



Tilapia health: *quo vadis?*

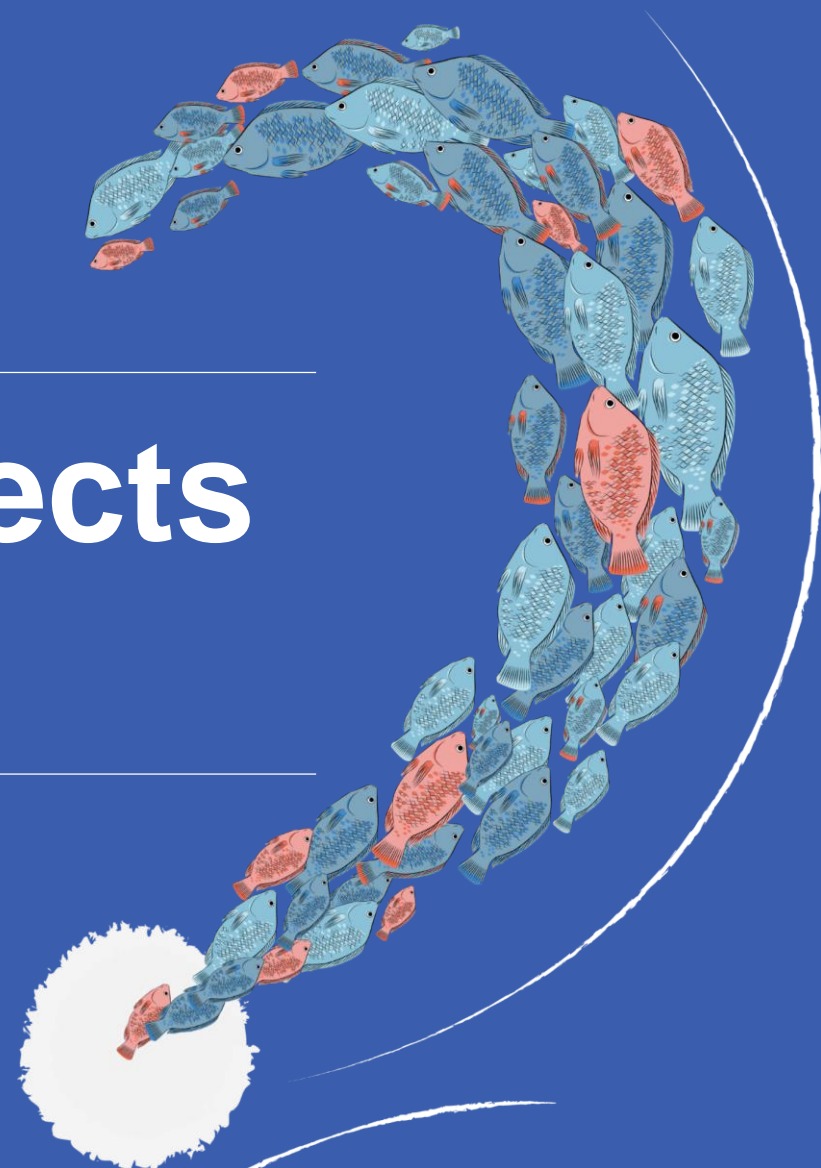
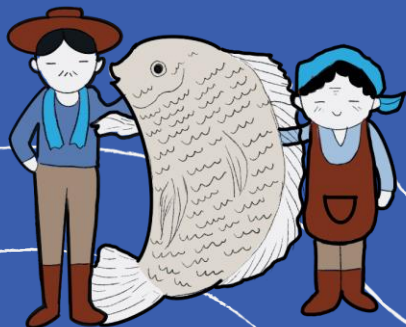
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Tilapia farming: prospects of the future




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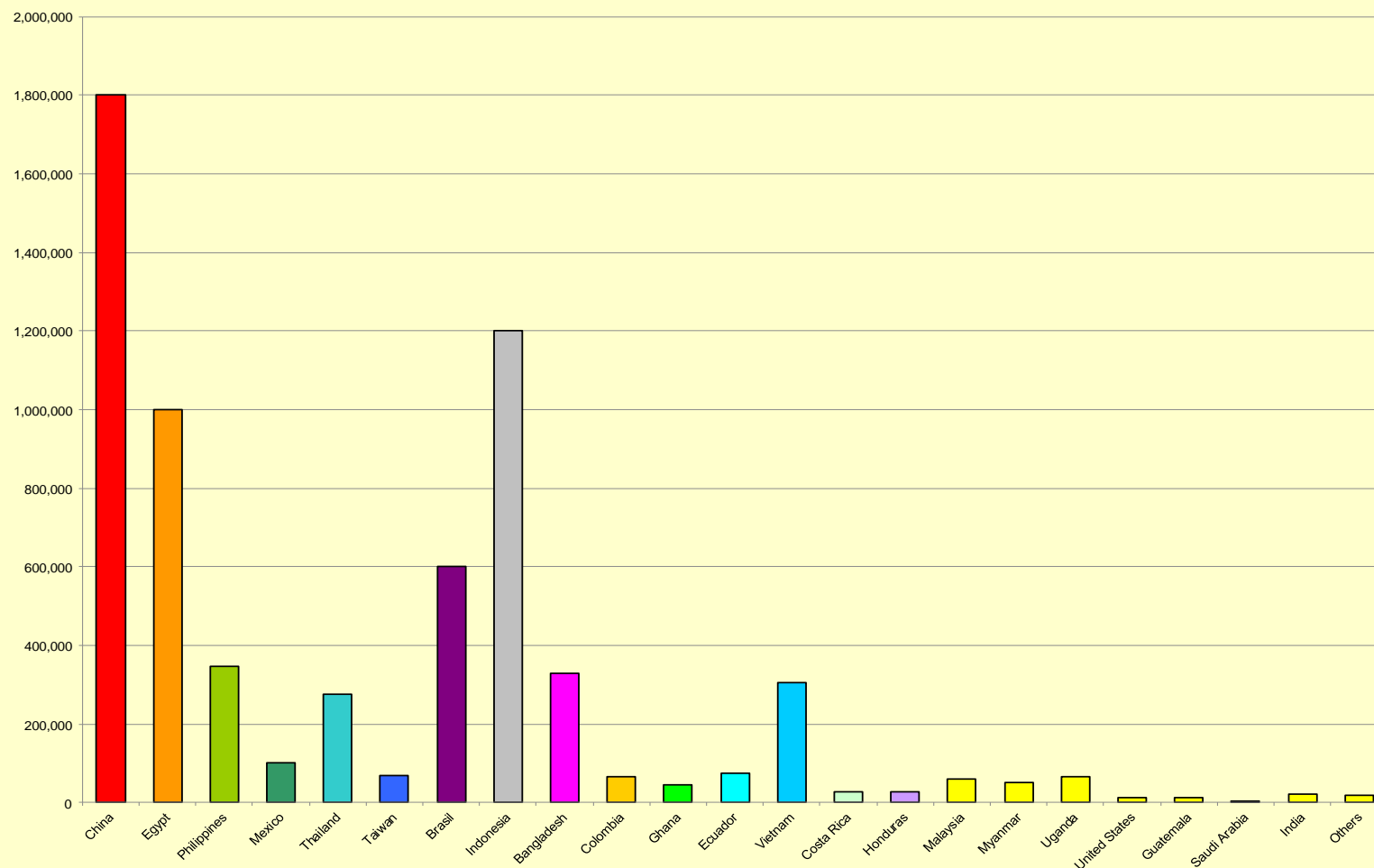


TILAPIA PRODUCTION CONTINUES TO EXPAND

-  **Tilapia statistics reported from +120 countries**
-  **China is world's largest producer, consumer, and exporter**
-  **Indonesia, Egypt, Brazil, Bangladesh, Philippines, Thailand, Vietnam are all major producers**



World Tilapia Production of 6,928,400 mt in 2020

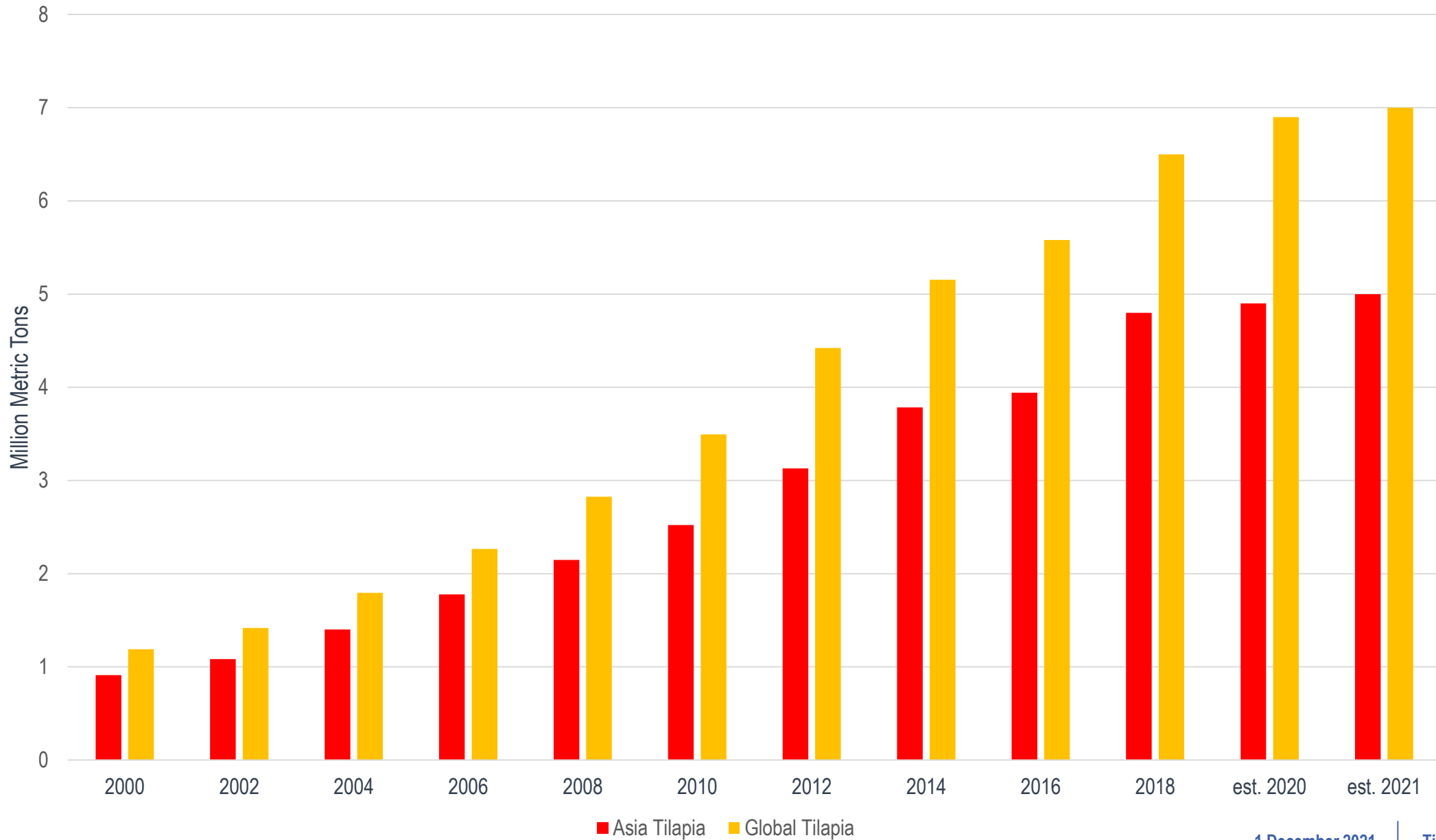


REGIONS OF RAPID PRODUCTION GROWTH

-  **Indonesia – cage culture, polycultures, rice culture**
-  **Egypt – cage and pond culture, Chinese investment with vertical integration**
-  **Bangladesh – government support and private sector investment**
-  **Brazil – water, environment, investment and human capital**
-  **Philippines – strong domestic markets, technology development**
-  **Vietnam – rapid intensification, government support**
-  **India – lots of available water, labor, land, feed, government regulations in place**
-  **Malaysia – strong government and private investment**
-  **Myanmar – private sector investment, GIFT introduced**

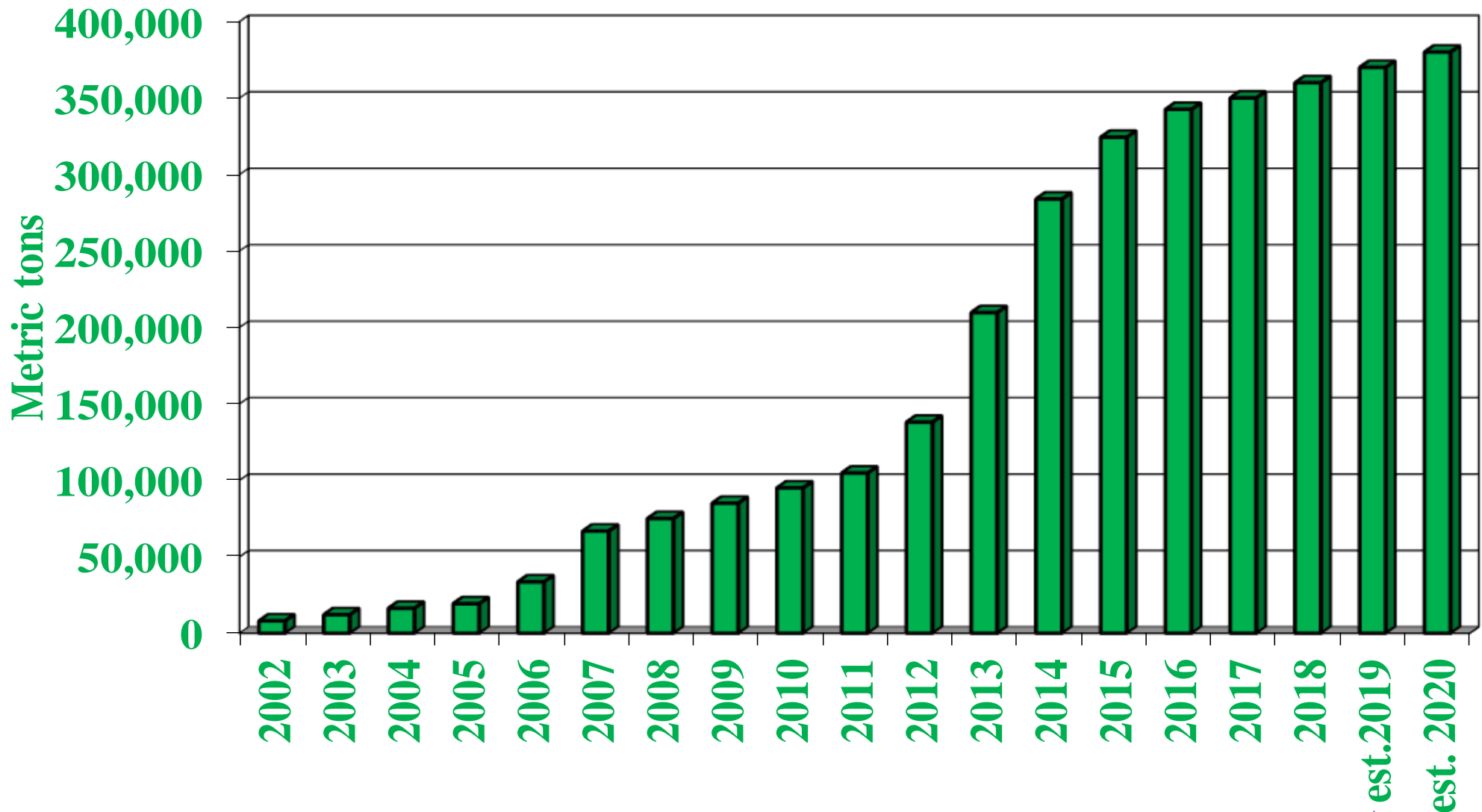


TILAPIA PRODUCTION IN ASIA AND GLOBAL



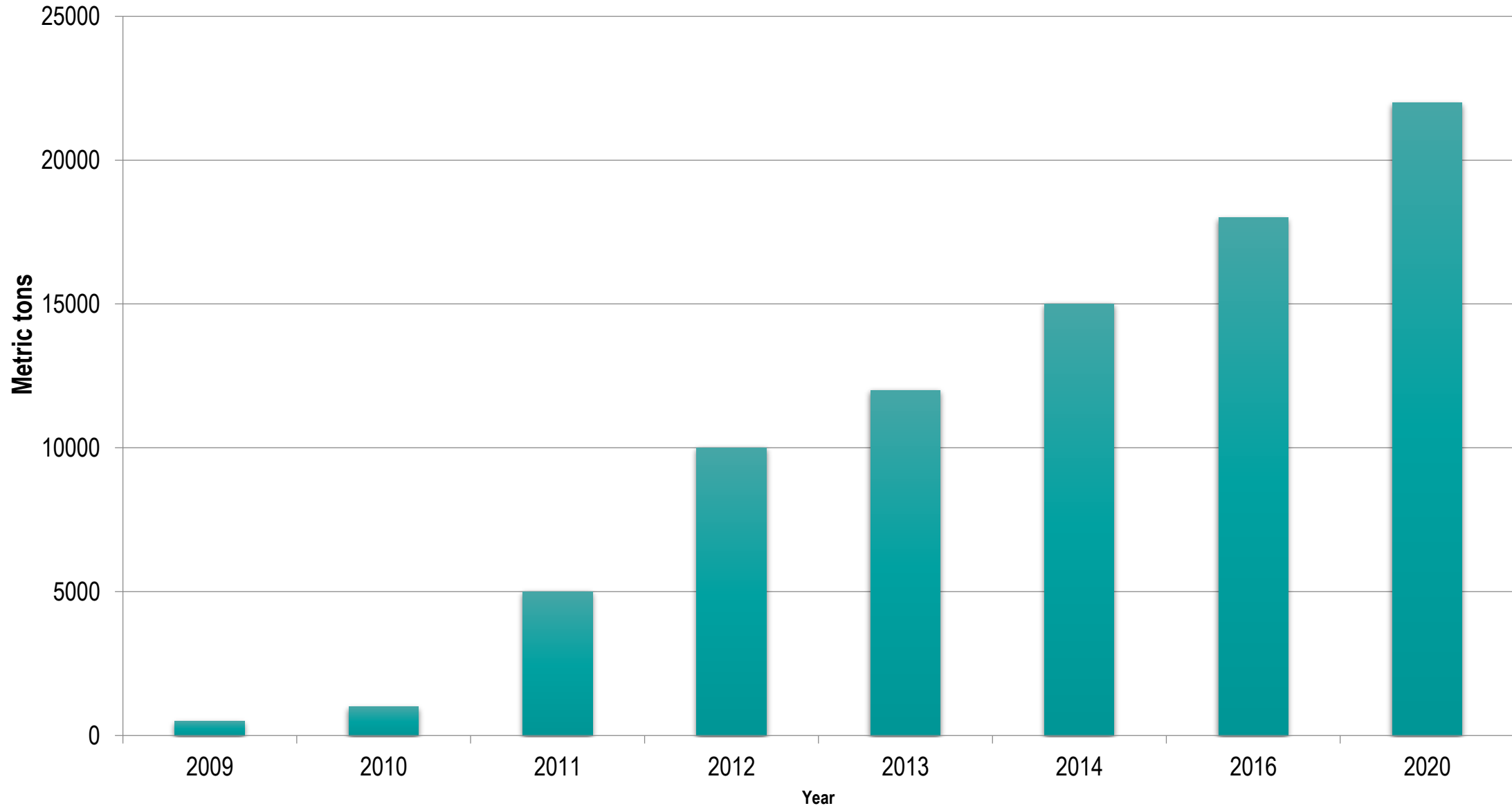


BANGLADESH TILAPIA AQUACULTURE



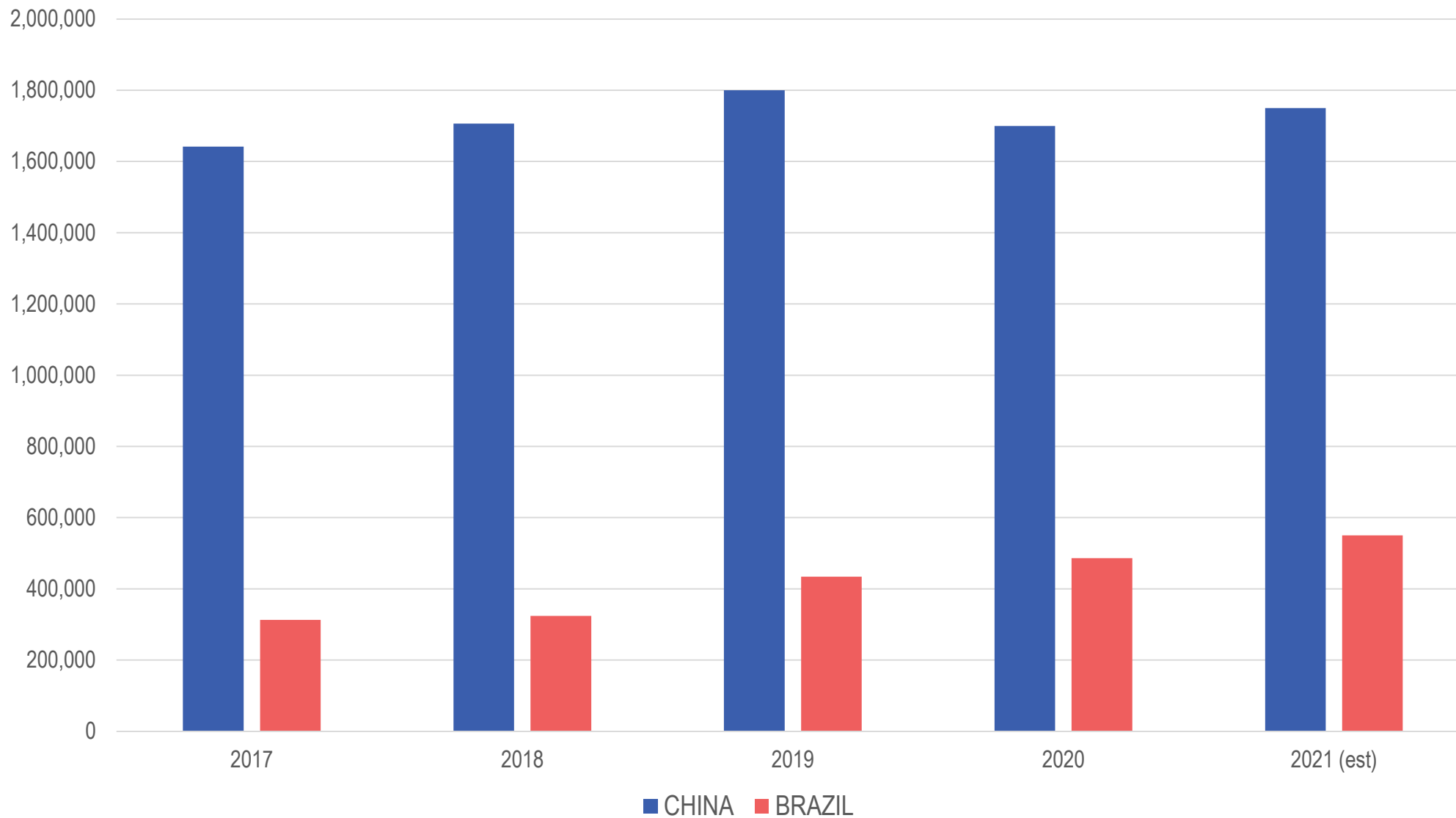


TILAPIA PRODUCTION IN INDIA











CHINA AND BRAZIL TILAPIA PRODUCTION





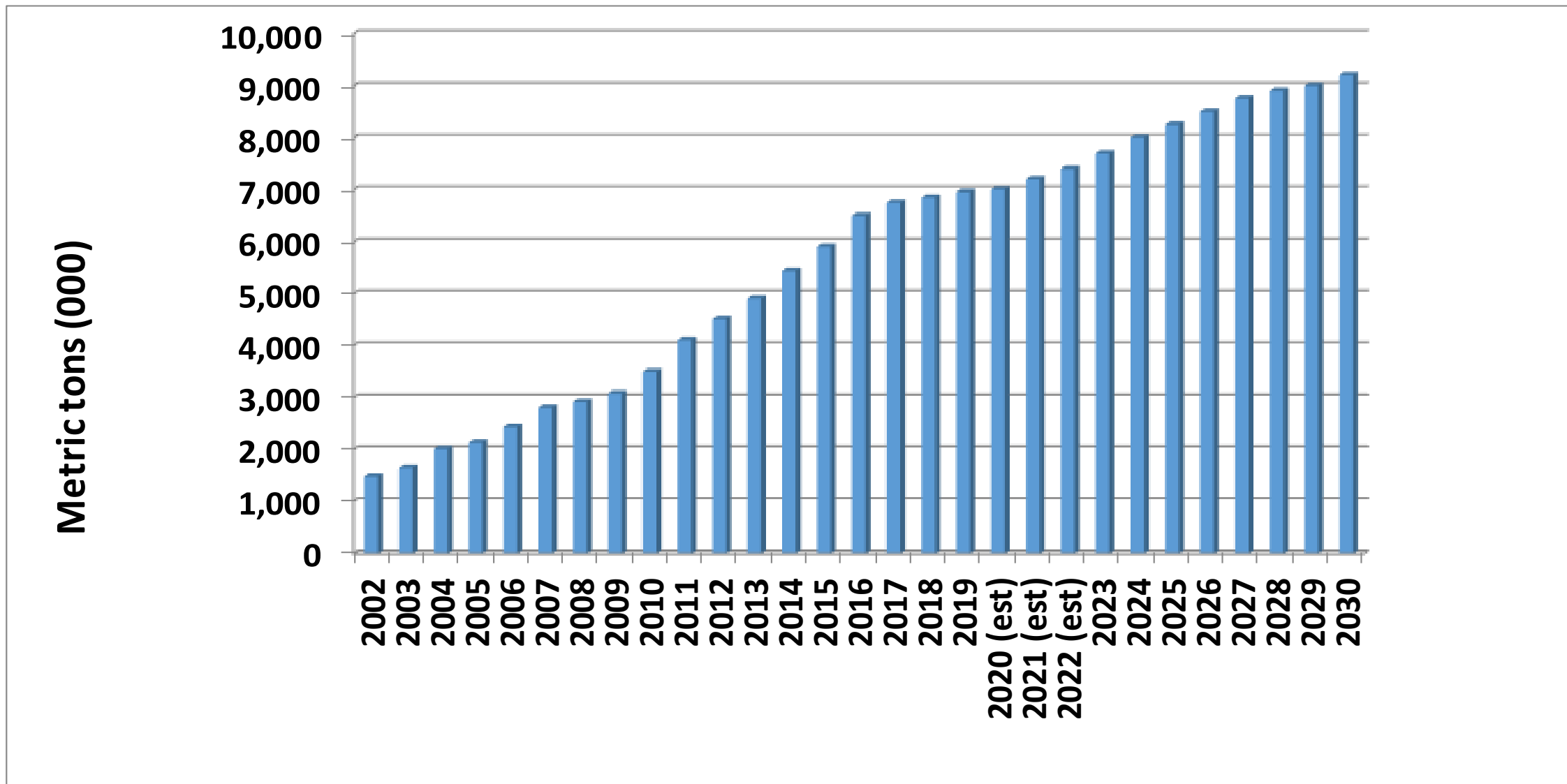
FUTURE OF CHINA AND BRAZIL TILAPIA PRODUCTION

-  China production stagnating
 -  China cost of production rising quickly,
 -  China, US market with 25% tariff,
 -  China, domestic market growing,
 -  China, production mostly in sub-tropical south
-
-  China, probably near max production

- Brazil production increasing
 - Brazil cost of production rising slowly
 - Brazil, US market with 0% tariff
 - Brazil, domestic market growing
 - Brazil, most of country with ideal conditions
-
- Brazil, only country that could exceed China



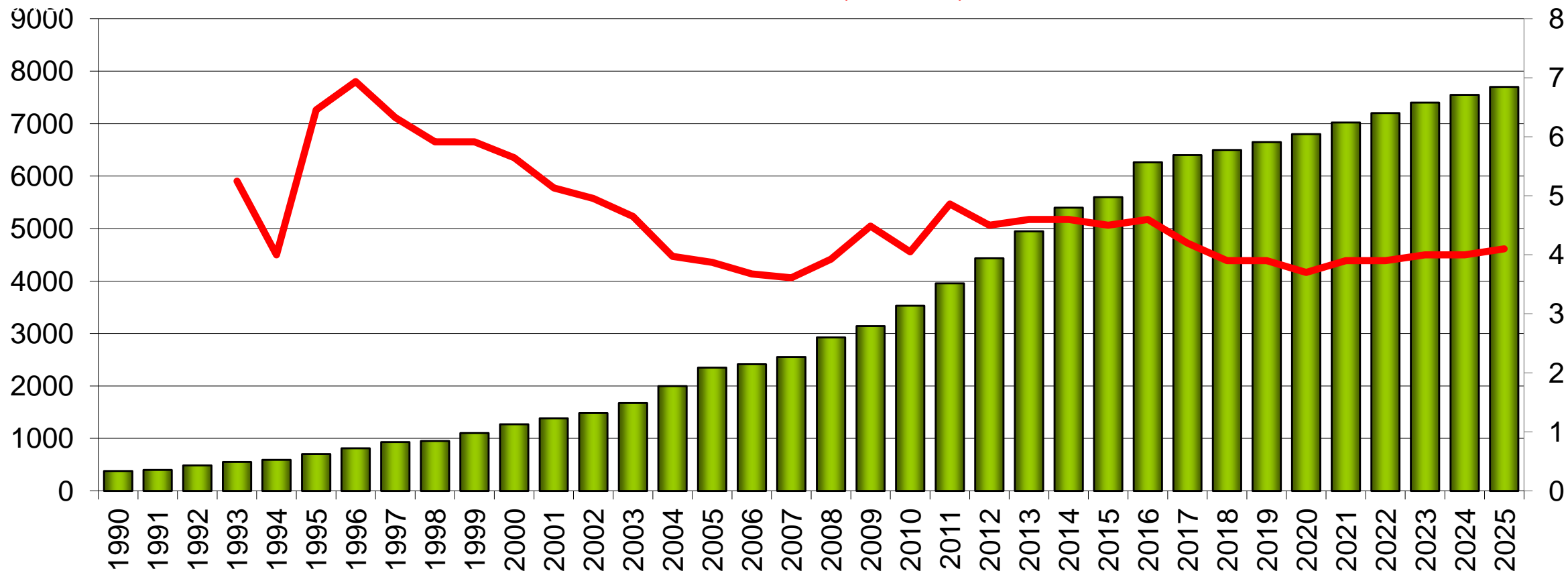
GLOBAL TILAPIA PRODUCTION





GLOBAL SUPPLY AND DEMAND FOR TILAPIA PRODUCTS

REAL PRICE (USD/KG)





GLOBAL AQUACULTURE TILAPIA FARMGATE SALES US \$

🐟 2000 sales = US \$ 1,615,375,000

🐟 2005 sales = \$ 2,260,850,000

🐟 2010 sales = \$ 6,215,177,000

🐟 2015 sales = \$ 10,916,427,000

🐟 2019 sales = \$ 12,346,844,000

🐟 2030 sales > \$ 25,000,000,000



MORE MARKETING OF LIVE FISH



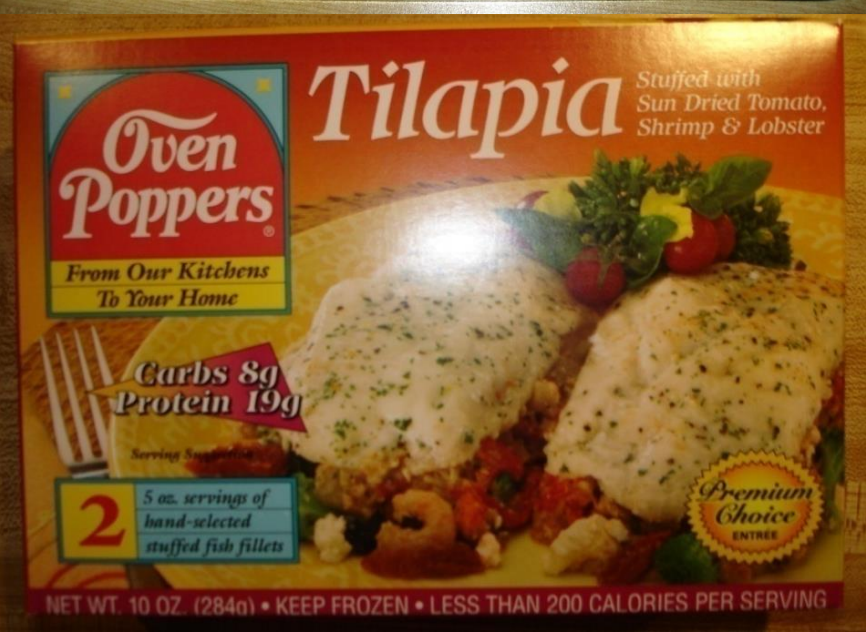


FROZEN TILAPIA FILLETS









READY TO COOK TILAPIA MEALS



VALUE ADDED SMOKED TILAPIA



TILAPIA AND FOOD SERVICE

-  On almost all cruise ships
-  Starting to appear on airlines
-  Increasingly with schools, nursing homes, hospitals and prisons
-  Several prisons have their own tilapia farms





TILAPIA FOR FAST FOOD

Tilapia in Long John Silver's

McDonald's and other fastfoods could double tilapia global demand





CERTIFICATIONS FOR TILAPIA PRODUCTS

ways that have less impact on the environment.

Tilapia
All Recommendations for Tilapia

SEARCH AGAIN

Search seafood

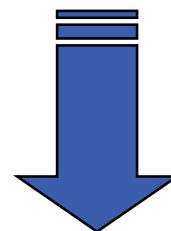
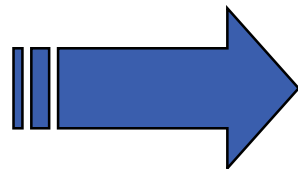
REFINE YOUR SEARCH

Where's it from?
Select one

Category	Type	Method	Location
BEST CHOICE	Tilapia, Farmed Izumidal, Saint Peter Fish	Closed tanks	U.S.
BEST CHOICE	Tilapia, Farmed Izumidal, Saint Peter Fish	Closed tanks	Canada (MDM Aque Farms, Alberta)
BEST CHOICE	Tilapia, Farmed Izumidal, Saint Peter Fish	Ponds	Ecuador
BEST CHOICE	Tilapia, Farmed Izumidal, Saint Peter Fish	Raceways	Peru
GOOD ALTERNATIVE	Tilapia, Farmed Izumidal, Saint Peter Fish	Ponds	China
GOOD ALTERNATIVE	Tilapia, Farmed Izumidal, Saint Peter Fish	Ponds	Taiwan
GOOD ALTERNATIVE	Tilapia, Farmed Izumidal, Saint Peter Fish	Net pens	Mexico (Regal Springs Farms)
GOOD ALTERNATIVE	Tilapia, Farmed Izumidal, Saint Peter Fish	Net pens	Indonesia

- International consumers often request certification before purchasing
- Several certification programs are now available
- Aquaculture Stewardship Council
- Best Aquaculture Practices
- Global GAP (Good Aquaculture Practices)
- Seafood Watch

BYPRODUCTS - TILAPIA LEATHER





TILAPIA SCALES FOR FLOWERS AND SKINS FOR SHOES





TILAPIA SKIN FURNITURE FROM BRAZIL





2022-2030 GLOBAL MARKET TRENDS FOR TILAPIA

- 🐟 Increase in demand for all forms of tilapia
- 🐟 Demand increase will be greatest for frozen fillets
- 🐟 Demand increase will be significant for fresh fillets
- 🐟 High profit margin for prepared meals assembled and packaged in producing countries
- 🐟 In US and globally, tilapia consumption is still only two fish per capita per year. Lots of opportunity to replace one burger or one chicken dish per year.

TILAPIA ARE THE “CHICKENS” OF SEAFOOD

🐟 Tilapia has long been called the aquatic chicken.

🐟 Instead.....in future

🐟 Maybe this will be called the “terrestrial tilapia”

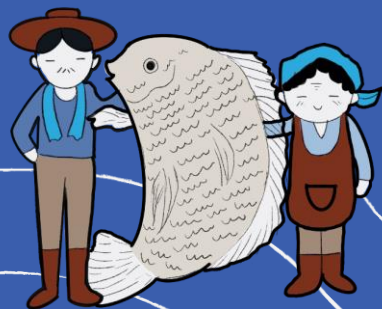




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THANK YOU QUESTIONS?



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