



**KHAO YAI  
KAM NAN NOI farm**

*“to have environmental  
and economical  
sustainable Pomelo  
farm, inspire young  
generation farmers”*

*Dreams don't work  
unless you do*





**3500 farmers growing pomelo in  
all of Thailand**

**Total 285K MT Tons  
Samut Songhram 20% of total production**

**In 2022, Thailand is the second largest exporter of  
pomelo to the world, exporting 33,531 tons valued  
at 1,471 million Baht**



## Challenges of Pomelo Agribusiness



High % of wastes



Engagement of Youth



Management of irrigation water



Low value of small, low grade fruits



Chemical free fruits



Lack of Value Chain

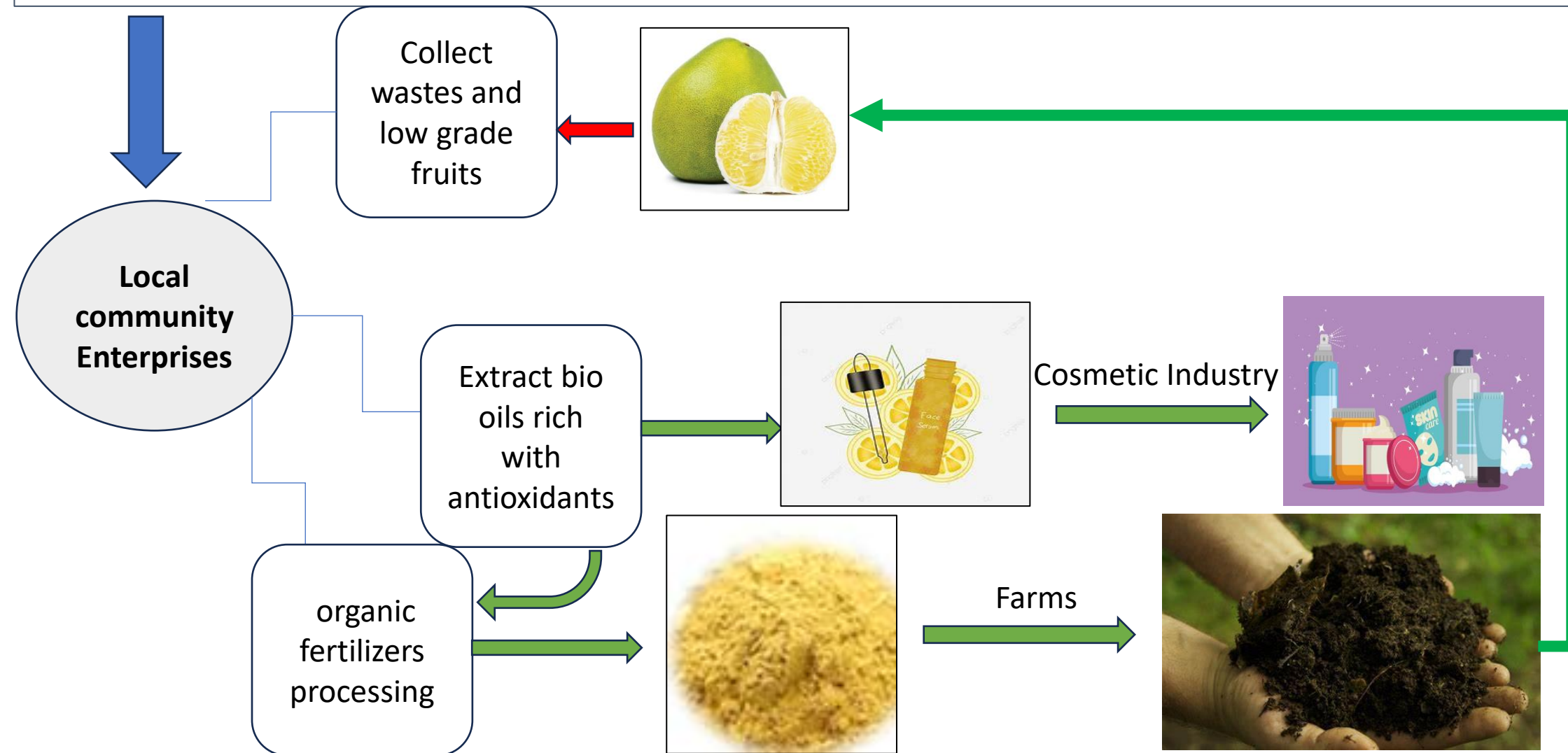


**Over 1000 MT of  
peels wasted in 2021!**



# What is Unique and Innovative about “Pomaroma” initiative?

Pomelo peel from white variety possessed higher antioxidant properties and it is potentially rich sources of natural antioxidants.

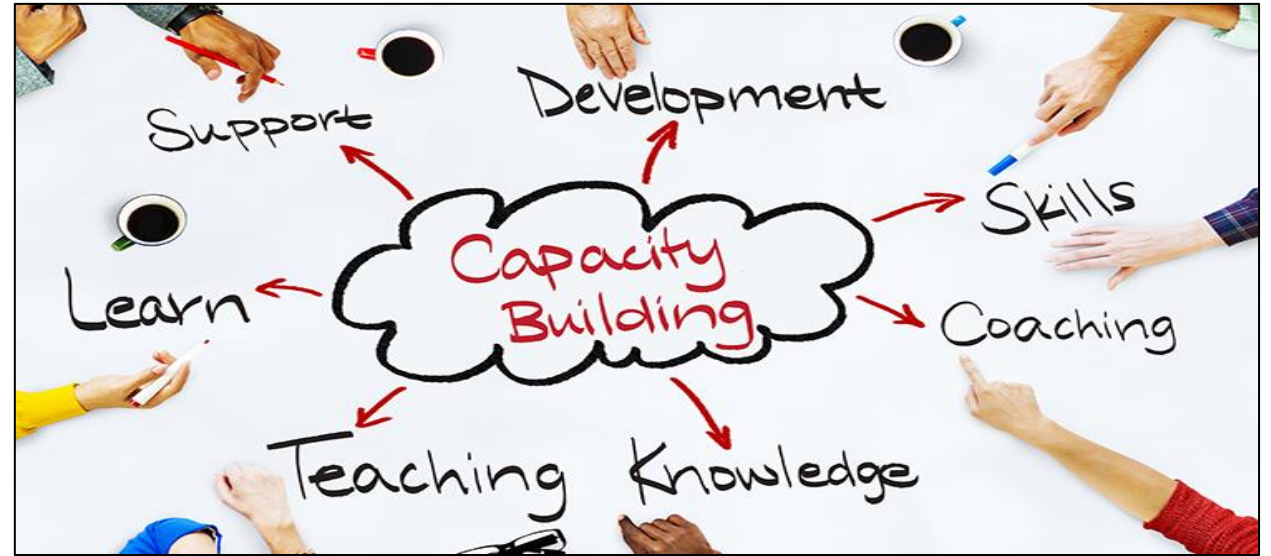




# What We Need?



Shed (space)



Capacity Building



Milling equipment



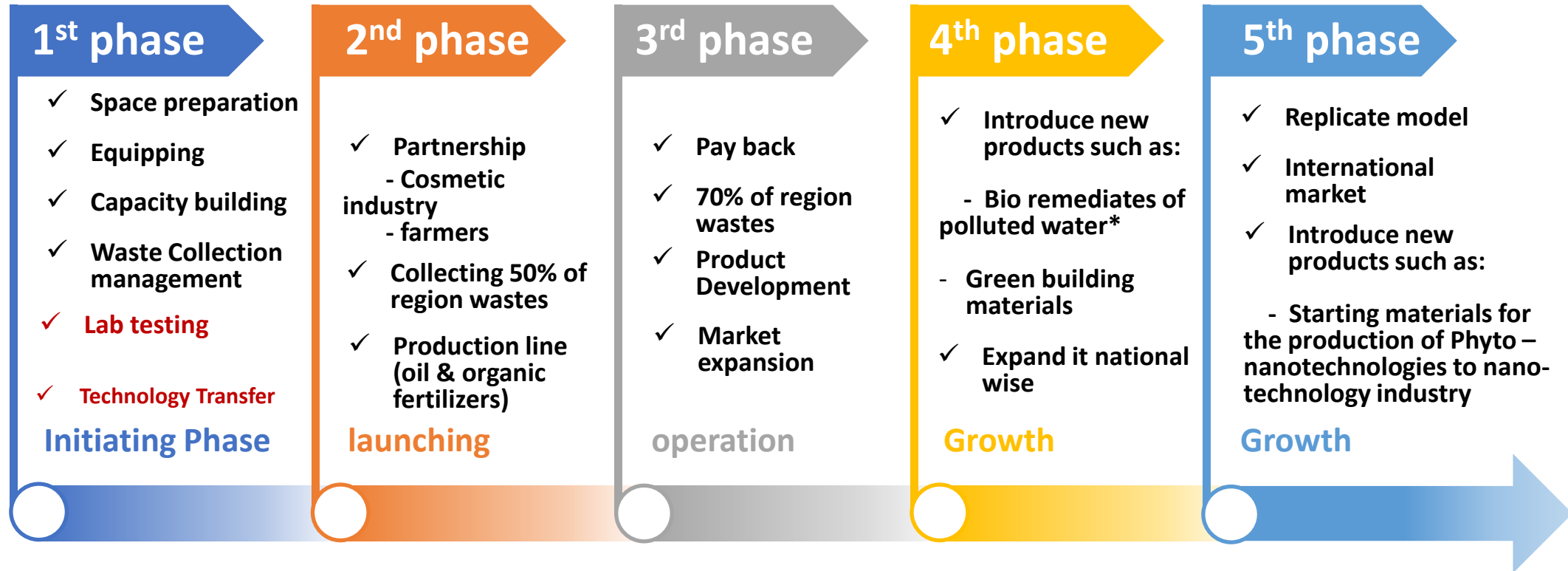
Extractor



Freeze drying equipment



# Key Initiatives & Milestones



\*Pomelo peel is a natural biosorbent that can remove heavy metals, cadmium ions, & textile dyes from wastewater / irrigation water



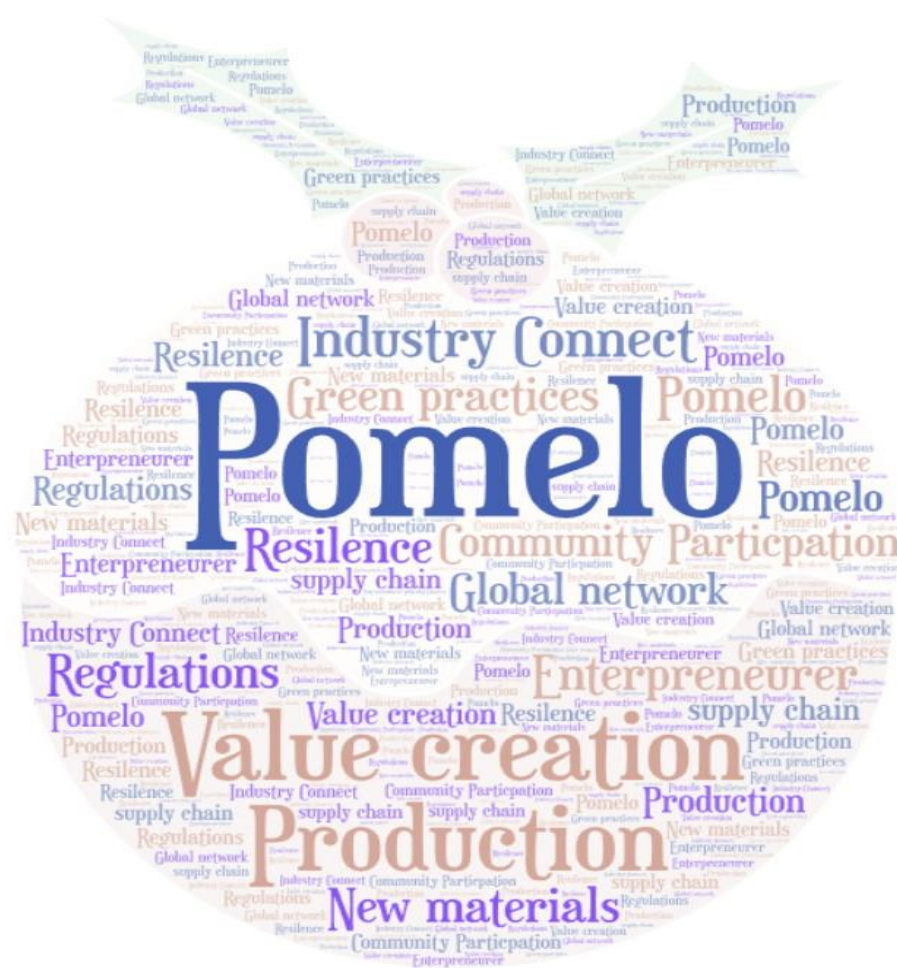


# IMPACT

IS There?	Yes	
New products	√	(BCG) Value Creation
Eco friendly materials	√	BCG (Economy)
Organic products	√	BCG
Waste recycling	√	BCG
Waste reduction	√	BCG
New Technologies adaption	√	Entrepreneurship Development
Income increase	√	BCG
Creating new jobs	√	EDI, (inclusion of people with disabilities )
Attracting youth	√	EDI, community
Available resources	√	Feasibility of implementation
Engagement of industrial/Academic partner	√	Creating enabling ecosystem
Replicable model	√	Applicable to other farms
Growth potential	√	To international level



Thank You  
Khob Khun KA





Shaimaa Helal, MBA  
Project Director, Technology  
Transfer & Entrepreneurship  
Development  
Academy of Scientific Research  
Egypt  
shaimaahelal.asrt@gmail.com



Dr Rohini Garg, Phd  
Associate Professor  
Plant Molecular Biology and  
Multiomics  
INYAS alumni  
Shiv Nadar IoE, Delhi NCR, India  
rohini.garg@snu.edu.in



Dr Hannah Dunga  
Economics lecturer  
Researcher  
Gender advocate  
Vaal University of  
Technology  
hmdunga@yahoo.co.uk



Dr Karen Cloete  
Senior Scientist affiliated to  
the  
UNESCO-UNISA Africa Chair  
in Nanosciences and  
Nanotechnologies  
iThemba-Laboratory for  
Accelerator Based Science-  
National Research  
Foundation, South Africa  
kaboutercloete@gmail.com

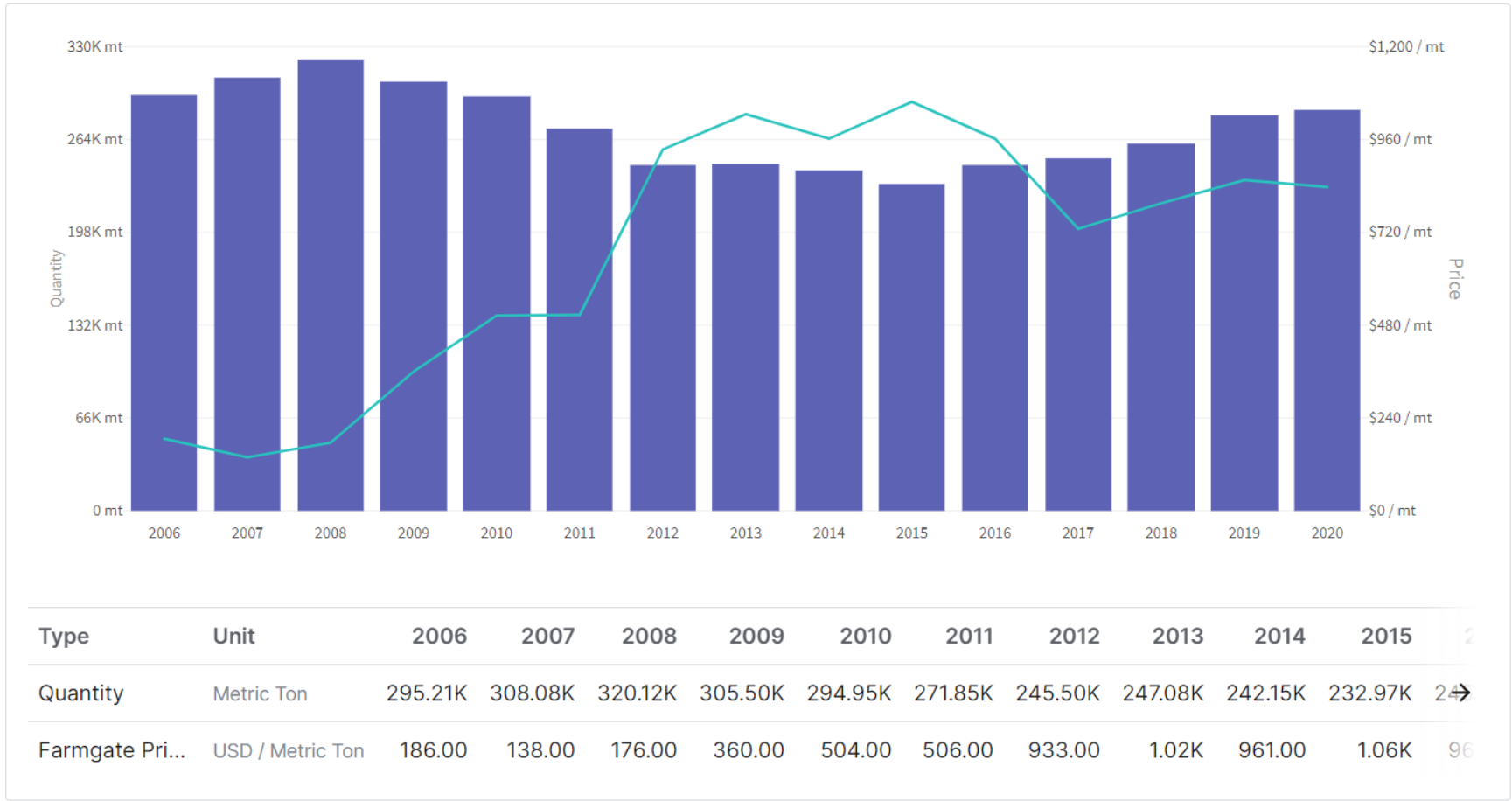
# Prices and production of Pomelo




Fresh Pomelo

Follow

Start Sourcing



# Potential Market



**Pomelo**

## Pomelo (Pummelo) Essential Oil, Thailand

< >

฿229.00

**Brand:** AROMA & MORE

**Reference:** PumTh0521FF

10 ml 229 Thai Baht

30 ml 499 Thai Baht

100 ml 1,329 Thai Baht

100% Pure & Natural Essential oil

Pomelo or Pummelo essential oil is native to SE Asia and is cultivated throughout the region as well as in India, China, Indonesia and southern Japan. Pomelo is the largest citrus fruit. Citrus maxima (Burm.) (Merr.) is the correct botanic name but it is more commonly called Citrus grandis.

Pomelo has a fresh, clean, sweet/tart scent that is well liked and a perfect freshener for the home. In soap making Pomelo is used mainly for its fresh scent and to a lesser extent, as a disinfectant and mild insect repellent.

In aromatherapy, soothes the mind, anti-depressant and stress relief.

น้ำมันหอมระเหย:

10 ml.

10 ml.

30 ml.

100 ml.

^ 1 v

ADD TO CART

- **Poverty:** Some 40 percent of farming households earned an annual income below Thailand's poverty line of 32,000 baht.
- **Debt:** 30 percent of farming households have debt levels above the average annual farming income per person and 10 percent have than three times higher debt.
- **Ageing:** Agricultural labor aged 40-60 increased significantly from 39 percent of the workforce in 2003 to 49 percent in 2013, while younger farmers aged 15-40 declined from 48 percent to 32 percent over the same period. Ageing problems differ across regions. However, many areas in the Central region have higher proportions of elderly labors in households than in other regions of the country, with the oldest head of households in Samut Songkhram, Sing Buri, Nakhon Nayok, Ang Thong, and Roi Et.
- **Land ownership and access to water resource:** According to farmer registration 2017, some 40 percent of farm households do not have land ownership and only 42 percent of them have access to water resource, creating a large inequality in access to land and water resources. Considering the type of water sources, merely 26 percent of the agricultural households have access to irrigation system and most of them are concentrated in the Central, the lower North, and Bangkok and its vicinity.
- **Small size of farm:** In 2017, half of farming households owned below 10 rai of farmland per household, with an overall average of 14.3 rai owned for agricultural families. Small plantation areas partly affect productivity of the sector, with 50 percent of total farming households having productivity levels below the mean.
- **Limited farming portfolio:** Two third of households still grow one crop a year, especially for key economic crops. Although the irrigation systems in the Central region allow for all year round agriculture, most agricultural households grow monoculture, especially the planting of in-season rice and off-season rice accounts for 88 percent of the households that are engaged in a rotation of monoculture.