45 countries** and **Europe with 54 countries**, both showing high levels of production.

Big Country Production



Among the **top five countries**, only two are from Asia, while the other three are from the American continent. **Indonesia** ranks sixth, and similar to China, the difference between total aquaculture and capture fish production is **not significantly distinct.**

Asia Production

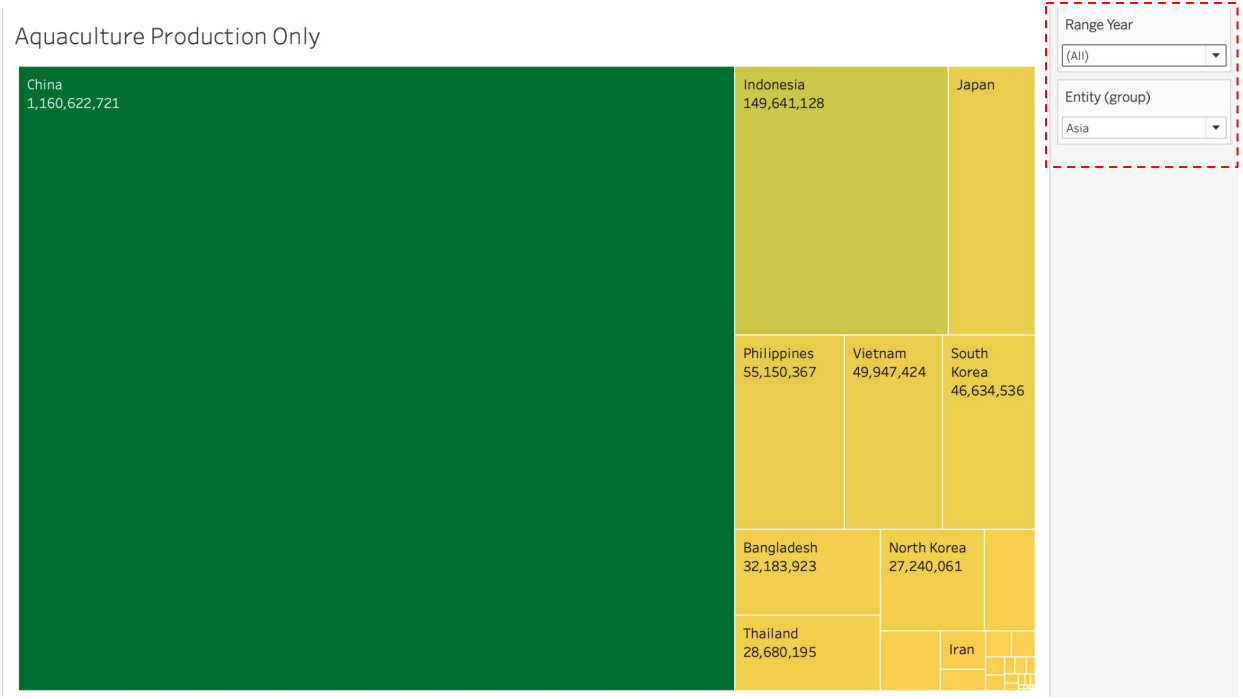


Among the top five **high-production** countries in Asia, Indonesia shows minimal value in production types, whereas China **stands out** with aquaculture production surpassing that of capture fish.

Total China Production :

1.666M (metric ton)

Asia Production



The total aquaculture production over time positions **Indonesia** among the **top two** countries with high production among other Asian nations.

03 Result & Conclusion

Result

1. Despite not having the largest total production through capture, **aquaculture** consistently demonstrates an **upward production trend**.
2. Three European countries with the widest *sea territories do **not have significant** fish production.
3. China, not among the top 5 countries with the largest sea territories, possesses substantial production capabilities and **effectively utilizes aquaculture**.
4. Indonesia, ranking 6th globally and third in Asia, proves **significant opportunities** for substantial **aquaculture** production.

*source

Business Recommendation

1. **Optimize Aquaculture Products**, maximize research and development efforts in technology to enhance the quality and efficiency of aquaculture products.
2. **Harness Indonesia's Potential,** establish production centers or facilities in various regions to fully leverage Indonesia's potential in aquaculture.
3. **Collaborate with Government and Communities**, collaborate with governmental bodies and local communities to minimize production expenses while maximizing income, fostering a sustainable and mutually beneficial partnership.
4. **International Expansion in Aquaculture Marketing**, expand internationally in marketing aquaculture products, considering factors that contribute to both production increase and reduction, particularly in China.

*source

Dashboard

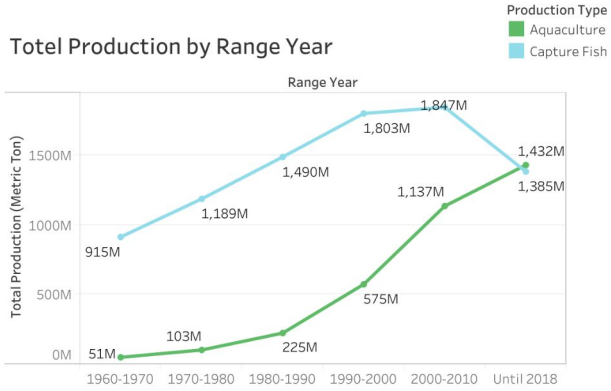
Aquaculture Opportunity Dashboard

Continent
All

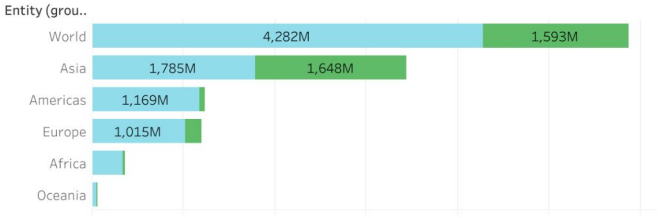
Range Year
All

Total Country	Total Aquaculture Production	Total Capture Fish Production
217	3,523M	8,629M

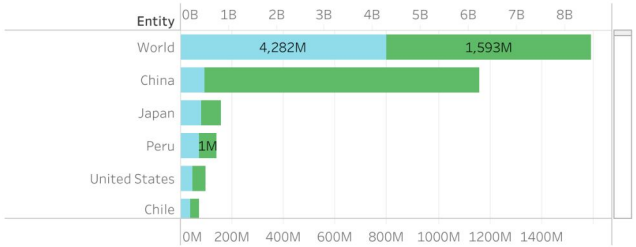
Totel Production by Range Year



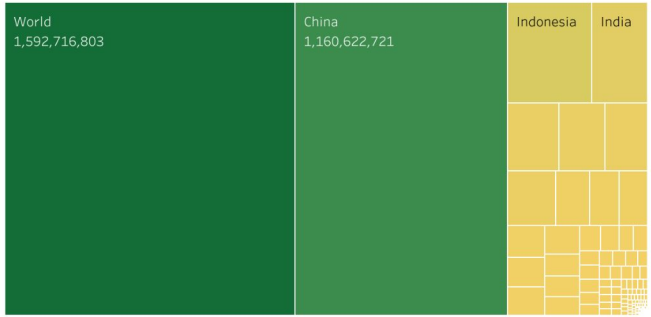
Production by Continent



Big Country Production



Aquaculture Production Only



*source

Thank You