



## ***“From the Sea”***

**A presentation for Investors**

**The future of our business**

**November 2023**



# Plentex – For Investors

## Plentex Limited

**ABN 13 009 607 676**

**Plentex is developing a broad based sustainable aquaculture business in the Philippines, and is uniquely placed to play a significant role in livestock methane emission reduction in Australia and other countries**

Plentex is currently undertaking a Series A issue of Convertible Preference Shares to raise up to \$4,750,000 to fund its business plan and has issued a detailed Information Memorandum – November 2023 which is available to prospective investors upon request.

This Presentation is designed to supplement and summarise the business plan outlined in the Information Memorandum”.

**CONFIDENTIAL**



# Important Notice

This Presentation is based on the Information Memorandum (IM) which has been prepared by Plentex Limited (“Plentex” or “the Company”) to provide prospective investors with information to assist them in their decision to subscribe for the Convertible Preference Shares being offered under the terms proposed by Plentex’s Series A Capital Raising round. A copy of the Information Memorandum will be provided to any potential investor on request therefor.

This document is important and should be read in its entirety. This investment round is limited to non-disclosure exempt investors under Section 708 of the Corporations Act and those exempt under equivalent laws in other jurisdictions. Accordingly, it is not required to be lodged with or reviewed by the Australian Securities and Investments Commission.

Potential Investors are advised to consult their professional advisors for the purposes of making an informed assessment as to whether to participate in the Series A Capital Raising Round.

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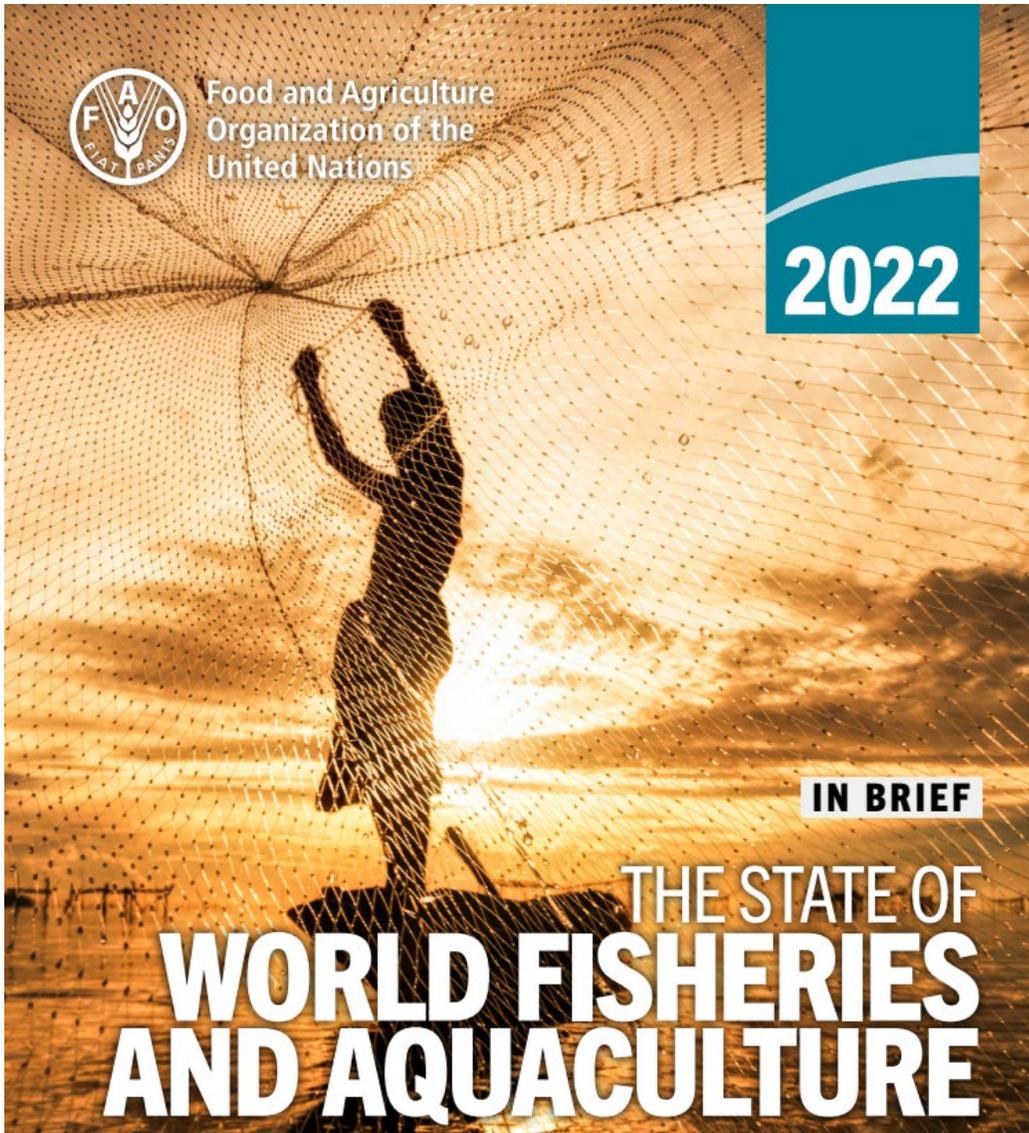
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AN INVESTMENT IN PLENTEX SHOULD BE CONSIDERED SPECULATIVE



# Why Aquaculture ?



**The world's consumption of aquatic foods has increased significantly in recent years and will continue to rise.** Global consumption of aquatic foods (excluding algae) has increased at an average annual rate of 3.0 percent since 1961, compared with a population growth rate of 1.6 percent. On a per capita basis, consumption of aquatic food grew from an average of 9.9 kg in the 1960s to a record high of 20.5 kg in 2019, while it slightly declined to 20.2 kg in 2020. Rising incomes and urbanization, improvements in post-harvest practices and changes in dietary trends are projected to drive a 15 percent increase in aquatic food consumption, to supply on average 21.4 kg per capita in 2030.

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# Why Aquaculture ?

**Aquaculture has great potential to feed and nourish the world's growing population. But growth must be sustainable.** In 2020, global aquaculture production reached a record 122.6 million tonnes, with a total value of USD 281.5 billion. Aquatic animals accounted for 87.5 million tonnes and algae comprised 35.1 million tonnes. In 2020, driven by expansion in Chile, China and Norway, global aquaculture production grew in all regions except Africa, due to a decrease in the two major producing countries, Egypt and Nigeria. The rest of Africa enjoyed 14.5 percent growth from 2019. Asia continued to dominate world aquaculture, producing 91.6 percent of the total. Aquaculture growth has often occurred at the expense of the environment. Sustainable aquaculture development remains critical to supply the growing demand for aquatic foods.



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# Why Aquaculture ?

**Global fisheries and aquaculture production is at a record high and the sector will play an increasingly important role in providing food and nutrition in the future.** Total fisheries and aquaculture production reached a record 214 million tonnes in 2020, comprising 178 million tonnes of aquatic animals and 36 million tonnes of algae, largely due to the growth of aquaculture, particularly in Asia. The amount destined for human consumption (excluding algae) was 20.2 kg per capita, more than double the average of 9.9 kg per capita in the 1960s. An estimated 58.5 million people were employed in the primary sector. Including subsistence and secondary sector workers, and their dependents, it is estimated that about 600 million livelihoods depend at least partially on fisheries and aquaculture. The international trade of fisheries and aquaculture products generated around USD 151 billion in 2020, down from the record high of USD 165 billion in 2018 mainly due to the outbreak of COVID-19.



# Why Aquaculture ?

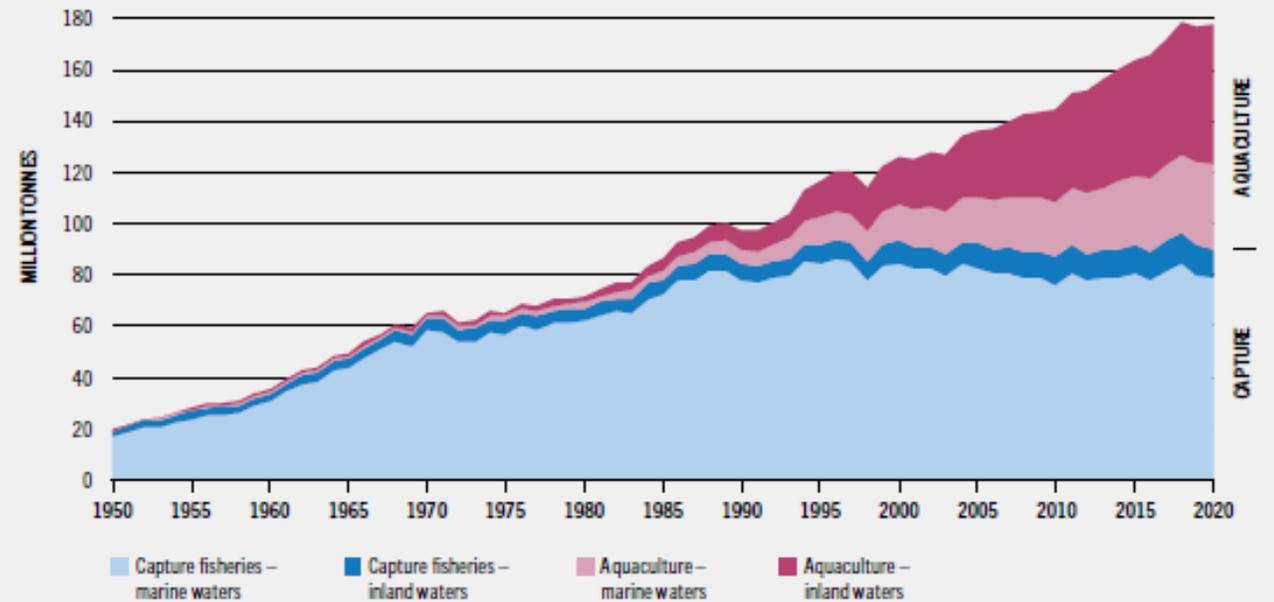
**Fishery resources continue to decline due to overfishing, pollution, poor management and other factors, but the number of landings from biologically sustainable stocks is on the rise.** The fraction of fishery stocks within biologically sustainable levels decreased to 64.6 percent in 2019, 1.2 percent lower than in 2017. However, 82.5 percent of the 2019 landings were from biologically sustainable stocks, a 3.8 percent improvement from 2017. Rebuilding overfished stocks could increase fisheries production by 16.5 million tonnes and raise the contribution of marine fisheries to the food security, nutrition, economic growth and well-being of coastal communities.



# Why Aquaculture ?

**Aquatic animal production is forecast to grow another 14 percent by 2030.** It is vital this growth goes hand in hand with safeguarding ecosystems, reducing pollution, protecting biodiversity and ensuring social equity. FAO's outlook for fisheries and aquaculture to 2030 projects an increase in production, consumption and trade, albeit at slower growth rates. Total production of aquatic animals is expected to reach 202 million tonnes in 2030, thanks mainly to sustained growth of aquaculture, projected to reach 100 million tonnes for the first time in 2027 and 106 million tonnes in 2030. World capture fisheries is projected to recover, increasing by 6 percent from 2020 to reach 96 million tonnes in 2030, as a result of improved resource management, underfished resources, and reduced discards, waste and losses.

**FIGURE 1** WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION

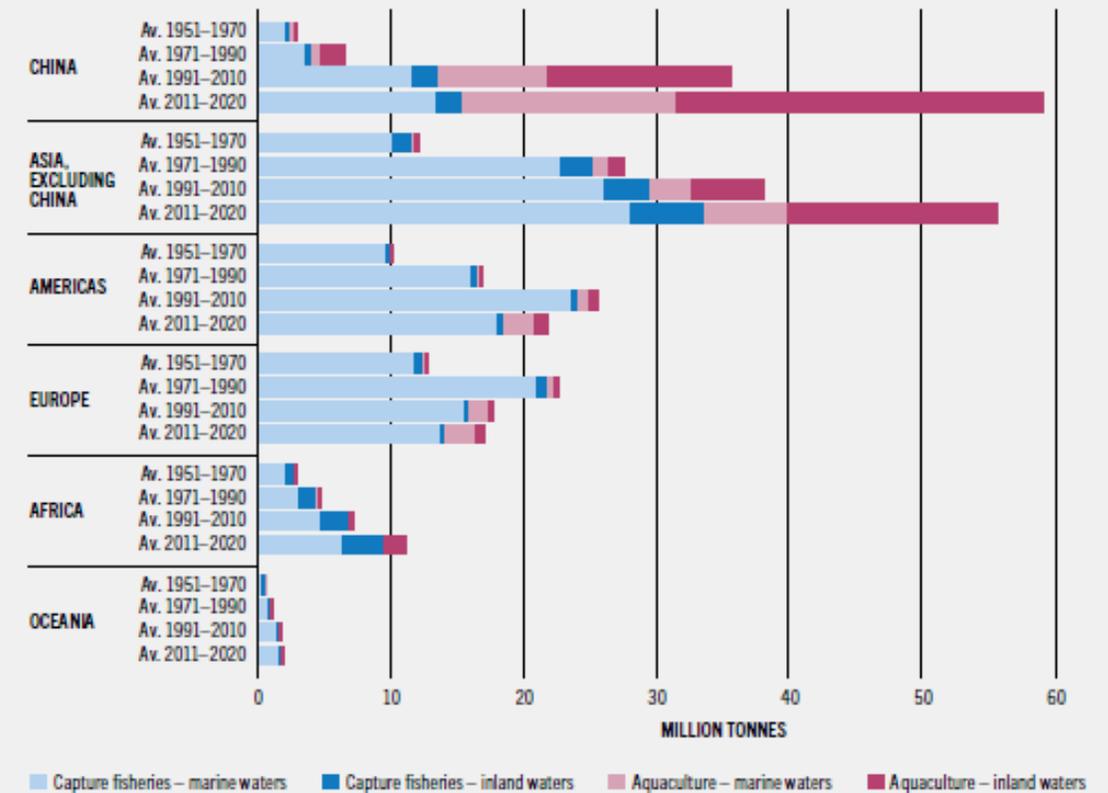


NOTES: Excluding aquatic mammals, crocodiles, alligators, caimans and algae. Data expressed in live weight equivalent.  
SOURCE: FAO.

# Why Aquaculture ?

**Aquatic food systems are a powerful solution. Blue Transformation can meet the twin challenges of food security and environmental sustainability.** FAO is committed to Blue Transformation, a visionary strategy that aims to enhance the role of aquatic food systems in feeding the world's growing population by providing the legal, policy and technical frameworks required to sustain growth and innovation. Blue Transformation proposes a series of actions designed to support resilience in aquatic food systems and ensure fisheries and aquaculture grow sustainably while leaving no one behind, especially those communities that depend on the sector. Climate- and environment-friendly policies and practices, as well as technological innovations, are critical building blocks for Blue Transformation.

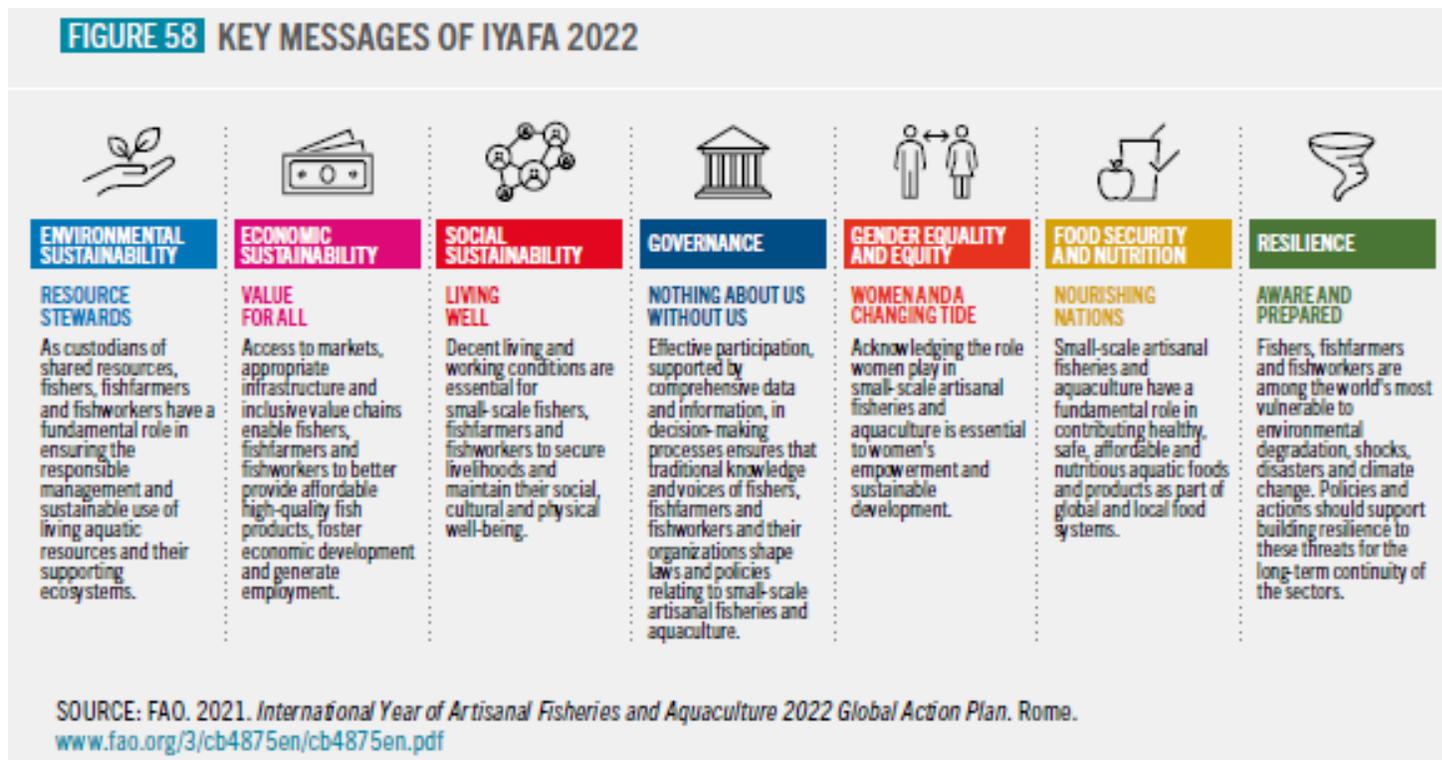
**FIGURE 5 REGIONAL CONTRIBUTION TO WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION**



NOTES: Excluding aquatic mammals, crocodiles, alligators and caimans and algae. Data expressed in live weight equivalent.  
SOURCE: FAO.

# Why Aquaculture ?

Blue Transformation requires a commitment from the public and private sectors if we are to achieve the United Nations 2030 Agenda, particularly since the COVID-19 pandemic has reversed previously favourable trends. Blue Transformation requires a commitment from governments, the private sector and civil society to maximize the opportunities that fisheries and aquaculture offer. Blue Transformation seeks to promote sustainable aquaculture expansion and intensification, effective management of all fisheries, and upgrading of aquatic value chains. Proactive public and private partnerships are needed to improve production, reduce food loss and waste and enhance equitable access to lucrative markets. Furthermore, inclusion of aquatic foods in national food security and nutrition strategies, together with initiatives to improve consumer awareness on their benefits, is needed to increase availability and improve access.



# Why Aquaculture in the Philippines?

The Philippines has an established aquaculture industry covering a range of products.

However marine catch is declining, commercial fisheries catch is declining and overall aquaculture production is static.

Marine fish cage production is growing rapidly and we believe this is a continuing trend supported by low-cost skilled labour, high sea water quality and low initial capital cost.

Growth in farmed seaweed production is also a big opportunity for the species selected by Plentex

Sector	2017	2018	2019	2020	2021
<b>All Sectors</b>	<b>4,312.1</b>	<b>4,356.9</b>	<b>4,415.0</b>	<b>4,400.4</b>	<b>4,248.3</b>
<b>Commercial Fisheries</b>	<b>948.3</b>	<b>946.4</b>	<b>931.5</b>	<b>975.2</b>	<b>870.0</b>
<b>Municipal Fisheries</b>	<b>1,126.0</b>	<b>1,106.1</b>	<b>1,125.2</b>	<b>1,102.3</b>	<b>1,132.0</b>
Marine	962.1	941.9	968.8	952.2	926.4
Inland	163.9	164.2	156.5	150.1	205.6
<b>Aquaculture</b>	<b>2,237.8</b>	<b>2,304.4</b>	<b>2,358.3</b>	<b>2,322.9</b>	<b>2,246.3</b>
Brackishwater Fishpond	343.8	325.5	345.2	344.2	364.4
Brackishwater Fish cage	0.9	1.3	1.2	1.4	1.7
Brackishwater Fish pen	2.8	2.9	1.9	1.0	1.5
Freshwater Fishpond	156.5	161.5	163.2	170.9	180.3
Freshwater Fishcage	95.7	103.3	103.2	74.0	80.2
Freshwater Fish pen	62.8	57.6	54.6	39.9	38.3
Marine Fish cage	106.8	109.0	119.0	149.7	170.6
Marine Fish pen	11.0	9.9	8.3	0.8	1.0
Oyster	22.9	28.7	36.2	53.0	40.8
Mussel	19.2	26.3	25.4	19.2	23.7
Seaweed	1,415.3	1,478.3	1,500.0	1,468.7	1,343.7
Small Farm Reservoir	0.1	0.1	0.1	0.1	0.1
Rice Fish	0.003	0.0030	0.005	0.005	0.005

Source: PSA

Almost no change in 5 years

59.7 % increase since 2017

5.1 % decrease since 2017

**Plentex**

# Plentex – Our Progress

- Around 2010 Plentex became involved in R&D aimed at producing biofuels and high value nutraceuticals from microalgae, the development of novel aquafeeds and several years later embarked on establishing its current aquaculture and agriculture projects in the Philippines
- Established land ownership and operating companies in the Philippines and acquired the hatchery and other development land with the purpose of developing algae production and other aquatic production
- Plentex has properties in Leyte and Samar ready for development including fish farming (initial production) and R&D with seaweeds (Halymenia) and ProEnK protein enhancement technology.
- In 2018 Plentex and Plentex Philippines Inc. (PPI) entered into agreements with AgriNurture Inc. (ANI) with ANI currently the company's largest single shareholder – ANI were to provide A\$3 million in funding but has failed to complete this investment
- Plentex will divest the land assets in the Philippines at a substantial capital gain in order to provide initial funding for Aquaculture business plans
- Commence implementation of our business plan based on land and sea-based fish farming operations in the Philippines and near-shore seaweed growing and processing for food and specialised extracts
- Undertaking to list on ASX or AIM to fund project development and offer a potentially liquid investment with substantial returns for investors



# Plentex – People

## **Mr. Peter Streader – Executive Chairman**

- Long career as a solicitor, barrister, in-house corporate counsel and company executive
- 10 years ultimately holding the position of General Counsel and Company Secretary of the Australian subsidiary of Fluor Corporation
- Founded or Co-founded and held key Executive roles eight ASX listed companies
- Executive Chairman of Plentex



## **Mr. Michael McMahon – Executive Director Philippines Operations**

- Successful entrepreneur, fifth generation Australian farmer with extensive experience in the finance brokering industry
- Established a Hong Kong based company in 2012 which developed of a substantial fish hatchery near Tacloban City which was successfully brought into production in 2013
- GM Plentex Philippines Operations since 2015
- Former broad-acre rice farmer in New South Wales



## **Mr. Neil Grimes MBA CPA – Managing Director**

- Founding Director of Mannerim Partners management consultants, and has worked with Plentex since 2016
- Chairman of Pulse Mining Systems
- Focussed on new business development projects and has worked in Mining, Mining Services, Aviation, Aged Care and Agri-processing
- Former Lieutenant Colonel in Australian Army (Reserve) and former Director of the Australia Philippines Business Council



## **DR. LEODEVICO (VIC) L. ILAG – Non-Executive Director**

- Vic has extensive research and technical experience in discovery, preclinical and clinical development of biologics and dietary/food ingredients (peptides, proteins, antibodies, natural products, agricultural waste streams) with applications in oncology, cardiovascular disease, CNS, infectious disease and metabolic diseases.
- Vic has a PhD in Microbiology/Immunology and did postdoctoral studies in structural biology.
- He is a founding director of Plentex's Philippine incorporated subsidiary, Plentex Philippines Inc., and each of its affiliates, Plentex Realty Inc., Plentex Agri-Milling Corporation and Plentex Aquafarms Corporation.
- Vic has recently been elected to be a Corresponding Member of the prestigious Philippine National Academy of Science and Technology (NAST PHL). The Academy serves as an advisor to the President of the Philippines and his Cabinet on matters relating to science and technology.



# Plentex – Business Plan

- Plentex Limited is an Australian public company with its headquarters in Cheltenham, a bayside suburb of Melbourne. The Company was previously listed on the Australian Stock Exchange. There are 53,824,301 fully paid shares on issue held by 3,644 shareholders spread throughout Australia and Internationally.
- Top 20 shareholders control 65.05% of issued shares.
- Plentex aims to be a major producer in the aquaculture industry in the Philippines to benefit our shareholders and contribute to the growth of the high-potential aquaculture sector in the Philippines and the well being of its citizens by providing food, skills and jobs.
- To achieve these objectives, Plentex plan to be;
  - **A significant producer of the red seaweed *Asparagopsis* which can play an important role in the reduction of global greenhouse emissions;**
  - **A substantial producer of Milkfish and seawater tolerant *Tilapia (Molobicus)*, fry and fingerlings for sale and distribution together with aquafeeds throughout Samar and Leyte Provinces; and**
  - **A substantial producer of Barramundi and *Molobicus* for sale in the Philippines and export to Australia and South-East Asian countries.**
- Plentex will also continue with the commercialisation of its Philippine R&D projects relating to the high value red seaweed, *Halymenia durvillei*, and the protein enhancement product known as ProEn-K.
- Plentex's Philippine aquaculture activities will be centered at our hatchery complex on Guintarcan Island, near Villareal, Samar, building on long standing relationships it has with the University of the Philippines, University of Philippines Visayas and Tarlac Aquaculture University, the South Australia Research and Development Institute (SARDI) and MainStream Aquaculture.



# Plentex – Capital Raising

## Offer of Convertible Preference Shares and Capital Raising Plan

- To fund this business plan, Plentex plans to initially raise up to **A\$4,750,000 by a Series A Capital Raising in Q4 2023 by issuing 4,750,000 Convertible Preference Shares at A\$1.00 per share.**
- To also supplement its funding needs, Plentex is divesting two blocks of commercial land which it owns at Suhi, Tacloban City on the island of Leyte, which have recently been independently valued at approximately A\$3,500,000.

These funds will enable Plentex to:

- Complete the refurbishment and expansion of its multi-species hatchery on Guintarcan Island
- Earn a 50% participating interest in the Fish Tech Joint Venture
- Purchase necessary farming equipment for both seaweed and fish production
- Advance its existing high potential R&D projects to commercial scale

And establish:

- Pre-commercial scale seaweed farms
- Commercial-scale finfish farms
- Confirm plans for an IPO

Further funds will be necessary to develop Plentex projects to their full commercial scale and become self sustaining, and subject to investment market conditions Plentex plans to carry out an IPO and seek listing on the ASX (or the AIM market in the UK) or such other recognized Stock Exchange as may be appropriate at the time, by no later than 31 December 2024.

At this stage an IPO capital raising would seek to raise a minimum of A\$10,000,000 (or equivalent on the AIM) by the issue of fully paid ordinary shares at a unit price of a minimum of A\$0.25 (25 cents -or equivalent on the AIM or other recognized Stock Exchange as the case requires).



# Plentex – Details of Offer

The Company is offering eligible investors the opportunity of subscribing for 4,750,000 Convertible Preference Shares of \$1.00 each with the intent of raising up to \$4,750,000. The Company reserves the right to accept oversubscriptions.

## Key Terms of the Convertible Preference Shares

The key terms of the Convertible Preference Shares are set out at page 55 of the Information Memorandum.

**Minimum Investment for new shareholders**                      \$10,000.00

## Offering period

Commencing in December 2023 and terminating on 29 February 2024 (“Termination Date”) unless closed earlier, or at the Company’s discretion, extended by up to an additional sixty (60) days.

## Use of Proceeds

Funds raised will be expended in accordance with the Use of Funds Statement set out at page 56 of the Information Memorandum.

The Company reserves the right to vary how funds will be applied if changed circumstances warrant a change or if there is a need to accelerate some particular activity.

## How to apply for Convertible Preference shares

To apply for Convertible Preference Shares in the Company, eligible investors must complete the Application Form (supplied by Plentex on request) and email the completed Application Form to the address listed. No brokerage or stamp duty is payable on the acquisition of Convertible Preference Shares pursuant to the Information Memorandum. For an Application Form contact the Company at: [admin@plentex.com.au](mailto:admin@plentex.com.au).

## Acceptance by Company of Applications

The Company reserves the right, in its absolute discretion, to accept or reject any application for Convertible Preference Shares in the Company, or to scale back the number of Convertible Preference Shares to be issued to investors. The Application form has in it the banking details for the wire (electronic) transfer of the investment funds to Plentex.

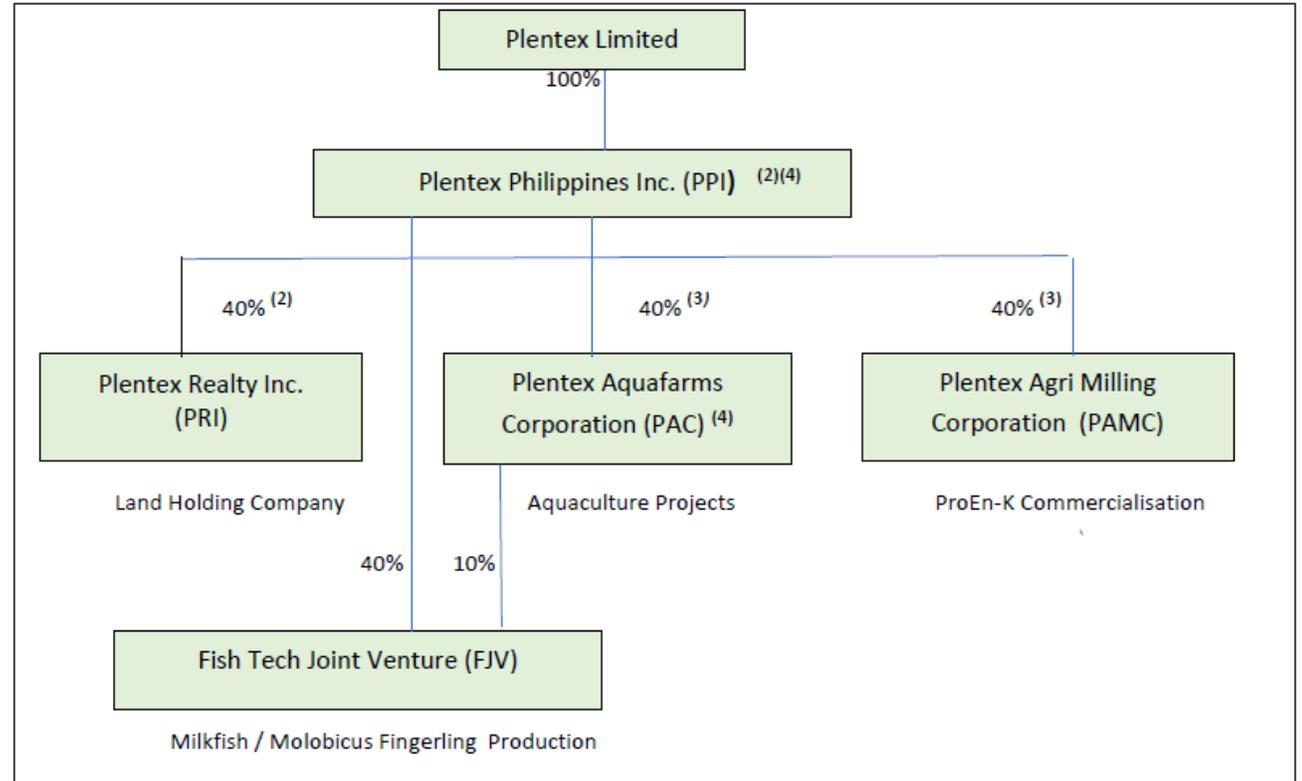
**General**            **This presentation is a summary of the main points in the Information Memorandum. The investment opportunity is presented in detail in the Information Memorandum. Investors should review all sections carefully and pay particular attention to “Section 13 – Risks and Risk Management”.**



# Plentex – Corporate Structure

## Notes:

- 1. Plentex Limited has two wholly owned Australian subsidiaries namely Plentex (Operations) Pty. Ltd. and Georgetown Mining Pty. Ltd. These companies are currently inactive and are not included in the above chart.
- 2. Plentex holds approximately 97% of the issued capital of PPI with the remaining 3% held by Plentex Directors (Messrs. P. Streader, N. Grimes and M. McMahon in trust for Plentex).
- 3. The remaining 60% of the issued capital of PRI, PAC and PAMC is held by Filipino Directors/Shareholders – Messrs. Gil Adora, Ceferino Garcia Jnr, Erwin Navarez and Leodevico Ilag.
- 4. PPI and PAC are earning a 40% and 10% participating interest respectively in this Joint Venture with the remaining 50% held by FishTech Aquaculture Corporation (FAC). Corporate details of FAC are provided in the Information Memorandum



# Plentex – Locations



# Seaweed Asparagopsis

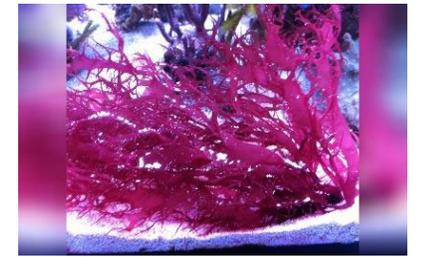
## Climate Change Methane reduction

- In a recent speech to the United Nations General Assembly in New York, the US President Joe Biden branded climate change as an existential threat to humanity. He said “record – breaking heat waves in the United States and China – Wildfires ravaging North America and southern Europe. A 50 year drought in the Horn of Africa. Tragic flooding in Libya that has killed thousands of people.
- The above comments tell an urgent story of what awaits us if we fail to reduce our dependence on fossil fuel and begin to climate-proof our world.”
- Plentex plans to play a significant role in climate-proofing activity by farming the red seaweed *Asparagopsis taxiformis* on a substantial scale at suitable locations in the Philippines which when included in feed, reduces emissions of harmful greenhouse gas (methane) from cattle and other ruminant animals.
- According to the International Energy Agency (IEA) methane emissions are responsible for around 30% of the rise in global temperature since the Industrial Revolution. Earlier this year the IEA released its annual Global Methane Tracker which showed that in 2022, agriculture was the largest source of methane emissions for Australia and the World.



*Asparagopsis taxiformis*

# Seaweed Asparagopsis



## A large and diverse range of applications and use of seaweed products.

- Australian CSIRO ruminant nutritionist Nigel Tomkins and marine biologist Rocky De Nys and his team at James Cook University in Queensland found that the red seaweed - *Asparagopsis*, contains bromoform (CHBr<sub>3</sub>) that inhibits fermentation in the gut of ruminant animals (beef and dairy cattle/sheep/goats/buffaloes and camels).
- As a feed supplement it can reduce methane emissions from cattle by 80% or more. Many seaweeds have a beneficial effect on methane production in animals, but *Asparagopsis* is the star performer insofar as it appears to be the only species to concentrate within it bromoform at significant levels.
- Bromoform works by inhibiting the enzymes of gut microbes that live in the animal's rumen (first stomach) that produce methane as waste during the digestion process. Ruminant animals expel methane in two ways: by belching and the decomposition of their manure.
- The two main species of *Asparagopsis* are *Asparagopsis armata*, the cold/temperate water (15-24C) species (which occurs naturally in Australia and New Zealand) and *Asparagopsis taxiformis*, the warm/tropical (19-29C) water species which also occurs naturally in Australia and in the Philippines.

## *Asparagopsis*

- Methane is a green house gas and a major contributor to global warming.
- Methane (CH<sub>4</sub>) is of significant concern as it has a global warming effect vastly higher than carbon dioxide – by a factor of 28 to 34 times as warming as CO<sub>2</sub> over a century.
- Methane emissions have accounted for 30% of global warming since the Industrial Revolution. Atmospheric levels of methane have climbed 150% over the past 200 years, whilst global CO<sub>2</sub> levels have risen about 50%.
- If countries take action now, the earth's temperature could drop almost immediately. Methane is also an air pollutant that is a contributor to 500,000 deaths and hundreds of thousands of asthma related hospitalizations annually.

# Seaweed Asparagopsis

- Enteric emissions from cattle are considered a major contributor to climate change. There are about 1.5 billion cattle in the world and as the human population grows, so does the demand for beef and dairy products. Each animal currently releases 70-120 kg of methane per year. This means that the impact of the world's cattle is significant. Together with other grazing animals, cattle contribute about 40% of the annual methane gas level towards climate change.
- The Australian Government's 2020 National Inventory Report published in 2022 estimated that the Australian Agriculture Sector produced 12.9% of net carbon dioxide equivalent emissions. Enteric fermentation was responsible for 68.2% of these emissions. These emissions also represent lost energy from feed of between 2% and 10%.
- **The Australian Government is actively supporting efforts to reduce methane emissions from livestock and has established a A\$25 million fund known as the Methane Emissions Reduction in Livestock (MERiL) program and has selected three projects to participate in the first round of MERiL grants.**
- Recent studies have shown that small amounts (0.2% inclusion rate) of *Asparagopsis taxiformis* to the diet of beef steers can reduce methane emissions by up to 98%. Similarly supplementation of *Asparagopsis* (0.5-3% organic matter basis) in sheep feed reduced methane emissions by sheep by up to 80% over 72 days.
- Extrapolating these types of figures Australia would need to produce about 25,000 dry tonnes per year of *Asparagopsis* to feed just 30% of its almost 22.3 million beef cattle and 2.1 million dairy cattle and potentially hundreds of thousands of tonnes of dried *Asparagopsis* would be needed for inclusion in animal feeds globally.



# Seaweed Asparagopsis

In August 2020 the CSIRO established a company known as Future Feed Pty. Ltd. in which Australia's richest man, Andrew (Twiggy) Forest's private company Tattarang, Woolworths, GrainCorp and AGP became investors. Future Feed has been granted an exclusive licence by the patent holders and is effectively global IP holder for the patented method for reducing total gas production and/or methane production in a ruminant animal

Future Feed has started a program to licence the solution to seaweed growers, building on the scientific evidence, supporting the development of a hatchery program to ensure seaweed cultivators can rapidly scale up production, delivering peer-reviewed science, designing and completing animal trials, and developing certification standards and a trademark that delivers scientific credibility to the value chain.

Through a certified trademark (CTM) – “Farmed to Lower Methane”, Future Feed can report reductions in green house gases and give consumers confidence that the meat and dairy products they are buying are better for the environment.

Future Feed maintains that it will be the only CTM service that comprehensively reports methane reduction through the use of Asparagopsis.

- - Certified Trade Marks - Future Feeds CTM will protect the interest of the consumer by ensuring product claims are in line with Future Feed's standard.
- - Standard Practices - Future Feed's standard provides the guiding principles for the use of Asparagopsis. Future Feed will maintain a traceability program that underpins the calculations and claims.
- - Off Sets, Credits and Claims - Future Feed's standard will measure the greenhouse gas emissions via a digital auditable platform so participants can seek to trade in credits or off set their carbon emissions. It will also provide the data needed for industry reporting.

## Plentex Sub-Licence

- **On 21 November 2021 Plentex was granted a Sub-Licence by Future Feed Pty. Ltd. authorising the use Future Feed's technology, trademark and standard practices in Australia and the Philippines.**
- **Plentex is one of only five Future Feed licence holders in Australia and ten globally and is an important conduit that will allow Plentex to sell Asparagopsis product both in Australia and the Philippines.**



# Seaweed Asparagopsis

## Commercial Farming – the Plentex Opportunity

- Currently there are two forms of Asparagopsis production methods, farming in the open sea and land-based ponds and tanks.
- Large-scale farming of Asparagopsis is still in its infancy. The challenge is to establish commercial scale Asparagopsis farming operations.
- A number of companies and research organisations are exploring the cultivation of Asparagopsis on-shore and in-sea in Australia, as well as Vietnam based Greener Grazing, Symbrosia and Blue Ocean Barns in Hawaii, and Volta Greentech in Sweden.
- In Australia is CH4 Global (Future Feed's first Sub Licensee), a team of international innovation and investment experts committed to developing sustainable Asparagopsis products to address climate change.
- CH4 Global is growing seaweed on both on-shore facilities and offshore leases on South Australia's Yorke Peninsula. It has an off-take agreement in place and is supplying trials with sheep and dairy producers in Australia and New Zealand.
- Another advanced player is Tasmanian based Sea Forest, also a Future Feed Sub Licensee, which is growing *Asparagopsis armata* on converted mussel farm leases at Triabunna and is selling its feed additive to dairy giant Fonterra for a trial on 2,000 dairy cows.
- Others include Sea Stock in Western Australia, Clean Eyre Global based in South Australia, and Victorian based Immersion Group which has recently entered into arrangements with Japanese major company, Nissui Corporation, with the aim of building an onshore pilot plant near Geelong in Victoria.
- **The Australian Seaweed Institute has forecast the Australian Asparagopsis market could be worth A\$100 million by 2025 and A\$1.5 billion by 2040.**



# Seaweed Asparagopsis

- There is a global opportunity to produce and export concentrated Asparagopsis to major ruminant livestock producing countries.
- World cattle numbers are estimated to be approx. 1.5 billion head, of which Australia holds 22.3 million beef and 2.1 million dairy cattle, equating to about 2.5% of the global total. It is likely that regulations and carbon markets in the US and the EU will drive demand for methane-mitigation products resulting in strong competition for safe and reliable sources of Asparagopsis.
- Food production is expected to increase by 60% by 2050 according to the FAO to feed exponential population growth.
- With increasing affluence in developing countries, demand for red meat and dairy products will increase significantly in turn driving an increase cattle numbers.
- Plentex believes there are significant advantages of farming Asparagopsis in the Philippines;
  - access to skilled seaweed farmers and low-cost labour
  - access to vast farming areas
  - simpler regulation for water access and usage rights.
- According to The Philippine Government's Seaweed Industry Roadmap 2022 – 2026, the Philippines produced 1.4 million metric tonnes of seaweed in 2019 - the top aqua-culture commodity
- The Philippines rank 4th in the world seaweed production behind China, Indonesia and South Korea - 1.2 million people are involved in seaweed production
- The Seaweed Industry Association of the Philippines (SIAP) has estimated an aggregate of 700,000 hectares of farmable area is available, of which only about 8% is currently being farmed (~60,000 ha)
- **Under our Future Feed Sub-Licence, Plentex is entitled to sell up to 20% of the Asparagopsis it produces in the Philippines to customers in the Philippines such as feed lot operators and dairy farmers, with the balance to be exported to Australia.**



# Seaweed Asparagopsis

## Processing

- The common processing Asparagopsis after harvesting includes rinsing the seaweed in salt-water, spin drying and freeze drying at -80C. Freeze drying retains the content of anti-oxidants, phenols, vitamins and other bio-actives in natural products.
- Tests to date have shown that freeze drying yields a higher concentration of bromoform than other processing methods.
- Alternative processing methods are being developed using oil immersion. This involves homogenizing Asparagopsis in oil (Canola oil 95% mixed with vegetable oil 5%). A recent study suggests that 120 g of Asparagopsis to 100 g of oil is the best ratio for homogenization and the oil can be sprayed onto the animal feed using canola oil as an excellent carrier oil.
- Plentex plans to trial coconut oil which is widely available in the Philippines, in substitution of Canola oil. Coconut oil has more than 2 times the anti-oxidation potential of Canola oil and has very low levels of Omega 6 fatty acids.
- Coconut oil in feed may make the feed more attractive to the cattle to which it is being fed, but this remains to be verified.
- Plentex will processing centres in close proximity to the Asparagopsis farms.



# Seaweed Asparagopsis

## PLENTEX R&D AND FARMING PLAN

- A major obstacle to the wider usage of Asparagopsis to reduce methane emissions from cattle, is availability of the required amount at a sustainable price.
- The opportunity is to farm *Asparagopsis* on a large-scale low-cost basis in the Philippines.
- Plentex plans to farm Asparagopsis at selected sites on the eastern coastline of Samar and in the nutrient loaded San Juanico Straits which separate the islands of Samar and Leyte.
- Plentex is currently taking steps to prioritise these sites and obtain authorisation for trial farming.
- Seedstock will be produced at Plentex's Guintarcan Island facility which is the base for these farming operations providing technical and logistical support. We will develop the capacity to produce seedstock on a large-scale, for sale to other growers.
- Select and prioritize locations for farming Asparagopsis in the Philippines and form partnerships with existing growers of other types of seaweed.
- If seaweed is not currently farmed at the selected sites, we will engage locals to become Asparagopsis farmers on a contract farming basis. In that scenario Plentex will supply:
  - Asparagopsis seed stock
  - farming equipment such as long lines, droppers and floats etc.
  - training in farming methods – seeding, maintenance and harvesting
  - access to Plentex owned/operated drying and processing stationsand then purchase the Asparagopsis produced by the contract farmer for processing and sale by Plentex.

**Up to 20% of the Asparagopsis produced will be retained for sale and use within the Philippines.**



# Milkfish & Tilapia Molobicus

## PRODUCTION OF MILKFISH AND MOLOBICUS FRY AND FINGERLINGS

- Plentex is on track to become a major producer of Milkfish and Tilapia Molobicus fry and fingerlings in Samar and Leyte via the up to 50% interest PPI and PAC will earn in the Fish Tech JV, at Santa Margarita. The Fish Tech JV will also be a distributor of aquafeeds in the areas
- Milkfish fry and fingerlings are hardy and easy to handle and have a high tolerance to changes in salinity. Milkfish have a rapid growth rate and a high resistance to diseases.
- Milkfish are a smooth and streamlined fish, silvery on the belly with the sides grading to olive green or blue on the back and grow to up to a maximum length of 1.8 metres & 15kg (male).
- The Milkfish industry in the Philippines has long depended on fry gathering. Wild caught fry are reared in nursery ponds to cultivate fingerlings that are then stocked into grow out ponds, cages and pens.
- Wild fry seedstock are believed to be hardier than fry produced in a hatchery. One wild fry costs around 40 to 50 centavos.
- Fry are also produced by stocking, feeding and maintaining large juvenile Milkfish in saline water ponds until they reach sexual maturity with an average body weight of 1.5 kg around 5 years old.
- First spawning broodstock tend to produce fewer eggs than those of comparative age found in the wild. Broodstock of about eight (8) years old and averaging about six (6) kg. can produce about 34 million eggs.



# Milkfish & Tilapia Molobicus

- According to the Philippine Government BFAR produced “Philippine Milkfish Industry Roadmap 2021-2040”, industry produced 1.47 billion milkfish fry in 2020, with 73% of this coming from private hatcheries, 21% from wild caught fry gathering, and the balance from government owned hatcheries.
- **It is estimated that there was a deficit in 2020 of about 1.2 billion fry – 54% the Philippine’s total fry requirement** – “This data reveals that there is a need for strong government intervention to invest in hatcheries and broodstock development in regions with low local fry production in order to sustain the growth of the Milkfish industry”.
- Milkfish flesh has a distinctive mild flavour. Almost 90% of Milkfish produced in the Philippines are sold in fresh chilled form in the domestic markets, either in various product forms such as whole or in prime cuts, bellies, backs, heads and tails.
- Milkfish are very bony and this affects their marketability. Not surprisingly, deboned Milkfish is the most popular value-added Milkfish product in local markets.
- In recent times processors have expanded their product range to easier to eat Milkfish based items.
- Some of the forms in which Milkfish are sold today both domestically and into the export market are pictured on this page



# Milkfish & Tilapia Molobicus

## Seawater tolerant Tilapia

- The regular Tilapia commonly farmed in the Philippines, cannot live in salty water and die at a salinity level of 10-15 ppt (parts per thousand) but BFAR's National Integrated Fisheries Technology Development Center (NIFTDC) based in Dagupan City has in recent years **developed a hybrid species they call Molobicus**, which tolerates salt levels up to 35 ppt which is seawater or higher.
- BFAR - NIFTDC combined the high-salinity tolerance of the Mossambicus (the Mozambique species of Tilapia) with the fast-growing Niloticus species (the Nile Tilapia). Phase 1 of this program involved the cross-breeding of the two species until the desired salinity tolerance was attained. Phase 2 involved increasing the growth rate, genetically improving the new hybrid.
- Molobicus is tastier and grows bigger. It has a smaller head and a bigger rounder body with taste and texture similar to a marine fish. The usual complaint about a muddy taste of some fresh water farmed Tilapia does not occur with Molobicus and the meat is firmer, much like marine fish.
- The new hybrid strain (Molobicus) has relatively high Omega 3 fatty acids and a very good feed conversion ratio (FCR) and has a superior taste.
- **The Fish Tech Joint Venture will produce Molobicus fry and fingerlings for sale to fish farmers in Samar and Leyte and to PAC to grow our own marketable fish**



# Milkfish & Tilapia Molobicus

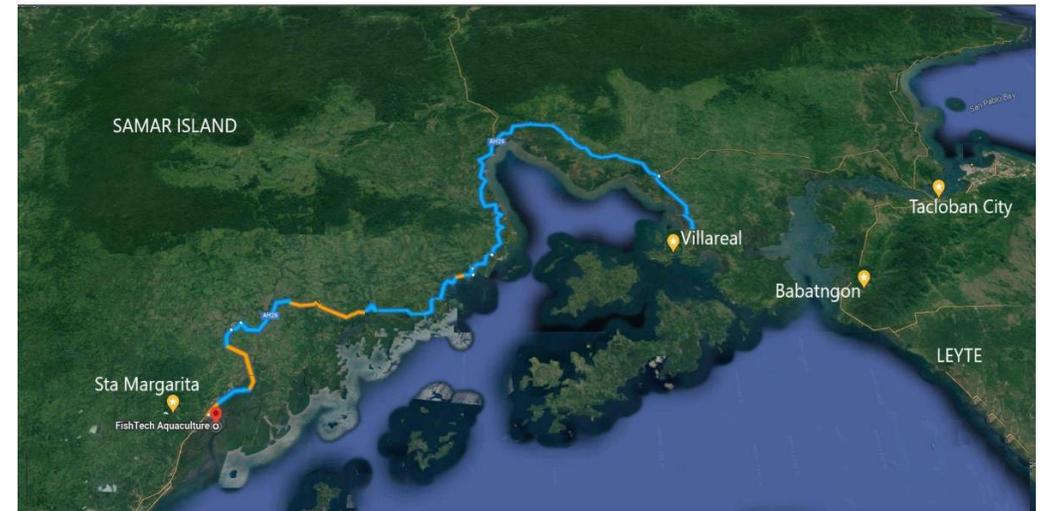
## Fish Tech Joint Venture Farming Plan

- Plentex plans to capitalize on the existing and rapidly growing demand for Milkfish and Molobicus fry and fingerlings focusing initially on demand in Samar and Leyte Provinces and build this into a substantial business.
- To fast track its entry into this market, Plentex has collaborated with Neil Pancipanci, an experienced aqua-culturist who until recently traded under the name Fish Tech, principally in the Santa Margarita area of Samar.
- **Plentex has assisted Neil Pancipanci establish a new company called FishTech Aquaculture Corporation (FAC) which has entered into a Joint Venture with Plentex Philippines Inc. (PPI) and Plentex Aquafarms Corporation (PAC) which has been named the Fish Tech Joint Venture (FJV).**
- The FJV has acquired the Fish Tech business and its assets and plans to become a substantial producer of Milkfish and Molobicus fry and fingerlings which will be sold to fish farmers, who will then grow them to marketable size.
- Some Milkfish fingerlings will be retained by the FJV, grown to marketable size and sold into the local market.
- In the case of Molobicus fingerlings, the majority will be sold to third-party growers including PAC. As outlined later in the IM, PAC plans to grow the fingerlings which it purchases from the FJV to market size in offshore cages located in the vicinity of the PAC hatchery.



# Milkfish & Tilapia Molobicus

- PPI and PAC have the right to earn a combined 50% participating interest in the FJV by contributing up to Php 8,370,000 (approximately A\$230,000) to FJV operating and development costs over 12 months. The FJV will be jointly managed by a Management Committee. One of the PPI/PAC members, Gil A. Adora, who is also a Director of PPI and PAC, will be Chairman of the Committee. Neil Pancipanci will be the Manager of the FJV.
- When PPI/PAC have earned a combined 50% participating interest in the FJV, FAC and PPI/PAC must contribute equally to on-going farm costs. At this date FAC/PPI and PAC have cemented their Joint Venture relationship by executing a binding Terms Sheet, to be replaced by a detailed Joint Venture Agreement.

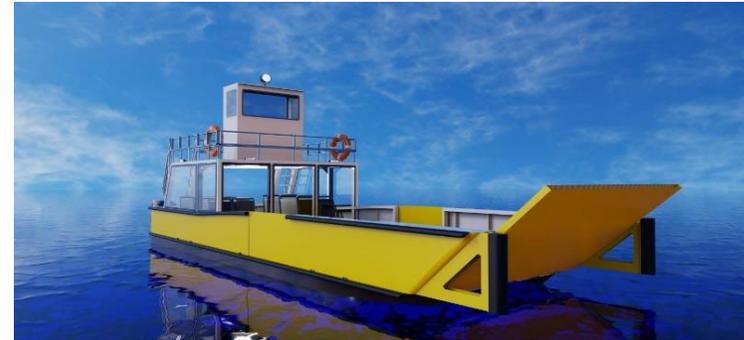


*Plentex sites in Tacloban, Villareal and Santa Margarita*



# Milkfish & Tilapia Molobicus

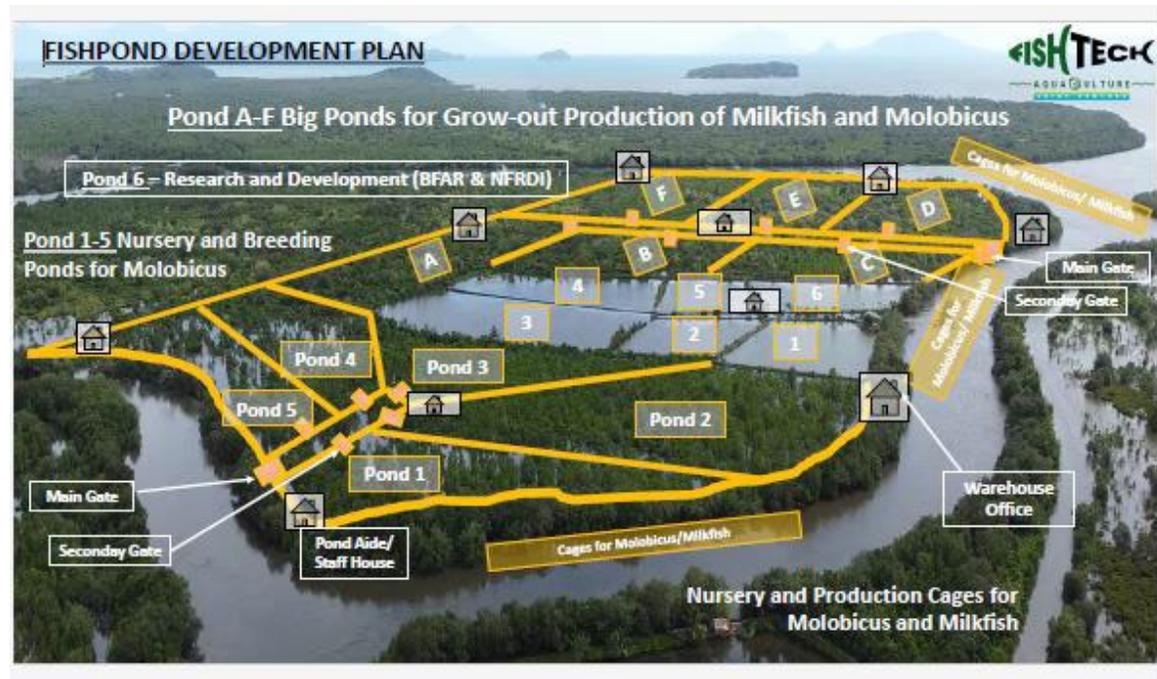
- Currently many fish farmers in Samar and Leyte face significant problems sourcing fry, fingerlings and aquafeeds, and getting their product to market.
- The FJV business model includes distribution of fry, fingerlings and aquafeeds by a specially fitted barge and smaller workboats. The barge will be fitted with a large tank (5,000 – 10,000 litre capacity), pump and pipes to allow seawater to be circulated in the tank. Hoses will be used to transfer fingerlings to the farmers ponds or cages. A HIAB style crane will be fitted to the barge to assist with the transfer of bagged aquafeeds. The barge will also be used to assist in the construction of fishponds and the installation of sea cages as required.
- PAC has employed Neil Pancipanci as its Manager – Aquaculture Operations, responsible for Plentex’s aquaculture activities centered at its Villareal hatchery. Neil will also act as Manager of FJV and he and his partner will hold a combined 89 % shareholding in FAC.
- Neil Pancipanci brings to Plentex a wealth of local knowledge and excellent relationships with BFAR’s Region 8 administration, local government units and other aquaculture agencies. Importantly, Neil has developed at Fish Tech a large and growing potential customer base for fry, fingerlings and aquafeeds, and this information will be used in FJV’s operations.



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# Milkfish & Tilapia Molobicus

- Neil Pancipanci has been producing Milkfish and Molobicus fingerlings from onshore ponds and has also maintaining Milkfish and Molobicus broodstock. These activities will be expanded by the FJV. The FJV is now preparing a Fishpond Lease Agreement application over the area previously farmed by Fish Tech together with additional areas making a total of 37 hectares. It is anticipated that this Fishpond Lease Agreement will be approved by BFAR by the end of Q1 2024.
- **The FJV is ramping up and targeting to produce 20 million Milkfish fry and 40 million Milkfish fingerlings annually by 2026.**
- The current price of Milkfish fry is 50 centavos (ie half a peso) and fingerlings Php 8
- **The FJV plans to ramp up and produce in excess of 24 million Molobicus fry and 35 million Molobicus fingerlings annually by 2026.** Actual production will depend on demand from PAC at the Guntarcan Island facility, and from third-party fish farmers. The current price for Molobicus fingerlings is Php 5.



# Plentex Hatchery

The facility was commissioned in 2000 as a multi-species (fish/crustacean) hatchery. It was developed as part of the Western Samar Agricultural Resources Development Programme (WESAMAR) which was a special programme of the Philippines Department of Agriculture funded by the European Union.

The hatchery was a critical foundation component of a proposed large scale mariculture development in the Maqueda Bay area of Western Samar.

The hatchery is located on a 1 hectare lot on the Southern tip of Guintarcan Island near Villareal and has access to abundant fresh water and the electricity grid.

This facility offers:

- Capability to support the farming of substantial annual tonnages of Barramundi and Molobicus.
- On site accommodation for manager and workforce.
- Capacity to expand operations.
- Adjacent shallow waters for nursery sea cages within 500m from the shoreline..
- Supportive local government and regional fishing authorities.
- The layout, design and specification of the hatchery was undertaken by engineers from SEAFDEC (Southeast Asian Fisheries Development Center) and WESAMAR.
- It consists of a number of concrete tanks connected by pipes through which clean, filtered seawater is pumped, together with a number of buildings necessary to support hatchery operations.



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# Sea Cages

The Guintarcan Island hatchery site provides access to high quality nursery and grow out locations as described below in isolated unpolluted waters

- Water up to 20m depth, visibility > 10 meters
- Inter-island waters offer protection from adverse weather
- Water temperature averages 28C - 30C
- Grow-out locations within 40km of Guintarcan Island:
  - around Bascal Island and Agatay Island - water depth up to 14m
  - Daram Channel water depth 9 - 15 meters
  - adjacent to Parasan Island water depth 12 - 20 meters
  - the hatchery offers excellent biosecurity with local fisherfolk available as crew and contract growers



*Staff House & adjacent waters*



# Barramundi Farming

**Plentex will source Barramundi fry from MainStream Aquaculture based at Wyndham, Victoria. MainStream is the largest producer of Barramundi fry in the world exporting to over 20 countries. It is the only hatchery able to produce fry throughout the year, producing new batches of fish every month.**

- This is achieved through controlled environmental conditions including temperature, salinity, day length and waterflow. This provides MainStream customers with reliability and security.
- MainStream maintains the highest available level of Australian sustainability certification and is one of the few Barramundi hatcheries in the world that is **Best Aquaculture Practice accredited**.
- MainStream's advanced selective breeding programs developed over 15 years have produced domesticated strains of Barramundi providing:
  - rapid growth to market size of 750g in 8 months with improved feed conversion efficiency, reduced size variation and reduced aggressive behaviour, increased disease resistance, high levels of nutritionally beneficial Omega-3, increased fillet yield through rounder shape and lighter coloured flesh with no pigmentation
  - MainStream guarantee the survival of their fry from dispatch to their ultimate destination.
  - Plentex will purchase Barramundi fry in the size range 24-30 mm (weight range 0.2-0.4g & grade bar range 2.5-3.0)
  - Before being forwarded to Plentex's Guintarcan Island hatchery/nursery, the fry will be acclimatised to the exact water parameters prevailing at the Plentex nursery.
  - The one month old Barramundi fry sourced from MainStream Aquaculture will be air-freighted from Melbourne direct to Manila and then road transported to Villareal from where they will be transported by boat to Guintarcan Island.
  - The fry will be reared in the hatchery's onshore concrete tanks and regularly graded for approximately 2 months until 100g in size at which stage they will be called fingerlings.
  - Fingerlings will then be transferred to grow-put cages to be grown to marketable size



# Barramundi Marketing

## Philippines – Domestic Market

- Plentex’s marketing strategy will initially be focused on supplying chilled “plate size” (400-700 grams) whole fish into the top end of the Philippines market servicing top hotel chains such as the Shangri La group, leading restaurants, tourist resort operators and prestige supermarkets.
- The advantage of selling locally rather than exporting will be lower transport costs, reduced compliance issues and reduced processing and packaging requirements.

## South-East Asian Markets

- Significant potential exists to sell “plate size” Barramundi into Singapore, Hong Kong, mainland China, Guam and Japan. There is also a market for chilled and frozen fillets and live fish.

## Australian Market

- Plentex is confident that with correct planning it is possible to have Barramundi processed at its Villareal plant, processed for export and transported as air cargo to Australia and despatched to fresh markets in Sydney and Melbourne within 48 hours from the time of harvest.
- The Australian market was until recently undersupplied with sea water grown Barramundi. However, sea water grown Barramundi are now being farmed in Northern Australia (Cone Bay) and also imported from Singapore, Malaysia, Vietnam, Taiwan and several other countries which has resulted in robust competition and the softening of prices except for Cone Bay Barramundi which are highly regarded and command premium pricing.
- Effort will nevertheless still need to be made to shift current Australian customer perception that imported products are inferior and eliminating the associated price discount.



# Molobicus Tilapia Farming

**Complementing its potential 50% interest in the FJV, Plentex plans to become a major producer of marketable size Molobicus, farming them in fish cages in off-shore areas around the Plentex hatchery.**

- This farming will utilise Molobicus fingerlings produced by the FJV and cage aquaculture methods similar to those Plentex intends to use to produce Barramundi. There will be considerable sharing of equipment such as barges, work boats and fish cages and labour, and this will produce efficiencies otherwise not available if either Molobicus or Barramundi were farmed as single species. PAC will be responsible for the marketing of all Molobicus whether produced by FJV or PAC itself, or purchased from third party growers. PAC plans to establish a brandname under which it will market and sell Molobicus.
- Plentex aims to develop in the market place recognition of the superior taste of Molobicus produced in marine environments and the health benefits of consuming Molobicus with its relatively high Omega 3 fatty acid content, favourable Omega 3/6 ratio and is confident that it will be able to develop a strong demand for its branded Molobicus.
- Plentex has had some experience in farming fresh water Tilapia. This dates back to 2016 when PRI purchased Suhi Lot 2 (4.5 ha) and built an approximately 1.2 ha dam on the block fed by spring and rain water.
- Tilapia farming was commenced shortly after the dam filled, and once established, Plentex sold Tilapia into the local Tacloban fish market. Active farming was discontinued during the Covid 19 shut-down period and has not been recommenced having regard to the pending sale of Suhi Lot 2. The skill and experience gained during this period will be of assistance with the company's Molobicus farming plan.
- Plentex will work closely with the FJV, BFAR, SEAFDEC, other agencies and commercial hatchery operations, both in the Philippines and internationally, to keep abreast of developments in the farming of Molobicus.



**Plentex**

# Molobicus Tilapia Marketing

- In Asia Tilapia are marketed as fresh, frozen and live. Live Tilapia generally fetches higher prices. Red Tilapia is preferred and commands a better price than grey Tilapia. There is a premium price for fresh Tilapia fillet. The high-quality Tilapia fillet has made a niche in the raw fish market.
- Globally, the preferred market size for Tilapia varies between 200 to 800 grams. Local markets often have outlets for a wider range of sizes while export markets require the production of larger fish because they are more likely to be sold as individual fillets of 100 to 140g (corresponding to a fish of 600-800g).
- The world market is for frozen or chilled whole fish (0.5 to 1 kg) and fillets (30-35% recovery from 0.7 to 1 kg fresh fish). Export size Tilapia average at least 700 grams size requiring 6 months of culture.
- Izumidai or brackish water Tilapia fillet is now used for sushi and sashimi in Japan and elsewhere. In international trade, the price of sashimi grade Tilapia is higher at US\$10-11 kg. There is also an opportunity to produce “ready-to-eat” Tilapia, crumbed, marinated and packaged meals with vegetables etc.
- Plentex’s marketing strategy will be to focus on the production of the Molobicus strain, and the sale of these fish as Sea Tilapia. Fish will be supplied fresh and frozen as whole fish, fillets and loins cut from the thickest part of the fillet. Attention will also be directed to the production of “value-added” Sea Tilapia such as smoked, marinated and prepared Sea Tilapia meals.



*Chilled Tilapia – Box Hill (Victoria) Fish Market – November 2022*



# R&D Halymenia Seaweed

In addition to *Asparagopsis*, Plentex plans to farm another red seaweed *Halymenia durvillei* Bory de Saint Vincent (*H.durvillei*), from which several high-value products can be extracted such as Lambda-carrageenan, a non-gelling galectin polysaccharide which has thickening and viscosity enhancing properties and has a wide array of applications in the food, pharmaceutical and cosmetic industries.

- The contained, photosynthetic accessory pigments in Phycoerythrin (red) and in Phycocyanin (blue) that are used as a cancer detection marker and for medical research purposes. Freshly harvested *H.durvillei* is also highly sought after for its culinary applications, particularly in Japan. The current price of lamda carrageenan is US\$3,500 a tonne (Made-in-Cina.com Feb 2023) and the market price of 5.0 mg of pure r-phycoerythrin, one of the photosynthetic accessory pigments found in *H. durvillei* is US\$924 (Sigma – Aldrich online catalogue, 2023).
- A fascinating potentially large volume use of lamda carrageenan with high revenue implications for Plentex is the use of lamda carrageenan as a binder in Lithium-Sulfur batteries (see: <https://www.ulprospector.com/knowledge/2329/fbn-carrageenan-deep-dive-kappa-iota-lambda/>)
- *H. durvillei* is a red seaweed species characterized by its dark red colouration and large bushy thalli, which may grow up to 35 cm tall. This seaweed is commonly found attached to rocks in the lower intertidal to upper subtidal areas moderately exposed to wave action.
- In 2014 Plentex teamed up with Professor Trono and another University of the Philippines leading seaweed researcher, Professor Marco ("Coke") Montano who was researching the components of *H. durvillei* and its commercial and scientific applications.

Using the innovative technology developed by Professor Trono, PAC will produce in PAC's Villareal hatchery facility, juvenile *H.durvillei* plants from vegetative propagules and spores. These juvenile plants will be transferred to specially designed grow out trays anchored on the sea floor or suspended in mid water in seaweed growing zones leased by Plentex.

Once harvested and washed, the *H.durvillei* will be classified and separated into two product streams having regard to demand:

product designated for sale to restaurants for culinary purposes use will be packed in containers and refrigerated; product designated for industrial, pharmaceutical or medical applications will be dried and milled to powder form and packaged according to customer requirements.



# R&D Protein Enriched - ProEnK

- ProEn-K is a proprietary high protein (up to 40%) feed meal produced by the fermentation of sweet potato or cassava with edible macro-fungi that can be used as an alternative protein to replace expensive fishmeal and legumes in aqua and livestock feed.
- Fish farming is the world's fastest growing agriculture sector. Fish feed is an integral component of fish farming: approximately 50% of farmed fish require some form of feed to grow, whilst the remainder subsist on natural food sources.
- Feed costs generally account for a significant portion generally up to 50% but in some cases as high as 70% of aquafarms' total production costs.
- Fish protein (usually in the form of fishmeal) and oil have been historically (and still are) very important ingredients in most aquafeeds but are expensive due to increasing demand and declining catches of small wild fish (anchovies and menhaden) due to over-fishing and climate change.
- Farm trials have demonstrated that ProEn-K can be included in aquafeed up to levels of 50% without any detriment or effects to the animal. This is the highest level known for a plant based substitute.
- ProEn-K has a good balance of all 20 amino acids including lysine and methionine which are not typically found in plant proteins.
- ProEn-K produces comparable growth rates and in some cases better growth rates in some species than commercial fish feeds.
- ProEn-K has compelling properties as a replacement for fishmeal and soybean meal – good amino acid profile and digestibility, favourable omega 3/6 profile, significant weight gain, anti-microbial properties favouring good gut microbiota, good shelf life and stability up to 2 years without the addition of additives or preservatives.

Challenges	Opportunities
<ul style="list-style-type: none"><li>• Finance Access</li><li>• Compromise over product inputs (eg: Soy)</li><li>• Market acceptance of novel feed ingredients</li></ul>	<ul style="list-style-type: none"><li>• Sustainable protein for agriculture</li><li>• Cost effective feeds</li><li>• Improved supply chain control</li></ul>



# R&D Protein Enriched - ProEnK

- ProEn-K has the potential to be used as an alternative protein for human consumption as the fungi used in the fermentation process are edible and safe to humans. Although it has not yet been tested in humans, it may offer the same health benefits cited above that have been observed with aquatic animals, such as improved fatty acid profiles and favourable gut microbiota.
- Plentex's involvement in ProEn-K dates back to 2016 when it assisted two Philippine academic research groups, University of the Philippines Visayas (UPV) and Tarlac Aquaculture University (TAU) to obtain a US \$110,000 US AID STRIDE grant directed to the commercialization of ProEn-K.
- UPV is recognized as the centre for aquaculture and fisheries research in the Philippines. TAU has developed the sweet-potato fermentation technology.
- Plentex was the nominated commercial partner for the purposes of this STRIDE grant and this led to Plentex affiliate, Plentex Agri-Milling Corporation (PAMC) signing in April 2018 an exclusive Technology License Agreement with UPV and TAU which gives PAMC exclusive worldwide rights to manufacture and sell ProEn-K.
- **Philippine Focus:**
  - Plentex and PAMC will work with TAU and UPV to design, construct and trial a small scale ProEn-K production plant which can be duplicated and operated in towns and villages throughout the Philippines where sweet potato or cassava is farmed. Cassava can be grown as a complementary crop by rice and coconut farmers. Plentex will assist interested farmers to plant and farm cassava as a raw material for the production of ProEn-K which will be cheaper than sweet potato.
  - The object of this plan is to provide access to a cheap nutritious feed or feed supplement for animal and fish farmers operating in the locality.
  - Plentex and PAMC will gain revenue by selling and installing the plants, the manufacture of which will be subcontracted, and charging a modest royalty on production on production from each plant.



# R&D Protein Enriched - ProEnK

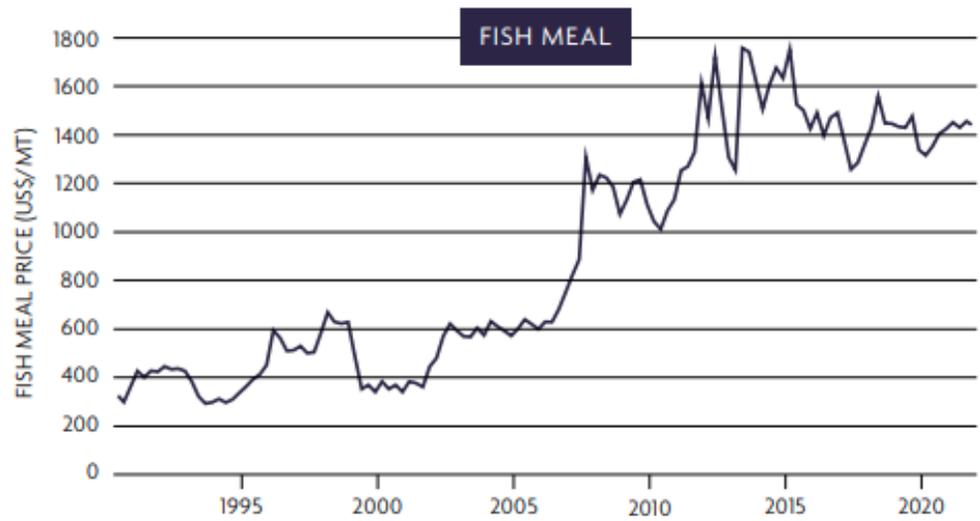
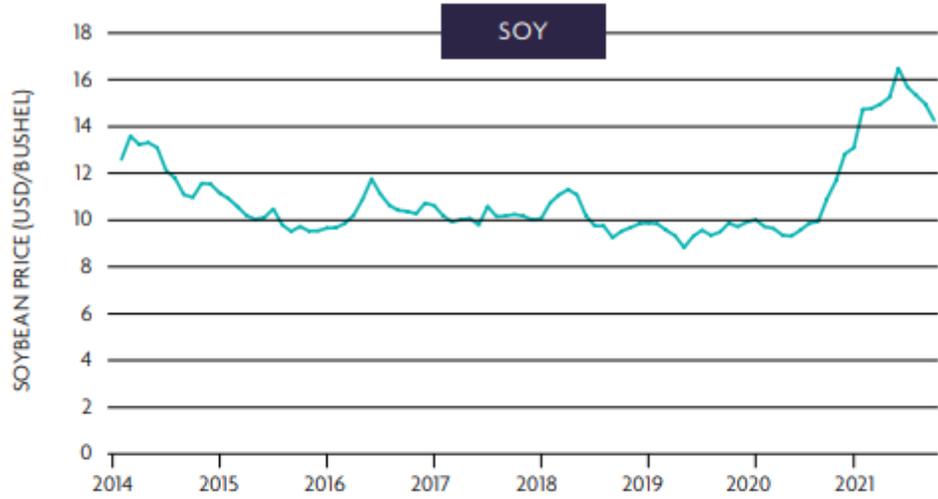
- **Australian Focus:**

- Plentex will operate under a Sub-Licence from PAMC and plans acting in conjunction with its Australian consultants to install a scalable ProEn-K production pilot plant at Bundaberg in Queensland.
- Plentex is currently investigating a Chinese manufactured composting plant which it believes could be adapted to the production of ProEn-K, and take the process to the production of ready to use pelletized aquafeed or livestock specialist feed. Subject to due diligence, Plentex intends to purchase a pilot scale version from this manufacturer which it will install at Bundaberg. Following successful pilot plant trials and the development of a full scale feasibility study, Plentex's aim is to install and operate a full scale commercial plant.
- Approximately 75-80% of sweet potato production in Australia occurs within a 30-40 km radius of Bundaberg. Bundaberg, which is about 3½ hours by road from Brisbane, lies in the heart of Queensland's prime fruit and vegetable producing areas and is well served for transport. Harvesting of sweet potato is carried out on an all-year round basis in this area.
- Annual tonnage produced is approximately 90,000 tonnes of which reject product not suitable for retail consumption varies between 10-30% depending on the season. Most reject sweet potato is disposed of on farm or picked up by other farmers and used to feed cattle. Plentex plans to pick up rejects from growers in the region on a regular twice weekly basis and growers will be paid at time of collection.
- Plentex will secure sufficient raw material to enable the production of approximately 10,000 tonnes per annum of ProEn-K which will be sold as an input ingredient in substitution of fish meal and/or soy meal in petfood and aquafeeds.
- If the adaption of the Chinese composting plant is successful, and it can be scaled up to a full size commercial plant, Plentex intends to install commercial scale units at locations in the Philippines where sufficient annual quantities of reject sweet potato or cassava are available.
- Fish meal and soy meal prices have been buoyant over the past decade, particularly (refer graph below) and Plentex considers that it should be able to sell ProEn-K at a price in the region of A\$1,300 a tonne



# R&D Protein Enriched - ProEnK

- Soy bean and fish meal price trends since over 20+years



# Plentex Development Timeline

ACTIVITY	Set up Phase I (3 months)	Set Up Phase 2 (3 months)	Year 1	Year 2	Year 3
<b>GUINTARCAN ISLAND HATCHERY</b>					
Carry out activities listed (in Section 4)					
Modify hatchery					
Expand hatchery					
<b>EQUIPMENT PROCUREMENT – BARGES / WORKBOATS</b>					
Select/order Barge					
Select/order Workboats					
Order additional Barge(s)					
Order additional Workboats					
<b>ASPARAGOPSIS FARMING – PRODUCTION / SALES</b>					
Complete Collaboration Agreement/Consulting Agreements					
Obtain Quotes from Consultants/Contractors					
Procure Equipment					
Mobilise Survey Team and carry out surveys					
Set up Laboratory at hatchery					
Set up Trial Farms					
Complete Water Access Agreements					
Train Instructors					
Set up Contract Farming					
Set up regional drying stations					
Produce / Market / Sell					
<b>BARRAMUNDI FARMING – PRODUCTION / SALES</b>					
Set up Hatchery					
Purchase Fry					
Purchase Nursery / Grow Out Cages / Install					
Purchase Fry Feed					
Purchase Grow Out Feeds					
Produce / Sales					
<b>MOLOBICUS FARMING – PRODUCTION / SALES</b>					
Set up Hatchery					
Purchase Fingerlings					
Purchase Nursery / Grow Out Cages / Install					
Purchase Fry Feed					
Purchase Grow Out Feeds					
Produce / Sales					

ACTIVITY	Set up Phase I (3 months)	Set Up Phase 2 (3 months)	Year 1	Year 2	Year 3
<b>FISH PROCESSING PLANT</b>					
Select site for plant					
Install plant and equipment					
Commence operations					
<b>HALYMENIA FARMING – PRODUCTION / SALES</b>					
Complete IP Transfers					
Conduct Survey – Villareal Waters					
Set up Laboratory at Villareal					
Procure Equipment					
Trial Farm – Villareal waters					
Produce / Sales					
<b>ProEn-K – PRODUCTION / SALES</b>					
<b>PHILIPPINES – TARLAC AGRICULTURAL UNIVERSITY</b>					
Trials – Tarlac					
Trials at other locations					
Product / Sales					
<b>AUSTRALIA – BUNDABERG (QUEENSLAND)</b>					
Plant Design					
Plant Construction					
Organize waste sweet potato collection					
Trials					
Produce / Sales					



# Capital funding – use of funds

Use of funds	A\$000s
Villareal hatchery acquisition completion costs	125
Contribution by PPI and PAC to Fish Tech Joint Venture costs	265
Villareal hatchery upgrade including laboratory equipment	800
Barges, workboats, outboard motors and ancillary equipment	575
Farming equipment <sup>(1)</sup>	575
Consulting fees and associated costs	350
ProEn-K commercialisation:	
- Philippines Pilot Plant / Commercial trials	110
- Bundaberg Pilot Plant / Commercial trial	150
Provision for interest payable on Convertible Preference Shares	415
Working capital	790
IPO Prospectus preparation Experts reports, legals etc.	185
Capital raising costs – Commission/Road Shows/travel etc. <sup>(2)</sup>	410
<b>Total</b>	<b>\$4.75M</b>

## Notes:

- (1) Farm equipment includes long lines, floats, cages, grading equipment, fry, fingerlings, fish feed.
- (2) Commission payable is estimated at 7% (\$332,500).
- (3) Any amounts not spent in any category will be applied as working capital.
- (4) Plentex considers that there is potential for it to access Government grants for co-financing, both in the Philippines and in Australia, and will actively explore this and where appropriate pursue all options open to it as a means of maximising the funding available to specific projects or areas of expenditure.
- (5) No allowance is made in the above Use of Funds statement for the payment of the amounts due to the Directors for past services rendered and repayment of Directors and/or their Related Party loans.
- It is the current intention of the Plentex Board that these amounts be paid from the proceeds of the sale of Suhi Lots 2 and 3 being the land owned by Plentex Realty Inc. at Suhi, Tacloban, which upon sale completion will add working capital to the group and allow the establishment of additional facilities for management and operations as necessary. The sale process of this land has commenced and is expected to be concluded by Q1 2024.



# Capital Structure

Current Structure		Structure after \$4.75M Issue
Shareholders	Shares on Issue	Shares on Issue
Board and Management	11,751,982	11,751,982
AgriNurture Inc. (ANI)	11,000,000	6,638,890
Other Shareholders	31,072,319	35,433,429
Convertible Preference Shares <sup>(3)</sup>	-	4,750,000
<b>Totals</b>	<b>53,824,301</b>	<b>53,824,301 FPOS 4,750,000 CPS<sup>(3)</sup></b>

## Notes:

(1) The Plentex capital structure after completion of the Series A Capital Raising assumes that ANI will transfer back to Plentex or its nominee 4,361,110 of the shares which it currently holds in Plentex.

(2) Plentex intends to sell as soon as practicable the 4,361,110 fully paid ordinary shares which are to be transferred back to it, at a price of 10 cents per share, being the price that was to be paid by AgriNurture Inc.

(3) The terms applying to the Convertible Preference are set out in the Information Memorandum.

(4) For the purposes of this table:

- FPOS means fully paid ordinary share
- CPS means fully paid Convertible Preference Share

(5) Assuming this issue of Convertible Preference Shares is fully subscribed and that no further ordinary shares are issued by Plentex prior to an IPO on the ASX at an issue price of 25 cents, the holders of the Convertible Preference Shares will on conversion immediately prior to the IPO, collectively hold 26% of the issued capital of the Company.





**Thank you**

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**Plentex**