



COCONUT SAP SUGAR INDUSTRY

In the Philippines

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An Inspiring Gandhi's Vision

The juice of the coconut tree can be transformed into a sugar as soft as honey.

"Local populations can easily turn the nectar into coconut blossom sugar. It is a way to solve the world's poverty. It is also an antidote against misery"

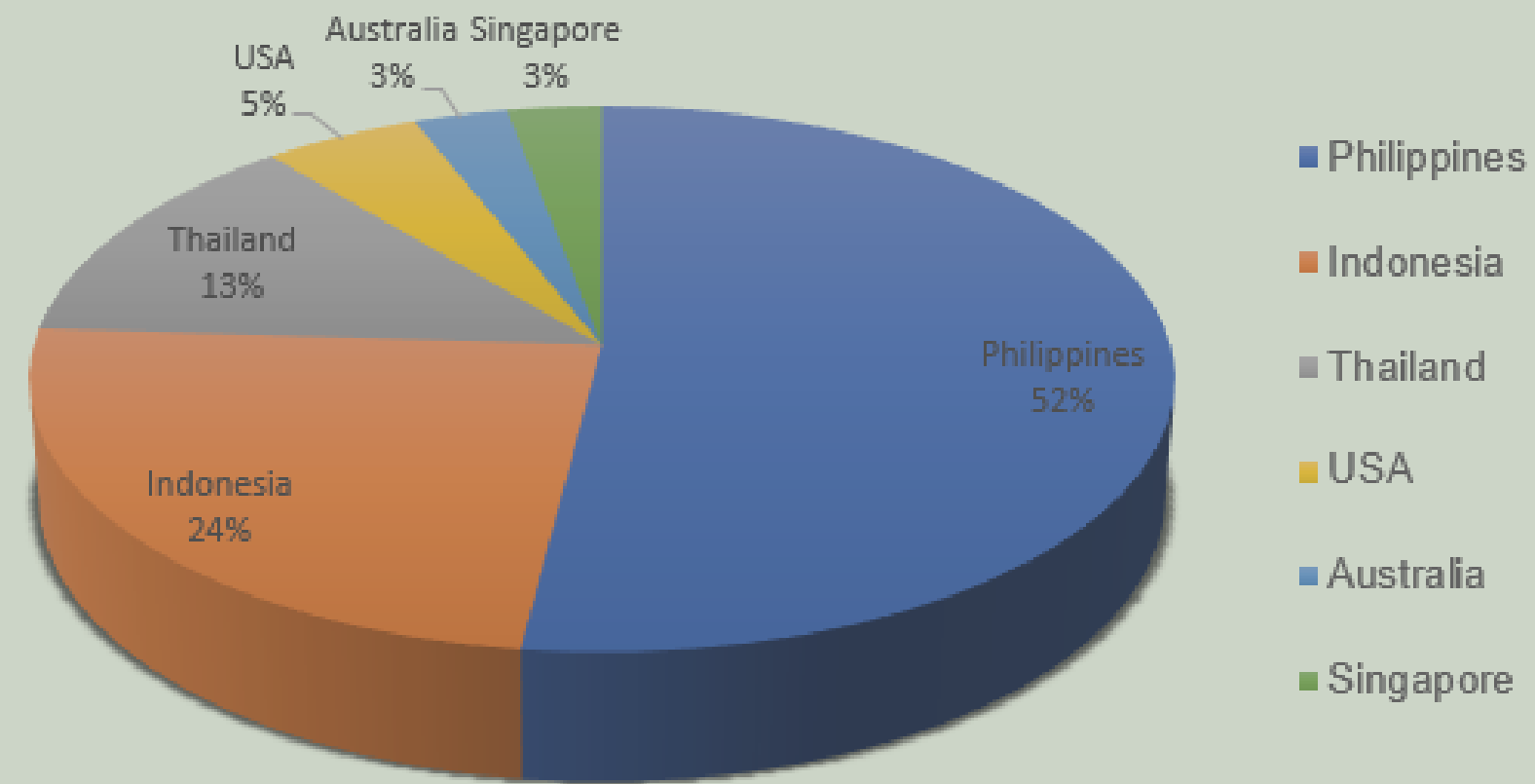
-Mohan das K. Gandhi

Mahatma Gandhi largely experimented with food. A 40-50g of coconut blossom sugar is included in his diet.

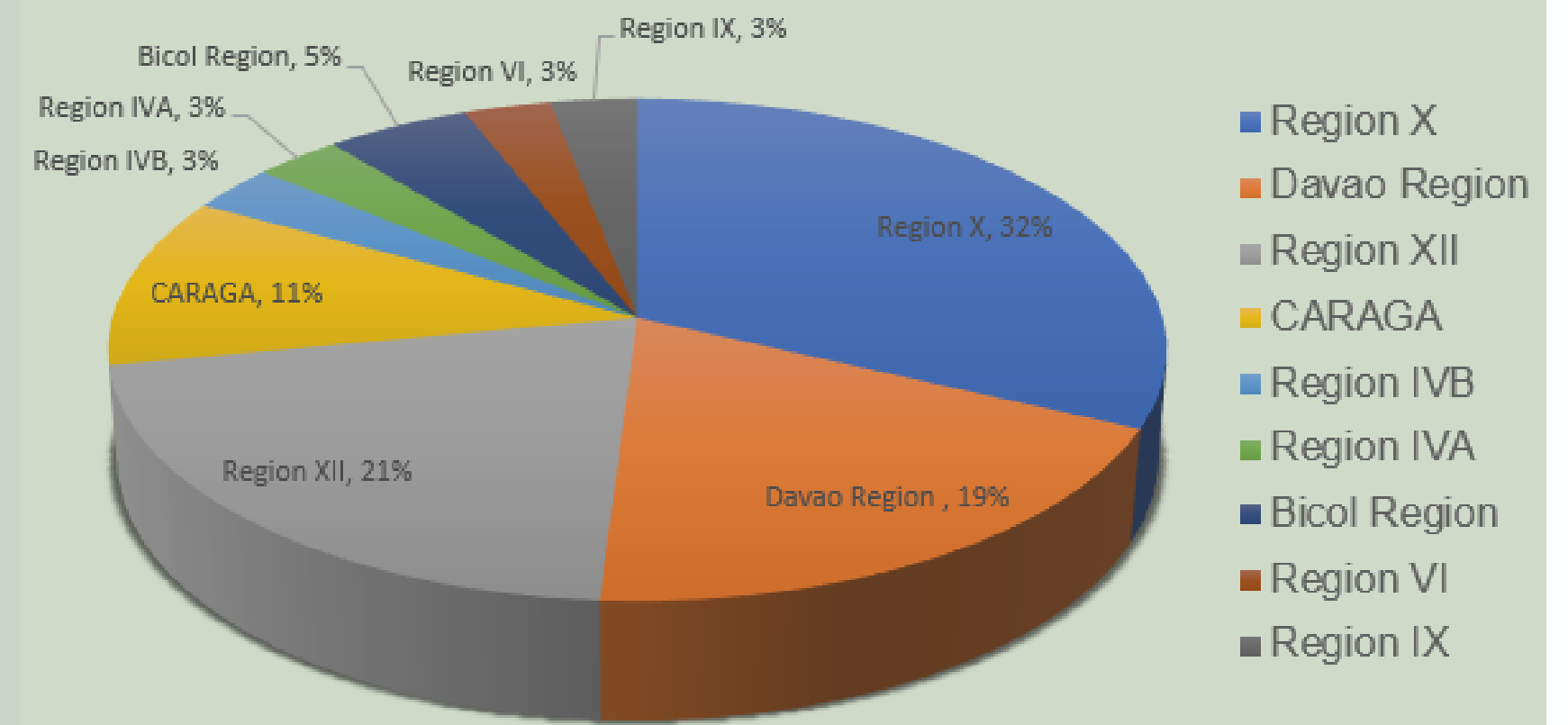
Outline of the Presentation

- Importance of the Coconut Sap Sugar Industry (Local and Global)
- Technology Description
- Production Status
- Process Technology
- Agribusiness Opportunities
- Key Players
- Feasibility Study
- Supply Value Chain of the Industry
- Industry Projections
- Way Forward





GLOBAL INDUSTRY SITUATION



LOCAL INDUSTRY SITUATION

COCO SAP SUGAR: Its Importance

Market Opportunities

There is an increasing demand for coco sap sugar due to rising health consciousness of consumers worldwide.

Social

- Immediate source of farm income
- Job generation and skills development

Financial

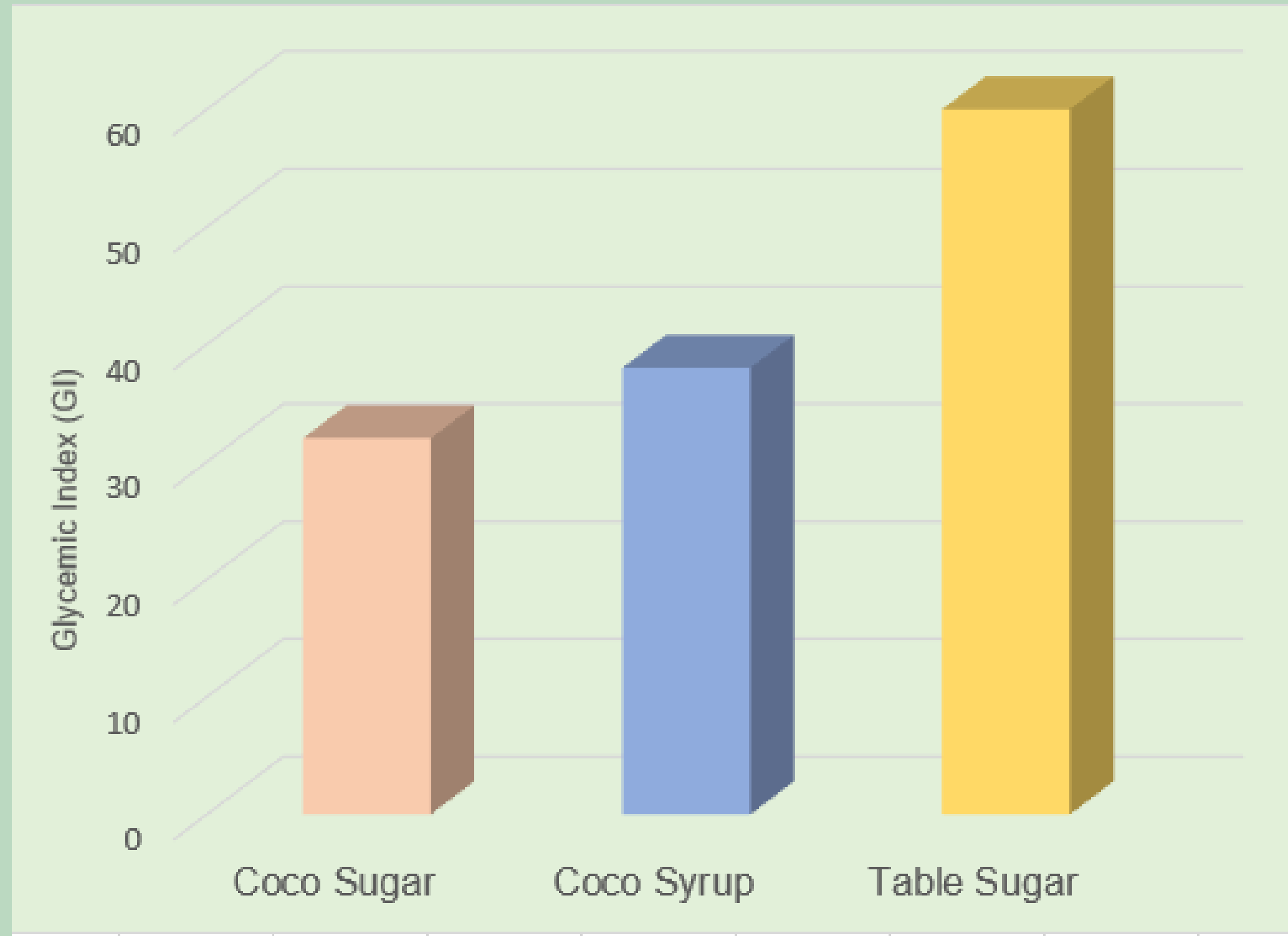
- Export winner in the niche market
- Economically viable for MSMEs

Nutritional

- Natural and healthy product
- Good for diabetics (low GI 35)

Comparative GI's of Sugar

Glycemic
Index (GI)
below 55 is
considered
low



The technology for Rural Communities



Simple and farm-based product technology



Low-cost equipment requirement



Generates rural jobs and immediate source of income

Basic Technical Considerations

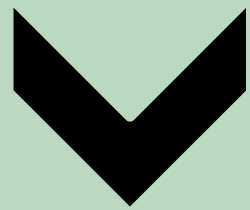


Critical Points

Sap Collection

< pH 6

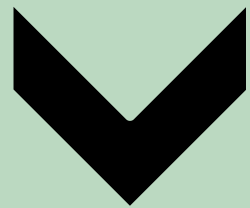
> 5 hrs



Sugar Processing

120 ° Centigrade

3-5 hrs



Packaging / Shelf Life

**Water (0Activity.5-
0.8%)**

**Film Permeability
(0.0468 gH2O/day m2 mmHg)**

The Promising Product



C - coconut sap - based product
O - ffers health benefits
C - ompetitive in the global market
O - rganic product

S - weetener for diabetics
A - to Z natural nutrients
P - ure and preservative free

S - olid form of Coco Sap
U - nique invert sugar
G - lycemic index is low (35)
A - cceptable taste
R - egulates blood sugar

A Healthy Product...

NUTRIENT CONTENTS

| Element | Value | Element | Value |
|----------------------------|--------|---------------------------|-------|
| Nitrogen (N), % | 0.292 | Chloride (Cl), mg/100g | 505.7 |
| Phosphorus (P), mg/100g | 68.7 | Boron (B), mg/100g | 0.625 |
| Potassium (K), mg/100g | 1044.6 | Iron (Fe), mg/kg | 9.8 |
| Calcium (Ca), mg/100g | 0.006 | Zinc (Zn), mg/kg | 2.8 |
| Magnesium (Mg), mg/100g | 0.027 | Copper (Cu), mg/kg | 3.0 |
| Sodium (Na), mg/100g | 0.057 | Manganese (Mn), mg/kg | 1.3 |
| Sulfur (S), mg/100g | 12.2 | Ash (%) | 4.752 |



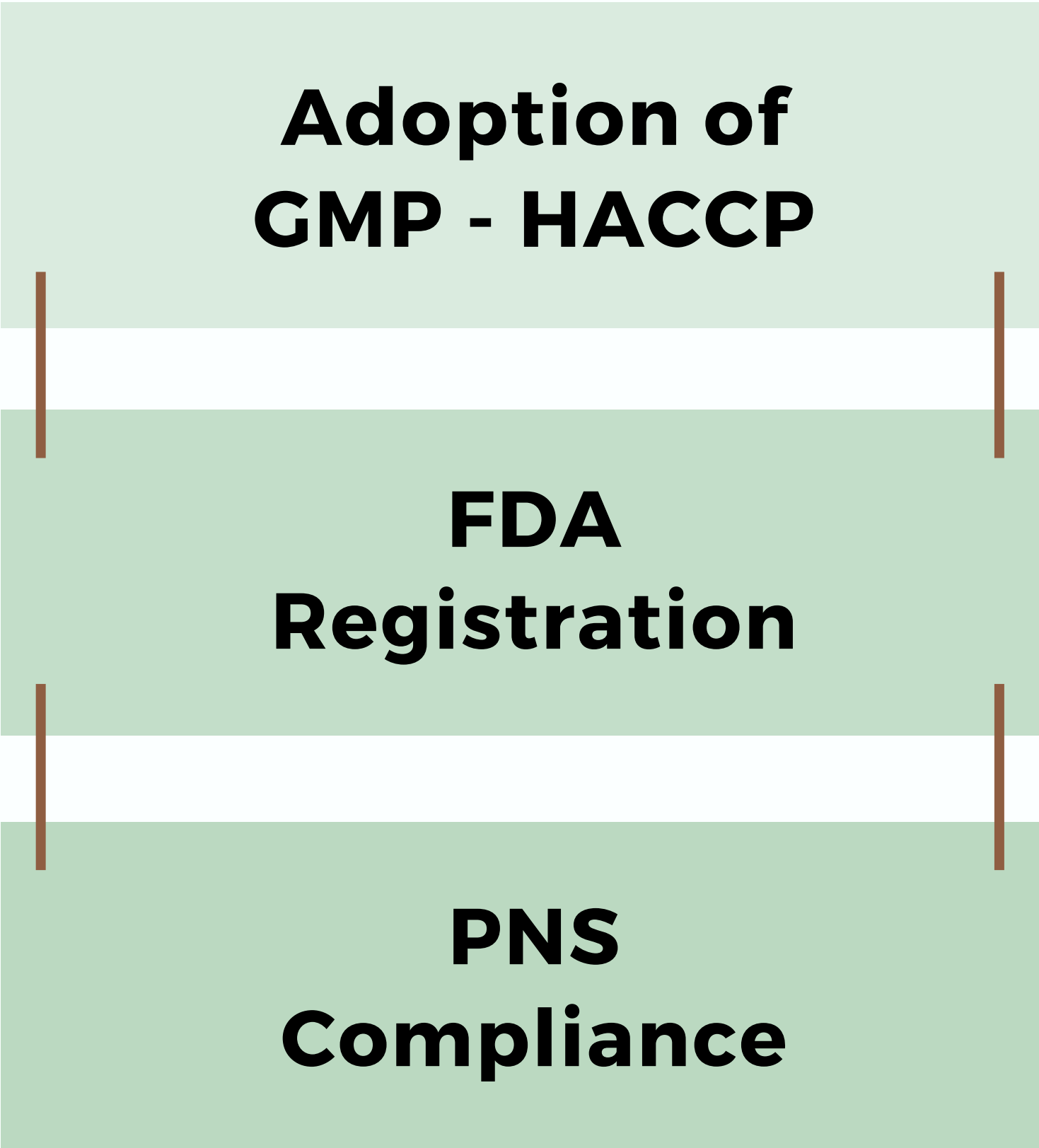
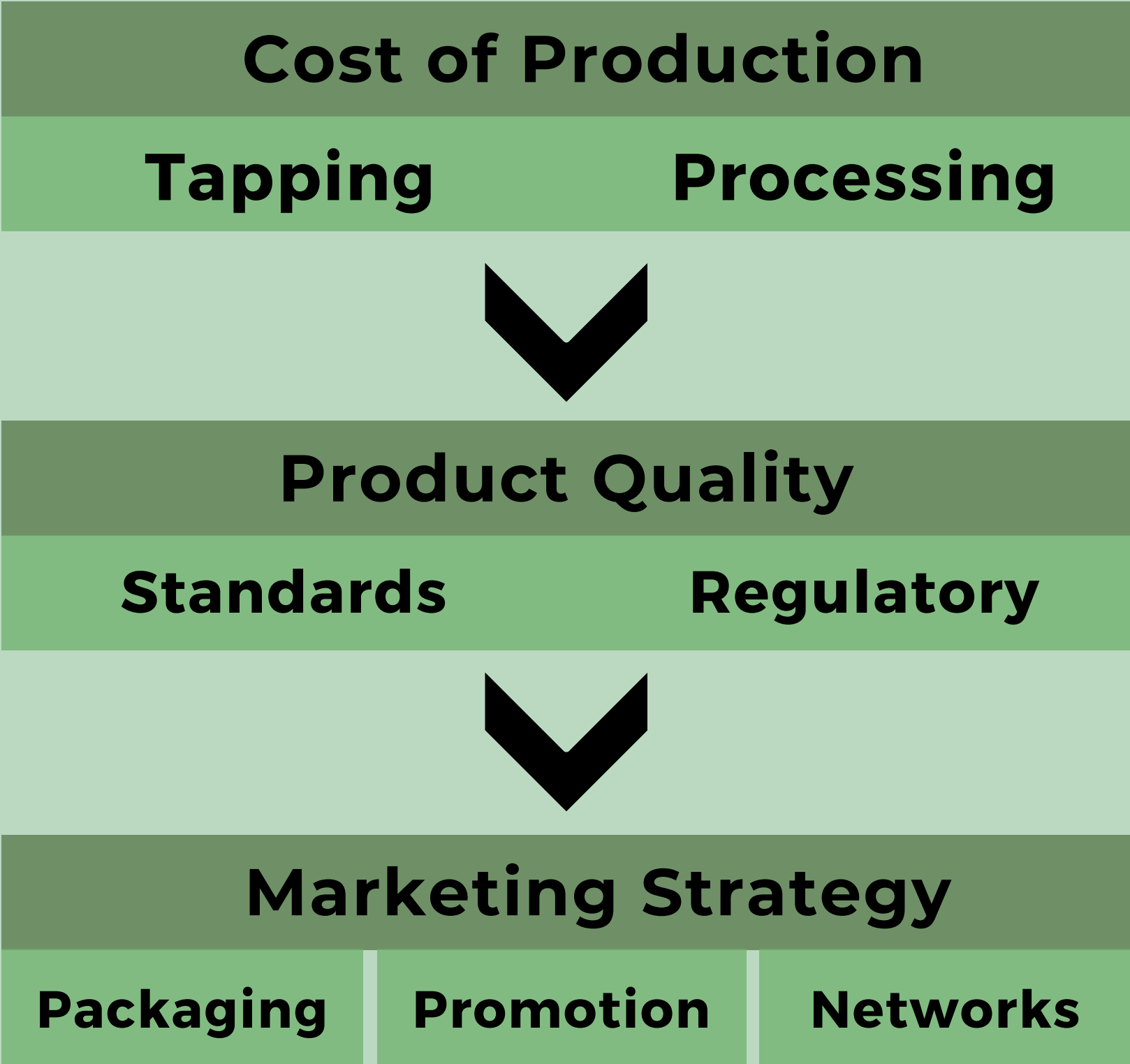
Coco Sap Sugar

Natural and Organic
Product for Wellness
and Health Global
Market

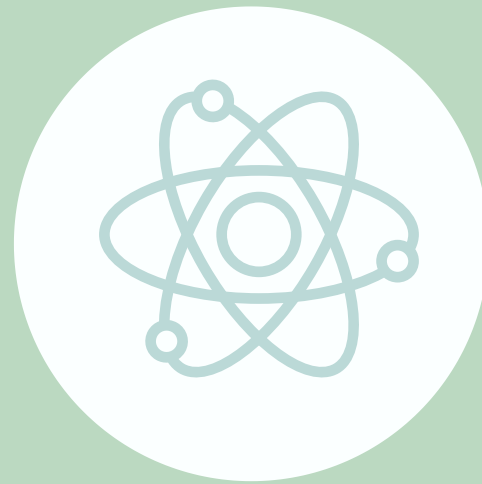


Transforming a Farm-Level Technology to its Global Potential

BASIC REQUIREMENTS



Philippine National Standards (PNS)



Physical

- Color : light yellow
- Odor : sweet - nutty
- Taste : sweet



Chemical

- Water Activity : 0.5% - 0.8%
- Glucose: 2 - 3 %
- Fructose: 1 - 4%
- Sucrose: 78 - 89%



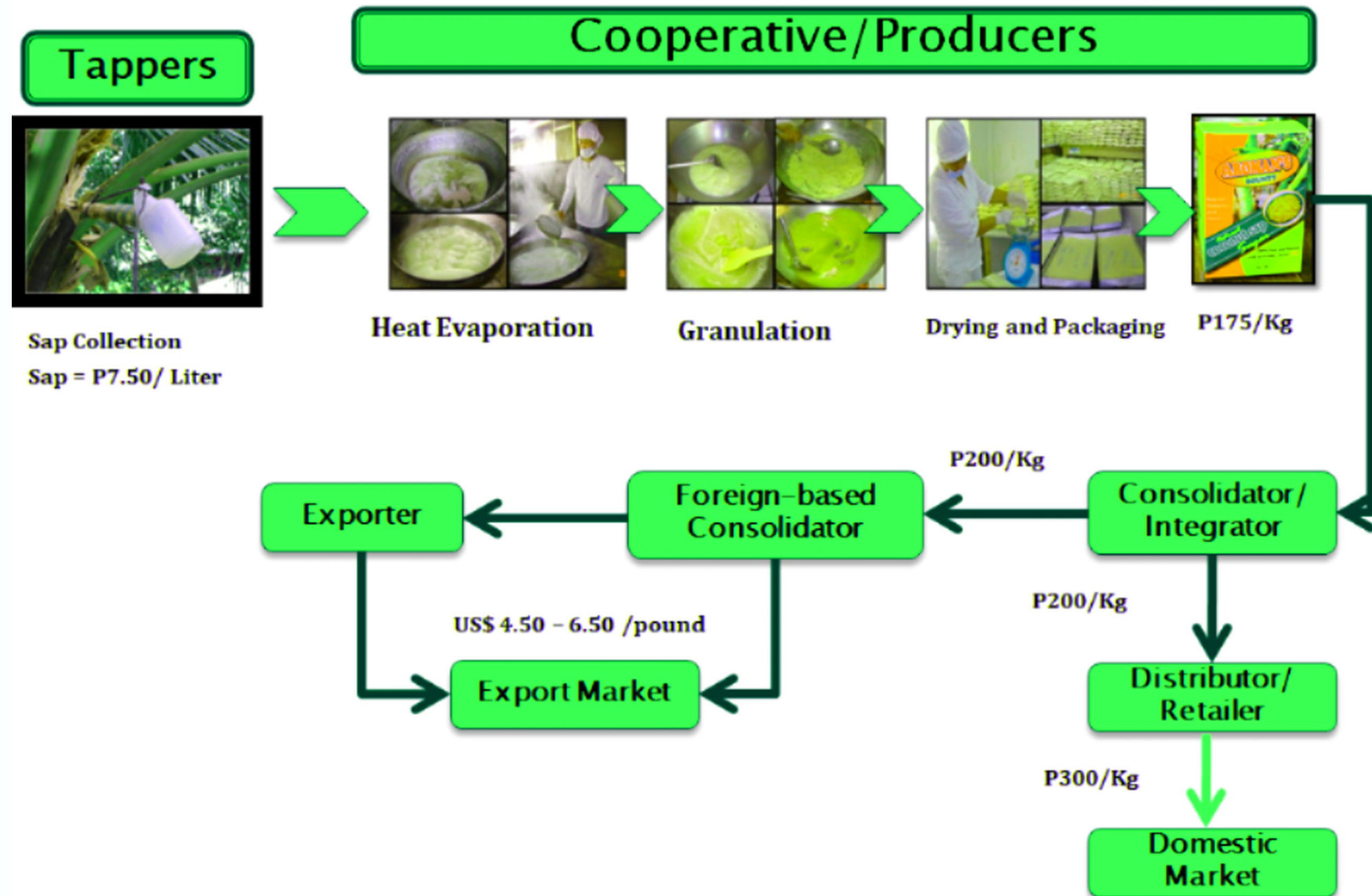
Microbial

- Salmonella : Negative
- E. Coli : Negative
- Coliform Count : < 10cfu/g
- Mold/Yeast : <10cfu/g

The background of the slide features a light green overlay with a faint image of three Alabat Island Delights coconut products. At the top, there are three brown paper bags. Below them are three white plastic tubs. Each tub has a label with the brand name 'Alabat Island DELIGHTS' in a script font, a palm tree illustration, and the word 'COCONUT' in large letters. The tubs contain a thick, light-colored coconut spread. The text 'Good for Diabetics! Low Glycemic Index! * Healthy Coconut! Pure and Natural - No Harmful Chemicals!' is visible on the labels. The overall theme is tropical and health-conscious.

COCONUT SAP SUGAR INDUSTRY SCENARIO IN THE PHILIPPINES

The Supply - Value Chain



COST BENEFIT ANALYSIS

Initial Investment

**Php
110,000**

Operating Cost

**Php
660,000**

Ave. Annual Sales

**Php
957,825**

Net Present Value

**Php
1,279,337**

**Internal Rate of
Return**

20.7%

Payback Period

1 year

Brands in the Market

- Azucar Organics
- Benevita
- Donabel
- Coco Glow
- Coco Natura
- Coco Wonder
- Aroman's Bounty
- Coco Princess
- Suchero
- Sweet Life
- Quezon's Best
- Alabat Island Delights



AVE. MONTHLY PRODUCTION AND EXPORT DESTINATION

| PRODUCERS | QUANTITY (TONS) | DESTINATION |
|--------------------------------|-----------------|-------------------------|
| GEES ORGANIC COCO SUGAR | 12-15 | USA |
| TREE LIFE | 8-10 | GERMANY, CANADA, EUROPE |
| SUCHERO | 8-10 | EUROPE |
| SPYTHE GLOBAL | 8-10 | USA |
| AROMAN WOMEN'S COCO SUGAR PROD | 2-5 | USA |
| BENIVELLE | 2-5 | JAPAN |
| SWEET PAL | 2-5 | GERMANY |
| PCA-ZRC | 2-5 | USA |
| LAO INTEGR. FARM | 2-5 | CANADA |
| ALABAT ISLAND | 0.5 | JAPAN |
| QUEZON'S BEST | 4 | JAPAN, MIDDLE EAST |



Prospects

- Increasing number of diabetic people as possible users of the product
- Growing interests of consumers on natural and healthy products in the local and global market
- Shift of consumers' interest on organic and natural product
- Development of quality and competitive product
- Increasing demand and growing interest of the business sectors in the export and domestic scenario



Statistics of Diabetes

PREVALENCE

In 2018, 34.2 million Americans or 10.5% of the population, had diabetes.

UNDIAGNOSED

Out of the 34.2 million, 26.8M (79%) were diagnosed and 7.3M (21%) were undiagnosed.

NEW CASES

1.5 million Americans are diagnosed with diabetes every year.

PREDIABETES

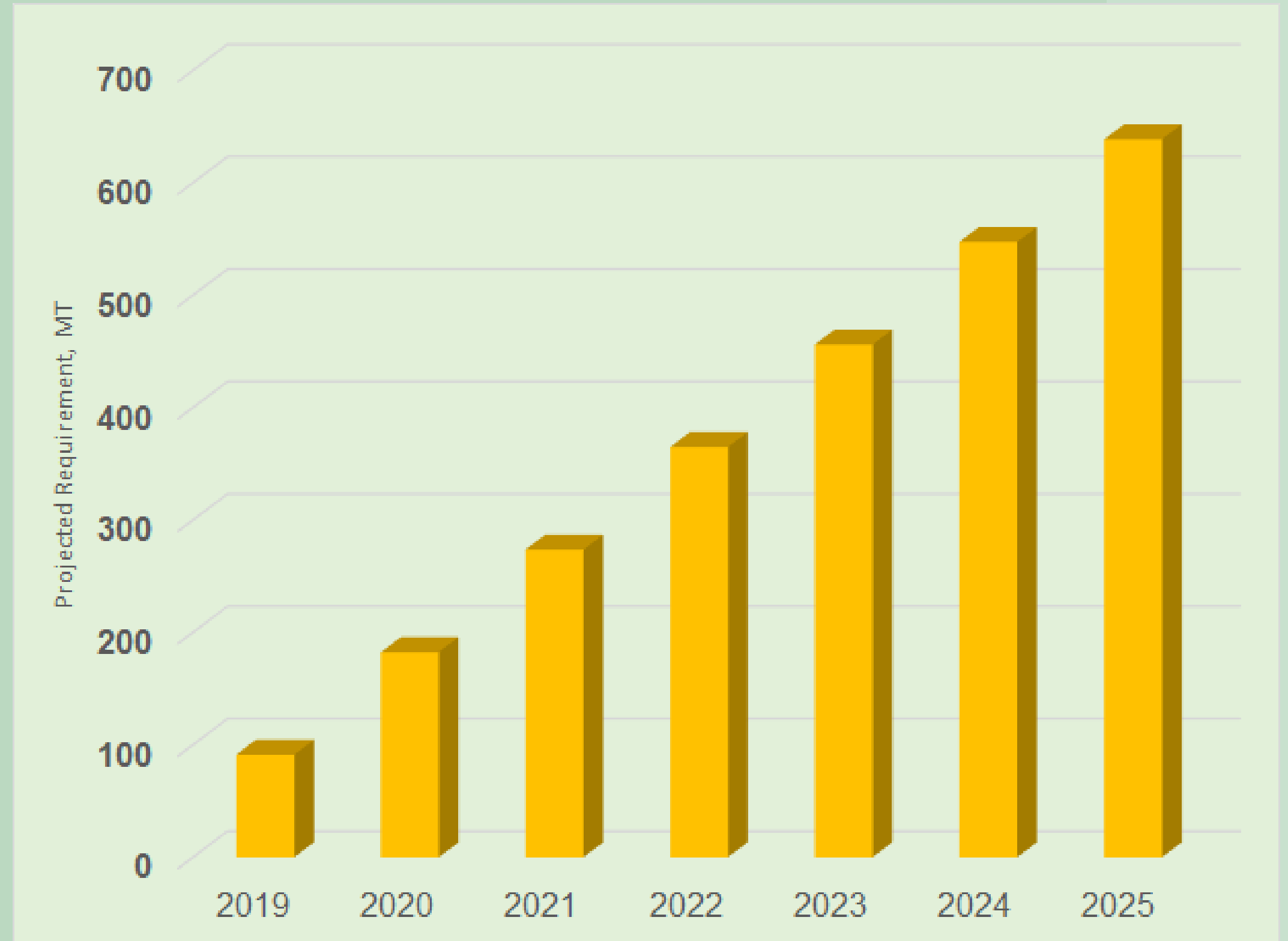
In 2015, 88 million Americans age 18 and older had prediabetes.



Projected Requirement for Alternative Sweetener

Assumptions:

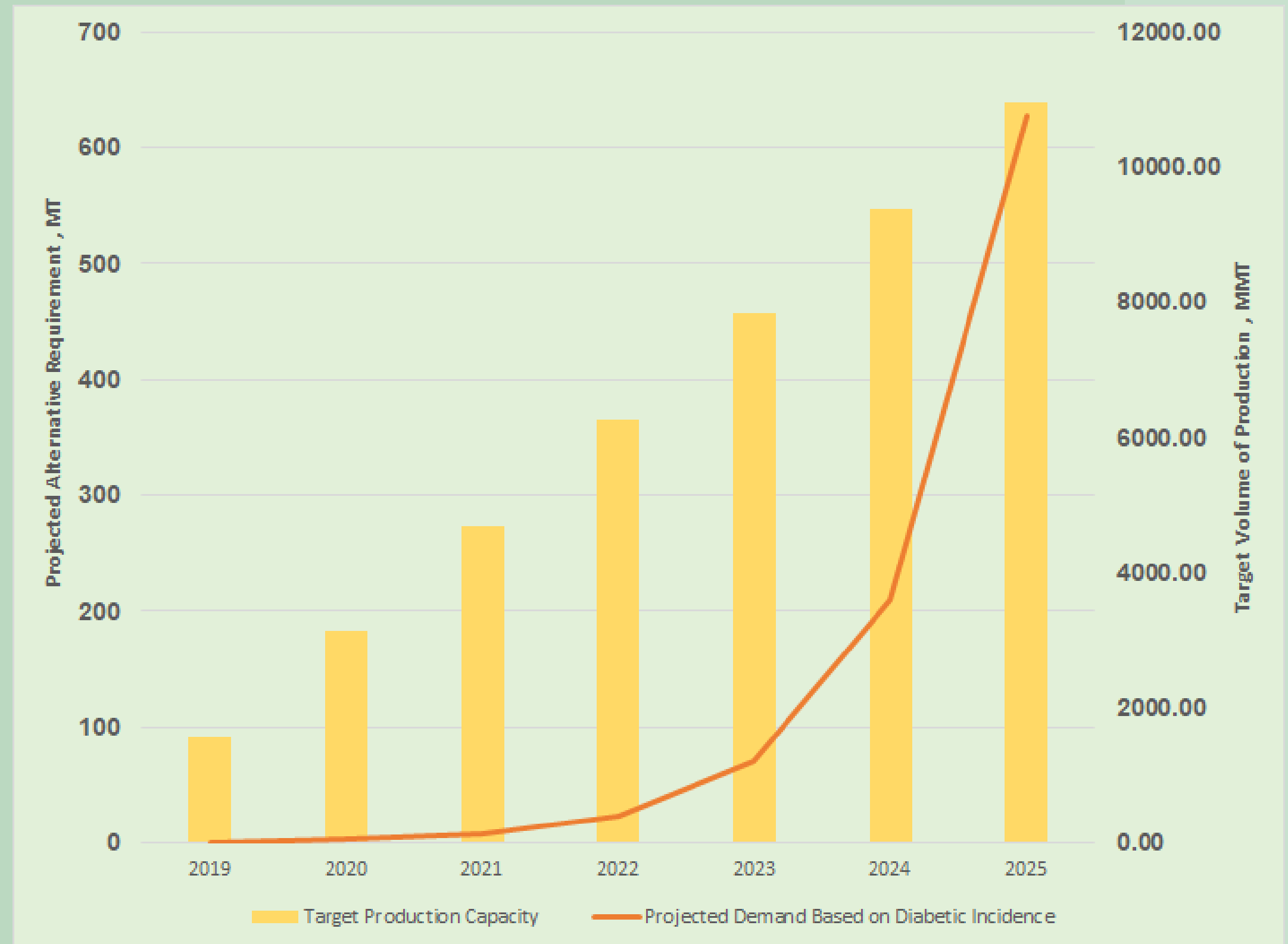
- 500M diabetics worldwide (WHO, 2019)
- Computation of daily sugar intake is based on the Recommended Daily Intake (RDI) for diabetic which is 5g daily
- Computation of annual requirement of alternative sweetener is based on the percentage of diabetics multiplied by RDI of sugar and number of days
- Percentage of target diabetics: 2018-1%, 2019-2%, 2020-3%, 2021-4%, 2022-5%...



A Promising Projection

Assumptions:

- Target production is based on current production which is 14,765 MMT and increases threefold every year
- 500M diabetics worldwide (WHO, 2019)
- Computation of daily sugar intake is based on the Recommended Daily Intake (RDI) for diabetic which is 5g daily
- Computation of annual requirement of alternative sweetener is based on the percentage of diabetics multiplied by RDI of sugar and number of days
- Percentage of target diabetics: 2018-1%, 2019-2%, 2020-3%, 2021-4%, 2022-5%...



Recommendations



1. Adopt the coco sap-based diversified processing model to have the maximum gains from this enterprise.
2. Multiply the rural-based coco sap sugar production with the provision of technical and financial assistance to SMEs.
3. Expand the COCO-SAP sugar agro-industrial hub of PCA in rural areas as community based enterprise.
4. Invest on clinical and nutritional studies of the coco-sap based products
5. Domestic and Global promotion of this product
6. Craft the International Standards for strict compliance of the manufacturers



END OF PRESENTATION