



บริษัท ไทยวา จำกัด (มหาชน)  
Thai Wah Public Company Limited



# Creating Innovation and Sustainability from **Farm to Shelf**

2020 Sustainability Report  
รายงานการพัฒนาคความยั่งยืน 2563



Has operated in Thailand for  
**over 74 years**



Commitment to promote **solid business growth**  
while joining with our stakeholders in **creating value** in **sustainable manner**



## Vision

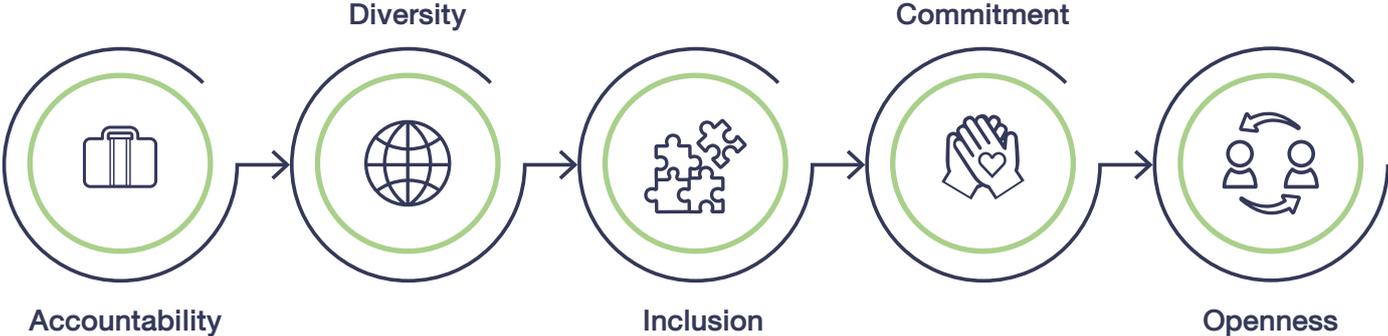
To be a regional leader in starch and starch-related food products



## Mission

We are a regional leader in starch and starch-related food products, a pioneer in Thailand for tapioca starch, vermicelli, and noodles with a commitment to innovation and operation excellence.

# Core Value



We take **PRIDE** in everything we do as individuals and as one team, to do our very best



We lead with **INTEGRITY** and the highest values of excellence, honesty and transparency



We act with **CONSISTENCY** to always improve and learn every day

# Awards and Recognition in 2020



Received an "Excellent CG Scoring" rating for the 1<sup>st</sup> year in 2020 for our corporate governance performance from the Thai Institute of Directors (IOD)

## FTSE

Selected to be calculated in the FTSE Micro Cap Index and sSET Index



Granted the Sustainability Disclosure Award by Thaipat Institute for the 2nd year



Selected by the Stock Exchange of Thailand as a model company in the areas of development, motivation, and care for employees (Sustainable DNA for employees)



Listed in the "Thailand Sustainability Investment (THSI)", selected by the Stock Exchange of Thailand (SET) for the 2nd year



Bean Vermicelli Double Dragon Balance won the Winner of The International Innovation Awards (IIA) 2020 under product category from Enterprise Asia



Certified as member of Private Sector Collective Action Coalition against Corruption (CAC), dedication to the no longer tolerate and commemoration of the International Anti-Corruption Day (Thailand)



Received the Outstanding Disability Employer Awards from Department of Social Development and Welfare, Minister of Social Development and Human Security for the 4th consecutive year

## Bean Vermicelli Double Dragon Balance **Balance Everyday Life**

Bean Vermicelli Double Dragon Balance (DD Balance) from Thai Wah Public Company Limited won the Winner of the International Innovation Awards (IIA) 2020, organized by Enterprise Asia. It is one of the invaluable global awards that recognize outstanding innovations and innovative practices across three categories: Product, Service & Solution and Organization & Culture.

DD Balance produced from 100% natural fermentation and a proprietary freezing process, modified the starch content, resulting in a gradual release of glucose into the bloodstream, which in turn is beneficial to health and weight management.





**100%  
Natural**

Produced from selected mung bean with special production process to ensure good quality vermicelli.

**Superior  
Texture**

DD Balance is the only bean vermicelli brand that was certified a 2-stars in quality and flavor by a world-class International Taste Institute in 2019.

**Low  
Glycemic  
Index  
(Low GI)**

Glycemic Index (GI) – a rating system assigned to foods which serves as an indicator on how quickly blood glucose levels increased after a food is eaten. Generally, the slower blood sugar level rise, the lower the GI.

**Delicious..  
for  
all Menus**

Non-stickiness, stability in soup, longer cooking and absorption of soup or sauce.

**Safe**

Non-Bleached, chemical free and gluten free.



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# Message from Chief Executive Officer



Thai Wah is driven by our core purpose to serve our global consumers as we seek to Create Innovation and Sustainability from Farm to Shelf. We take pride in sharing stories of our journey and we hope to inspire more to join us.

2020 was an unprecedented year of challenge and uncertainty for all of us, as Covid-19 and the global pandemic upturned the way we live, work and play. Despite the challenge due to the Covid-19 crisis, the Company has been financially strong and the core business of the Company remains steady and intact. By far, the most important thing we did in 2020 was keeping our associates, supply chain and partners safe and healthy amidst the global pandemic. Moreover, we made a very focused effort over the course of the year to care for the physical and mental well being of our associates, focusing on health and hygiene, job protection, work from home and flexible working hours policies. In addition for the first half of the year, we rapidly deployed Covid-19 insurance while ensuring we could conduct effective performance evaluation and training program analysis on an ongoing basis as an important part of the organization towards sustainability and developing long term best practices.

As we aspire to be a leading 21st century organization with global reach now to over 30 countries around the world, our stakeholder's activity and commitment across all aspects of our value chain from farm, sourcing, manufacturing, supply chain and delivery has profound impact to the community and stakeholders we work with. Serving our consumer and customer base is a commitment to creating shared value, as we seek to serve our global consumers the best of tapioca, mung bean, rice, and other starch and food products from this region to the rest of the world. As we continue to expand our reach, we still focus on our strategies, namely, Farmer Development, Green Factory and Community, Family Work and Life Balance, and Organic Food and Healthy Food R&D. During the Covid-19 pandemic, we maintained daily and weekly communication with over 3,000 farmers across the region, not just in Thailand but also Vietnam and Cambodia.

This year in 2020, some key initiatives include continuing to support the building of sustainable communities through "Thai Wah Farmer Network", offering farmers with scalable Agri-Technology, and building best in class regional Thai Wah smart farming solutions models that create more agricultural value and improve overall

global supply chain to serve future demand and improve farmer livelihoods. We have pioneered in 2020 the use of geo-mapping and satellite imagery with one of the leading Agri-tech startups in South East Asia. In addition, at the factory level, we have also implemented “Kaizen Project” at tapioca starch factory in Rayong, Udon Thani, and Kalasin province, to conduct lean transformation of the factory, including waste reduction and productivity improvement. The Company’s plants in Udon Thani and Nakhon Pathom province were selected as pilot plants in the organization’s carbon footprint project, which is expected to be able to report and verify GHG emissions by September 2021. This represents the company’s effort to start tackling with urgency of climate change with action and commitment.

Agriculture and food are one of Southeast Asia’s most important exports and we are committed to serve our consumers and customers better by putting innovation and sustainability at the core of our long-term vision. These efforts were enabled by a new R&D hub based at Chulalongkorn University in Thailand. We have launched more than 10 new products for both starch and food business and will continue to invest in its growth and innovate for the future, develop a more open innovative ecosystem for partnership and breakthrough technologies in areas of food modification, fermentation, bioplastics or thermoplastic starch, and polymer-science. Looking towards the future we will be launching new prototypes of bioplastic, bio-based and new protein applications as part of our overall push to improve the portfolio.

We are also proud to announce that Thai Wah was selected to be on the list of “Thailand Sustainability Investment (THSI)” in 2020 by the Stock Exchange of Thailand (SET) and was awarded the Sustainability Disclosure Award by Thaipat for the second consecutive year. This is driven by how we embed sustainability targets in farming, environment, safety and health standards and strive to operationalize our sustainability framework. We are proud to have received “Excellent CG Scoring” rating in 2020 for our corporate governance from IOD for the first year. These awards are the proof of our passion to drive accountability and transparency across our entire value chain. In addition, we won the International Innovation Awards (IIA) 2020 for Bean Vermicelli Double Dragon Balance (DD Balance) product by Enterprise Asia and received the Outstanding Disability Employer Awards of the year 2020 from the department of Social Development and Welfare for the fourth consecutive year.

Looking forward to the next decade, the Thai Wah family remains focused and committed to deliver our vision in Creating Innovation and Sustainability from Farm to Shelf. While uncertainty and chaos may seem to be the new normal, it is imperative to keep developing and strengthening our foundations and our best practices for our team, our associates and our stakeholders.

I thank you for the support, feedback, and encouragement for our Thai Wah journey. We will always strive to do better and do more.

# Thai Wah's Business Overview, Value Chain and Products

Thai Wah has operated in the agriculture business and food industry in Thailand for over 74 years with a commitment to promote substantial business growth along with sustainably creating value for our stakeholders.

Currently, Thai Wah operates 2 core businesses: starch and starch-related food business and food business.

With the Company's value chain links to various groups of stakeholders, i.e., business partners, societies, customers, and consumers. We have placed great importance on managing the business in accordance with the international standard and adopting modern technologies throughout the manufacturing process to produce quality, safe, community, and environmental-friendly products.

## Business Operations and Products of the Company

### Starch and Starch-Related Food Business



### Food Business



## Value Chain



	Procurement	Manufacturer	Logistic	Marketing & Sale	Service
	Sustainable Farming	Green Factory and Rural Development		Consumers and Healthy Product	
Value for THAI WAH	<ul style="list-style-type: none"> <li>- Secure supplies of high quality raw materials</li> </ul>	<ul style="list-style-type: none"> <li>- Improve product quality &amp; community relationships</li> </ul>	<ul style="list-style-type: none"> <li>- Optimize production</li> <li>- Lower manufacturing &amp; distribution costs</li> </ul>	<ul style="list-style-type: none"> <li>- Expand market variety of products.</li> <li>- Enter new &amp; emerging markets</li> <li>- Good corporate / branding</li> </ul>	<ul style="list-style-type: none"> <li>- Achieve competitive shareholder returns</li> <li>- Sales growth</li> <li>- Market leader</li> </ul>
Key Stakeholders	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Farmers</li> <li>- Partners</li> <li>- Government Agencies</li> </ul>	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Communities and Societies</li> <li>- Government Agencies</li> </ul>	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Communities and Societies</li> <li>- Customers and Consumer</li> <li>- Outsources</li> </ul>	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Customers and Consumers</li> <li>- Partners</li> <li>- Government agencies</li> </ul>	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Customers and Consumers</li> <li>- Government agencies</li> <li>- Shareholders and Investors</li> </ul>
Value for Stakeholders	<ul style="list-style-type: none"> <li>- Quality of life</li> <li>- Have quality output</li> <li>- Improved yields &amp; income</li> <li>- Educate farmers to use and embrace technology</li> </ul>	<ul style="list-style-type: none"> <li>- Experiment with different types of crop variety, seed variety, and crop development</li> <li>- Local economic development</li> </ul>	<ul style="list-style-type: none"> <li>- Create jobs in local communities</li> <li>- Reduce negative impact to the environment</li> </ul>	<ul style="list-style-type: none"> <li>- Widen access to nutritional products</li> <li>- Consumer preference (for health and wellbeing)</li> </ul>	<ul style="list-style-type: none"> <li>- Consume quality product</li> <li>- Generate local investment and economic growth</li> </ul>

# 6 Strategic Goals of Thai Wah 2020–2025

Company’s strategic plan was established in the year 2020 to provide direction of the business in the long term with consideration of various risks as well, which is divided into 6 goals :





# New Products in 2020

## Gift set for Health, Bean Vermicelli Noodle, Double Dragon Brand Balance



A caring gift designed to deliver good health and wellbeing for loved ones.

- Produced from premium mung bean 100%
- Low Glycemic Index (Low GI) vermicelli, which can balance consumer's blood glucose levels
- Guaranteed 2-stars certificate in quality and flavor by the world-class International Taste Institute
- Non-bleached, chemical free and gluten free

## Instant Vermicelli, Double Dragon Ready Brand



A new choice for health conscious, who love street food, good flavor, and convenience. Ready to eat in only 3 minutes and available in 3 flavors

- Boat noodles flavor, ancient recipe, rich and mellow soup
- Tom Yum Kung flavor, sweet & sour recipe. Classic Thai cuisine with spicy taste, a favorite of Thai people that will hit straight to the heart
- Tom Super ZAAP flavor, spicy soup with chicken and vegetables

## Large Rice Noodle, Double Kirin Brand



- The texture is chewy and delicious
- The noodle is not sticky and not quickly broken
- Use new oil in every production
- Packaging is sealed and no oil leakage
- Clear production and expiration date

## Instant Rice Noodle, Asian Inspired Brand



A new choice for health conscious, delicious and convenience, the original Thai style with gluten-free, ready to eat in 3 minutes.

Available in 6 flavors:

- Tom Yum
- Thai Boat Noodles
- Crab Curry
- Pad Thai
- Oriental chicken soup
- Tom Kha

### Tiny Rice Noodle, Double Kirin Brand



- The noodle is only 1.4 mm wide
- Blanches easily and cooks quickly
- The texture is chewy and delicious

### Vermicelli Noodle, Double Dragon Brand



- Non GMO
- No artificial colors
- No MSG added
- Gluten Free
- Thai Trusted Quality

### Small Rice Noodle, Double Kirin Brand, Super Firm



- The texture is chewy and delicious
- Blanches easily
- The noodle is not sticky

### Bai Miang Yuan, Double Eagle Brand



- Healthy menu and delicious
- Chewy and soft but not easily broken
  - Delicious, clean, hygienic
  - Gluten free, does not contain gluten that can cause allergies
  - No preservatives
  - Low fat, suitable for healthy dishes

### Fried Garlic, Double Eagle Brand



- Good smell
- Crisp
- Clean and Safe
- Delicious in every dish

## Product Labels

Low GI ITQi 2 stars International Innovation Awards (IIA) 2020



### Healthier Choice



### ITQi 1 star



# Summary of Key Performance in 2020

## Our Performance for Sustainable Growth

- Revenues 7,090 Million Baht
- EBITDA 571 Million Baht
- Dividend 0.134 Baht per share
- Revenue contribution by country:  
Thailand 4,464 Million Baht  
Vietnam 1,091 Million Baht  
China 1,499 Million Baht
- Revenue contribution by business:  
Starch Business 5,523 Million Baht  
Food Business 1,567 Million Baht



## Good Corporate Governance

- Received an “Excellent CG Scoring” rating for our corporate governance performance
- Listed in the “Thailand Sustainability Investment (THSI)”
- Member of Private Sector Collective Action Coalition against Corruption (CAC)
- Member of UN Global Compact and be a part of the SDG Ambition programme



## FARMER: Farmer Development



- Number of Thai Wah Farmer Network was 1,569 farmers
- Production of disease-free X20 cassava stems was 540,000 stems



- Average yield per rai increased to 5.8 tons/rai
- Supported AG Techonology to Thai Wah Farmer network



- Supported compost fertilizers instead of chemical fertilizers to 897 Thai Wah Farmer Network for 9,051 tons



- Integrated sustainability to Core Value Organized training about career skills and agricultural knowledge to 897 farmers



- Green procurement, responsible to society and environment, accounted for 11% of total procurement budget



- Be part of UN Global Compact Network Thailand and Thaiapat Institute as a member

## FACTORY: Green Factory and Community



- Proportion of wastewater treatment accounted for 100%



- Electricity being reduced from biogas power plant was 19,199,100 units
- Accumulated electricity from Solar Roof Top for 1,405 kWh which costs 5.08 million baht



- Produced fertilizers from production waste such as soil crust, cassava pulp and sludge from water treatment accounted for 8,000 tons



- Carbon Footprint of the Company is during data collection process which is estimated to be able to report and verify the GHG emissions within September 2021 (CFO)
- Reduced GHG emissions for 51,722 tCO<sub>2</sub>e (T-VER)

## FAMILY: Family Work and Life Balance



- Average training of all employees were 1 person/1 day/ year



- Proportion of male employees to female employees was 2.5:1



- Total number of employees were 2,866 employees
- Implementation of Human Rights and Good Labor Practices to the entire company



- Proportion of persons with disabilities to all employees were 1:100

## FOOD: Organic Food and Healthy Food R&D



- Research and development expenditure accounted for 11.99 million baht



- Innovation for an environment-friendly society

### Sustainable Development Partners



United Nations  
Global Compact



# Thai Wah Sustainability Development

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As a pioneer in the agriculture and food industry, Thai Wah strives to operate business with a core mission of delivering food products to consumers throughout the world, covering economic, social and environmental aspects, while being driven by our core purpose to Create Innovation and Sustainability from Farm to Shelf. Corporate social responsibility for corporate sustainability is very crucial to Thai Wah's growth and business potential. Sustainable development is a key strategy for the Company to achieve our vision, which is to become a regional leader in starch and starch-related food products.

Not only to deliver valuable and safe products and services to customers and consumers, Thai Wah is also aware of our role and responsibility to set social and environmental standard for our operation in all dimensions within the supply chain, taking into account all stakeholders in our value chain, from farm, sourcing, manufacturing, supply chain, and delivery. The Company's sustainability strategy has been set to drive the development of economic, social, and environmental sustainability goals on the basis of Good Corporate Governance. Thai Wah has also undertaken our strategy on corporate social responsibility for corporate

sustainability from sourcing of raw materials to delivering of ready-to-eat products.

Thai Wah developed a corporate sustainability development report under the framework of Create Shared Value (CSV), which helped us explicitly identify goals and create the most corporate values. The Company has set 3 sustainable development goals as follows:

- Develop sustainable plants and raw material sources
- Foster thriving and resilient communities with environmentally friendly impact
- Enabling healthier for modern life

The Company sets the operational mission into 4 key strategies includes Farmer Development, Green Factory and Community, Family Work and Life Balance, and Organic Food and Healthy Food R&D. These strategies create appropriate benefits for shareholders, enhance consumer health, as well as occupational health and livelihood of employees, business partners, society, and community in a sustainable manner.

# TWPC CSV



**F1**  
FARMER

FARMER  
DEVELOPMENT



**F2**  
FACTORY

GREEN FACTORY  
AND COMMUNITY



**F3**  
FAMILY

FAMILY WORK  
AND LIFE BALANCE



**F4**  
FOOD

ORGANIC FOOD AND  
HEALTHY FOOD R&D

HUMAN RIGHT AND GOOD CORPORATE GOVERNANCE

STRATEGIES

Expertise & support  
for farmers

“Zero Waste”  
manufacturing plants

People & human rights  
and compliance

Building brands through  
responsible marketing

STAKEHOLDERS

Farmer  
Partner

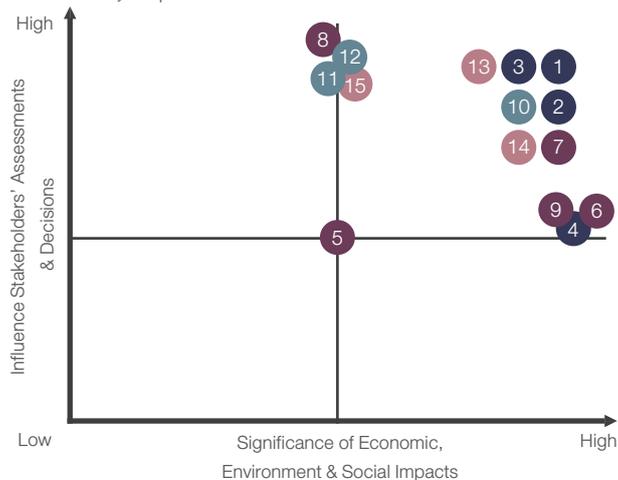
Community /  
Society

Employee

Consumer /  
Customer / Partner

# Stakeholder & Materiality Analysis

The materiality analysis presented within this report is assessed through collaboration with internal and external stakeholders, and from both of the Company's internal and external factors. We abide by the principles of GRI Standards including Sustainability Context, Materiality, Completeness and Stakeholder Inclusiveness, as well as prioritization of sustainability risks and proper preparation of response plan. The Company's process for assessing the material sustainability aspects is as follows:



Dimension	Sustainability issue	
Farmer Development	1. Climate Change and Plague	
	2. Farmer Development	
	3. Sustainable Supply Chain Development and Efficient Supply Procurement	
	4. Good Corporate Governance	
Green Factory and Community	5. Social and Community Development	
	6. Water Management	
	7. Waste Management	
	8. Safety and Occupational Health	
	9. Performance of Machine and Production Process	
	Family Work and Life Balance	10. Human Resource Development
		11. Anti-Corruption and Anti - Bribery
		12. Human Rights and Labor Law
	Organic Food and Healthy Food R&D	13. Innovation
14. Quality and Food Safety		
15. Brand Trust		

# Stakeholder Engagement and Materiality Analysis

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Thai Wah believes that stakeholder engagement is an essential component for its strategic planning, in the economic, social, and environmental dimensions, toward a sustainable organization. Analysis and prioritization of stakeholder groups have been continuously executed to assess positive and negative impacts, both external and internal, from Thai Wah's business operation.

In formulating the 2020 corporate sustainability development report, the Company compiled stakeholders' feedbacks and views, as well as their needs, opinions, concerns, and suggestions, for improvement of compliance approach, in line with fair and appropriate sustainability operation. We also conducted satisfaction surveys with representatives from stakeholder groups including capital market developers, business partners, communities, and customers to gather their views which will also be used to shape the report content.



# 7 main Groups of Key Stakeholders

## Farmers

### Participatory Channels

1. Thai Wah Farmers Network program
2. Farmer development activities
3. Mobile application
4. Thank you farmer day

### Needs or Expectations Issues

- Support quality of life for farmers
- Introduce technology to farmers
- Good corporate governance

### Company Responses

- Promote, support, and training for farmers to increase the ability in management and cultivation processes
- Fair trade for price and starch measurement
- Support cultivation machine, and fertilizer to help reduce labor and time
- Establishment of the agronomist team to connect with farmer networks

See more details in the chapter “Farmers Development” and “Water management for sustainable agriculture”

## Partners

### Participatory Channels

1. Joint collaboration meeting / Customer visit
2. Partners conference
3. Social media channels, such as website, Facebook, Youtube, LinkedIn, and Line@

### Needs or Expectations Issues

- Support win-win strategic growth
- Promotion and marketing activities to drive off-take
- Food quality and safety
- Good corporate governance

### Company Responses

- Promote, support, product training for business partners to grow sales and gain more market share
- Develop a variety of products to capture the need and trend of the market

See more details in the chapter “Enhancing Quality and Food Safety”

## Customers and Consumers

### Participatory Channels

1. Customer engagement survey
2. Customer service team to manage request or complaint from customers or direct consumers
3. Social media channels, such as website, Facebook, Youtube, LinkedIn, and Line@

### Needs or Expectations Issues

- Access choice of healthier food
- Food quality and safety
- Marketing campaign
- On-pack label communication on nutrition, usage, ingredient information

### Company Responses

- Communication for consumers understanding about nutrition and product label
- Expand communication channels
- Develop products and services to meet high standards of quality and safety
- Offer alternative products for better health
- Develop marketing campaign to capture the market / consumer’s trend.

See more details in the chapter “Innovation on Process, Products and Services” and “Enhancing Quality and Food Safety”

## Employees

### Participatory Channels

1. Employee engagement survey
2. Intranet and E-newsletter, mobile application / TW Wander newsletter
3. Team building / Company outing
4. CEO Town Hall
5. Annual performance review
6. Coach / Mentor program

### Needs or Expectations Issues

- Safety and Occupational Health
- Career Path Development Program
- Welfare
- Employee engagement

### Company Responses

- Define Individual development plan for potential career path
- Performance management system measure for Result and Behavior that need to align with Company KPI and Company core value
- TLA program promoted shared learning across all functions/ levels
- Well-caring of people during COVID-19

See more details in the chapter “Safety and Occupational Health”, “Human Resources Development” and “Human Rights and Labor Law”

## Communities and Society

### Participatory Channels

1. Community relations activities
2. Complaint center
3. Community visiting

### Needs or Expectations Issues

- Job creation to promote community economic development
- Reducing the environmental impact to the community

### Company Responses

- Provide a project to promote health and quality of life for the community, such as basic health check
- Develop project to promote smart farming way to young generation in community
- Establish energy management policies and waste management

See more details in the chapter “Social and Community Development”

## Shareholders and Investors

### Participatory Channels

1. AGM
2. Company visit / Site visit
3. Analyst meeting / Interview
4. Opportunity day / Roadshow
5. IR website, email, contact number

### Needs or Expectations Issues

- Good corporate governance
- Transparent, accurate and timely information disclosure
- The Company strategies towards sustainability

### Company Responses

- Implementation of good corporate governance principles
- Transparency and equality of shareholders
- Establish clearly operating strategies
- Establish clearly risk management strategies

See more details in the chapter “Good Corporate Governance”

## Government Agencies

### Participatory Channels

1. Disclose information about business operations
2. Cooperate and support the project on relevant issues
3. Related Seminar

### Needs or Expectations Issues

- Compliance with relevant laws and regulations
- Good corporate governance

### Company Responses

- Operation in accordance with relevant laws and regulations
- Support government projects on relevant issues

See more details in the chapter “Good Corporate Governance”

# Export Countries and Our Factories

Thai Wah expands its business to various countries. Depending on the opportunities and the potential of each country.

- Currently, the Company operates in 5 countries
- Exports to more than 32 countries worldwide



## Factories and Operation bases



### Thailand

Bangkok | Kalasin  
Kamphaeng Phet | Nakhon Phatom  
Nakorn Ratchasima | Udon Thani  
Rayong | Tak | Chonburi



### Vietnam

Cu Chi | Ho Chi Minh | Tay Ninh



### Cambodia

Oddar Meanchey



### China

Shanghai



### Indonesia

Jakarta





-  1 Bharain
-  2 Canada
-  3 Czech Republic
-  4 England
-  5 Finland
-  6 Germany
-  7 Israel
-  8 Mauritius

-  9 Netherlands
-  10 Poland
-  11 Russia
-  12 Sweden
-  13 UAE
-  14 USA
-  15 China
-  16 Myanmar
-  17 Thailand
-  18 Laos
-  19 Cambodia
-  20 Vietnam
-  21 Taiwan
-  22 Hong Kong
-  23 Korea
-  24 Japan
-  25 Philippines
-  26 Brunei
-  27 Malaysia
-  28 Singapore
-  29 Australia
-  30 Chile
-  31 Saudi Arabia
-  32 Indonesia

# Sustainable Development Goals (SDGs)

We believe that sustainability cannot be created by one person alone, but the collaboration and participation of all internal and external stakeholders which would lead to the development of the organizational growth. Sustainability strategy is not only a long-term goal, but needs to be part of the daily business operation. Integration of sustainability strategy to a strong business foundation will foster successful partnerships with society for the sustainable growth.

Integration of Sustainable Development Goals (SDGs) to the sustainability strategy helps us identify the issues that create positive impacts, or at least, efficiently reduce the negative impacts. Materiality issues have also been linked with SDGs to identify the most relevant activities within Thai Wah's value chain that directly or indirectly support the SDGs.



 Global Compact  
Network Thailand

“

I think every CEO has a very strong commitment to improve the multistakeholderism in different parts of the company and I look forward to learning and sharing from more business leaders in the future.

”

**Mr. Ho Ren Hua**  
Chief Executive Officer  
Thai Wah PCL



Thai Wah commits to use our knowledge, capability, experience, and expertise in supporting 11 of the 17 Sustainable Development Goals (SDGs), which are relevant to the Company's capacity and potential, to mobilize sustainable development in all steps of our production process, uplift quality of life and wellbeing of the stakeholders, and to promote the nation's sustainable economic growth.



Watch CEO's vision  
in We shift World change  
here

### FARMER



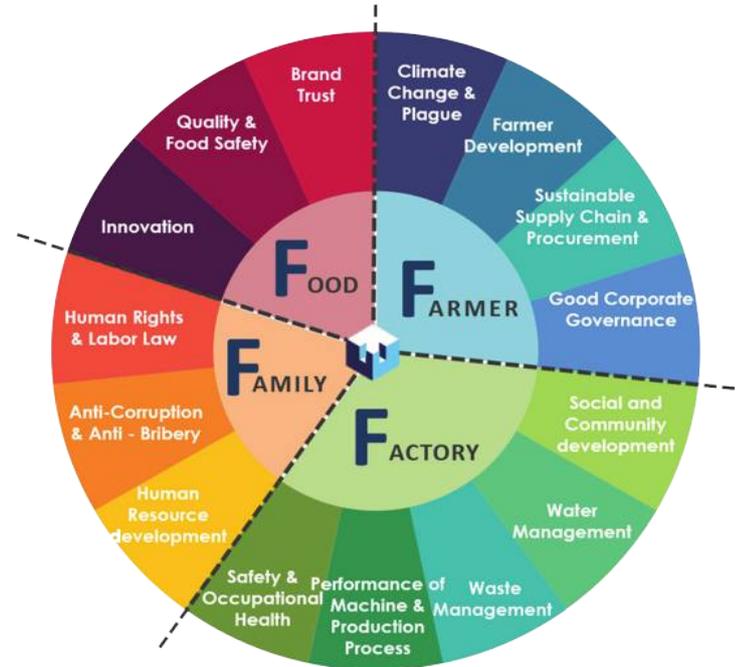
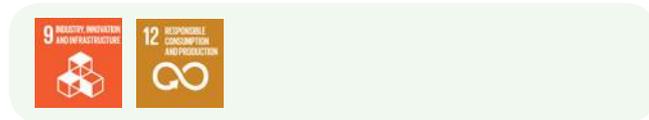
### FACTORY



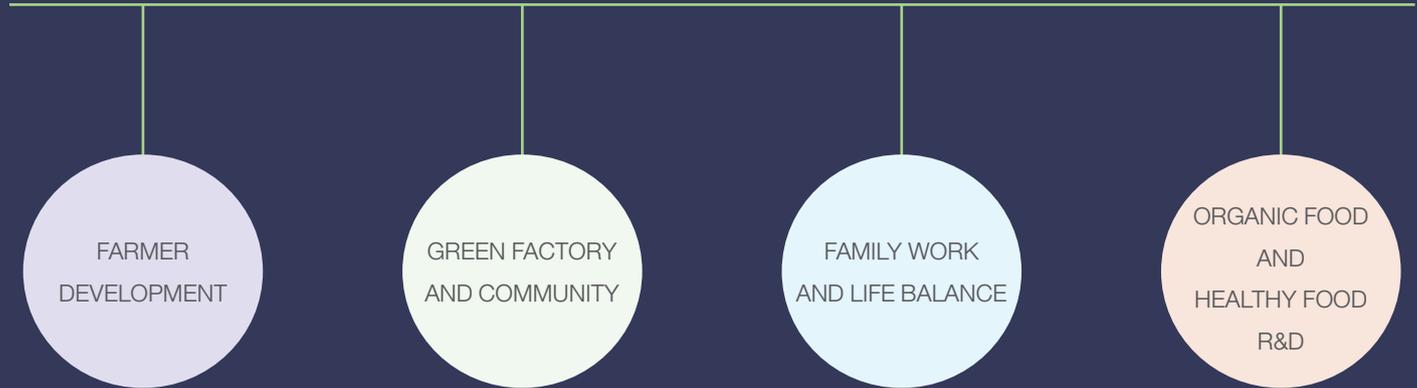
### FAMILY



### FOOD



# Creating Innovation and Sustainability from Farm to Shelf



It has been over 74 years that Thai Wah believes in livelihood development through product innovations that promote people's quality of life and social sustainability. The Company strives to use our starch and starch food products as tools for improving the livelihood of people in the ASEAN region, and million others throughout the world, as well as business partners, communities, employees, and consumers. Our goal to become a sustainable CSR organization is inspired by the fact that we have committed to create values to our agricultural products in all aspects of the

production process and to elevate the standard of social, environmental, and economical operations throughout the supply chain based on good corporate governance. The Company also strives to respond to stakeholders' needs, and mobilize positive transitions of the industry for us to be able to produce high-quality and nutritious products for the better future of business partners and surrounding communities and to deliver our products to the society proudly.



## Good Corporate Governance

The Company strives to conduct our business in adherence to responsibility for society, environment, and stakeholders under the principle of good corporate governance and business ethics. We have placed priority on the rights of all groups of stakeholders who will be treated in an appropriate, equal, and fair manner, as the Company believes that good corporate governance is a significant foundation that drives an organization towards sustainable success and helps to create stakeholder confidence and public trust. Therefore, we are committed to operating our business with adherence to good corporate governance based on fairness, integrity, transparency and accountability, as well as inclusiveness, and responsibility.

# Corporate Governance for Sustainability and Risk Management



In our pursuit for sustainable growth in the future, the Company’s Board of Directors has made approval to the renaming of the Audit and Risk Committee to the “Audit, Risk and Corporate Governance Committee” on August 6, 2019 and change in the scope of duties and responsibilities of the Audit, Risk and Corporate Governance Committee, by increase the scope of duties and responsibilities, as follows:

- To supervise the performance of management to strictly comply with the Company’s good corporate governance policy;

- To review the corporate governance policy and code of business conduct of the Company at least once a year;
- To oversee the anti-corruption policy to ensure it’s sufficient and appropriate for the Company’s business; and
- To supervise and offer advices related to the operation concerning the Company’s sustainable development

Moreover, the Company’s Board of Directors has made approval to the policy on corporate governance and business code of conduct which has been adhered as guideline by all company executives, and employees, and regularly monitored, evaluated, and organizational control, which include the promotion of justice, anti-corruption, respect to human rights, and equitable treatment to workers.

On February 25, 2020, the Company’s senior management has reported to the Audit, Risk and Corporate Governance Committee (ARCG) on corporate sustainability performances and the Company’s performances on engagement with stakeholders in the year 2019 to review Thai Wah’s operation regarding stakeholder engagement, and to identify and prioritize stakeholders throughout the business chain in a comprehensive manner. Efficient and proper approaches to the issues our stakeholders have placed importance on have also been identified.

## Risk Management

In order to ensure that Thai Wah's risk management be in line with the international standard, that is, the COSO's Enterprise Risk Management (ERM) framework, the following components have been put in place:

### **1. Supervisory Structure**

Thai Wah's Board of Directors places importance on internal control and risk management for the Company's sustainable growth and value addition to our stakeholders. A special unit has been set up as the risk management liaison office under the Risk Management Committee to liaise with representatives of each of the divisions, and plants, and form a risk management working group.

### **2. Strategy and Objective Identification**

The risk management working group is tasked to ensure compliance with laws and regulations of the business operation, and to analyze the broader scope of changing trends in economic, social, and environmental dimensions which may impact the industry or business operation in the next 3-5 years. This is in order to mitigate and contain risk, that may affect business operation, to an acceptable level or at the level where the impact is of no significance. The working group also adequately and

properly supervises subsidiaries and transactions with conflicted persons or related parties, in a bid to ensure business operation efficiency and effectiveness in accordance with the set policies and goals, and to establish accountability and accuracy of the Company's financial report.

### **3. Risk Management Process**

Thai Wah conducts sufficiency evaluation with the management, various divisions and units, and plants in accordance with the guideline prescribed in the Internal Control Sufficiency Evaluation Form, as well as risk management approach of the Securities and Exchange Commission, to maintain business operation efficiency.

### **4. Review and Improvement**

The Company conducts sufficiency evaluation of the internal control system and risk management on an annual basis.

### **5. Following up, Report, and Evaluation**

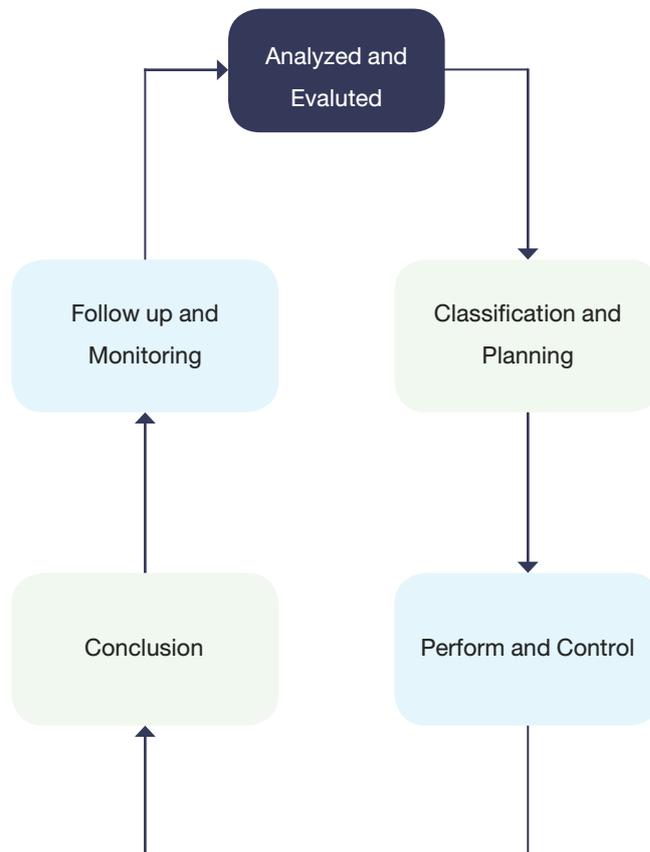
Thai Wah's internal audit has been assigned to follows up, audit, review, and report the results directly to the Audit and Risk Committee on an annual basis.

The Company's Board also places importance on risk management planning to address inherent risks, control risks, and emerging risks, e.g., safety and health risks, risks brought about by insurance liability limit adjustment, etc.

## 6. Building of Risk Culture

Thai Wah's risk management planning includes communication and awareness building on risk management among the Board of Directors, executives, and all employees, as well as workers at the operation level, to promote risk management as the Company's core value. In 2020, the Company organized trainings for factory managers and heads of divisions and units to create common understanding on the importance of risk management planning and organization-wide risk assessment. Each year, we plan to provide knowledge and create understanding among employees of all levels on implementation of risk management approaches. Priority is placed on choosing appropriate strategies that respond to the Company's vision, missions, and operation in order to achieve the goals and objectives, and in accordance with national or organizational strategies. Risk management performance will be designated as KPIs of the organization or a particular unit, or as one of the criteria for the development or approval of new investments.

In addition, the Risk Management Committee has developed Key Risk Indicator (KRIs) to assess key risks of each unit and plants. Business Continuity Plan (BCP) has also been developed and reviewed in case of a crisis. The BCP drill is conducted at least once a year to minimize impact against business and stakeholders. Performances of the risk management working group has also been followed up, summarized, and reported to the Company's Board.



## Emerging Risk

- Risks of safety and health
- Risks from changes in insurance limits
- Risks of disease
- Risks from law and government policies amendment
- Adaptation to new normal and digitalization
- Risks from macroeconomic uncertainty and political impact
- Risks from supply chains management
- Risks from flood and disasters



# Anti - Corruption

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## Anti - Corruption Policy

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The guideline for Thai Wah Public Company Limited’s business operation has been established under the principle of good governance, while adhering to social and environmental responsibility, and anti-graft and corruption. Following our participation in the Private Sector Collective Action Coalition Against Corruption (CAC) on February 21, 2017, the Company has intensively elevated our anti-corruption standard, focusing on transparency and accountability of the operational system. Information technology has been developed in order to better communicate with the employees on the Company policies, to build their awareness, and for efficient data recording.



## E-Learning TWPC Anti-Corruption the Series System

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We believe that promoting employees’ awareness on organizational transparency is the key to creating sustainable core value. Thai Wah sets an anti-corruption policy as an operational guideline and clear compliance approach for the Board, executives, and all the employees, to ensure efficiency, integrity, transparency, and fairness of our anti-corruption endeavor, as well as to achieve our goals. Anti-Corruption curriculum has been developed in the form of a VDO animation via the e-learning system to create common understanding among the Board, executives, and all the employees on Thai Wah’s anti-corruption policy and guideline, and for them to realize true definition of “corruption”, learn about related laws, and how to prevent corruption, as well as to be aware of Thailand’s current corruption situation. The VDO animation, called “Thai Wah Anti-Corruption the Series”, is aimed to reach out to employees of all levels, through animated characters that represent the Company’s anti-corruption endeavor. These characters are:

## Mr.T

representing Thai Wah, has the characteristics of modernity, loyalty to the organization, and strong belief for righteousness and transparency.



## Pi Anti

representing integrity and righteousness, is a character developed from the gesture of 'thumbs up', which means 'excellent'. Its color, blue, is the symbol of transparency.

TWPC Anti-Corruption the Series consist of 6 topics as follow:

What's corruption ?

Fraud prevention and related laws

The corruption situation in Thailand

Thai Wah and anti-corruption policy

Practices guidelines for Thai Wah employees

Adjudication and accepting gift policy



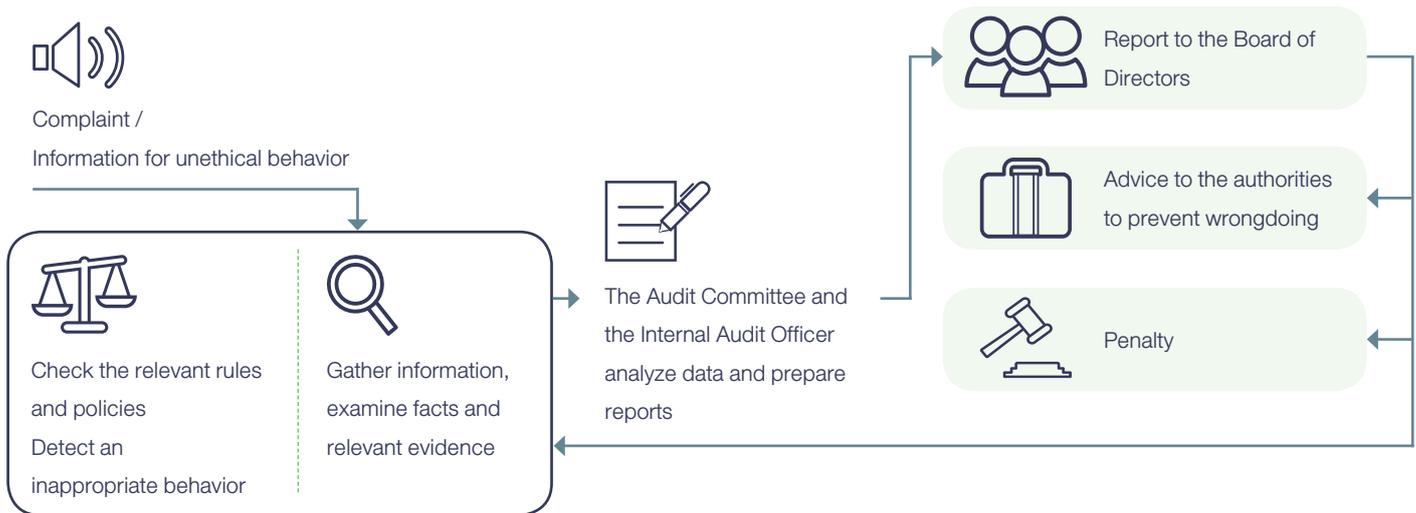
In 2020, Thai Wah's employees participated in the training and took the anti-corruption test of 660 people, which accounting for 100% of all Thai Wah's employees target.

## Complaint Management

In addition, Thai Wah has initiated channels for whistleblowers and filing of grievances of any kind of behavior that is deemed inappropriate and unethical, as well as for receiving feedbacks and suggestions from the employees. The Company provides fair treatment and protection to employees who deny involvement in any misconduct, and those who report any corrupt act associated with the Company. In 2020, Thai Wah received 6 cases of

grievances related to fraudulent act and operation via different channels that were sent to the internal audit department and risk management committee. From the investigations, the corruption act was found in 2 cases, while 1 others were taken against the Company's regulations or as inappropriate behaviors. Nevertheless, the misconducts did not have any significant impact on Thai Wah's reputation nor profits, and wrongdoers have already been taken disciplinary actions in accordance with the Company's regulations.

## Processes of Ethical Considerations in Business



## Whistle Blowing Channel

### Board of Directors

Email : bod@thaiwah.com  
Facsimile : 0-2285-0268  
Post : Board of Directors  
Thai Wah Public Company Limited  
Thai Wah Tower 1, 6<sup>th</sup> Floor 21/11, 21/13  
South Sathorn Road, Tungmahamek, Sathorn, Bangkok 10120

### Audit and Risk Committee

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Post : Audit and Risk Committee  
Thai Wah Public Company Limited  
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### Internal Audit

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Thai Wah Tower 1, 6<sup>th</sup> Floor 21/11, 21/13  
South Sathorn Road, Tungmahamek, Sathorn, Bangkok 10120



# Green Procurement

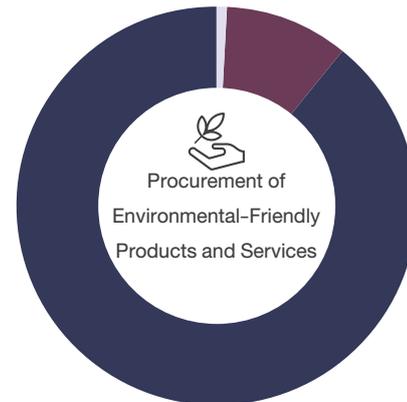
## Procurement Policy

In order to efficiently manage our supply chain to achieve sustainable development throughout the organization, Thai Wah has developed the “Green Procurement” policy under our corporate social responsibility strategy. Economic, social, and environmental issues have become part of the criteria for our selection of business partners. Products and services that are environmental-friendly and safe for employees’ health have also been procured, for examples:

- A list of significant partners has been compiled for analysis and risk assessment on social and/or environmental aspects, such as human rights, worker and labor care, business ethics, compliances with environment-related laws, etc.
- Annual performances of key partners have been summarized. The Company, through our internal units, also has a policy to continuously enhance capacity of key partners in various areas.
- Development of fair procurement procedure under which all the business partners are treated equally, and selection of products and services certified under environmental standards.

- Support for the use of products that utilize renewable and non-polluting resources, such as, the green-label products, or products under waste reduction program, etc.
- All business partners are informed of the Company’s anti-corruption policy

In 2020, procurement of suppliers local to that operation accounted for 51% and procurement of environmental-friendly products and services under starch and food businesses accounts for 11% of the total procurement budget. Detail is as follows:



● Business Partners	89 %
● Environmental-Friendly Partners in Food Business	10 %
● Environmental-Friendly Partners in Starch Business	1 %

# Farmer Development

Agricultural sector is essential to economic mobilization and better livelihood of people in the countries across the globe. Agro products and food are the most important export products of the Southeast Asian region, and a key to sustainable economic development. Thai Wah strives to uplift quality of life of everyone throughout our value chains, and continue to create value, as well as innovation and sustainability, in all the value chains through various channels.

Efficient sourcing of raw materials, as well as sustainable management and development of supply chain, need systematic support in terms of modern technologies, proper agricultural know-how, and access to international resources and education. The support has been provided through our “Thai Wah Farmer Networks” to promote development throughout the supply chain, which would tangibly lead to long-term positive change.

Even with the continuous growth of our business and the broadened scope of supply chain, Thai Wah remains adamant to source agricultural raw materials responsibly and sustainably through promoting engagement of business partners and network of other partners in various sectors, i.e., public sector, NGOs, etc.

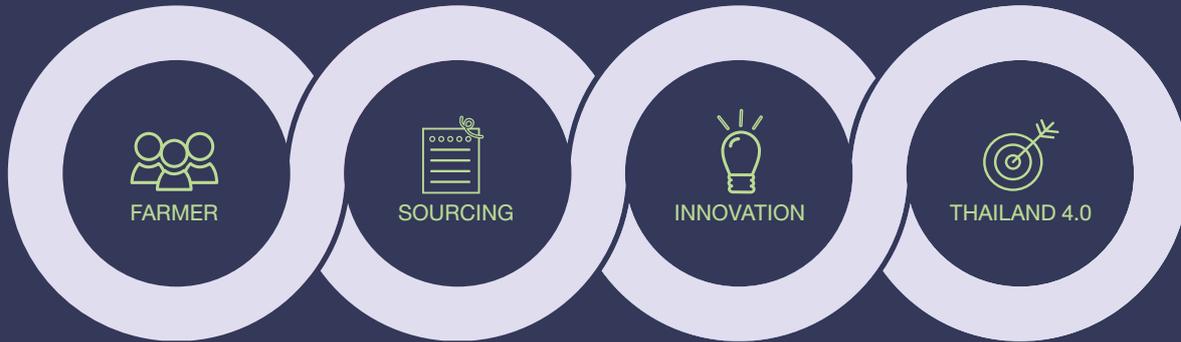


# Sustainable Development and Management of Supply Chain

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Amidst the rapidly changing business environment, economic challenges, increase in population, and limitation of natural resources, which have significantly affected the quantity and quality of agro products, Thai Wah is well aware of the need to manage and develop a supply chain in a sustainable manner as we believe that supply chain is the key to business efficiency and success. The focus has been made in all related procedures, from the supply of raw materials and production processes to sales of products in a

responsible and environmental-friendly manner. The Company also strives to conserve and rehabilitate watershed areas in a bid to promote natural resource security that is fundamental to people's livelihood, and maintain balance and sustainability of our business operation, as well as to develop innovations and technologies to enhance the capacity of agricultural and associated food supply chains.



### Farmer club

- Assist farmer in all solutions for the cultivation to increase productivity and reduce production cost from plant to harvest and deliver the factory

### Root Stations

- Get higher fresh root at source
- Create convenience as close to cultivation areas
- Keep good relationship with farmers
- Fair price was calculated base on quality of starch content
- Cash card payment.

### Innovation

- TWPC cultivation model
- High value added cassava planting
- Mobile application for farmers (weather forecast, raining forecast, and cassava knowledge)
- Queuing system for roots selling at factory

### Smart Farming

- Improve cassava yields
- Farm demonstration model since 2019
- Communication system with farmers through the application

## Model Farm at School

The Company strives to promote strong organizational growth, in parallel with sustainably creating social and community value, starting from youths, as individuals, to families, and communities. We are well aware that social responsibility is vital to our business capability, and thereby implementing “Thai Wah’s Agricultural Sustainability” campaign for the development of green farmers, societies, and communities. The campaign is aimed to instill a passion for agriculture among the new generations, and educate them on integrated farming according to the royal initiatives, as well as on safe agriculture and organic farming, in order for them to

become capable farmers and role models to other farmers in their community. Participated youths are expected to adopt agro-technology knowledge, gained from the campaign, and smart farming under Thailand 4.0 Policy in their production process. Through Thai Wah’s entire financial subsidy, the campaign will be initiated at the youth level, while the outcome will be taken forward to the family and community levels later in a bid to empower the nation’s agro-industry as a whole. A secondary school in Mae Sot district, Tak province, has been chosen for the pilot campaign



Aims to instill a passion for agriculture among the students, educate them on integrated farming according to the royal initiatives as well as promoting safe agriculture and organic farming



Promotes the school as a community learning center and a model on integrated farming according to the royal initiatives



Create and develop potential farmers, who are capable and knowledgeable in agro-technologies back to the community

### Phase

1

#### Planting seedlings of sufficiency

Planting agricultural prototype in school

2

#### Branch into the community

Disseminate agricultural knowledge in the community

3

#### Put fertilizer on sustainability

Create a new generation of farmers by providing scholarships to model schools

## Volatility of Weather Patterns and Outbreak of Diseases



In addition to bracing ourselves against the volatility of weather patterns, the Company also focuses on promoting resilience to mitigate risks that may impact our security for sourcing of agricultural raw materials and production process. Thai Wah has established both short-term, medium-term, and long-term strategic management plans to enhance resilience to the volatility of weather patterns, i.e., R&D on new durable varieties and raw material substitutes, and identification of additional raw material sources, etc., to diversify risks related to weather volatility and the outbreak of diseases, which may impact current sources of raw materials.

Thai Wah Company, Mr. Umnat Sukprasongphol, Managing Director of Starch Business attend a tapioca trade information exchange event situation of tapioca and starch production trade trends in cassava production in Thailand and neighboring countries, including the situation of cassava mosaic disease. So that the members of the association acknowledge the current situation of cassava trade and future trends. The meeting was held at the Thai Tapioca Trade Association (TTTA) every quarter.

## Thai Wah Multiplication Program

X20 multiplication of CMD-free cassavas is an easy process. Twenty disease-free seedlings will grow from one stem in a month, instead of 4-5 seedlings per stem as before.



Greenhouse farming project for urgent production of cassava seedlings has been implemented to tackle the spread of cassava mosaic disease (CMD) in Thailand, Vietnam, and Cambodia, which has occurred since 2018, resulting in the inadequacy of disease-free seedlings for cultivation. Thai Wah, in collaboration with the Thai Tapioca Development Institute (TTDI), implemented the project to provide our farmer-members, with technology and knowhow for urgent production of cassava seedlings.

In 2020, the Company, in collaboration with the Thai Tapioca Development Institute, has built 10 greenhouses for the purpose of research and development of new seedlings, and the production increase of disease-resistant seedlings, as well as development of disease-free tapioca breeds by way of rapid multiplication technologies (X20 and X80) to produce large number of cassava seedlings within a short period of time. This is to ensure sufficiency

of disease-free setts for farmers during the next cassava planting season. A total of 362,151 stems obtained from the X20 multiplication process have been distributed to the farmers under Thai Wah network. The Company also plans to build more to 23 greenhouses in 2021 in Thailand, Vietnam, and Cambodia.

Thai Wah also strives to help generate incomes and uplift quality of life of the farmers by propagating new variety of waxy cassavas, of which its agronomic traits are higher quality and higher yield, to increase crop values. This is also in line with the Company's strategy to establish Thailand's role in the global tapioca starch industry through increase of economic values and exportation.

	2019	2020	Target 2021
Number of greenhouse farming (places)	3	10	23

# Responsible Supply Procurement

With a realization that efficient supply of raw materials involves not only sourcing of agricultural raw materials, but also the management of other kinds of raw material, i.e., packages, warehouses, and logistics, the Company has implemented strategic approaches for raw material management, such as surveys on the Company's primary sources of raw material to assess and analyze the quantity of raw materials to be supplied for now and its future trend.

Thai Wah also commits to promote long-term community development through new innovations that engender community sustainability. The initiative for promotion of our agricultural community is to create "Thai Wah Farmer Networks", that provides the farmers with resizable agricultural technology and introduce Thai Wah's smart farming solution model, which is the best in the region, for their better livelihood. Global supply chain management has also been improved to accommodate future demand and enhance farmers' wellbeing. Key operation plans include :



## THAI WAH FARMER NETWORK

- Secure sourcing supply
- Transfer knowledge and technology to farmers
- Build strong regional farm network



## AG TECHNOLOGY

- Co-develop technology for precision farming
- Enhance analytics capability to predict yield, supply, and price



## SMART FARMING SOLUTIONS

- Farming solution package for farmers for multiple crops
- Service through financing, education, marketplace
- Innovate agricultural inputs to improve yield and promote regenerative agriculture

## Thai Wah Farmers Network

Thai Wah valued farmers as business partners. We provide support and assistance to the farmers in a systematic manner through the adoption of modern technologies and useful agricultural-related knowhow, for them to grow and develop in accordance with the international standard. The Company believes that the mutual growth of business partners is a key to enable business stability. We give priority on knowledge transfer, together with sharing of experiences with our business partners. This is also to enhance production capacity and upgrade our agro products in a responsible manner, which will ultimately lead to the stability of agro-industry in the long run.

In 2020, 4 Thai Wah's root stations were in full operation, while construction of the 5th has been planned in 2021. With these root

stations up and running, the number of fresh cassava roots directly received from the farmers has been increased. The Company also managed to enhance trust and maintain a good relationship with the farmers. Raw material buying has been conducted fairly with the farmers. Raw material buying has been conducted fairly with the fresh cassava roots being priced according to the amount of starch content, and the payment has been made through an electronic cash card system. Aside from the fact that the Company managed to reduce the cost of raw material (fresh cassava roots), the root stations have made it more convenient for the farmers to sell their products and help reducing transportation costs and time. In 2020, Thai Wah bought over 120,000 tons of fresh cassava roots, accounting for 13% of all fresh cassava roots required, from over 6,000 farmers at the root stations.

	2018	2019	2020	Target 2021
Number of root stations (places)	4	4	4	5
Proportion of buying fresh roots through the root stations (%)	N/A	10	13	25

# Sustainable Agricultural Strategy



## Agronomist

- Mission “Farmer First”
- Expertise / Specialist
- Passion to serve farmer



## Technology Adoption

- Practical solutions
- Effective implementation
- Easy adoption
- Promising results
- Impact to the development program



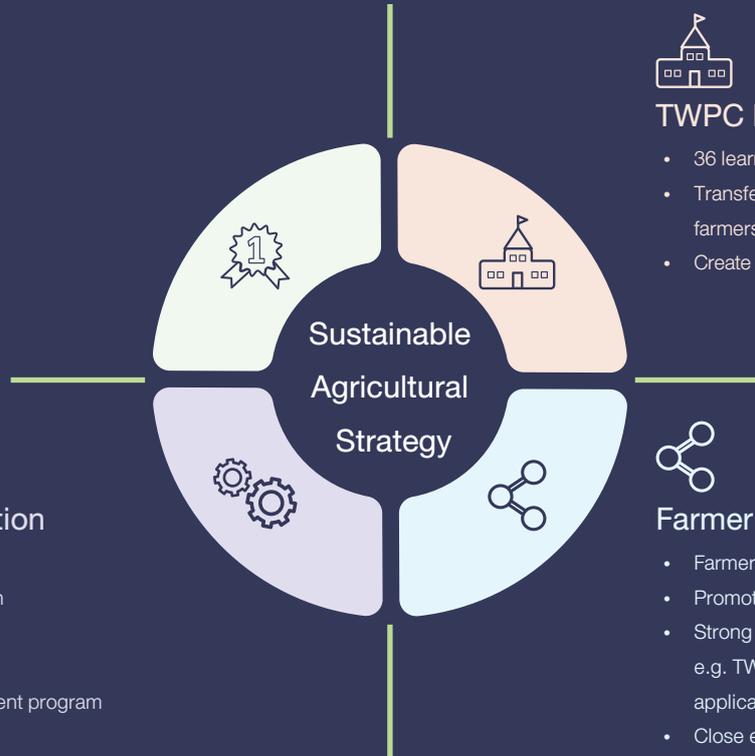
## TWPC Learning Center

- 36 learning center in 2023
- Transfer knowledge & technology to farmers
- Create “TW Virtual Farming Classroom”



## Farmer Loyalty

- Farmer bonus scheme
- Promote TWPC farmers role model
- Strong farmer network community e.g. TW farmer line / Mobile application
- Close engagement from executive team



Thai Wah provides knowledge on safe and proper cassava cultivation and productivity increase techniques and distributes certified cassava cuttings to the Company's farmer-members. In 2020, we organized training courses for Thai Wah members, such as increasing productivity by improving soil, the use of certified varieties, and the use of modern agriculture machine. Including the use of mobile applications to track weather and cultivation. Currently, the number of Thai Wah's cassava farmer-members has increased around 1,189 farmers, from 380 to 1,569 farmers with an increase of yields from 5.5 tons/rai to 5.8 tons/rai, or an increase of 8%, which will be harvested in the crop 2020/2021.

As a result, the Company enjoyed a proportion of 53% in direct purchase of fresh root from farmers in 2020 for Thailand plants. The goal has also been set to increase a proportion of direct cassava sourcing from farmers to 63% in 2021 for Thailand plants, and 10% for Vietnam plants.

Thai Wah Tapioca Learning Center



	2018	2019	2020	Target 2021
Number of farmers participating in the project (person)	120	380	1,569	3,000
Number of planting areas participating in the project (rai)	2,400	15,000	19,088	40,000
Average yield per rai (tons/rai)	4.5	5.5	5.8	6.0
Number of farmers participating in the training (person)	200	250	897	2,500
Number of tapioca learning center	0	3	3	12
Supporting compost and soil improvement materials for farmer - members (tons)	370	3,400	9,051	15,000
Proportion of direct cassava roots sourcing from farmers in Thailand (%)	N/A	44	53	63
Proportion of direct cassava roots sourcing from farmers in Vietnam (%)	N/A	N/A	5	10



## Thai Wah Thanks Farmers (Thank You Farmers Day)

Thai Wah treats our farmers as partners and as a long-term part of Thai Wah strategies and growth. Thai Wah is delighted to partner with the local communities and local farmers to see how we can collaborate together for the sustainable development in a long-term through “Thai Wah Thank You Farmers Day” to thanks

all the farmers that always deliver cassava roots which is a raw material to our starch factory. The Company has paid dividends of profits from doing business back to farmers in every quarter in Phimai district, Nakhon Ratchasima province, Muang district, Udonthani province, and Tha Khantho district, Kalasin province.



## Pracharat Large-Scale Farming Scheme and Modern Agriculture

Throughout the success of large-scale plantation and modern agriculture under Pracharat (public-private partnership) scheme, Thai Wah has taken part in the scheme since 2016 with the large-scale cassava plantation of 1,740 rai in Nikom Sang Ton Eng sub-district, Pimai district, Nakhon Ratchasima province. The aim is to provide trainings and knowledge to farmers for cost reduction and productivity improvement through the adoption of a drip irrigation system and rainfed farming. Knowhow and technologies attained from the prototype large-scale cassava plantation have been transferred to other communities. The number of participated farmers and plantations increased from approximately 3,600 rai in 2019 to approximately 5,400 rai in 2020, and, an increase of cassava yields from 5 tons/rai to 5.5 tons/rai, or an increase of 8%.

### Pracharat Large-Scale Farming Scheme

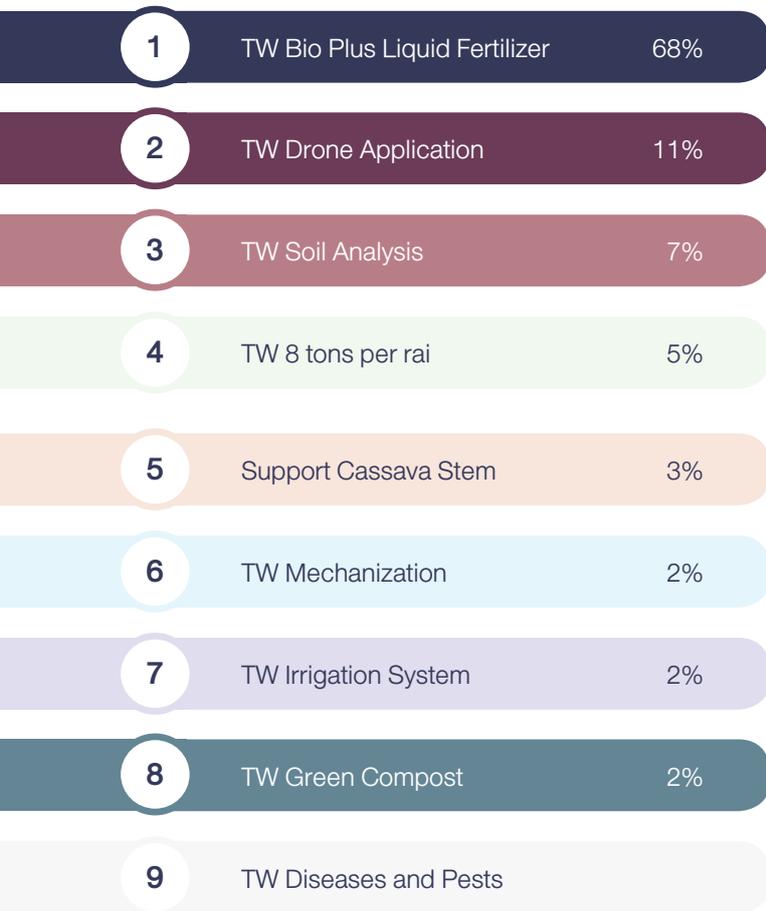
	2018	2019	2020	Target 2021
Number of farmers participating in the project (person)	110	154	245	320
Number of planting areas participating in the project (rai)	2,400	3,600	5,400	7,000
Average yield per rai (tons/rai)	4.5	5.0	5.5	5.8

## AG Technology

Thai Wah took part in the development of precision agriculture, through which digital farming technologies, i.e., tools and devices (hardware/software), IT services (precision positioning system, remote sensors, variable rate technology, etc.), and applications (measurement and assessment of weather condition, yields, and terrains, and waste management, etc.), have been applied in a bid to increase analysis efficiency, productivity, and yield quality which would lead to product competitiveness enhancement at the global level. In implementing precision agriculture, water, fertilizer, and pesticides have been apply at the precise amount and accurate timing to maximize efficiency. It is a cropping practice that optimizes resources at the plot or greenhouse level. Overall, farmers who adopted precision agriculture in their cultivation were able to increase yields four times, compared to traditional farming.

In 2020, the Company regularly held various farmer activities to strengthen Thai Wah Farmer Networks and promote sustainable sourcing. A number of innovations have been introduced, i.e., cassava planting-cum-fertilizing machine which save time, labor, and cost, and the semi-automatic cassava harvester (undergoing the development process in 2021), for the more convenient harvesting process. Know how has also been provided to the farmers in 9 major topics:

## Farmer Club Program 2020



1



### TW Bio Plus Liquid Fertilizer

This is the fertilizers produced from fermented manure mixed with essential plant macronutrients for foliar plant spray during the dry spell. The TW Bio plus liquid fertilizer has been distributing to members free of charge when they sell cassava roots to the Company. At present, 2 formulas of liquid fertilizer have been produced, one that suits 1–3-month-old cassava, and the other for 4-month-old cassava and above. This is, by far, the most popular program among the farmer members as the outcome is tangible, and the program significantly helps the farmers to reduce cost of chemical fertilizers.

2



### TW Drone Application

Providing drone service to farmers. In 2020, farmers, whose farming plots amounted to over 2,000 rai, made reservation for use of the drone.

3



### TW Soil Analysis

Introducing soil and fertilizers improvement, and soil restructuring to suit cassava cultivation, from soil condition analysis to problem solving.

4



### TW 8 tons per rai

Thai Wah has encouraged farmers to use knowhow and adopt modern technologies in cassava cultivation process, i.e., academic techniques in growing cassavas, and use of mobile applications to monitor yields and weather condition, through the support of the Company's agronomists and external experts. Farmers in Thai Wah network also had a chance to participate in a product competition. The winners of the competition have been named Thai Wah's role model farmers, and may share their successful stories to other farmers.

5



### Support Cassava Stem

Quality cassava sett provision to the members. The farmers may reserve the queue to receive quality and disease-resistant cassava stems, produced at the Company's greenhouses, free of charge for their seasonal cultivation. In 2020, over 540,000 stems were given out to the farmers.

6



### TW Mechanization

Introducing and providing advices on machineries, from planters usage to demonstration of modern machines usage on prototype plots, e.g., fertilizing machine, to enhance harvesting speed and convenience, etc.

7



### TW Irrigation System

This is the ideal irrigation system for cassavas that beats all the limitations. The program helps the farmers in identifying water sources, directly contacting manufacturers for low-cost agricultural factors, and providing knowledge on irrigation and other related systems that help minimize cultivation problems brought about by water scarcity.

8



### TW Green Compost

The program is aimed to promote organic agriculture among Thai Wah Farmer Networks through the use of natural materials, i.e., fresh fertilizers, for cultivation of cassavas and mixed crops. Under the program, Thai Wah provides bio-organic composts, or “TW Green compost”, which is used to improve soil condition and pH balance for “Good Soil, Fast Growth, Good Benefits”. The composts have been produced from manufacturing wastes, such as cassava peels and pulps, and sludges from wastewater treatment ponds which contain high soil organic matters, to fertilize the soil. In 2020, the Company distributed 8,000 tons of composts and soil-fertilizing materials to the farmers.

9



### TW Diseases and Pests

The Company’s agronomists have established disease and pest clinic with an aim to provide support and assistance on disease and pest problems in cassavas. The clinic also collaborates with concerned public agency to publish booklets and brochures on preventive and responsive procedures, and distribute them to Thai Wah Farmer Networks. Pesticides and pest control supplies are also given out on a regular basis.

## Thai Wah Agricultural Innovation



### Pre - Harvest

Crops

Green House / Breeding

TW BioPlus® & Green Compost

Soil

TW Soil Solution

Monitor

Farm Database

NIR Starch Content

Crop Health Monitoring

Drone (Yield Analytic)



### Post - Harvest

Harvest

TW RAPTOR : Roots Harvester and Loading System

## Smart Farming

Thai Wah continues to recruit new farmer members via the digital platform, starting with Thailand, in order to promote digital platform services for farming. The Company also conducts platform update, especially in terms of data accuracy, and expand our services, such as personal loan and fund acquisition.

In 2020, farmer and cultivation database on Thai Wah's digital platform has regularly been updated, from which growth analysis system was developed based on the vegetation index and cultivated area survey. Satellite images with over 90% accuracy is also used for crop monitoring. The database has also been used to analyze and forecast daily/weekly/monthly rainfall, which could be conducted up to 9 months in advance. In addition, in the year 2021, analysis model for yield forecasting, productivity, and yield quality (% of starch content) continue being developed.

All these digital platforms will contribute to the Company's planning for sustainable raw material sourcing. We also strive to help prepare Thai Wah farmers for technological changes, and improve their decision making on tapioca cropping through the adoption of digital platforms to ensure efficiency and maximize effectiveness.

## Mobile Application



	2018	2019	2020	Target 2021
Number of farmers membership on digital platforms (person)	121	501	1,242	10,000
Number of planting areas on digital platforms (rai)	2,950	9,577	39,992	230,000
Proportion of the total cultivated area of Thai Wah farmers (%)	2	6	25	100
Number of farmers membership on digital platforms who continuously login every month, Monthly active user (person)	N/A	N/A	70	2,000

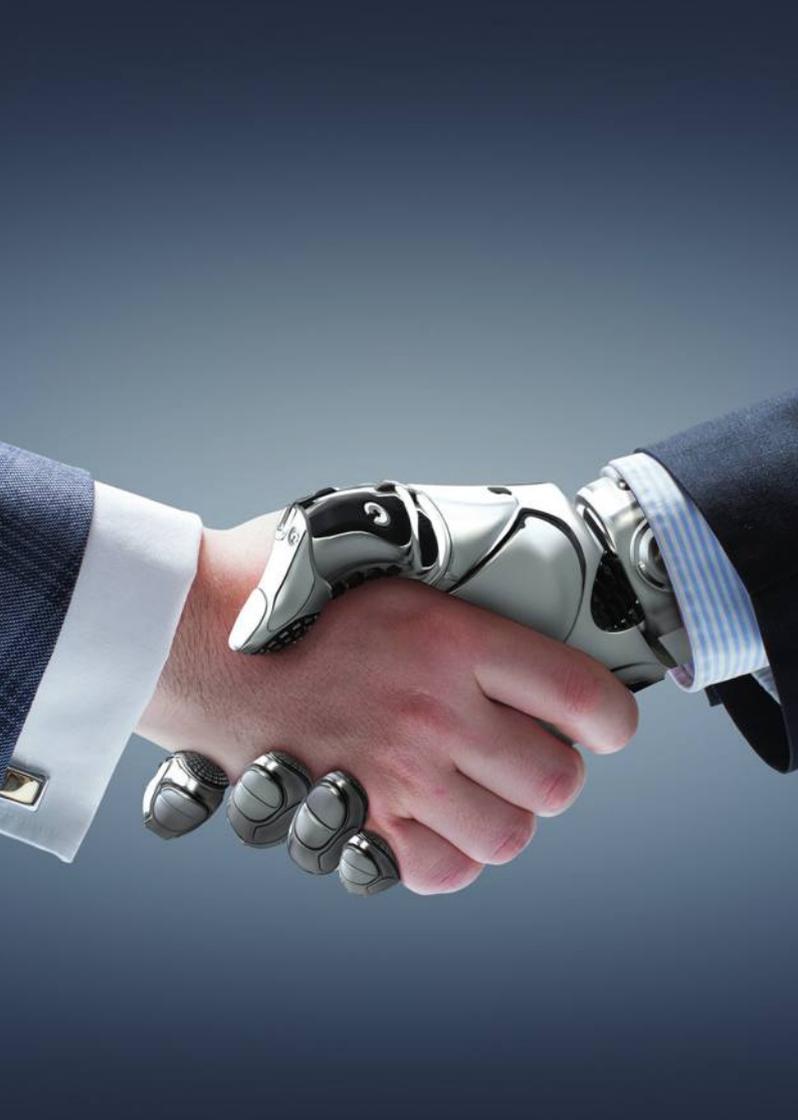


## Smart E-Money Card

The Company also accepted advance registration for farmers to reserve cassava sales queues under the “Happy Farmers, Selling Faster and No Need to Wait” scheme. The mobile application system for queue reservation is being developed for the farmers to be assured that their products will be accepted and sold. The Company will also be able to plan for cassava supplies and collect cultivation-related data consistently. The payment of cassava will be made via e-money card of the banks the Company enrolled with. Currently, e-money card system and advance registration system have been up and running at our tapioca starch factories in Nakhon Ratchasima’s Pimai district, Kalasin’s Tha Khantho district, and Udonthani’s Muang district. In 2020, there are 5,592 E-Money card users in total, increased from 2,888 users last year. The average amount of money paid through an E-Money card accounted for 15,408 baht per person per month. Thai Wah helped reduce the number of farmers under the poverty line\* and supported farmers to have a better quality of life. The Company also plans to implement the scheme in other factories in the future as well.

\* Poverty line in 2019 was 2,763 baht per person per month (Source: Office of the National Economic and Social Development Council)





# Green Factory and Community

Aside from business operations, Thai Wah recognizes the importance of building sustainable relations with the community. With our sustainable responsibility and respect to society and environment, the Company's factory management system has been set to avoid environmental impact, for example, the use of clean energy (solar energy to minimize carbon emission), efficient water and wastewater treatment system, and biogas system which is the source for our alternative energy. The Company also commits to enhance our role in promoting long-term community development through developing innovations that encourage the sustainability community and providing support for education, funds, and local community development.



# Safety and Occupational Health

Recognizing the significance of occupational health and safety, both for the employees and in the production process, the Company strives to ensure that our employees and business partners perform their duty at full capacity in a safe and pleasant work environment and occupational health. We have strictly complied with all applicable laws, and national and international standards, as well as our related regulations and policy, in a bid to avoid risks associated with the working environment as well as occupational health and safety. The Company also sets a role model and promotes awareness on corporate social responsibility as well as encourages personnel to be satisfied in the long-term.

To become a zero-accident organization, Thai Wah has made sure that all operational units operate in compliance with the laws and SHE Standard. An executive committee for safety, health, and environment has been set up to oversee proper implementation of the OHSAS 18001 and TIS 18001 standards, and to regularly review the objectives and goals concerning the working environment and occupational health and safety. By assessing risks and opportunities covered throughout the operation process, including analyzing the results from these processes to improve the management of occupational health and environment safety.

SAFE Factory

Safety policy and organization

SAFE Factory

Safety dialogue (KYT)

SAFE Factory

Safety is everyone priority

Compliance to Stakeholder

Risk assessment analysis, address Risks identified

Compliance to Stakeholder

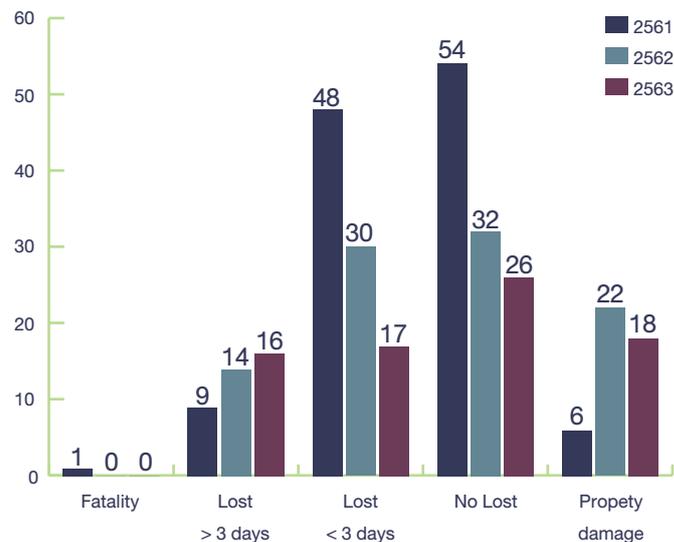
Establish working standard in every activity we do

As assigned to oversee proper implementation of the Safety Health Environment or SHE standard in compliance with the laws, the committee of safety, occupational health, and environment meets monthly to follow up on the implementation progress, and regularly communicate with the employees and other concerned parties on the outcome of the meetings regarding the SHE standard. The committee for safety, occupational health, and environment are composed of representatives from all manufacturing plants run by Thai Wah Public Company Limited and our subsidiaries.

The Company regularly identifies performance indicators for our safety operation based on Lost-Time Injury Frequency Rate (LTIFR), Incident Severity Rate (ISR), and Fatality rate to be used in the analysis of operational efficiency in each and every procedure as below;

	2018	2019	2020	Target 2021
Lost-Time Injury Frequency Rate (LTIFR)	14.3	9.7	8.2	All types of accidents decreased by 50% and zero accidents by 2025
Injury Severity Rate (ISR)	65.4	13.1	39.9	
Fatality	1	0	0	

Total number of accidents from 2018 - 2020



#### Injury Rate Calculation

$$LTIFR = N \times 1,000,000 / MH$$

$$ISR = DL \times 1,000,000 / MH$$

N = Number of lost-time injuries

DL = Number of lost workdays

MH = Total hours worked by all employees

The Company provides training on safety and environment for all levels of employees including daily employees as follows:



### Training programs organized in 2020

1. Occupational health and work environment for new employees
2. Safety officers at the supervisory and management level
3. Committee for safety, occupational health, and environment
4. Environmental worker
5. Basic firefighting and evacuation
6. Hazardous chemical safety
7. First aid
8. Techniques for teaching work and being a supervisor
9. Safety for work with chemicals
10. Driving a forklift with safety
11. Changing behavior by using BBS (Behavior Based Safety)
12. Job safety analysis
13. Environmental management consciousness

The proportion of trainees for various courses in 2020 and goals in 2021 are as follows:

Course	2019	2020	Target 2021
Safety according to legal requirements such as work safety officers and basic fire fighting (%)	>90	>90	100
Promoting safety such as BBS and creating a safety culture (%)	>30	>50	>80

## Improving Factory Environment and Safety



Install a fire door



Set a safe path



Install stairs and handrails



Install warning lights on the forklift



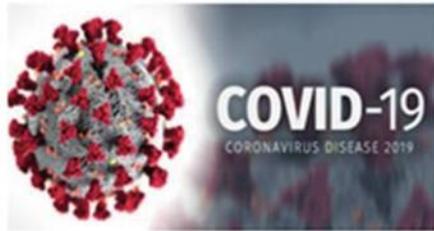
Install the machine pivot point guard



Install additional fire suit and equipment

Thai Wah is well aware of the risks brought about by the COVID-19 pandemic and has, thus, implemented a number of preventive measures in response to the situation, such as setting up of screening

stations for temperature check and nurse room, disinfection of both internal and external areas of the plants, campaign for and management of social distancing in common areas.



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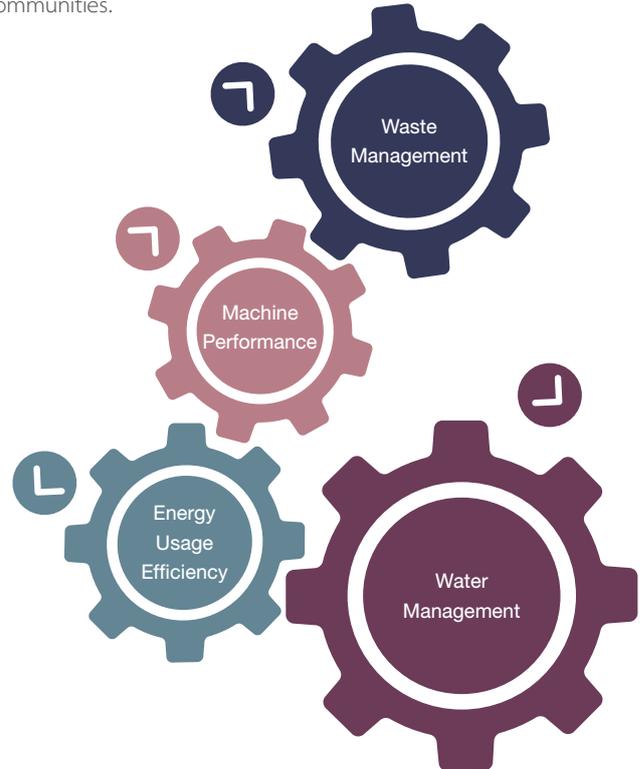
# Energy Usage Efficiency throughout the Production Process

Nowadays, the global temperature rise has become inevitable due to climate change and global warming, the consequences of population growth, economic growth, and technology advancement. Thai Wah is well aware that the efficient use of natural resources and nature conservation are critical factors to economic mobilization and social development.

The Company has established guidelines for assessment and operational development throughout the value chain, from the plant management system to avoid environmental impact, to the utilization of limited resources for maximum benefits. We also cooperate with organizations at the national level to use solar energy to reduce carbon emission and enhance the efficiency of water and wastewater management systems and biogas renewable energy systems. This is for the industry to grow together with the society sustainably.

Thai Wah opted for Covered Lagoon Bio Reactor (CLBR) for our biogas production system. The technology has been developed to ensure high capability, stability, and cost reduction, and can be used for both biogas production and wastewater treatment. In addition to cost reduction, which is direct to the Company's benefits, the technology managed to reduce environmental impacts. For instance, CLBR treated wastewater will have a decrease of 95 to 97% in the concentration of organic

compounds, which will help reduce greenhouse gas emission and unpleasant odor and uplift the healthiness of employees and nearby communities.



The Company’s endeavor for energy conservation and greenhouse gas emission reduction, within the framework of the carbon footprint certification from the Greenhouse Gas Management Organization and TIS 14001-2548 (ISO 14001: 2004) for our products, is aimed to create organizational awareness on the importance of environmental management and development, in parallel with business development. The focus has been made on pollution prevention and continuous improvement. The Company strives to mobilize environmental management systematically, with consistent evaluation and review. We have been certified level 3 of the “Green Industry” (Green System), which is the Ministry of Industry’s system to promote environmental-friendly business operation.

Eco-friendly innovations and technologies not only help break through limitations and enhance business capabilities, but also uplift social livelihood and maintain environmental and eco-balances. Thai Wah has continuously collaborated with business partners, both domestic and overseas, to develop different innovations related to machinery efficiency and manufacturing process with an aim to promote economic, social, and environmental balances continuously.

## Development of Machineries and Manufacturing Process

To implement our policy on reduction of energy use and greenhouse gas emission, the critical index we use to measure energy efficiency and greenhouse gas emission is the concentration or efficiency of energy utilization. Amount of reduced fuel oil consumption in the production process per production volume will be compared and measured.

	2018	2019	2020	Target 2021
The fuel oil usage by the Company (liters per ton)	0.55	0.40	0.36	0.10 (75% discount from 2020)

The Company has the policy to stop using sulfur solid in the manufacturing process. The goal is to reduce air pollution caused by combustion, minimize workers’ health hazard, and enhance the efficiency of manufacturing control. In 2019, the Company managed to switch from sulfur solid to 100% liquid sulfur.

- **Kaizen Project**

Kaizen Project is one of the strategies to improve operation process for cost reduction, focusing on boosting management efficiency, developing organizational innovation, and constantly improving internal functions. Proper participation of employees and personnel of all levels is also promoted to identify new directions for further improvement of operation. The Company adopted Kaizen improvement model at our plant in Banglen district, Nakorn Pathom province, as a result of which the plant managed to reduce its cost by approximately 20 million baht in 2020, through improvement of work procedure in 30 projects. Enhancement of production efficiency has also resulted in the increased productivity, and reduction of manufacturing errors, work time, losses, and energy use and losses, among others.

In 2020, the Company decided to further adopt Kaizen improvement model at our plant in Tha Khanto, Kalasin province, Thai Nam Plant in Udon Thani province, and Tapioca Development plant in Rayong province. During December 2020 - February 2021, experts have been invited to present the employees on the concept of Kaizen to ensure common understanding on the significance and definition of Kaizen improvement process. The employees have learnt about the root causes, problem analysis, work improvement, and problem solution approaches from real life case studies, and have properly manage various plant improvement projects.



**Defects**

Efforts caused by rework, scrap, and incorrect information.



**Overproduction**

Production that is more than needed or before it is needed.



**Waiting**

Wasted time waiting for the next step in a process.



**Non-Utilized Talent**

Underutilizing people's talents, skills, and knowledge



**Transportation**

Unnecessary movements of products and materials.



**Inventory**

Excess products and materials being processed.



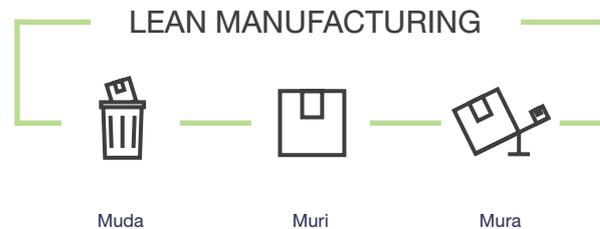
**Motion**

Unnecessary movements by people (e.g. walking).



**Extra-Processing**

More work or higher quality than is required by the customer.



- **Carbon Footprint from Operation (CFO)**

The Company was chosen as pilot organization for the “Extension of Carbon Footprint for Organizations” project, run by Water and Environment Institute for Sustainability, the Federation of Thai Industries. The aim is to reduce GHG emissions in the organization’s various activities, and identify goals and GHG reduction approaches, as well as measurement of GHG emissions, e.g., fuel combustion, electrical usage, waste management, transportation, etc.

In 2021, Thai Wah’s tapioca starch plant in Udon Thani province, and vermicelli plant in Nakhon Pathom province have been chosen as pilot plants under the project. Studies and data collection is now in the process. It is expected that the Company be able to calculate, disclose our carbon footprint-related data, and certify in the GHG emission verification by September 2021.

- **Thai Wah has also registered ourselves under Thailand Voluntary Emission Reduction Program (T-VER)**

The Company’s project established by the Greenhouse Gas Management Organization since 2017 to verify GHG reduction capacity of the biogas power plant in Nakhon Ratchasima’s Pimai district. The implementation was in accordance with ISO 14064-2 and ISO 14064-3, intending to reduce GHG emissions, a significant cause of global warming. We aspire to contribute to the nation’s

effort in reducing GHG and promoting sustainable economic development. In 2020, the Company was able to sell Carbon Credit amounting of 99,544 baht.

Thai Wah also sets a goal to have GHG emission reduction capability of our biogas power plants in Udon Thani and Kalasin provinces measured by Thailand Greenhouse Gas Management Organization (TGO) under T-VER’s validation process for fiscal year 2021.

	2019	2020	Target 2021*
Greenhouse gas emissions that can be reduced (tCO2e)	49,145	51,722	200,000

\* Including 3 factories: Pimai, Bio Power at Udonthani and Kalasin

- **Greenhouse Gas Project under the Clean Development Mechanism (CDM)**

Currently, Thai Wah’s factory in Mae Sot district, Tak province, has been certified on the CDM project from the Thailand Greenhouse Gas Management Organization since 2013 and can deliver about 15,477 - 35,688 tCO2e. The Clean Development Mechanism or CDM is a commitment under the Kyoto Protocol, industrialised countries on Annex I countries. Commitment to reducing greenhouse gas emissions within 2008 - 2012 to be lower emissions than the amount of greenhouse gas emissions in the year 1990

approximately 5% by buying carbon credits obtained from CDM projects in non-Annex I countries or Certified Emission Reduction (CERs) in order to deduct the amount of greenhouse gas emissions of the country. CERs are the amount of greenhouse gas emissions that CDM projects can reduce and have been certified by the CDM Executive Board, which is abbreviated as CDM EB. The CDM project must be a voluntary operation to reduce additional greenhouse gas emissions from the operations as well as support sustainable development in the country in terms of resources, environment, society, economy and technology.

Greenhouse Gas Emissions that can reduce (tCO <sub>2</sub> e)	2020	Target 2021
Maesot factory, Tak province	17,198	18,000
Thai Nam factory, Udonthani province	40,000	40,000

- **Heat Energy Saving Project (Steam energy saving to reduce the use of coal fuels)**

The Company has implemented the project to promote the improvement of an increase the efficiency of heat energy in 2019 by using DSM method with support from Department of Alternative Energy Development and Efficiency, Ministry of Energy. An implementing energy conservation measures by measuring and analyzing the actual energy saving results of the consultants is according to guidelines and methods for measuring and proving

energy-saving results (M&V Unit), which the committee considers to support the project to promote the improvement to increase the efficiency of heat energy by the DSM method. Hence, the consultants have summarized the saving and the amount that will be actually supported.

In 2020, Thai Wah implemented the Heat Energy Saving Project, as part of our ongoing effort to reduce the use of coal fuel, through insulation of steam hoses, steam trap checkup, and replacement of broken machineries. As a result, the Company managed to save 2,423 MMBTU of heat energy, which can be calculated as coal saving from the implementation at 170 tons or 320,440 baht (70 baht/1MMBTU).

	2019*	2020	Target 2021*
Heat energy using that can reduce (MMBTU)	36,290	2,423	4,716
Coal saving from the implementation (tons)	2,129	170	323
Coal saving from the implementation (baht)	5,323,357	320,440	625,511

\* The Company participated the government's program in 2019 and there was no government support in 2020

- **Solar Rooftop Saving Project**

Thai Wah has a policy on energy conservation and would like to share with other factories an awareness on energy conservation and solution to global environmental issues through our “Solar Roof Top” program, implemented for the first time at our vermicelli manufacturing plant in Banglen district, Nakorn Pathom province. “Solar energy” is an alternative energy source that is naturally renewable. It is a clean energy that can be used in both large-scale industrial plants and at home through the installation of solar roof system, which converts solar energy into clean and inexhaustible power supply. This is in a bid to promote the use of alternative energy for utmost interest of the Company’s plants and nearby communities.

Under this concept of energy conservation, both our starch and vermicelli plants have sought measures to reduce energy consumption and promote alternative energy, including replacing the consumption of fossil-fuel power with biogas power. A solar roof has been installed at Banglen plant in response to the Company’s 2-step energy conservation approach, first, reduces energy consumption and second, promotes alternative energy, i.e., bioenergy, gas, and solar energy.

The Company is of the view that solar energy, which is considered a non-polluting and environmental-friendly source of energy, is an answer to our effort in energy conservation and cost reduction. Solar roof top can reduce energy consumption by about 5 million baht per year, accounting for 14% of the energy used in the factory, thereby, reducing manufacturing cost. The money saved from energy consumption could be used in other endeavors that benefit surrounding communities.

In 2020, the solar roof top project can generate a total of 1,405 MWh of electricity, approximately 5.08 million baht (3.62 baht/kWh electricity rate). It can be equivalent to carbon offset 4,579 metric tons per year or equal to planting 458 acres of pine forest. In addition, the Company plans to invest in a solar rooftop project at one more tapioca starch factory in 2021.

	2019*	2020	Target 2021	3 years target
Solar Roof Top project can generate (MWh)	589	1405	1,400	3,133
Solar Roof Top project can generate (million baht)	2.13	5.08	5.06	11.34

\* Solar rooftop COD in July 2019 / Calculated at the electricity rate of 3.62 baht/kWh



- **Environmentally Friendly Packaging**

At present, the Company has applied 100% green carton to food products, delivering to customers, which is a paper box that was invented to save the environment. This can help reduce the use of production resources by at least 25 grams per square meter, while being strong enough to support a stack, stack weight and better protection by 4-25% than a general packaging. In addition, its been certified by SCG Eco Value and ISO 14021 as truly sustainable packaging solutions. Green carton packaging is an invented paper packaging, which is developed according to the environment-friendly concept of the production process as paperless, lightweight, and strength, which can help to reduce the production costs, freight, and promoting a positive corporate image of the environment. In addition, it has been certified by SCG ECO VALUE as an environmental product and meets the needs of all related parties in sustainable business development.

	2018	2019	2020	Target 2021
The Number of green carton used as an alternative to the original cardboard boxes (pieces)	1.12	1.48	1.50	1.52

## Water Management

With the significance of water resource for continuity of agribusiness/agro & food Industry, coupling with the population growth and recent drought situation which is getting worse each year as a result of global climate change, Thai Wah has placed significant priority on water resource management throughout the supply chain in a bid to minimize water shortage risk. Integrative water management and promotion of technology and innovation to enhance water management efficiency have been focused, i.e., water usage in manufacturing process, and fair sharing of access to quality water sources with the communities.

Priority has been placed on water shortage risk assessment, implementation of essential basic utility risk management measures, and promotion of efficient use of water.

The Company has set a goal to reduce water usage and promote water saving, through adopting starch production technology which consumes less water, and enables water renewal/reuse/recycle. The target is set to reduce water usage by 10% each year.

- **Renewal of Water Usage**

Thai Wah normally requires large volume of water for our manufacturing process, and, thus, water management plan has been developed. Focus is made on efficient use of water, reduction of waste disposal, and improvement of wastewater treatment capacity. The aeration system for wastewater treatment is installed.

## Waste Management from the Production

Thai Wah sets a strategic goal for waste reduction through optimizing the use of raw materials and existing resources and minimizing waste throughout the production process. We also reuse and recycle waste into new products, such as selling cassava pulps as raw materials for animal feeds to animal feed mills, producing organic fertilizers, and producing energy from waste.

The Company's waste reduction scheme, as well as reuse and recycle program, have helped reduce cost (such as electricity cost, etc.), and increase the Company's profits.

We also have production waste treatment systems installed to reduce pollution to the standard level set by Ministry of Industry under the "3R" strategy (Reuse, Reduce and Recycle), for instance, activated sludge system of 12,000 m<sup>3</sup>/day, air treatment system with wet scrubber and cyclone scrubber to trap dust and exhaust

100% of wastewater has been put under the treatment process, and converted into an affluent acceptable under the Thai law. The treated water may be reclaimed for use in the manufacturing process or as water utilities.

before being ventilated out of the factories. The Company's waste treatment systems have been monitored, and maintained by our engineers and experts around the clock.



- **Waste Segregation Program**

The Company has also engaged the employees in the factory waste management process through a waste segregation program, first implemented at the tapioca starch plant in Kalasin province. The aim is to improve quality of life in the workplace, and provide knowledge on proper waste management, especially food wastes, office wastes, and hazardous wastes. Thai Wah would like to create awareness and responsibility among our employees on waste sorting, which could help minimize waste volumes in the Company, reduce waste management cost, and earn extra revenues from selling wastes for recycle. In 2020, there are approximately 17,340 kilograms of waste generated in the factory and can be recycled/sold of 2,337 kilograms, resulting in 4,430 baht.



Waste sorting building



15 litter locations around the factory



Campaign banner / Video on garbage separation and littering in the right category



Morning talk to educate employees a better understanding of the type of waste and how to separate it properly

# The Processed of the Project



- **Biogas Power Plant**

Our plants have implemented several energy managements measures to maximize energy use, i.e., efficiency enhancement of production process and techniques, and electricity generation from wastewater and cassava pulps, which is the by-product from our production. Three biogas power plants have been constructed in Udon Thani’s Mueang district, Kalasin’s Tha Khantho district, and Tak’s Mae Sot district, each with a capacity of 2.826 megawatts, 2.996 megawatts, and 1 megawatts, respectively. Another plant has been planned to construct in Nakhon Ratchasima’s Phimai district in 2022.



1 cubic meter of gas saves electricity equal to 2 units or 6.80 baht

	2019	2020	Target 2021
The amount of electricity produced (units)	14,579,100	19,199,100	19,000,000
Electricity saving (baht)	44,087,415	77,440,000	77,000,000

# Social and Community Development

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With a recognition of the importance of our role in promoting food security and environmental balances, Thai Wah has placed priority on the development of society and surrounding communities through providing educational support and essential skills for the improvement of their quality of life and promoting economic development with the sense of long-term social and environmental responsibility. The Company aims to “support business partners to grow together” while “promoting quality of life of community people” to enable them to cope with present and future challenges.

We make it our responsibility to provide fundamental needs regarding health, education, income, housing, and basic living values. Poverty or economic insecurity as a consequence of the increase of population and social disparity remain the challenges that impact the quality of life of people in the society, and national economic growth and development as a whole. At the same time, Thailand and the global community are entering the aging society which will significantly lessen the number of working-age population.

- **Handover of COVID-19 Preventive and Protective Necessities**

It is Thai Wah’s intention to share happiness and give moral support to COVID-19 affected people through provision of preventive goods and other basic needs, such as face masks, alcohols, and the Company’s food and drink products, to hospitals, religious places, and communities throughout Bangkok and other provinces. Thai Wah strives to join forces with all the Thai people to fight against COVID-19 and to alleviate their financial burdens arisen from the situation.



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1. 3,800 Double Dragon Crystal Ready brand, worth over 150,000 baht, to Workpoint Foundation's "Thai People's Cupboard" project
2. 1,500 sets of noodle products to Bangkok's Khlong Toey community, in collaboration with 5 leading noodle shops
3. 15,000 Double Dragon Crystal Ready, worth over 600,000 baht, to the Mirror Foundation



4. Necessary medical equipment to Tha Khanto Hospital, Kalasin province
5. COVID-19 preventive kits given as part of the Company's 2020 Labor Day activities
6. COVID-19 preventive kits given to farmers who sell fresh cassavas to Thai Wah
7. Necessary medical equipment to Phimai Self-help Land Settlement
8. Necessary medical equipment to Phimai Hospital
9. Noodle products distributed in front of Thai Wah's Banglen factory
10. Necessary medical equipment, food and drink to Banglen Hospital
11. Double Dragon Crystal Ready distributed to community 'happiness-sharing' cupboards
12. Necessary medical equipment, food and drink to police officers stationed at Banglen COVID-19 screening checkpoint
13. 200 noodle products to Chulalongkorn Hospital
14. 500 noodle products to Ramathibodi Hospital
15. 600 noodle products to Lerdsin Hospital
16. 1,000 noodle products to Thammasat University Hospital
17. 200 noodle products to Ramathibodi Chakri Naruebodindra Hospital Hospital
18. 9,800 kg of Double Kirin rice noodles to noodle shop owners, temples, hospitals, almshouses, and penitentiaries
19. Collaborating with "Starving Time" webpage and 5 noodle shops to give out 1,500 noodle cups to residents of Bangkok's Khong Toey district for 5 days, and collaborating with other 50 shops to give out 2,250 sets of noodles via the Double Kirin website

- **Water Management for Sustainable Agriculture**

Thai Wah has cooperated with our partners to enhance community access to water sources in a bid to maximize water resource efficiency. Water is an essential resource for human life, and the Company is well aware of the importance in having access to clean water sources sufficient for everybody in a community. Thus, the cooperation with partners from various sectors to promote and develop community's sustainable access to water sources was initiated.

We establish a guideline for water management and implement a risk management plan on a yearly basis under the principle "Water & Reuse to farm". The procedure ranges from analyzing and setting proper approaches to ensure water sufficiency, collaborating with and providing support to risk-prone business partners in mitigating water shortage risk, and engaging communities to voice their concern and opinion on utilization of water resources. Our endeavors, which include a project on diversion of treated

wastewater for sustainable agriculture through installation of natural wastewater treatment system, and promotion of drip irrigation system for cultivation among Thai Wah members, not only enhance farmers' cultivation efficiency but also mitigate drought during the dry season for the present and in the future.

Thai Wah also conducts study on direct and indirect negative impacts arisen from the Company's current and future operation, follows up, resolves, and improve to mitigate the impacts against communities and society. We also join forces with the communities every year to implement proactive measures to store water, alleviate and delay drought, and add moisture to farming soil during the dry spell or the drought season in order to ensure adequate amount of water for community consumption and for sustainable agriculture, and to be genuinely in line with social needs and problems.



1. Implementing “Treated Wastewater for Farmers” project, covering the area of 2,556 rai in Mae Sot district, Tak province
2. Renovating Tha Khanto Municipality pumping station
3. Repairing Tha Khanto Municipality reservoir embankment road
4. Supplying materials and equipment for Tha Kan Tho Municipality clean water management planning project to promote clean and hygienic water for community consumption
5. Sponsoring organization of stubble burning reduction and soil improvement campaign day
6. Implementing factory wastewater diversion for agricultural continuity and sustainability project to address agricultural water shortage. Wastewater sewer pipes and pumps have been installed on the farming area of 557 rai in Muang district, Udon Thani province for 34 farmers. The plan is to install 2,000 meters of sewer pipe, accommodating 100 rai of farming areas, each year
7. Donating used sacks on a yearly basis to Champa village, Chiang Yuen sub-district, Muang, Udon Thani province to be used as sandbags in the construction/restoration of agricultural check dams to mitigate community people’s plight arisen from low water level in Lam Huay Luang Canal, and to ensure sufficiency of water for farming and fishery.
8. Providing knowledge and supplying alums to villages, that have problem on tap water management and production, to reduce the cost of village tap water production. As of now, 6 villages in Chiang Yuen sub-district, Muang, Udon Thani province have been supported, and approx. 15,000 tons of alums have been supplied in 2020. The goal is to expand this project to nearby villages.
9. Providing dredging equipment and machines for canal dredging project to assist community farmers during the dry season every year in containing water for use throughout the year in agricultural and fishing activities
10. Implementing a project to convert plant waste materials into floating foam barriers for control of invasive water hyacinths in public water sources used in producing tap water in Muang district, Udon Thani province. As a result, the communities managed to save 60,000 baht, earlier allocated for purchasing of 4 plastic boats and floating barriers.



- **Community Biogas Plants**

With our great concern over healthiness and safety of the community people, Thai Wah has constructed a 6-cubic-meter community biogas plant at Ban Nong Lord School, Chiang Yeun sub-district, Muang district, Udon Thani province. The construction of biogas plant is part of the ‘Save the World’ effort, and is aimed to encourage students and villagers to recycle wastes for their benefits through utilizing food wastes for biogas production. The project also promotes a pollution-free community and environment protection, and save the villagers the cost for fresh waste disposal and long-term household expenses.

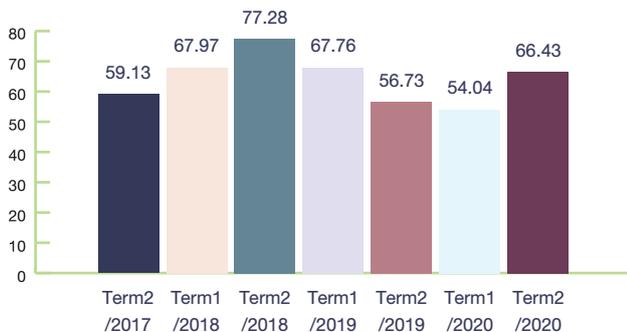
The Company commenced the project with a meeting with community members on August 4, 2020 to brief them on waste segregation and recycle of food waste as composable waste, which could be digested and yield methane gas for household use. This way, school and community members could save their household use of LPG to only 2 cylinders per year, or 4,000 baht per year (calculated at 400 baht per cylinder), from originally 1 cylinder per month. The Company also plans to expand the project to cover 2 households per year, as a result of which Ban Nong Lord community will accumulatively save the total of 8,000 baht each year.





- **Online English Language Learning Program**

Thai Wah, with the collaboration of leading English language schools accredited by Ministry of Education, has launched an English language learning program via an application installed in the tablets of the elementary students (Grade 1 to 6). The program features 4 hours of English language class per week to develop listening, spoken, reading, and writing skills. Technologies have been adopted to enable interaction between native language teachers and the students. In 2019, 40 students who have participated in the program. The academic test results are as following:



- **Mushroom Cultivation Program for Community Schools**

The Company commits to develop and improve the livelihood of surrounding communities. Our mushroom cultivation program encourages community schools to use soil debris and cassava shells, which are wastes from our manufacturing process, to grow mushrooms. This is to generate incomes in the community, and for the students to be enriched with occupational skills. Thai Wah provides financial support for training, the supply of raw materials, and building of mushroom houses. Schools can also use mushrooms as ingredients for student lunch and can sell it to the community at low prices all year round. The students will also learn to be diligent and to help out their families from the revenues earned through this program. The Company has established 2 learning centers for straw mushroom cultivation at Khok Sa-ard-Sri Burapha School, Khok Sa-ard sub-district, Muang district, Udon Thani province, and at the house of the head of Ban Na Somboon village volunteers. In 2020, there were a total of 8 households participating in the program, same as the previous year due to the pandemic crisis.







## Family Work and Life Balance

Amidst the changes brought about by the ongoing crisis occurred throughout the year 2020, organizations need to be very resilient. Thai Wah's strategy in human resources management under uncertain circumstances is the key to driving and maintaining business strength and sustainable growth. In addition to having capable employees who are always ready to learn and create new things, and resilient and capable of managing changes to generate benefits, an organization has to be able to promptly recruit talents who suit the flexible structure and business direction.

As working is crucial to human life, it is important to ensure that employees in industrial sector be adaptable to and happy with their work and working environment in the factory system. Having a job helps on fulfill their basic needs. Apart from being a source of income, one's work determines social status, and the nature of work could define one's quality of life.



Quality of work life is extremely important because human is a crucial resource who must work to live and meet his basic needs. Therefore, workplaces should appropriately engender happiness and security. Positive attitude toward one's own work will have positive effect on both the individual and the organization. In other words, quality of work life affects the organization. Each employee is considered the foundation and heart of the Company's endeavor to promote competitive advantage and

sustainable growth. All employees are parts of the family. Thai Wah upholds the critical principles of justice, integrity, and transparency in taking care of our family members. We have placed priority on creating a learning organization where all employees are encouraged to develop their potential and capability and to learn together continuously. Thai Wah strives to promote a creativity-based learning environment and freedom in a bid to create bonding among all employees, for them to take pride in being part of Thai Wah.



# Human Resource Development

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In creating and retaining employees' talents, the Company focuses on developing knowledge and skills, providing opportunities for life-long learning, promoting career advancement, and preparing employees for changes under a working atmosphere where diversity is respected. This is for the happiness of all employees, and the Company's competitiveness enhancement at the international level.

Thai Wah has laid out a strategy for sustainable development of human resources through the implementation of Competency Management System, which is aimed to be a foundation for corporate culture toward success. Focus is made on communication to create common understanding among employees of all levels regarding career development system, and engage them in solid designing of functional competency.

- **Corporate Culture toward Success**

Being a business leader is to have a vision and excellent business operation strategies to vision achievement. Corporate culture for business operation is a strong foundation for the implementation of the strategic plans.

Sustainability is part of the corporate culture, and an indicator to future organizational success. A great driving force for continuous and sustainable business growth is employees' attitude of business ownership. Thai Wah, therefore, commits to create a safe learning environment that promotes freedom of creativity and innovation for all the employees to work happily, and take pride in the organization they are part of.

Thai Wah strives to encourage the employees to take part in or share their ideas on the Company's sustainability endeavors. We believe that sustainability is everybody's agenda. The work of all departments and employees could contribute to organizational sustainability. We would like everyone in the Thai Wah family to be proud, and take part in adding more values to our agricultural products and delivering quality products to the hands of the consumers through the followings:

- Understanding objectives of the business operation
- Knowing what to do to promote organizational success
- Working with colleagues who have the shared belief in values
- Being aware of fair treatment to all employees
- Being recognized for great characteristics and quality of goods and products

- **Competency Management System**

Thai Wah has developed a strategy for sustainable development of human resources through the implementation of Competency Management System, which is composed of:

1. Core Competency means skills and qualifications required in everyone under the organization. It is the foundation that contributes to vision achievement.

2. Leadership Competency means competencies, skills, and essential qualifications required in supervisors and team leaders, which have been defined in order to achieve the vision, values, and strategic direction of the organization.

3. Functional Competency means similar knowledge, skills, competencies, and qualifications shared under a “Job Family”, a group of jobs that involve similar works/functions, career development and management.

## CORE COMPETENCY



Upholding Standards



Taking Action



Exploring & Embracing Change



Developing Expertise



Team Working

## LEADERSHIP COMPETENCY



Develop Strategies



Influencing & Convincing People



Empowering Individuals

D.I.C.E



- **Career Development Program**

Thai Wah has systematically initiated a career development program and restructure our human resource management to accommodate the Company's rapid changes in various aspects. In planning for career development, employee competency has been analyzed to know their real potentiality according to the following development models.

Employees of all levels have been communicated on the objective of systematic structuring of employee development, in relation to career competency development and organizational expectation over the enhancement of employee potentials to promote successor building for the Company's key positions. Thai Wah, in collaboration with leading consulting firms, has laid out and developed a curriculum structure that is relevant to our organizational structure to promote sustainable development. The development focus on the development of new generation management, which has been undertaken in the same direction throughout the organization.



### Work-Integrated Learning Program

In 2020, a total of 376 employees participated in the program : equal to 87% of the total target

- **Thai Wah Leadership Academy (TLA) Program**

Thai Wah management recognizes that human resources are an essential factor for organizational development, and the building of new generation management is also a goal the Company must place great importance on. Thai Wah Leadership Academy (TLA), is thus, designed to develop potential employees to become new generation management through the heredity of DNA, that is, transfer of success and experiences from the former and current generation executives, which have been designed to maximize learning capacity based on the principle of 70-20-10, as the table below:

TLA or Thai Wah Leadership Academy has been implemented to develop potential employees to become new generation management through heredity of DNA, that is, transfer of success and experiences from the former and current generation management.

Leaders at the executive level had a chance to attend virtual classes under Thai Wah Leadership Academy (TLA) to enhance their leadership and be prepared for the changing of business environment. TLA has been designed to develop the organization’s human resources and innovation with the contents that are in line with the current global situation.

- Leaders in COVID-19 Crisis: Powerful Ways to Lead Your Team
- Design Thinking for Leaders
- Brain-Based Leadership in the Digital Era
- Be an Inspirational Leader
- The Innovative Leader
- Coaching Skill: A Tool to Groom Your People & Yourself

Develop all level ●  
Develop some level ◐

Employee Level	Core Competency	Functional Competency	Leadership Competency	Managerial Competency
Management	●	◐	◐	●
Supervisory	●	●	◐	
Operation	●			

In 2020, TLA was designed to develop leadership in wide-ranging dimensions, e.g., business knowledge, marketing management, development of innovations, and team management, to promote sustainable development of both human resources and the organization. The participated employees were encouraged to design an Individual Development Plan that is relevant with their own competencies through an evaluation system. The data has been analyzed to find out the need for proper trainings that would enhance each employee’s potentials. We believe that leadership development is a key factor to promote bonding, and maximize the employees’ potential in efficiently driving forward the organization.



We place importance on laying out the employee structure that ensures proper development and succession, taking into account the diversity in age and professional levels.

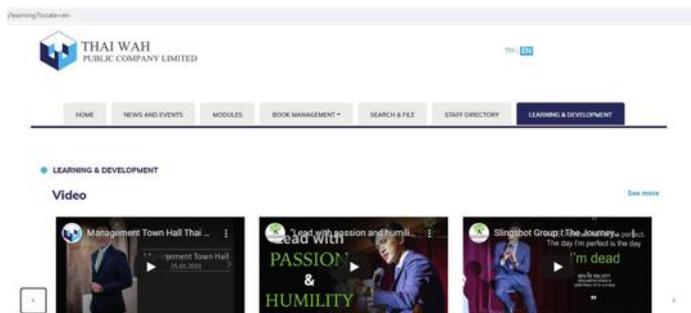
	2019	2020	Target 2021
Employee engagement scores (%)	80	-	90
Average training time of all employees per person per year	1 day	1 day	2 days
Turnover rate (%)	16	19	10
Women who use the right to maternity leave (person)	1	2	1
Women return to work after giving birth (%)	100	100	100

Diversity of employees	2019	2020	Target 2021
Classified by level (person)			
- High-level management	6	6	6
- Middle-level management	73	73	73
- Management	103	103	100
- Officer	115	115	115
Classified by age (person)			
- Younger than 30 years	1,096	1,062	1,058
- 30-50 years old	1,565	1,669	1,680
- Over than 50 years	149	135	128

- **HR Intranet System (HRIS)**

In 2020, the Company developed an HR Intranet System intending to reduce work process, enhance operational efficiency, and minimize the use of paper within the organization. In the past year, the HR integration system was established to create operational data linkage and facilitate access of all the employees to various systems via “One Gateway”. Data damage prevention system has also been put in place. The development of related systems, i.e., pay slip online, HR intranet, leave online, air ticket online, e-learning, and e-search and file online.

With an emphasis on building platforms through intranet systems to encourage employees to acquire knowledge and develop skills on their own.



As a result, the Company can reduce use of approximate 2,000 sheets of paper per month or 24,000 sheets per year or an equivalence of 4.8 trees.

	2019	2020	Target 2021
Reduced paper usage (sheet)	24,000	24,000	30,000
Accounted for reducing the cutting of trees (trees)	4.8	4.8	6.0

- **Innovation in Organization**

Thai Wah encourages our employees to be innovative, using their creativity for the development or invention of new products and services, or new processes, in order to elevate quality of life and livelihood of all stakeholders throughout the supply chain in both economic, social, and environmental dimensions. Continuous development of technology and innovation could also enhance the Company’s value and growth, or help reduce organizational cost on a long-term basis.

An important factor that could engender innovation in organization is to promote creative atmosphere and safer space for employees of all levels to exercise outspokenness, assertiveness, and innovativeness. They should be encouraged to venture into new things, and be continuously developed through seminar and training participations. Skills and support provided to them by the management team, are key driving forces of the Company’s stable growth.

# TW WANDER INTRODUCTION

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## NEW NEWS

This is an open session for any department to share your activities or information e.g. workshop, brainstorming session which you find it beneficial to TW Team.



## SUCCESSFUL STORY

We encourage each business unit both local and international branches to share your success in order to cherish this moment together and to be a model for other business units to follow.



## INNOVATION SHARING

This session will help cultivate an innovative mindset in TW Team. Anyone can share related innovation Topic e.g. agriculture technology, global trend, market & customer insight, or way of working in this digital era.

A “TW Wander newsletter” has been published on a monthly basis to update Thai Wah family members with the global news and trends, as well as knowledge and success stories of each department for Thai Wah’s family sharing.

# Human Rights and Good Labor Practices

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The Company has placed importance on human rights management in compliance with the business code of conduct and international human rights standards. The Board of Directors and/or senior management are expected to monitor and ensure that human rights are not violated in any of the Company's activity, nor human rights violation due to any act or decision made by the Company.

The Company has formulated a policy on corporate responsibility to respect human rights. The aim is to undertake comprehensive measures related to human rights by adhering to the United Nations Guiding Principles on Business and Human Rights (UNGP) as a framework. The policy includes analyzing and gauging human rights risks, risk management, and constant monitoring of and reporting on related progress. Thai Wah's key human rights issues are forced labor, human trafficking, and illegal child labor. In the year 2020, the Company has considered that there are no risks related to human rights issues in the organization and supply chain.

In demonstrating consistent commitment to addressing the above issue, the Company has formulated a plan to uplift responsibility and transparency in the supply chain, disseminated policy, and practices on sustainable procurement to business partners. By

providing the training and enhance knowledge of key business partners for them to conduct self-assessment on sustainability, assessed key business partners, on sustainability, and supplied main raw materials from responsible agricultural sources. Those who wish to become future partners will have to sign an acknowledgment of human rights and good labor practices and to comply with the principles set by the Company strictly. With our commitment and care, Thai Wah has also implemented workplace safety, health, and environmental policy in accordance with related laws and standards for all employees and business partners to work in a safe and happy environment.

The Company has placed priority on fair treatment to the employees on the basis of international human rights standards, with the clear policy on nondiscrimination in the process related to recruitment, employment, compensation and benefit payment, trainings, job assignment, and promotion. The Company commits to provide facilities necessary for their work, and promote safe and healthy work environment. Participatory culture is also encouraged for the development of their quality of life and value, and public mind, thus, enabling our people to have a sense of their worth and reach their full potential.

In 2020, the Company had a total of 2,866 employees. Thai Wah also has the policy to hire and promote the employment prospect of people with disabilities to enhance their quality of life, empower them, and support the people with disabilities in realizing their full potential. In 2020, the Company hired disabled people in accordance with the law, which requires a company to hire 1 disabled person for every 100 employees hired.

	2018	2019	2020	Target 2021
The ratio of persons with disabilities to all employees	1 : 100	1 : 100	1 : 100	1 : 100
Proportion of male employees to female employees	2.5 : 1	2.5 : 1	2.5 : 1	2.5 : 1
Number of all employees (person)	2,040	2,810	2,866	3,000

We have continued to implement our policy on human rights and have yet to witness any case that business operation is held accountable for human rights violation. Nevertheless, the Company has provided various channels to receive opinions and suggestions from the employees, such as the intranet and suggestion box.



## Employee Support during COVID-19

The Company has set up the “Core BCP Team”, of which the members include CEO, CFO, MD, HR, IT, and Risk Management, as the central data center to assess related impacts, and determine measures and directions in providing support to the employees. Measures implemented include working from home, provision of hygienic masks and alcohol gel to all the employees, COVID-19 screening for employees and visitors, regular office disinfection during the outbreak, COVID-19 insurance coverage for all employees, provision of temporary shelter for employees in the risk groups, and flexible working hours for employees, who have to come to the office, to avoid congestion during rush hours. The Company also supplied necessary resources for the continuation of business operation during the crisis, such as providing laptops to the employees to work from home, subsidizing their internet fees, and setting up microsoft teams and zoom for teleconferences, etc.

Thai Wah strive to mitigate employees’ plight as a result of the COVID-19 pandemic. All employees are being maintained in accordance with the Company’s personnel care policy with no layoff nor salary reduction. The Company also paid for COVID-19 test for our employees who are in the risk groups, and paid during their 14-day quarantine leave. Screening stations have been set up at the entrances to ensure normal body temperature and proper mask-wearing, while alcohol gels are also placed in several spots. Teleconferences have been conducted every morning with members of Thai Wah’s 15 factories, and twice a week with our domestic and overseas operation bases, to receive updates on the latest situation, communicate, and provide prompt advices and assistance.





## Organic Food and Healthy Food R&D

At present, our products are manufactured and internationally distributed to ASEAN countries and over 32 countries around the world. Our quality food and starch products are made from selected raw materials through our expertise in tapioca starch and starch related food products. Another most important thing is the consistency of the quality of starch products. We pay special attention to every single detail of the production and creation process right from the farm to the hand of the consumers. As one of the leading corporates in the agro-food industry, we place extreme importance on the uplift of quality and safety throughout the whole process. We commit and strive to continue developing our products for the best well-being of consumers and everyone in the society through the collaboration with business partners, food institutes, and leading universities to develop new innovations in starch for sustainable leadership of our products in the market.



# Innovations on Procedures, Products, and Services

Nowadays, rapid changes in various aspects and areas have brought about risks and opportunities to business operation. For Thai Wah, as a company in agriculture and food industry, consumer behavioral change has always been a key issue of our concern. The Company strives to take part in promoting consumer's daily well-being, as good health starts with right nutrition derived from the five food groups. We have taken it our responsibility to innovate healthier products for consumers' better health and wellness, and continue to reduce the use of natural resources to minimize environmental impact.

Consumer health starts with the right nutrition. Thai Wah places great importance on innovations that promote consumer health and respond to the need of consumers of all ages. We have formulated a plan for social and environmental-friendly innovations to develop food that promotes health and wellness, and have intended to offer new alternatives for consumers through the development of quality and safe products that are rich in nutrients and that meet the needs of each consumer group. The Company also commits to creating public understanding and knowledge about our products, with the goal to release products for

consumers' better health and wellness. The Company is committed to innovating healthier products for our customers and has dedicated 50% of our Group R&D Innovation Projects for the cause.

Key factors for the process of healthy product development are nutrient enrichment for consumer's convenience, product diversification from locally-selected raw materials, suitable prices, and market and consumer behavior trends. In 2020, five new products have been launched, and the products that focus on health and wellness account for 50% of the new products.

## Product Performance Innovations Focus to Improve Nutritional Outcomes

	2019	2020	Target 2021
Number of consumer health and wellness products	3	5	6
Developed products that focus on health and wellness to new products (%)	67	50	50

## Thai Wah Innovation Hub

An Innovative Research Center has been established by Thai Wah at the Faculty of Science, Chulalongkorn University to support research and development on food and health, as well as R&D of products for sustainability, in the forms of research grants or joint researches with the Faculty of Science or other faculties of Chulalongkorn University. The aim is to produce more of the researchers who are specialized in the fields that match the Company's needs, and to conveniently build upon the research results for commercial purpose. Thai Wah has also forged cooperation network with other public and private research institutes to jointly conduct R&D for the manufacturing of new healthy products into the market.

The Company always commits to introducing nutritious products to the market. In 2020, Thai Wah received The Winner of The International Innovation Awards (IIA) 2020 for Bean Vermicelli Double Dragon Balance (DD Balance) product by Enterprise Asia, which is one of the invaluable global awards that recognize as the outstanding innovations in areas such as product, service, and corporate culture.

DD Balance produced from 100% natural fermentation and a proprietary freezing process, resulting in Non-Bleached, Chemical free and Gluten free. The product has also been certified by the Faculty of Medicine Ramathibodi Hospital, Mahidol University for

its low-GI value, which is a preferred choice of food as it is slowly digested and absorbed, causing the slower and smaller rise in blood sugar levels and be the first fresh bean vermicelli product has been certified Superior Taste Awards with iTQi 2 stars by Belgium's International Taste & Quality Institute.



Ideation Hub @ Sathorn



Innovation Hub @ Chula



Application Hub @ Shanghai

	2019	2020	Target 2021
Research and development expenses (million baht)	3.66	2.97	2.85
Number of research and development personnel (person)	11	14	14
Number of patents and petty patents	None	None	1

## Digital Marketing Technology and Sustainability

An outbreak of COVID-19 pandemic and the consequential social distancing measure have caused disruptive change to global digital technology trend and consumer behavior, prompting consumers to adjust themselves into the so-called New Normal. COVID-19 is a catalyst that forces all sectors to reshape daily-life behaviors, work, consumption, and shopping habits. Most consumers turn to online shopping for their safety and convenience. They also become more aware of their own health and opt for behaviors that contribute to social sustainability.

With the rapid change in businesses and e-commerce, Thai Wah has finetuned our business and service direction to be in line with the changing consumer behavior. Such finetuning has helped reduce cost and expenses, and reflected the Company's transparency and social and environmental responsibility, as well as our commitment to conduct business responsibly. Online advertisement via various social media platforms, i.e., the Company's Website, Facebook, Youtube, Linkedin, and Line@, has been undertaken in order to communicate with and receive feedbacks directly from the consumers, promote customer engagement through digital marketing. This is for brand recognition and growth, both in terms of the corporate image and increased sales.



Main Website



Facebook



Youtube



Linked in



Rose Starch Website



TW Knowde



Line @Thaiwah Starch

SD Journey

Line @sdjourney



Double Dragon Website



Thai Wah Vietnam Website



## Enhancing Quality and Food Safety

Thai Wah strives to raise employees' awareness on safety measure in every single production process with efficient traceability system and production validation through use of scientific methods and modern and standardized equipment. The Company's food manufacturing process is operated in accordance with HACCP and GMP management systems to ensure safety of our food products and comply with laws and regulations of both Thailand and partner countries on food safety.

The Company's internal control procedure has continuously been improved to ensure that related data and information be accurate, complete, and can be explicitly disclosed to concerned parties. We have a policy to manufacture high quality and standard products through adoption of efficient and modern technologies and product quality traceability system at all production stages, as a result of which the Company has been certified with ISO 9001: 2008, Good Manufacturing Practice (GMP), Hazard Analysis Critical Control Point (HACCP), KOSHER, BRC Global Standards (Grade AA), HALAL, and FSSC 22000.

Thai Wah also strives to maintain and develop our Total Quality Management (TQM) in a bid to produce quality products that are safe to consume. Priority has been placed on product research and development to meet the need of consumers for adequate access to food and healthy nutrition. Our laboratory capacity has been enhanced, and as a result, the Company has been certified with ISO/IEC 17025 from Ministry of Public Health.

In addition to taste, diversity, and convenience, worldwide consumer behavior trends also reflect priority on food quality and safety, especially nutritional food with safe production process. This is the challenge that the Company takes on in attempt to keep up with the changes, by way of constantly developing our products, controlling quality throughout the value chain, and instilling knowledge and awareness on good nutrition among the public. In addition, the Company is committed to maintaining and developing quality management systems throughout the organization to produce quality products and safe for consumption.

## Product and Service Labelling

The Company has been aware of the importance in accurately displaying product information and made it an obligation to attach the packages and/or labels of all Company's products with the information on nutrition, proper cooking instruction, and any other information that is in line with related laws, regulations, and international standards. This is in order for the consumers to get the most out the use of company products.

The Company commits to produce quality, safe, and healthy products which are delivered on time to meet consumer's satisfaction. Quality and production control have been regularly implemented on par with the international standard. Customer satisfaction is our performance indicator based on which product quality and services are further improved and developed.

“Acquired international standards, to ensure quality and food safety throughout the food supply chain”

### Starch Factory



### Food Factory



## Brand Equity

The Company believes that our mission is to create quality products with nutritional values through food quality analysis process in a bid to gain trust from our customers across the globe. In order to sustain our product leadership, we strive to continuously collaborate with regional business partners in R&D and development of different innovations.

- **Marketing Communication and Customer Privacy**

The Company commits to produce quality, safe, and healthy products which are delivered on time to meet consumer's satisfaction. Quality and production control have been regularly implemented on par with the international standard. Customer satisfaction is our performance indicator, based on which product quality and services are further improved and developed.

Customer satisfaction scores on Thai Wah's products and services have been submitted to the management every year for further product and service development, as well as planning of sales promotion. The development plans, formulated based on the customer satisfaction evaluation in 2020, include adjusting marketing activities to be more in line with customer demand and to suit each marketing platform, balancing activities, and revising format of reward-point based activities to ensure appropriate point collection.

The Company also maintains various communication channels with the customers, i.e., online communication, and loyalty program. All customer data will be kept strictly confidential in accordance with the Company's security policy.

### Customers can be Divided into 5 Groups

Wholesale



Vansale

Industrial



Modern Trade

Export



# Questionnaire Topic

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## 1. Overall preference towards the product

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## 2. Overall quality of the product

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## 3. Overall quality of packaging

- Information on the label is complete, clear, and easy to read, durability, cleanliness and hygiene.
- 



## 4. Overall satisfaction with product delivery

- On time, complete, in perfect condition, not damaged.



## 5. Overall satisfaction with provided services and contacts

- Quickness, politeness, care and follow up to solve problems
- 



## 6. Overall satisfaction with marketing activity

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## 7. Overall satisfaction with the promotion

- Customer Satisfaction Scores

	2018	2019	2020	Target 2021
Starch business (%)	86	90	83	85
Food business (%)	85	84	86	87

- Food Business

	2018	2019	2020	Target 2021
Brand awareness (Top of Mind)	43%/22%*	35%/20%**	33%/19%***	Maintain / Increase 1pt
Brand Penetration (share)	66%/31%*	47%/33%**	56%/40%***	Maintain / Increase 1pt

\* Double Kirin in fresh vermicelli / Double Dragon in dry vermicelli brand measure from U&A Consumer Study by Nielsen Research in 2016

\*\* Double Kirin in fresh vermicelli / Double Dragon in dry vermicelli brand measure from U&A Consumer Study by Nielsen Research in 2019

\*\*\* Double Kirin in fresh vermicelli / Double Dragon in dry vermicelli brand measure from U&A Consumer Study by Nielsen Research in 2020

- Meeting with Business Partners

The Company organized a seminar on “Breaking Through COVID-19 Crisis Towards Food Business New Normal in 2021” to show our appreciation toward all customers and business partners who have always been the crucial driving forces of Thai Wah’s business. They were also given an insight on the changing trends of store owners and consumers, which would help them adapt during the New Normal. We also wanted to forge relationship and work together with our business partners in laying out Thai Wah’s marketing plan in order to come up with the products that better suit the consumers’ need, and promote our brands to become better known among store owners and consumers. Thai Wah stands ready to collaborate with our partners to drive the business forward into the year 2021.





# Appendix

## About This Corporate Sustainability Report

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The report is the annually Corporate Sustainability Report of Thai Wah that will be publicly disseminated. It is developed through comparison with key performance indicators and goals, identified in the Company’s sustainability strategy, in accordance with its core value “Creating Innovation and Sustainability from Farm to Shelf (From Farm to Shelf).” The objective of the report is to communicate our continuous commitment in conducting business toward sustainability in economic, social, and environmental aspects. This report discloses our annual sustainable performance from 1st January to 31st December 2020.

The Corporate Sustainability Report conforms in accordance with the Global Reporting Initiatives Standards (GRI Standards): Core option. The Company’s performances have been measured in comparison with the United Nations Sustainable Development Goals (SDGs). The financial performance has been reviewed by EY Company Limited, and details are shown in the Auditor’s Report in the 2020 Annual Report.

## Process for Defining Report Content

The process for defining the content of this report is based on our awareness of the impact of the Company's value chain against the stakeholders, including farmers, business partners, employees, customers, community, and society as a whole. The opinions of Thai Wah's Board of Directors and management were, then, sought. The material sustainability aspects presented within this report are significantly stakeholders' issues of interest, which are essential to the Company's business strategy in assessing both internal and

external environments. The Company abides by the principles of GRI Standards, including Sustainability Context, Materiality, Completeness, and Stakeholder Inclusiveness. Significant issues have been formally assessed to identify and prioritize sustainability aspects that have a great impact on Thai Wah's business operation in economic, social, and environmental dimensions. Issues that are of significance to stakeholders are also presented in this report.

# Stakeholder and Materiality Analysis



## Step 1 Identification

The Company identified material aspects from the key sustainability issues in 2019 and scope of each aspect through a workshop with high-ranking executives, based on the internal and external factors of the Organization, i.e., such as Thai Wah's strategic Direction, Sustainability Direction, and Risks and Opportunities, as well as material aspects benchmarked against industry peers, and global sustainability trends identified from international sustainability standards.



## Step 2 Prioritization

The Company analyzed and prioritized the aspects identified in Step 1 through a workshop with high-ranking executives and heads of concerned business departments. The analysis and prioritization was conducted based on two dimensions: significance to Thai Wah's business operation and to external stakeholders, i.e., business partners, customers, public sector, and social sector.



## Step 3 Validation of identified aspects

The Company, through our Sustainability Development Department, primarily validated the identified material aspects, along with conducting interviews with external stakeholders, which are Capital Market Developers, and Business Partners, to gather their opinions on aspects that are significant to the sustainability of business operation, in accordance with the guideline of principles of GRI Standards. The validated material aspects were then presented to the Audit, Risk and Corporate Governance Committee (ARCG) to approve and confirm that.



## Step 4 Development and continuous improvement

The Company provides channel for feedback, views, and suggestions in order to develop and improve the contents for the next year's report. We continue to adhere to the stakeholder engagement and sustainability context principles.

# GRI Content Index

## GRI 102: General Disclosures

	Disclosures	Page / Website / Omission	External Assurance
<b>Organizational Profile</b>			
102-1	Name of the organization	SD Report cover page / back page	
102-2	Activities, brands, products, and services	SD Report page 12	
102-3	Location of headquarters	Annual Report page 62	
102-4	Location of operations	SD Report page 26-27	
102-5	Ownership and legal form	SD Report page 12	
102-6	Markets served	SD Report page 26-27	
102-7	Scale of the organization	SD Report page 18 Annual Report page 6 <a href="https://investor.thaiwah.com/financial_highlights.html">https://investor.thaiwah.com/financial_highlights.html</a>	

	Disclosures	Page / Website / Omission	External Assurance
102-8	Information on employees and other workers	SD Report page 93, 97	
102-9	Supply chain	SD Report page 13	
102-10	Significant changes to the organization and its supply chain	SD Report page 34	
102-11	Precautionary principle or approach	SD Report page 36-38	
102-12	External initiatives	SD Report page 69-70	
102-13	Membership of associations	SD Report page 18	
<b>Strategy</b>			
102-14	Statement from senior decision-maker	SD Report page 10-11	
102-15	Key impacts, risks, and opportunities	SD Report page 24-25	
<b>Ethics and Integrity</b>			
102-16	Values, principles, standards, and norms of behaviour	SD Report page 4	

	Disclosures	Page / Website / Omission	External Assurance
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### Governance

102-18	Governance structure	SD Report page 32 Annual Report page 31 <a href="https://investor.thaiwah.com/organization_chart.html">https://investor.thaiwah.com/organization_chart.html</a>	
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### Stakeholder Engagement

102-40	List of stakeholder groups	SD Report page 23-25	
102-41	Collective bargaining agreements	Thai Wah does not have a trade union. However, Thai Wah has its welfare committee which is composed of representatives from all levels of employees. Their responsibilities are similar to a trade union.	
102-42	Identifying and selecting stakeholders	SD Report page 13, 23	
102-43	Approach to stakeholder engagement	SD Report page 24-25	
102-44	Key topics and concerns raised	SD Report page 24-25	

### Reporting Practice

102-45	Entities included in the consolidated financial statements	Annual Report page 139-148	
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	Disclosures	Page / Website / Omission	External Assurance
102-46	Defining report content and topic boundaries	SD Report page 109-111	
102-47	List of material topics	SD Report page 22	
102-48	Restatements of information	Annual Report page 34	
102-49	Changes in reporting	SD Report page 29 Thai Wah has reviewed and made some changes in the relevant SDGs from the previous reporting period.	
102-50	Reporting period	SD Report page 109	
102-51	Date of most recent report	Our previous SD Report was published in April 2020.	
102-52	Reporting cycle	SD Report page 109	
102-53	Contact point for questions regarding the report	Back page	
102-54	Claims of reporting in accordance with the GRI Standards	SD Report page 109-110	
102-55	GRI content index	SD Report page 112- 122	

	Disclosures	Page / Website / Omission	External Assurance
102-56	External assurance	Annual Report page 134-138 The financial performance is reviewed by EY Office Limited	

## Topic-specific Standards

	Disclosures	Page / Website / Omission	External Assurance
<b>Economic Performance</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Annual Report page 44-49	
	103-2 The management approach and its components	Annual Report page 44-49	
	103-3 Evaluation of the management approach	Annual Report page 44-49	
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	SD Report page 18 Annual Report page 6-7	

	Disclosures	Page / Website / Omission	External Assurance
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### Indirect Economic Impacts

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 41-59	
	103-2 The management approach and its components	SD Report page 41-59	
	103-3 Evaluation of the management approach	SD Report page 41-59	
GRI 203: Indirect Economic Impacts	203-2 Significant Indirect Economic Impacts	SD Report page 50, 59	
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 40	
	103-2 The management approach and its components	SD Report page 40	
	103-3 Evaluation of the management approach	SD Report page 40	
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	SD Report page 40	

	Disclosures	Page / Website / Omission	External Assurance
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### Anti-corruption

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 36-39	
	103-2 The management approach and its components	SD Report page 36-39	
	103-3 Evaluation of the management approach	SD Report page 36-39	
GRI 205: Anti- corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	SD Report page 36-37	
	205-3 Confirmed incidents of corruptions and actions plan	SD report page 38	

### Employment

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 87-98	
	103-2 The management approach and its components	SD Report page 87-98	
	103-3 Evaluation of the management approach	SD Report page 87-98	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	SD Report page 93, 97	
	401-3 Parental leave	SD report page 93	

	Disclosures	Page / Website / Omission	External Assurance
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### Occupational Health and Safety

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 62-65	
	103-2 The management approach and its components	SD Report page 62-65	
	103-3 Evaluation of the management approach	SD Report page 62-65	
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	SD Report page 62-65	
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	SD Report page 63	
	403-5 Worker training on occupational health and safety	SD Report page 64	

### Training and Education

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 87-93	
	103-2 The management approach and its components	SD Report page 87-93	
	103-3 Evaluation of the management approach	SD Report page 87-93	

	Disclosures	Page / Website / Omission	External Assurance
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee  404-2 Programs for upgrading employee skills and transition assistance program	SD Report page 93  SD Report page 91-92	
<b>Diversity and Equal Opportunity</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary  103-2 The management approach and its components  103-3 Evaluation of the management approach	SD Report page 87-93  SD Report page 87-93  SD Report page 87-93	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	SD Report page 93, 97	
<b>Human Rights Assessment</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary  103-2 The management approach and its components	SD Report page 96-97  SD Report page 96-97	

	Disclosures	Page / Website / Omission	External Assurance
	103-3 Evaluation of the management approach	SD Report page 96-97	
GRI 412: Human Rights Assessment 2016	412-2 Employee training on human rights policies or procedures	SD Report page 96-97	
<b>Local Communities</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 77-85	
	103-2 The management approach and its components	SD Report page 77-85	
	103-3 Evaluation of the management approach	SD Report page 77-85	
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	SD Report page 82, 84	
<b>Customer Health and Safety</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 99-108	
	103-2 The management approach and its components	SD Report page 99-108	

	Disclosures	Page / Website / Omission	External Assurance
	103-3 Evaluation of the management approach	SD Report page 99-108	
GRI 416: Customer Health and Safety 2016	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	SD Report page 100	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	None	

#### Marketing and Labeling

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	SD Report page 17, 104-105	
	103-2 The management approach and its components	SD Report page 17, 104-105	
	103-3 Evaluation of the management approach	SD Report page 17, 104-105	
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	SD Report page 17, 105	
	417-2 Incidents of non-compliance concerning product and service information and labeling	None	





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