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CPF at a Glance

The Company operates integrated agro-industrial and food business as follows:

Feed Business
production and distribution of animal feed.

Farm and Processing Business
animal breeding, farming and primary meat processing.

Food Business
production of semi-cooked and cooked products as well as ready-to-eat meals, and food distribution channels, including restaurants.

Animal Feed Production
developed the feed production innovation along with the environmental care while minimizing any impact on the community. The Company provides support to local agricultural production and puts in place the traceability system for raw materials to enhance transparency and to build trust among stakeholders.

Farming and Processing
Advanced and eco-friendly technology are adopted throughout the farming process while the animal welfare is maintained in accordance with the global standards to deliver safe and quality products in line with the internationally recognized requirements and regulations.

Food Production
Valued addition is constantly enhanced for processed food products and ready-to-eat food with top quality and good nutrition for healthiness at affordable price. Modern innovation is applied to ensure eco-friendliness as well as full traceability throughout the production process.

Sales Revenue Breakdown by Products
- Feed Business: 25%
- Farm and Processing Business: 54%
- Food Business: 21%

Sales Revenue Breakdown by Operations
- Overseas: 63%
- Thailand (Domestic): 31%
- Thailand (Export): 6%

Business Operations

Thailand Operations
Operates an integrated agro-industrial and food business for domestic distribution and export to more than 40 countries around the world.

Overseas Operations
Operates agro-industrial and food businesses in 16 countries outside Thailand, namely Vietnam, China including Republic of China (Taiwan), United Kingdom, United States, India, Malaysia, Philippines, Russia, Cambodia, Turkey, Laos, Poland, Belgium, Sri Lanka and investment in Canada and Brazil.

Ensuring CPF’s sustainability with the sales revenue of THB 512,704 million

Ensuring the country’s sustainability with the tax* amount of THB 8,282 million

Ensuring shareholders’ sustainability with the dividend** of THB 5,467 million

Ensuring employees’ sustainability with the compensation and welfare of THB 58,309 million

* Income Tax Paid is from the Statements of cash flows in Consolidated Financial Statements of Charoen Pokphand Foods PCL (CPF) and its subsidiaries.
** The Board of Directors Meeting on 25th February 2022 reached a consensus to propose to the 1/2022 Annual General Meeting of Shareholders, that a dividend payment for the Company’s 2021 performance made to the shareholders at THB 0.65 per share or a total value of THB 5,467 million be considered.
CPF Worldwide

Operates and invested in 17 countries
cater to
>4,000
million people

Export to more than
40
countries
5
continents

Europe

United Kingdom
Food business

Russia
Livestock feed
Integrated broiler business
Swine farming

Turkey
Integrated broiler business

Belgium
Ready-to-eat food business

Poland
Broiler farming
Food business

North America

United States
Swine farming and processing
Shrimp farming
Ready-to-eat food business

Canada
Integrated swine business

South America

Brazil
Shrimp farming and processing business

Asia

Thailand
Integrated livestock and aquaculture business

Vietnam
Integrated livestock and aquaculture business

China
Integrated livestock and aquaculture business
Republic of China (Taiwan)
Integrated livestock business

India
Integrated broiler business
Aquaculture feed and farming business

Sri Lanka
Ready-to-eat food business

Cambodia
Integrated livestock business

Philippines
Integrated livestock business
Aquaculture feed and farming business

Malaysia
Integrated livestock and aquaculture business

Laos
Integrated livestock business

Note:
Locations with CPF subsidiaries, associates and joint venture companies’ production operations.
The situation of Coronavirus 2019 or COVID-19 which has seriously affected the global community throughout the past two years is a catalyst for people of all ages to use and become engaged in digital society in responding to a new decade that moves towards a more innovative and technological economy. In the meantime, limiting the global temperature rise to lower than 1.5 degrees Celsius compared to a pre-industrial baseline is the global agenda that will lead to changes in the manufacturing sector’s decarbonization and consumer involvement in climate change solutions.

To serve as a good citizen of the country and the world society and to welcome dynamics of change that are expected in the Decade of Action, CPF has proclaimed CPF 2030 Sustainability in Action that aims to create positive changes in daily business operations and directly supports the 17 Sustainable Development Goals of the United Nations. CPF has promoted and implemented its 9 Ambitions under the 3 Pillars: Food Security, Self-Sufficiency Society and Balance of Nature on the basis of good corporate governance.

We have placed importance on research, development and creation of nutrition innovations, created added value to food products, continuously focused on healthy foods and good nutrition, and provided distribution channels in accordance with consumer behaviour. In addition, CPF has established effective resource management by employing automation and digitization to systematically collect and analyze data to reduce business risks and increase efficiency, resulting in the production that emits lowest greenhouse gas emissions, which, in turn, ensures food security through low-carbon manufacturing, maintains quality of life and employee safety, and supports farmers, suppliers and society to grow together.

In these challenging circumstances, ensuring food security is one of the most significant factors that supports the world to overcome this crisis. Therefore, CPF has planned to comprehensively manage the markets in 17 countries by strictly implementing preventive measures in the production and work processes to ensure safety. We have ensured safety and sanitized work environments for our employees in the production bases around the world. We have also coordinated with the government of each country and taken the prescribed actions to take care of CPF employees and their families as well as Thai people living in that country. With regard to public health of the production base in Thailand, CPF has provided vaccines to employees, along with building a field hospital to accommodate infected green, yellow and red level patients, and setting up a system to connect to hospitals for red level patients.
In addition, CPF has contributed to food security for Thai society. Since 2020, through the "CPF’s Food from the Heart against COVID-19 Project" and the "CP Merging Hearts to Fight against COVID-19 Project," we have delivered millions of packs of ready-to-eat foods to medical personnel and the public, as well as millions of bottles of drinking water and healthy drinks together with fresh food ingredients and seasonings to main hospitals, field hospitals, vulnerable groups, vaccination centers, proactive COVID-19 testing checkpoints, waiting centers and agencies for more than 500 locations across the country. Moreover, we have been organizing similar activities in other countries in which CPF has invested, such as Vietnam, Cambodia, Laos, Philippines, Turkey, USA, and Russia.

Furthermore, CPF has joined forces with Charoen Pokphand Group and more than 100 partners such as foundations, volunteer groups, civil society, and media organizations to carry out the "Krua Pan Im, Merging Hearts to Fight against COVID-19 Project" to deliver two million boxes of hot and ready-to-eat lunch boxes. The first million boxes have been provided by small restaurants in Bangkok and its vicinity, while the other million have been provided by CPF. The aim was to distribute foods to affected communities and to alleviate suffering of people who lack income and those who represent the unemployed groups, vulnerable groups, quarantined groups and home isolation and treatment groups, while at the same time supporting small restaurant businesses.

CPF’s efforts to drive a sustainable business based on good corporate governance continued to be recognized in 2021. We were listed in the 2021 Dow Jones Sustainability Emerging Markets Index (DJSI – Emerging Markets) and the FTSE4Good Emerging Index for the seventh and fifth consecutive years, respectively. The Stock Exchange of Thailand included CPF in the 2021 Thailand Sustainability Investment (THSI) Index. We also received the 2021 Outstanding Human Rights Model Organization Award for Large Organization from the Ministry of Justice, and the “Excellent” Award in the 2021 Low Carbon and Sustainable Business Index (LCSI) Assessment from the Thailand Greenhouse Gas Management Organization (Public Organization). Additionally, we were awarded the 11th Asian Excellence Awards 2021; Best Investor Relations Company and Best CSR Company by the Corporate Governance Asia, the leading Hong Kong and Asia media focusing on economic and corporate governance issues. All of these reaffirm our commitment to conducting businesses with social and environmental responsibility, adhering to principles of good governance and focusing on building food security for the global society.

The achievements of sustainable development of CPF resulted from commitment, determination, and dedication of all CPF executives and employees who are ready to take part in propelling the sustainability goals towards actions in line with United Nations Sustainable Development Goals (SDGs). These allow CPF to be take part in building quality society and happiness, along with preserving natural resources and environment to maintain a balance, all of which bring about the global sustainability.

On behalf of the Board of Directors and all executives and employees, we would like to extend our sincere gratitude to investors, communities, business partners, suppliers, farmers, financial supporters, private organizations, the public sector and all other related parties for taking part in inspiring, developing and supporting our sustainable growth journey.

We pledge that we will conduct our businesses on good governance principles, with consideration towards social and environmental balance, and continue to stand with our country and citizens while fulfilling our role as the sustainable “Kitchen of the World”.

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Mr. Soopakij Chearavanont
Chairman

Mr. Prasit Boondoungprasert
Chief Executive Officer
Awards, Recognition and Sustainability Assessment

**Sustainability**

DJSI 2021: A Member of the Dow Jones Sustainability Index; Emerging Market, in the Food Products Industry

The Sustainability Yearbook 2021: S&P Global Silver Class Sustainability Award

FTSE4Good Index: A Member of the FTSE4Good Emerging Indexes

MSCI ESG Indexes: Participated in the Sustainability Assessment for the Food Products Industry

SET Awards 2021:
- Listed on the Thailand Sustainability Investment (THSI)
- Highly Commended Sustainability Awards: Sustainability Excellence

Thaipat Institute:
- Listed on the ESG100
- Sustainability Disclosure Awards 2021: Award Level

Vietnam Business Council for Sustainable Development (VBCSD):
- CSI100 certification and one of the top ten companies in the manufacturing sector with the most outstanding sustainability performance in Vietnam

Asian Excellence Award 2021: Asia’s Best CSR award

The Asset ESG Corporate Awards 2021 — Gold Award for ESG
- Best CEO Award in the Agro & Food business
- Gold Award for ESG

**Corporate Governance**

Corporate Governance Report of Thai Listed Companies 2021 (CGR):
Excellent CG Scoring

A member of the Thai Private Sector Collective Action Against Corruption (CAC)
- CAC Change Agent Award 2021
- CAC Certified

Asian Excellence Award 2021: Best Investor Relations Company

**Food Security**

SET Awards 2021:
Outstanding Innovative Company Awards: Business Excellence for “Chiva Pork”, High-Fat Pork with High Omega-3

National Innovation Awards 2021 by the National Innovation Agency (Public Organization)
Outstanding Innovation Organization Award 2021 (Large Organization; Honorary Award)

**Self-Sufficient Society**

HR Asia, Asia’s HR Magazine:
HR Asia Best Companies to Work for in Asia Awards 2021

Human Rights Awards 2021:
Outstanding Human Rights Award 2021 in the Category of Large Business Organization

**Balance of Nature**

CDP 2021:
- Climate Change — C
- Water Security — B-
- Forests — BBB

Low Carbon and Sustainable Business Index (LCSi) by Thailand Greenhouse Gas Management Organization or TGO:
"Excellent" Award for the Year 2021
CPF, a Leading Food Innovation Organization Promoting Sustainable Food Security with Modern Technology

CPF is committed to researching and developing innovations to create foods with high nutritional value for consumers of all ages. The Company has applied digital systems including blockchain in traceability practice throughout the supply chain; starting from raw material procurement to consumer product delivery in a fast and more efficient manner, which display food product details in a digital form to ensure product safety. Thus, it can be ensured that the raw materials used in the production are not sourced from areas of deforestation, nor do they involve forced labour.

CPF has also adopted and integrated digital technology, robotics, automation, and artificial intelligence into the production and transportation processes to ensure efficient use of raw materials, water, and energy. In addition, CPF’s Smart Farm System is operated to enhance production efficiency and promote animal welfare in a closed farming system that is clean and hygienic, enhancing health of animals which then ensures safe raw materials and thus positive impacts on consumer health.

With technology, science and innovation, CPF will continue to produce sufficient amounts of foods to meet consumer demands at reasonable prices and to generate sustainable food security.
Sustainability in Action

CPF drives its corporate sustainable development under CPF’s Sustainability Strategy “CPF 2030 Sustainability in Action” which has been developed from the three pillars towards sustainability comprising “Food Security, Self-Sufficiency Society, and Balance of Nature”. CPF demonstrates its commitment to create value for society, restore balance of nature including soil, water, and forests, which is an important starting point of food production under the Sufficiency Economy Philosophy and our “Three-Benefit” core principle based on good corporate governance. CPF also supports the United Nations Sustainable Development Goals and the ten principles of the United Nations Global Compact.

CPF 2030 Sustainability Strategy

Sustainability in Action

CPF 2030 Sustainability Strategy

Sustainability in Action

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The Sustainable Food System¹ for the World

is a system that can deliver safe food which is full of nutrition and is sufficient for everyone while still being able to maintain the natural balance in order to ensure food security in the next generations. The sustainable food system must be:

- Creating economic benefits (economic sustainability);
- Useful and creating value for broader society (social sustainability); and
- Not causing environmental impact, or creating positive impact on nature (environmental sustainability).

CPF Food System Value Chain

Feedmill
Animal Farms
Food Production Plants
Transportation
Retail, Wholesale, Restaurant and Food Court
Home

CPF 2030 Sustainability Strategy

Overview Sustainability Strategy Balance of Nature Food Security Self-Sufficient Society

1 Sustainable Food Systems – Concept and Framework, FAO, 2018.
Twenty-three material issues obtained from the sustainability survey that are important to internal and external stakeholders and have significant impacts on the business, in conjunction with a consideration on the new normal emerging from the changing context after the spread of COVID-19, are used to formulate a new sustainability strategy comprising three pillars and nine ambitions.

### From Materiality to Sustainability Strategy

**Materiality Boundary**

![Materiality Boundary Diagram]

**Response to Material Issues**

<table>
<thead>
<tr>
<th>Importance to CPF</th>
<th>Importance to Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>Moderate</td>
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<tr>
<td>High</td>
<td>High</td>
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</table>

For issues of low interest to stakeholders, responsiveness and management shall be made according to routine procedures and disclosure of information as necessary.

For issues of moderate interest to stakeholders, there shall be determination of duties and responsibilities of units, set the KPIs and monitor the performance and in order to be responsive and to closely manage such issues.

For issues of high interest to stakeholders, high-ranking executives shall give priority, set the KPIs and monitor the performance in order to efficiently respond to the issues and closely manage the issues.

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**Ambitions**

1. Governance and Risk Management
2. Ethics and Compliance
3. Data Privacy and Security
4. Stakeholder Engagement and Transparency
5. Systemic Disasters and Geopolitical Events
6. Food Quality and Safety
7. Innovation and Technology
8. Health and Nutrition
9. Responsible Marketing and Product Labelling
10. Animal Welfare
11. Human Rights and Labour Practices
12. Employee Well-Being, Health and Safety
13. Organizational Culture and Management
14. Talent Management
15. Community Development and Support
16. Climate Change Management
17. Energy Management
18. Water Management
19. Waste Management
20. Responsible Sourcing
21. Biodiversity and Ecosystems
22. Responsible Sourcing for the Planet
23. Circular Economy and Packaging
24. Food Loss and Food Waste
25. Waste to Value

**Material Issues**

- Food Quality and Safety
- Innovation and Technology
- Health and Nutrition
- Responsible Marketing and Product Labelling
- Animal Welfare
- Human Rights and Labour Practices
- Organizational Culture and Management
- Talent Management
- Community Development and Support
- Climate Change Management
- Energy Management
- Water Management
- Waste Management
- Responsible Sourcing
- Biodiversity and Ecosystems
- Responsible Sourcing for the Planet
- Circular Economy and Packaging
- Food Loss and Food Waste
- Waste to Value
Sustainability implementations are under the leadership of Chief Executive Officer, Mr. Prasit Boondoungprasert. CPF has clearly identified executives or working groups responsible for each commitment in order to continuously drive implementation processes to achieve the set goals, all of which are governed by the Board of Directors comprising sub-committees as follows:

- The Corporate Governance and Sustainable Development Committee
- The Remuneration and Nominating Committee
- The Technology and Cyber Security Committee
- The Audit Committee
- The Executive Committee

CPF 2030 Sustainability Goals Driving Structure

Sustainability Strategy

- Balance of Nature
- Food Security
- Self-Sufficient Society

Governance

- Corporate Governance and Sustainable Development Committee
- Remuneration and Nominating Committee
- Technology and Cyber Security Committee

Board of Directors

- Audit Committee
- Internal Audit Office
- Company Secretary

Management

- Corporate Compliance Office
- Risk Management Sub-Committee

Executive Committee

Chief Executive Officer

CPF 2030 Sustainability Goals Supporting and Driving Committee

- Sustainable Food
- Responsible Marketing
- Animal Welfare
- Human Rights
- Lifelong Learning
- Social Impact
- Climate, Water & Waste Excellence
- Responsible Sourcing for the Planet
- Waste to Value

Action

Executives responsible for each ambition are as follows:

As of 31st December 2021

**Food Security**

- Dr. Sommai Tachasiriungne, Executive Vice President, Product Research & Development, Head of Ambition – Sustainable Food
- Dr. Payungsak Somyanontanagul, D.V.M, Vice President, Farm Standard and Regulatory, Head of Ambition – Animal Welfare

**Self-Sufficient Society**

- Ms. Anarkawee Chooratn, Senior Vice President, Corporate Marketing, Head of Ambition – Responsible Marketing
- Ms. Pimonnat Reephattanavijjaku, Chief People Officer, Head of Ambition – Human Rights & Lifelong Learning
- Mr. Wuthichai Sithipreedanant, Senior Vice President, Corporate Sustainable Development, Head of Ambition – Social Impact

**Balance of Nature**

- Mr. Peerapong Krisinchai, Executive Vice President, Corporate Engineering, Head of Ambition – Climate, Water & Waste Excellence
- Mr. Siripong Arsonratana, Chief Operations Officer, Livestock Business, Head of Ambition – Responsible Sourcing for the Planet
- Mr. Pairoj Apiruknusit, Executive Vice President, Aqua Integrated Business Thailand Area, Waste to Value Ambition, Sponsor for Food Loss Sub-Working Group
- Mr. Narerk Mangkeo, Executive Vice President, Sausage and Ready-to-Eat Food Business, Waste to Value Ambition, Sponsor for Sustainable Packaging Sub-Working Group
- Mr. Siripong Arsonratana, Chief Operations Officer, Livestock Business, Head of Ambition – Social Impact
- Mr. Sathit Sangkanuruk, Chief Operating Officer, Five Star & Restaurant Business, Waste to Value Ambition, Sponsor for Food Waste Sub-Working Group

**Charoen Pokphand Foods Public Company Limited Sustainability Report 2021**
CPF has determined strategic plans to drive sustainability covering a 10-year period from 2021 to 2030, which link to the GRI Standards and the United Nations Sustainable Development Goals (SDGs).

### CPF Strategic Plan Years 2021-2030

<table>
<thead>
<tr>
<th>Key Actions during 2021-2030</th>
<th>UN SDGs Supporting</th>
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</thead>
<tbody>
<tr>
<td>Investing on R&amp;D and open innovation</td>
<td>12.6</td>
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<tr>
<td>Development of green products</td>
<td>12.6</td>
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<tr>
<td>Operations in line with international best practice safety standards</td>
<td>12.6</td>
</tr>
<tr>
<td>Ensuring regulatory compliance throughout value chain</td>
<td>12.6</td>
</tr>
<tr>
<td>Improving and expanding nutrition labelling</td>
<td>12.6</td>
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<tr>
<td>Increasing availability and sales of healthy products</td>
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<tr>
<td>R&amp;D of new healthier and nutritious products</td>
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<td>Engagement with communities</td>
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<tr>
<td>Increasing partnership on sustainable diets</td>
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<tr>
<td>Creating good raising environment for farm animals</td>
<td>12.6</td>
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<tr>
<td>Reduction of antibiotics usage</td>
<td>12.6</td>
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<tr>
<td>Providing training</td>
<td>12.6</td>
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<tr>
<td>Conducting human rights due diligence</td>
<td>12.6</td>
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<tr>
<td>Managing human rights related complaints received through grievance mechanisms</td>
<td>12.6</td>
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<tr>
<td>Reporting the performance</td>
<td>12.6</td>
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<tr>
<td>Managing gender diversity throughout all function level</td>
<td>12.6</td>
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<tr>
<td>Creating inclusion working culture</td>
<td>12.6</td>
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<tr>
<td>Protecting and taking care of employee health, safety and well-being</td>
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<tr>
<td>Providing training</td>
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<td>Offering scholarship and upskills training</td>
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<td>Implementing human capital development programs and initiatives</td>
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<td>Purchasing local goods and services</td>
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<tr>
<td>Donating for charities</td>
<td>12.6</td>
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<tr>
<td>Assessing impact of CSR in and after process</td>
<td>12.6</td>
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<tr>
<td>Initiating community projects, focusing on good agricultural practices or increase incomes</td>
<td>12.6</td>
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<tr>
<td>Accelerating decarbonization</td>
<td>12.6</td>
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<tr>
<td>Encouraging carbon removal</td>
<td>12.6</td>
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<tr>
<td>Reducing operational waste</td>
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<tr>
<td>Engaging with suppliers</td>
<td>12.6</td>
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<tr>
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<td>12.6</td>
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<tr>
<td>Ensuring that suppliers comply with relevant policies, laws and regulations</td>
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</tr>
<tr>
<td>Ensuring that key agricultural raw materials are deforestation-free</td>
<td>12.6</td>
</tr>
<tr>
<td>Conducting conservation, protection, and restoration of mangrove forests and watershed forests in strategic areas and increasing green area in operations</td>
<td>12.6</td>
</tr>
<tr>
<td>Creating partnerships in supply chain on responsible sourcing</td>
<td>12.6</td>
</tr>
<tr>
<td>Reducing food loss, surplus food, and food waste</td>
<td>12.6</td>
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<tr>
<td>Investing on innovation related to food waste and sustainable packaging</td>
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<tr>
<td>Increasing the use of sustainable materials for packaging</td>
<td>12.6</td>
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</tbody>
</table>

### CPF 2030 Sustainability Strategy by Ambitions

<table>
<thead>
<tr>
<th>Reporting Framework (GRI Standards)</th>
<th>CPF 2030 Sustainability Strategy by Ambitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Food</td>
<td>Delivering food products of highest quality and safety, and supporting a sustainable food system through green products</td>
</tr>
<tr>
<td>Economic Performance</td>
<td>Investing on R&amp;D and open innovation</td>
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<td>Marketing and Labeling</td>
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<td>Indirect Economic Impacts</td>
<td>Creating good raising environment for farm animals</td>
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<td>Local Communities</td>
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CPF’s 2021 Sustainability Performance to Support the United Nations’ Sustainable Development Goals (SDGs)

**People**
Improving Quality of Life

1. **Improvement of Employment Prospect**
   - Quality of life of 14,700 farmers and small entrepreneurs were improved.

2. **Access to Safe and Nutritious Food**
   - 1,769,138 of children, youth and vulnerable people had access to safe and nutritious food.

3. **New Products to Promote Health and Nutrition**
   - 40% of new products were developed to promote better health and more nutrition.

4. **Sustainable Training for Employees**
   - 100% of employees in Thailand operations underwent trainings related to corporate sustainability.

5. **Female Representation in Operations**
   - 34% of executives in Thailand operations were female.

**Planet**
Protecting Our Planet

6. **Water Reused or Recycled**
   - 44% of water was reused or recycled.

7. **Reduction in Food Loss**
   - 124,114 tons of food loss were used for alternative purposes.

8. **Greenhouse Gas Emissions Reduction**
   - Greenhouse gas emissions of 1,483,000 tons of CO₂e were reduced due to low-carbon products.

9. **Conservation and Rehabilitation of Strategic Areas**
   - Conservation, protection and rehabilitation areas included 2,388 rais (382 hectares) of strategic mangrove forest areas.

10. **Paper and Plastic Reduction**
    - Conservation, protection and rehabilitation areas included 8,691 rais (1,391 hectares) of strategic areas of upstream forests and establishments.

**Prosperity**
Creating Prosperity

11. **Energy Use and Climate Change**
    - 27% of total energy used was renewable energy.

12. **Employee Suggestion Implementation**
    - 70% of employees in Thailand operations benefited from improvements based on suggestions given to the Welfare Committee of the Workplace.

13. **Research and Development Expenses**
    - Total expense on research and development was THB 1,820 million.

14. **Partnerships for Collaboration**
    - 726 employees were persons with disability.

15. **Seafood Sustainability Initiatives**
    - Participated in the “Food Reform for Sustainability and Health (FReSH) Project” with the World Business Council for Sustainable Development (WBCSD) as the mainstay and joined the Seafood Business for Ocean Stewardship (SeaBOS).

**Peace**
Building Peace

16. **Litigation-Free Operations**
    - CPF did not have any litigation related to fraud, corruption, giving and receiving bribes, and monopoly or trade barrier.

17. **Partnerships for Collaboration**
    - CPF did not have any litigation related to fraud, corruption, giving and receiving bribes, and monopoly or trade barrier.

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Charoen Pokphand Foods Public Company Limited Sustainability Report 2021

Overview Sustainability Strategy Balance of Nature Food Security Self-Sufficient Society
Our Commitment against Targets

### Food Security
**Goal:** Establish food security with products that promote health and improve quality of life for consumers

<table>
<thead>
<tr>
<th>Sustainable Food (Thailand Operations)</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 40% of the revenue shall derive from green products</td>
<td>40%</td>
<td>33%</td>
<td>83%</td>
</tr>
<tr>
<td>• No food products recall</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Responsible Marketing (Thailand Operations)</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reach 35 million consumers per day with healthy foods and beverages</td>
<td>35 Million</td>
<td>9 Million</td>
<td>26%</td>
</tr>
<tr>
<td>• 50% of our new products are developed to be healthier and more nutritious</td>
<td>50%</td>
<td>40%</td>
<td>80%</td>
</tr>
</tbody>
</table>

### Animal Welfare
**Goal:**

<table>
<thead>
<tr>
<th>Human Rights</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100% of sows raised in group gestation pen housing system</td>
<td>100%</td>
<td>27.18%</td>
<td>27.18%</td>
</tr>
<tr>
<td>• Increase production capacity of cage free egg by 30% per year based on year 2020 (With total production capacity of 12 million eggs in 2020) (With total production capacity of 30 million eggs in 2021)</td>
<td>30%</td>
<td>150%</td>
<td>500%</td>
</tr>
<tr>
<td>• 100% environmental enrichment for broiler</td>
<td>100%</td>
<td>64.87%</td>
<td>64.87%</td>
</tr>
</tbody>
</table>

### Self-Sufficient Society
**Goal:**

<table>
<thead>
<tr>
<th>Life-Suitable Society</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100% conduct human rights due diligence once every 3 years, including risk assessment and impact assessment in high risk areas of own operations</td>
<td>100%</td>
<td>100%</td>
<td>40%</td>
</tr>
<tr>
<td>• 3 million hours of education and training for employees</td>
<td>3 Million hours</td>
<td>1,331,688 hours</td>
<td>44.39%</td>
</tr>
<tr>
<td>• Improve 3,000,000 livelihoods in communities connected to our business activities</td>
<td>3 Million livelihoods</td>
<td>2,450,737 livelihoods</td>
<td>82%</td>
</tr>
</tbody>
</table>

### Balance of Nature
**Goal:** Take action towards positive environmental impact throughout our value chain

<table>
<thead>
<tr>
<th>Climate, Water &amp; Waste Excellence</th>
<th>2025 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 25% of direct and indirect GHG emissions per production unit to be reduced compared to the base year 2015 (Thailand Operations)</td>
<td>25%</td>
<td>18%</td>
<td>72%</td>
</tr>
<tr>
<td>• 30% of water withdrawal per production unit to be reduced, compared the base year 2015 (Thailand Operations)</td>
<td>30%</td>
<td>43%</td>
<td>165%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Responsible Sourcing for the Planet</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100% of key raw materials are traceable (Thailand, Vietnam, Laos*, India, Philippines, Laos, Cambodia, and Malaysia Operations)</td>
<td>100%</td>
<td>25%</td>
<td>25%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste to Value</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Zero food waste from operations</td>
<td>0 tons</td>
<td>On Progressing</td>
<td>On Progressing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lifelong Learning</th>
<th>2030 Target</th>
<th>Performance</th>
<th>Progress (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100% of plastic packaging for food products to be recyclable or reusable or compostable</td>
<td>100%</td>
<td>99.9%</td>
<td>99.9%</td>
</tr>
</tbody>
</table>

* China Operations covered the raw materials sourced by Feed Ingredients Trading Business Group only.
The United Nations aims to end hunger and malnutrition by 2030. However, there are several challenges that will prevent it from achieving goals, for instance, epidemics, conflicts, inclement weather, and economic slowdown. As the world’s population continues to rise and is expected to reach 9.7 billion by 2050, it can further cause vulnerability of global food security. Building a sustainable food system is therefore an urgent matter.

CPF as a leading integrated agro-industrial and food business, thus, applies sciences, innovations and technologies to produce quality and safe foods that are chemical free and contain sufficient nutrients for all ages with accessible prices, all of which contribute to sustainable food security.

CPF places importance on research and development in order to utilize science, technology and innovation to develop nutritious foods for consumers of all ages. CPF also ensures efficient production and transportation processes, which reduce waste and contribute to building a sustainable food system for our planet.

Dr. Sommai Tachasirinugune
Executive Vice President in Product Research and Development
Head of Ambition – Sustainable Food

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Management Approach

- Declarations of Policy and Commitment: declaring the commitment under the CPF Healthier Choice Principles, the Health and Nutrition Policy and other related policies.
- Research and Development: developing alternatives or new methods for solving problems or improving quality of works covering animal feed, animal farming and food products.
- Being an Innovative Organization: collaborating with the public sector, the private sectors, and startups in order to create new innovations, as well as fostering a work environment that encourages innovations to enhance work efficiency and effectiveness.
- Compliance with International Rules and Best Practices: raising food safety standards throughout the organization’s food production chain.

Implementation

Nurturing Corporate Culture for Innovation

In 2021, CPF established “CPF Committee and Working Group for Innovation Mobilization and Efficiency Development” and also applied the global innovation management standard: ISO56002 while focusing on research and development of six major technologies and innovations as shown in the picture below. CPF is aiming to be a systematic innovative organization, increase revenue and work efficiency, reduce costs throughout the value chain, and create a culture of continuous improvement for personnel at all levels.

The Committee implements tasks under four main objectives as follows:

1. **To become the innovative organization** – creating an atmosphere and support all employees to explore and create innovative projects that can be applied in the organization and lead to development and production of new products and services.
2. **To leverage innovations for driving business** – driving CPF’s businesses and operations to achieve highest efficiency by using modern technologies and innovations.
3. **To build a global innovation network and ecosystem** – gathering CPF’s knowledge, experts and innovations, as well as creating cooperation in innovation development among organizations in the network.
4. **To be a corporation for professionals and talents** – becoming an institution embracing talents and good people by developing personnel skills to ensure their qualities and abilities that meet requirements of today’s business and the tech world, as well as attracting experts and talents to join the organization for further organizational development.

Cooperation for Innovation

CPF Food Research and Development Center has cooperated with a wide range of sectors domestically and internationally to conduct research and development of food innovations that meet requirements of the economic, social and environmental sectors, which include:

1. **The public sector**, including:
   - Government agencies: cooperating with the Program Management Unit Competitiveness (PMUC) supervised by the Office of National Higher Education Science Research and Innovation Policy Council, to conduct research and development of local foods produced from local plants for elders in communities, and to gain knowledge on development of foods that are suitable for elders, which enable local elders to have delicious and healthy foods as well as reduce the country’s burden on health care costs in the long term.
   - Educational units and hospitals:
     - conducting research on healthy foods and beverage products with universities and hospitals such as Chulalongkorn Hospital, Ramathibodi Hospital, Mahidol University, Srinakharinwirot University and Mae Fah Luang University.
     - conducting research with Prince of Songkla University in order to promote medicinal plants such as cannabis and hemp.
2. The private sector, including

- **PROVEG Asia**: CPF together with a network of world-class food producers had supported PROVEG Asia in organizing a regional food innovation challenge across Asia under the theme of development of plant protein as Asian-style one-dish meals in order to build immunity and protect the environment. This support is aimed at encouraging students, researchers and young food developers to further expand startup businesses in the future. CPF had jointly coached the teams being selected, by providing advice and providing support on problem solving to achieve the projects’ goals. The team that won the first place was the Food Tech Chula team, Chulalongkorn University, with the product concept entitled “the Marble Booster”, the 100 percent plant-based wagyu with a fibrous structure similar to animal muscles and special features for immune system boost. The team that won the second place was the TempMie team from Indonesia, with the concept of healthy instant noodles for the vegan consumer group.

- **Corporate Spark 2021 Project**: The project, organized by the National Innovation Agency (Public Organization) or the NIA, Ministry of Science and Technology, is a startup incubation initiated in Israel, from which the CPF Food Research and Development Center has selected two startups to participate in research and development of plant-based foods and beverage products, covering development of product prototypes and research supports to commercialization, which shall strengthen CPF’s innovations.

- **Asia-Pacific Agri-Food Innovation Summit**: CPF was a sponsor for the event, organized in Singapore from 16 to 18 November 2021, as Innovation Challenge Partner who participated in forming questions and judging a competition to generate ideas which can be used to develop plant-based meat products, and selected 3 finalists to develop products with CPF. The Company expects that the continued support to this activity will contribute to creative idea generation for innovative product development and build CPF’s brand awareness.

- **Outstanding Food Innovations in 2021**

  **BIFIO Probiotic Plus** is an immune system-boosting food that rebalances intestinal flora. It contains 5 strains of “probiotics” microorganisms that have been studied and researched in Asian people and “prebiotics”, a great food of probiotics.

  - The intestines digest and absorb nutrients, control the excretory system, support functioning of the nervous system and hormones, and stimulate the immune system.
  - The largest immune system in the body is in the intestines accounting for seventy percent.
  - “Good Health Starts with a Healthy Gut”.
  - The product received awards from various institutions.

- **Cooperate with Startup**
Egg and Kurobuta Pork Congee; healthy breakfast that is full of beneficial nutrients.
- Made from 100 percent jasmine rice grits simmered with poached egg and egg white.
- Enhancing aroma and texture by adding vegetable broth, onion, garlic and coriander root.
- Smooth and soft, easy to eat, easy to swallow, egg in every bite.
- Topping with kurobuta pork sautéed in lard until it is soft and fragrant.
- Full of protein that help repair worn-out tissues.
- Feeling full for longer; “full of delicious food with worthwhile nutrition”

Plant-Based Meat Substitute, “Meat Zero” by CPF Food Research and Development Center together with foreign experts
- Invented plant-tec innovation, a technique for creating a taste that tastes like real meat: “plant as delicious as meat”.
- Ready-to-cook food and ready-to-eat food.
- Made from 100 percent plants, without meat as an ingredient.
- 0 percent cholesterol.
- Meeting requirements of flexitarian and health lover groups.
- Available now in Thailand, Singapore and Hong Kong.
- With a target to export to other countries in 2022.

Moving towards Food Safety Culture
Recognizing the importance of food quality and safety, CPF therefore continually strives to create a food safety culture within the organization for employees, by creating behavior and instilling awareness of safe food production for consumers through a variety of activities such as Morning Talk, Food Safety on Tour and the LINE food safety application.

In 2021, CPF adopted the Influencer Plus strategy to drive the creation of food safety culture to include the organization’s operations more comprehensively in the face of the COVID-19 pandemic. CPF deployed motivations and capabilities of people, society and organizations as forces to drive behavioral change in order to achieve specified results. In addition, the Empowering Change Team organized weekly huddle meetings to stimulate behavioral adjustments and monitor performance according to predetermined goals, including granting rewards to motivate teams that performed well.

Improving Food Quality and Safety throughout the Process
International Standard Certification for Food Quality and Safety in 2021 throughout the production chain (Thailand operations)
- Livestock feed mills: GMP, HACCP, ISO9001 and AI Compartment (only farms for export)
- Aquaculture feed mills: GMP, HACCP and BAP (only shrimp feed mills)
- Pre-Mixed production plants: FAMI QS
- Layer, broiler, duck and swine farms: GAP
- Broiler and duck farms for export: Genesis GAP/Lloyd’s Register Poultry Scheme
- Aquaculture farms: GAP/CoC (Department of Fisheries) and BAP (only shrimp farms for export)
- Egg sorting plant for export: GMP and HACCP
- Basic meat processing plants: GMP
- Basic chicken and duck meat processing plants: HACCP, ISO9001, Genesis GAP/Lloyd’s Register Poultry Scheme and BRC Global Standard for Food Safety
- Food production plants\(^1\): GMP and HACCP
- Food processing plants from chicken, eggs, duck, pork and shrimp for export: ISO9001
- Food production plants from chicken, eggs, duck and shrimp for export: BRC Global Standard for Food Safety

Feed Business
- Livestock feed mills: GMP, HACCP, ISO9001 and AI Compartment (only farms for export)
- Aquaculture feed mills: GMP, HACCP and BAP (only shrimp feed mills)
- Pre-Mixed production plants: FAMI QS

Farm-Processing Business
- Layer, broiler, duck and swine farms: GAP
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Footnotes:
1. AI Compartment is Asian Influenza Compartment standards used in poultry, established by the Department of Livestock Development.
2. FAMI QS is referred to Feed Additives and Pre-Mixtures Quality System.
3. Food processing plants over semi-cooked and cooked meat products manufacturing plants, and processed products or ready-to-eat products manufacturing plants.
CPF Food Standard

CPF Food Standard is an operational standard for quality management, food safety and sustainable food production for poultry meat products, under the vision of being the “Kitchen of the World”, that strives to produce and distribute food all over the world with the same standard and supports the Company on managing risks more effectively.

CPF started the CPF Food Standard Project in collaboration with the British Standards Institution (BSI) to establish a quality and food safety management and sustainable food production system throughout the Company’s production processes (feed, farm and food business). This is set to be a standard for our productions throughout the world. The standard has been integrated with a number of international operational standards that we have been certified:

- International food standards such as CODEX, ISO9001, ISO22000
- National and international regulations
- Customers’ requirements such as BRC and Genesis GAP

CPF has set the goal of being certified by the third party and of further expanding to cover all factories’ broiler export businesses and duck meat businesses by 2022 in order to consistently deliver good products to consumers.

CPF Digital Product Traceability System

In 2021, CPF implemented a digital product traceability system in the production chain that covered 100 percent of the broiler, duck, pork and shrimp products of Thailand operations as planned. It is in the process of implementation on instant food products, sauces, egg processing products and bread. Moreover, blockchain technology was under the name: “iTrace Blockchain” to enhance the traceability system in order to build customer and consumer trusts. In addition to enabling consumers to trace the origin of purchased products, such as meat processing plants and animal farms, consumers can also receive more information such as sustainable product information and food safety information.

Product Quality Inspection by Sensory Testing

One method of CPF’s product quality tests is sensory testing or taste testing. Tasters have to pass the selection criteria to ensure the same standards throughout the organization. Tasters daily test product samples from the production, as well as compare them with the standard samples by observing appearances, smelling and tasting to test various aspects such as colour, smell, taste, texture, appearance and foreign matter, to ensure confidence in products before delivering the products to consumers.

CPF Green Revenue

CPF is committed to producing green products which refer to products that have been certified and have received environmental labels, such as Carbon Footprint Label and Carbon Footprint Reduction Label, or products that have undergone sustainability impact assessments according to international standards, to promote continual reduction of environmental impact caused by the Company’s products. The Company has been conducting carbon footprint assessments on products since 2009 by applying the principles of product life cycle assessment in accordance with the international standards: ISO14040, ISO14044 and ISO14067. Currently, there are more than 790 products that have been undergone the carbon footprint assessments and certified with the Carbon Footprint Label, and more than 30 products are low-carbon products that have been certified with the Carbon Footprint Reduction Label by Thailand Greenhouse Gas Management Organization (Public Organization) or TGO. The low-carbon products include broiler feeds, live broiler chickens, live ducks, fattening pigs, fresh chicken meat, fresh duck meat and fresh pork meat products. Due to continuous improvement of production process efficiency, which covers research and development of animal feed to ensure suitable nutrition for growing animals at different ages as well as energy efficiency optimization and the use of renewable energy in the production, CPF’s production processes and acquisition of raw materials have continuously reduced greenhouse gas (GHG) emissions and produced low-carbon products.

2030 Target (Thailand Operations)

- Performance in 2021: 33% of the sales revenue derived from green products (CPF Green Revenue)
- 40% of the sales revenue shall derive from green products

“Sustainable Chicken Meat Products” Project

CPF together with BASF SE, an innovative feed additives manufacturer, has conducted eco-efficiency analysis on fresh and cooked chicken products through a product sustainability assessment software system in accordance with the international standards: ISO14040, ISO14044 and ISO14045, in order to develop animal feeds that are suitable for animal species and growth at different ages, including improving animal health and reducing loss of animals due to illness or death. All this results in efficient use of resources, reduction of waste and lower GHG emissions throughout the product life cycle, which leads to a sustainable food production system.

Product Recall

In 2021, CPF’s recall of product that might affect public health was zero.
Reach 35 million consumers with healthy foods and beverages per day

50% of our new products are developed to be healthier and more nutritious

CPF is not only dedicated to research and development of food products, but also committed to promoting healthy diet and raising consumer awareness on sustainable consumption by providing consumers with nutritional and specific information as well as food packaging management in order to promote responsible trading.

Ms. Anarkawee Chooratn
Senior Vice President in Corporate Marketing
Head of Ambition – Responsible Marketing

Unhealthy food is the cause of 8 million premature deaths worldwide each year, and it is expected to cause a global economic crisis as a result of the increasing healthcare costs related to non-communicable diseases (NCDs) expected at over USD 1.3 trillion per year by 20301. In Thailand, the public sector spends THB 302,367 million per year for the treatment of the non-communicable diseases2. As a leader in the integrated agro-industrial and food businesses, CPF is committed to alleviating and solving this problem by developing food products with high nutritional value that meet requirements of consumers of all ages. In addition to this, we aim to promote responsible trading by displaying product labels with nutritional and specific information as well as food packaging awareness on sustainable consumption by providing consumers

Healthy Products
Thailand is placing great effort on decreasing the high premature death rate resulting from non-communicable diseases which stands at over 300,000 cases per year2 by 25 percent by 2025, a target set by the World Health Organization (WHO), and by one-third by 2030 as set by the Sustainable Development Goals (SDGs) by the United Nations3. Although the current mortality trend continues to decline, pursuing these international goals is still very challenging for Thailand. This is also coupled with the COVID-19 pandemic situation that has continued for more than 2 years. Thus, we see consumers now focus on nutritional value in order to take care of their health and take more preventive action against diseases as well as to live a longer life. CPF is therefore determined to develop foods, suitable in terms of nutritional health and nutrient needs for various age ranges and different body conditions in accordance with the CPF Healthier Choice Principles4. CPF Food Research and development center has adopted modern technology and innovation in order to comply with the guidelines of the United Nations for developing healthy food products. CPF is aiming to increase better health food products by 50 percent by 2030 (Thailand operations) to contribute to sustainability of the world’s population health.

Better Health Products

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity (Product)</th>
<th>Product Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less sodium (less than 600 milligrams per serving*)</td>
<td>11</td>
<td>Tender Chicken Breast, Chargrilled Tender Chicken Fillet</td>
</tr>
<tr>
<td>Reduced saturated fat (not more than three grams per serving*)</td>
<td>11</td>
<td>Garlic and Chili Tender Chicken Breast, Shredded Tender Chicken Breast</td>
</tr>
</tbody>
</table>

1 2021 The state of food security and nutrition in the world “Transforming food systems for food security, improved nutrition and affordable healthy diets for all”, Food and Agriculture Organization of the United Nations, Rome, 2021; ISSN 2663-807X (online).
2 Department of Disease Control - Campaigning for World Diabetes Day 2021 to Raise Awareness of Inclusive Diabetes Care and Treatment, Division of Non-Communicable Disease, Department of Disease Control, Ministry of Public Health, 12 November 2021.
3 The state of food security and nutrition in the world “Transforming food systems for food security, improved nutrition and affordable healthy diets for all”, Food and Agriculture Organization of the United Nations, Rome, 2021; ISSN 2663-807X (online).
4 Cancer Ranks First in Four NCDs, Post Today, 9 January 2022.
In 2021, CPF introduced new products developed to promote nutrition, health and wellness, which were equivalent to 40 percent of the total new products of the year. Moreover, we also took part in promoting access to health products among over 9 million consumers (Thailand operations).

**Samples of Products Promoting Nutrition, Health and Wellness**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Samples of Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat Zero (plant-based meat alternatives)</td>
<td><img src="image1" alt="Plant-Based Ground Beef" /> <img src="image2" alt="Plant-Based Crispy Pork" /> <img src="image3" alt="Plant-Based Chicken Nugget" /></td>
</tr>
<tr>
<td>U Farm (meat derived from animals completely raised without antibiotics)</td>
<td><img src="image4" alt="Streaky Pork" /> <img src="image5" alt="Pork Striploin Steak" /> <img src="image6" alt="Lard" /></td>
</tr>
<tr>
<td>CP Pacific (fresh shrimp products from standardized farming process)</td>
<td><img src="image7" alt="Chilled Shrimp" /> <img src="image8" alt="Frozen Boiled Shrimp" /></td>
</tr>
<tr>
<td>CP Delight (delicious, calorie-controlled)</td>
<td><img src="image9" alt="Shrimp Wonton Soup with Vegetables" /></td>
</tr>
<tr>
<td>Inno-Weness (healthy drinks)</td>
<td><img src="image10" alt="IMU Kiz, Snow Mushroom Drink for Kids" /> <img src="image11" alt="Five-Things, Herbal juice mixed with 5 types of vitamins" /></td>
</tr>
<tr>
<td>CP (meat sausages with no flour addition and tar free)</td>
<td><img src="image12" alt="Classic Sausage" /> <img src="image13" alt="Spicy Sausage" /> <img src="image14" alt="Cheese Sausage" /></td>
</tr>
</tbody>
</table>

**Consumer Health Promotion Cooperation**

CPF recognizes that disease prevention is the key to overcoming diseases, particularly avoiding risky behaviours and creating an environment that fosters health-care behaviours through new initiatives to create behavioural change, such as campaigning and enhancing knowledge. In addition, it is important to focus on cultivating a foundation of good health from a young age to ensure the country’s sustainable future.

**Raising Awareness and Enhancing Knowledge to Promote Consumer Health**

Fresh, clean, chemical-free products and 100 percent safe with innovative probiotics: CP swine, chicken and shrimp are fed with probiotics (good microorganisms) which help create balance and boost the immune system in the intestines which accounts for 70 percent of the total immunity in the body, resulting in disease risk reduction and thus reduced use of antibiotics for treatment. As a result, there is no residue in animals. As meats are from animals raised without growth hormones or red meat accelerator, consumers can be 100 percent confident because “good health starts on your plate”.

- CP fresh chicken, 100 percent chemical-free, safe, fed with 9 species of probiotics.
- CP fresh pork, 100 percent chemical-free, safe, fed with 8 species of probiotics.
- CP Pacific shrimp, fresh, sweet, and dense flesh, only blanching is enought to offer unveil its full flavor.

**Premium Products with Innovative Super Food:** swine and chickens are raised with super food in closed farms in accordance with animal welfare principles, to make them healthy and reduce risk of diseases. All swine and chickens are certified NSF antibiotic-free throughout raising periods. Benja Chicken is fed with brown rice, making chicken fleshes aromatic, soft, juicy and safe, with zero percent of hormone and no genetically modified organisms (GMOs). Cheeva Pork is produced from swine that are fed with feed containing flax seed, deep sea fish oil and natural seaweed that are rich in omega 3 and trans-fat-free.

**Plant-based Meat Alternatives with Meatless Meat Innovation:** the product provides meat-like texture and real-meat taste and nutrition, but completely free of antibiotics, hormones, GMOs, and cholesterol. The products are also contained in eco-friendly packaging.

**Tar-free Sausage Products with Smoke-Filtering Innovation:** produced from high quality pieces of meat without flour addition, through a continuous automatic production process which includes automatic storage of raw materials, that identifies raw material information by using RFID (Radio-Frequency Identification) system to sort raw material use, production, and arrangement of products in Asia’s first automated warehouse, under cooling temperature control throughout the production. The smoke system with tar removal technology produces good quality smoke that allows the production process to ensure quality aroma, colour, and taste, all of which is possible without tar which is considered as a carcinogen. Nitrite content is strictly monitored to ensure that the nitrite content of CP sausages remains lower than that prescribed in the criteria of the Food and Drug Administration (FDA) of Thailand, the US FDA and the World Health Organization (WHO). Consumers can be confident that CP sausages are clean and safe, and can be traced back to every step in the production process.
Collaboration with Stakeholders to Support Sustainable Consumption and Food Systems

In 2021, CPF collaborated with the stakeholders including the private sector as well as leading national and global research institutes in order to develop products that promote sustainable consumption and support the world’s sustainable food systems. More than 250 consumer research studies had been conducted, which led to various products through innovations to meet consumer requirements with attention to details in every production process from upstream to downstream operations. Therefore, CPF places importance on all groups of people in society comprising employees, consumers, communities, and business partners, as well as the environment, in order to drive the world’s sustainable food systems.

As a member of the World Business Council for Sustainable Development (WBCSD) since 2015, CPF joined the “Positive Consumption” working group under the Food Reform for Sustainability and Health (FReSH) Project in 2021, with the goal of jointly contributing to good nutrition, reducing environmental impact and conducting responsible marketing communications throughout the food industry’s value chain.

Healthy food and beverage products with special techniques: developed based on nutritional needs of each age range, for example:

- **Smart Soup Chicken Soup with Pumpkin and Egg** is instant blended food that can be used as liquid food for patients with tube feeding or elderly groups who have occlusion or swallowing problems. Chicken soup with pumpkin and egg can be drunk instead of a drink or as a supplement between meals to replace main meal. It is ready to eat and can be stored at room temperature for 12 months. It contains protein from chicken breasts and eggs, and is full of vitamins, minerals and nutrients, so it is easy to digest and easily-absorbed. Developed using the standard formula of Ramathibodi Hospital, Smart Soup Chicken Soup with Pumpkin and Egg helps strengthen immunity and enable faster recovery in patients with its smooth texture allowing ease of consumption.

- **Natural Snow Mushroom Drinks, IMU and IMU Kiz**: containing high beta-glucan from natural mucus produced by mushrooms with high fiber without bleach, which can be easily absorbed through intestinal walls. Natural snow mushroom drinks help nourishing white blood cells, enhancing immunity, maintaining healthy body, recovering health quickly, and reducing risk of illnesses. The drinks also contain hyaluronic acid to nourish lung fluid and moisturize skin, as well as polysaccharides that help relieving dry cough and lowering sugar and cholesterol levels in blood, with low calories.

Communication for Sustainable Consumption

**Product Labels**

CPF places importance on communicating accurate, clear and sufficient information about products and services to support consumers’ decision-making, which includes packaging management for environmental pollution reduction.

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Information</td>
<td>Products under trademark ⚫ provide important nutritional information in foods as required by law.</td>
</tr>
<tr>
<td>Guidelines Daily Amount</td>
<td>One-dish main meal products requiring refrigeration or freezing throughout the shelf period, under the trademark ⚫ provide nutritional information on energy, sugar, fat and sodium, which can contribute to non-communicable diseases.</td>
</tr>
<tr>
<td>Specific Information</td>
<td>Products provide additional ingredient and nutritional information, such as allergen information and halal mark.</td>
</tr>
<tr>
<td>Healthier Choice Symbol</td>
<td>A simple logo enables consumers to choose better nutritious food products and make purchasing decisions faster.</td>
</tr>
<tr>
<td>Additional Information</td>
<td>Products provide information on how to use, store and handle packaging after use.</td>
</tr>
</tbody>
</table>

**Smart Soup Chicken Soup with Pumpkin and Egg** is instant blended food that can be used as liquid food for patients with tube feeding or elderly groups who have occlusion or swallowing problems. Chicken soup with pumpkin and egg can be drunk instead of a drink or as a supplement between meals to replace main meal. It is ready to eat and can be stored at room temperature for 12 months. It contains protein from chicken breasts and eggs, and is full of vitamins, minerals and nutrients, so it is easy to digest and easily-absorbed. Developed using the standard formula of Ramathibodi Hospital, Smart Soup Chicken Soup with Pumpkin and Egg helps strengthen immunity and enable faster recovery in patients with its smooth texture allowing ease of consumption.
Consumer Center
CPF Consumer Center serves as a comprehensive service center providing information, receiving complaints and service issues, and ordering and delivering the Company’s products. Procedures for handling complaints are based on three timeframes according to the severity of issues. The CPF Consumer Center shall refer complaints to relevant authorities and follow up on the outcomes of investigations until customer complaints are resolved. For complaints received through other channels, such complaints will be forwarded to the CPF Consumer Center for further actions.

Consumer Feedback
CPF focuses on customer and consumer resonances. Thus, we collect consumer data in order to develop innovations to provide quality products and meet highest consumer satisfaction. CPF has a wide range of communication channels to invite opinions and answer inquiries from customers and consumers, such as direct contact with the Company, CPF Consumer Center, email, websites and social networks such as Facebook and online forums.

Animal Welfare
2030 Target
100% of sows raised in group gestation pen housing system
30% environmental enrichment for broiler

CPF focuses on raising animals according to the Five Freedoms by selecting good breeds and applying technology to manage farms and create good environment, which shall prevent animals from illnesses and diseases, and thus reduce the need for antibiotics. Moreover, probiotics have been developed for animal husbandry to ensure sustainable animal well-being from the inside out, resulting in safe meat for consumers.

Dr. Payungsak Somyanontanagul, D.V.M.
Vice President in Farm Standard and Regulatory Head of Ambition - Animal Welfare

Animal welfare directly contributes to food safety and quality. Raising animals in the condition that promotes their health and welfare offers a number of benefits to consumer health, as well as reducing hunger from deficiency of protein from meat. Veterinarians and animal care professionals thus play an important role in protecting this food system since 60 percent of human pathogens spread from animals and 20 percent of the world’s meat protein is lost from the food system due to epidemics. In addition, antimicrobial resistance has become a global concern. If this problem is not tackled urgently, it is estimated that millions of people worldwide will die from bacterial infections, which is equivalent to over USD 100 trillion of economic damages. CPF is committed to continuous improvement of our operation to ensure that it is animal-friendly following the Five Freedoms Principles. We also apply Farm Biosecurity practices to our farm management. We have established the Animal Welfare Committee to drive our “Animal Welfare Policy and Long-Term Targets on Animal Welfare” and the Antimicrobial Resistance Committee to promote “Global Vision for Antimicrobial Use Stewardship in Food Animals.” These approaches have been applied throughout the entire operations and are traceable.

CPF is committed to elevating animal welfare in our operations and to raising employee awareness to support our endeavor. We have clear policies, manuals, and standard operating practices on animal welfare and have integrated an internationally accepted framework, known as the ‘Five Freedoms’, into our management of livestock farming in the operations in all countries. CPF requires top management of each business line in each country to oversee the management of animal welfare, to establish an animal welfare committee for each country that operates the animal farm business and to provide experts of each business line to strictly perform duties and promote animal welfare according to our policies and requirements.

Management Approach

- Declarations of Policy and Commitment under the Five Freedoms Principles to ensure ethical animal farming to which all animals are entitled in compliance with producing and trading partner countries’ laws, rules, regulations and requirements.
- Research and Development of innovative animal feed and animal farming that are efficient, of high quality and ethical according to the Animal Welfare Principles.
- Support and Promotion to help encourage our business partners as well as contracted farmers to promote animal welfare according to our policies and requirements.

Implementation

Animal Farming according to Animal Welfare Principles

CPF is committed to elevating animal welfare in our operations and to raising employee awareness to support our endeavor. We have clear policies, manuals, and standard operating practices on animal welfare and have integrated an internationally accepted framework, known as the ‘Five Freedoms’, into our management of livestock farming in the operations in all countries. CPF requires top management of each business line in each country to oversee the management of animal welfare, to establish an animal welfare committee for each country that operates the animal farm business and to provide experts of each business line to strictly perform duties and promote animal welfare, all of which are carried out in accordance with CPF’s policies and guidelines covering both CPF’s farms and farms of the farmers in the contract farming project. Moreover, meetings of the Animal Welfare Committees of every country are also held via teleconference at least twice a year to exchange information and knowledge, and to review the Animal Welfare Policy, in order to ensure that the organizations, the farmers under the Contract Farming Project and all suppliers involved in CPF’s meat protein products have implemented animal welfare in compliance with Thailand’s laws, rules, regulations and requirements as well as the regulations of European Union of which its member countries are key trading partners, customer requirements, and international animal welfare standards.

Research and Development

Research and development is an important step that contributes to continuous implementation and development of animal welfare. Apart from research and development, CPF has also placed importance on the use of modern and environmentally friendly technologies to drive its operations. The “Smart Farm” system has therefore been integrated with CPF’s animal farming business. A vast amount of online information being collected by the Company has resulted in big data to be used for analysis and processing. CPF has also adopted blockchain technology to build and raise the level of confidence in a wide range of information. The smart farm system does not only support farm and animal welfare management, but the system also enables tracking, training and sales.

- Smart Chicken Farm to transform work process to workflow automation which increases farming efficiency, and improves quality level and health of animals, by managing farms and animals with Internet of Things (IoT) technology that displays real-time results and data analysis.
- Smart Swine Farm to control farm and biosecurity with automation technology, look after animal health and farming results by using cameras and Artificial Intelligence (AI), automatically control feed quantity and feed order, connect to sales, logistics and accounting systems; and analyze and manage farming via mobile device.
- Smart Aquaculture Farm to enhance supply chain value by adopting technologies to increase production efficiency, reduce waste, and manage farm and data, including planning production and transportation to meet market demand, and using image processing technology and machine learning to increase production potential.
Support and Transfer of Knowledge

CPF’s teams of veterinarians and experts transfer knowledge and expertise on animal farming to farm supervisors, animal husbandry, relevant staff and all types of farmers under the Contract Farming Project to ensure correct understanding on animals’ physical characteristics, habits and needs, in order to ensure proper treatment on animal health and body according to the animal welfare principles. This makes it possible to control, manage and prevent adverse effects before they emerge and cause serious damage. Particularly, CPF has placed great importance on prevention of epidemics in poultry, swine and aquaculture such as Avian Influenza and African Swine Fever (ASF). Therefore, CPF has organized trainings to provide knowledge to farmers in order to raise awareness about importance, severity and consequences of the epidemics, as well as surveillance and preventive measures, especially control of farm entry and exit which may be the contact point where carriers of disease can contaminate the production process.

CPF recognizes that biosecurity is the key to keep farms free from animal diseases and human diseases such as COVID-19 and thus transfers technology and automation systems to improve safety of farmers’ swine farms under the Contract Farming Project such as the auto feeding system that helps reduce human labour and the need for people to enter swine housing. In 2021, CPF transferred remote monitoring technology with CCTV system, enabling farmers to look after swine anywhere, anytime, including seeing the inside of the housing and observing initial symptoms of swine. Farmers are able to consult with the Company’s team at any time through the LINE application as well. This limits the entry of people into swine housing, which greatly reduces disease risk caused by people to swine. Moreover, biogas system has been installed to reduce odors and produce biogas; a form of clean energy, for generating electricity consumed in farms. It greatly reduces the cost of electricity. In addition, some farms have also used solar cell systems concurrently. The transfer of such technological knowledge does not only improve the production of quality swine that are free from human and animal diseases, but it also boosts productivity and helps create smart farmers, all of which lead to farmers’ sustainable success.

Audit

All CPF’s animal farms and those of farmers in the Contract Farming Project in every country undergo audits at least once every three years and are certified livestock production standards by livestock development authority of each country. Furthermore, there are other audits and a variety of international standard certifications to ensure consumers that meat protein products supervised by the Company are derived from animals that have been raised under advanced animal welfare support, such as:

**Certified Advanced Animal Welfare**

- **Broiler chicken**
  - Thailand: LR Farm First, QS Standard, Global GAP, RWA (Raised without Antibiotics)
  - Malaysia: Agri Food & Veterinary Authority of Singapore (AVA)

- **Meat duck**
  - Thailand: Genesis GAP (Good Agricultural Practices)

- **Layer chicken**
  - Thailand: Cage-free Eggs Standard

- **Swine**
  - Thailand and Vietnam: Global GAP
  - Thailand: RWA (Raised Without Antibiotics), ASF Free Farm

- **Shrimp**
  - Thailand and Vietnam: BAP (Best Aquaculture Practices), ASC (Aquaculture Stewardship Council)

According to CPF’s commitment to animal welfare management as aforementioned, it is assured that all fresh food products and processed meat products under the Company’s brands and customers’ brands, which are distributed in the domestic market and exported to foreign countries, are derived from quality and hygienic farms, and guaranteed consumer product safety.

**Raising Swine According to the 3Ts Principle (No Testicles, No Teeth Clipping, and No Tail Docking)**

CPF is committed to reducing painful procedures performed on swine in the global swine industry, and therefore has participated in the 3Ts-Alliance (Teeth, Tails and Testicles) Project organized by the World Animal Protection since 2019. This implementation emphasizes reducing, avoiding and stopping physical alterations in forms of castration in male swine, teeth clipping and tail docking. Moreover, CPF also jointly supports research on consumer behaviour towards reducing pain in swine.
Participation in Reducing or Stop Painful Procedures on Swine in the Global Swine Industry of the Company in 2021

<table>
<thead>
<tr>
<th>3Ts</th>
<th>Operations Participated</th>
<th>Proportion (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Testicles</td>
<td>Thailand, Republic of China (Taiwan), Cambodia</td>
<td>5.96</td>
</tr>
<tr>
<td>No Teeth clipping</td>
<td>Thailand, Republic of China (Taiwan)</td>
<td>34.46</td>
</tr>
<tr>
<td>No Tail docking</td>
<td>Thailand, Republic of China (Taiwan), Philippines</td>
<td>0.42</td>
</tr>
</tbody>
</table>

100 percent of Republic of China (Taiwan) operations have stopped clipping/grinding piglets’ teeth since 2019, while 69 percent of all piglets in Thailand operations have not undergone ear notching.

Welfare Outcome Measures (WOMs)

CPF has measured results of animal welfare promotion of all types of animals raised in Thailand and Overseas operations in order to assess if animals have been in states of advanced welfare according to the animal welfare principles, which directly affects animals’ physical and mental health.

Measuring Results of Animal Welfare Promotion throughout CPF’s Global Value Chain

<table>
<thead>
<tr>
<th>Welfare Outcome Measures (WOMs)</th>
<th>Performance</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler chicken</td>
<td>Transport Livability, %</td>
<td>99.80</td>
<td>99.80</td>
<td>99.76</td>
</tr>
<tr>
<td>Meat duck</td>
<td>Transport Livability, %</td>
<td>n/a</td>
<td>99.83</td>
<td>99.84</td>
</tr>
<tr>
<td>Layer chicken</td>
<td>Transport Livability, %</td>
<td>99.89</td>
<td>99.90</td>
<td>99.98</td>
</tr>
<tr>
<td>Swine</td>
<td>Sow Livability* , %</td>
<td>94.20</td>
<td>95.80</td>
<td>95.73</td>
</tr>
<tr>
<td>Shrimp</td>
<td>Black Scar Lesion, %</td>
<td>n/a</td>
<td>n/a</td>
<td>2.09</td>
</tr>
</tbody>
</table>

* An average of sow survival ratio is at 87 percent*.


Promoting Animal Welfare in the Value Chain

CPF has assessed the animal welfare implementations of its key products throughout the global value chain to create consumer confidence on animal protein derived from animals that are treated with care.

Assessing the Animal Welfare Performance of Key Products across the Global Value Chain in 2021

<table>
<thead>
<tr>
<th>Product made from</th>
<th>Animal welfare promotion</th>
<th>Production capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler chicken</td>
<td>Enhancing physical environment, %</td>
<td>64.87</td>
</tr>
<tr>
<td>Meat duck</td>
<td>Enhancing physical environment, %</td>
<td>100</td>
</tr>
<tr>
<td>Layer chicken</td>
<td>Raising in a cage-free housing system, million eggs</td>
<td>30.09</td>
</tr>
<tr>
<td>Swine</td>
<td>From sows raised in group gestation pens, %</td>
<td>27.18</td>
</tr>
<tr>
<td>Shrimp</td>
<td>From female shrimps without eyestalk ablation, tons</td>
<td>6,402</td>
</tr>
</tbody>
</table>

In addition, the production capacities of broilers raised with stocking density of less than or equal to 30 kg/m², layers raised in a cage-free housing system, and female shrimps without eyestalk ablation were 31.68 percent, 0.96 percent and 6.47 percent, respectively. Thailand operations’ production capacities of layers raised in the cage-free housing system was 21.79 million eggs, and those of broilers raised in enhanced physical environment and sows raised in group gestation pens were 89.77 percent and 52.52 percent, respectively. Placing efforts to promote advanced welfare for farm animals in line with the organization’s commitments, policies and long-term goals for animal welfare, CPF has invested in research and development as well as in small-farm trials to ensure that treatment methods of farm animals do not cause side effects or other detrimental effects on animal welfare. Then, CPF shall set plans for implementing such methods at all farms without affecting the Company’s business in terms of cost and production capacity, for the ultimate purpose of delivering quality meat protein products that are free of pesticides, safe and traceable in every process from farm to consumer plates.

Animal Welfare Cooperation Network

CPF has been a member of the World Business Council for Sustainable Development (WBCSD) since 2015. In 2021, CPF jointly established the Responsible Meat Initiative (ReMI) sub-working group under the Food Reform for Sustainability and Health (FReSH). The members include over 14 leading organizations worldwide, which have a collective goal to promote responsible protein production and consumption throughout the food value chain in eleven aspects, four of which are directly related to responsible animal farming, namely animal welfare, antimicrobial intervention and animal health, animal nutrition and demand for responsibly produced pork. On October 28, 2021, Dr. Payungsak Somyanontanagul, D.V.M., the Chairman of the CPF Animal Welfare and Responsible Use of Antibiotics Committee was the representative to jointly launch the world’s first ReMI working group through an online conference, with the aim to drive the reform project on sustainable food production to promote good health.
Animal Welfare Innovation

In 2021, CPF created and developed innovations to enhance animal welfare promotion throughout the global supply chain, with the realization that good health begins with healthy dishes, therefore, farm animal well-being lies at the heart of business.

- **Sawdust bedding in animal housing**: The broiler business in Russia operation had experienced footpad dermatitis which occurred to a lot of broilers. Therefore, it began to use sawdust bedding in broiler housing. Subsequently, inflammation of the soles of the feet of broilers reduced from 90 percent to 20 percent. However, the use of sawdust bedding causes many obstacles such as a large amount of sawdust waste, possibility of pathogen contamination, high production cost and long preparation time. In addition, the production volume of this farm is quite large and constantly increasing. As a result, this advanced animal welfare promotion is not yet fully accomplished. Nonetheless, CPF is still focusing on good animal welfare implementations to achieve goals.

- **Snacks for piglets**: Diarrhea in piglets could be found after birth, the use of antibiotics for treatment is therefore essential in accordance with animal welfare principles. The injection is the most effective form of treatment; however, it still causes pain in piglets. The swine business in Thailand operations therefore developed and tried using a form of medication that mixes powder medicine with feed instead of injections. It was often found that piglets did not eat the feed and thus did not receive full treatment doses. The medication was then further developed into the form of powder medicine mixed with feed, moulded into small cubes, and mixed with milk to attract piglets. This is consistent with sucking behaviour of piglets at this age and the animal welfare principles.

### Responsible and Prudent Use of Antibiotics

CPF recognizes that improper use of antibiotics in animals have tremendous impacts on the animals, their caretakers, consumers and the environment. It could especially create antimicrobial resistance and antibiotic residues in animal products, all of which have proven to be global challenges. CPF is therefore committed to the responsible and prudent use of antibiotics as a single practice for all livestock businesses in every country, covering the Company’s farms and those under the Contract Farming Scheme. The use of antibiotics must be for therapeutic uses to maintain animal welfare under veterinary prescription only and must be:

- free from human-only antibiotics;
- free from shared-class antibiotics which are medically important to humans, used as a growth promoter; and
- free from hormones used as a growth promoter.

In 2021, the Company conducted research and development on the responsible use of antibiotics which included the followings:

- **Study of antibiotic resistance in *Escherichia coli* (**E. coli**):** From intestinal samples from sick chickens: The intestinal samples from sick chickens were collected and examined at the broiler business’ laboratory in Cambodia operation. The samples were tested by broth micro-dilution technique to check on *E. coli*’s resistance to six types of antibiotics. It was found that the resistance to each type of antibiotics was different as follows: Tetracycline 96.69 percent, Ampicillin 93.33 percent, Kanamycin 46.67 percent, Colistin 40 percent, Gentamicin 40 percent and Amoxicillin/Clavulanic Acid 13.33 percent. It was assumed that antibiotic resistance might be caused by the use of such antibiotics in the farming process. Thus, the Company formulated strategies and procedures to rigorously control the use of antibiotics to reduce antibiotic resistance.

- **Longitudinal monitoring reveals persistence of colistin resistant *Escherichia coli** on a swine farm following cessation of colistin use:** A follow-up study on mobilized colistin resistance (mcr-1) genes found in *E. coli* from personnel, swine and the environment of a sample farm in the swine business of Thailand operations, that has had a policy to stop using colistin since 2017. The data showed that no mobilized colistin resistance genes were found in the farm’s personnel, but they were found in swine and the farm environment in lower quantities (additional detail is available in Longitudinal monitoring reveals persistence of colistin-resistant *Escherichia coli* on a pig farm following cessation of colistin use, Nwai Oo Khine et al., 2021).

- **Study, detection and monitoring of extended-spectrum beta-lactamase producing *Escherichia coli* (ESBL):** A joint research between Chulalongkorn University and the swine business of Thailand operations, to identify risk points and set up guidelines for reducing contamination of antibiotic-resistant bacteria in each step of swine slaughtering process in slaughterhouse.

- **Study of dynamics of antibiotic resistance genes in aquaculture:** through the cooperation of the Department of Microbiology, Faculty of Medicine, Siriraj Hospital, Mahidol University and aquaculture business of Thailand operations. Samples of Nile tilapia or red tilapia, snapper, shrimp and biofloc collected from the Company’s aquaculture were compared to natural fish and shrimp that were close to the sample group to study translocation of antibiotic resistance genes in aquaculture.
Respect for human rights is a fundamental principle in business operation that complies with good corporate governance, which ensures equality and prevents human rights violation of individuals both outside and within the organization — thoroughly covering internal staff, suppliers and external communities.

Ms. Pimonrat Reephattanavijitkul
Chief People Officer
Head of Ambition – Human Rights

/self-sufficient-society

Create positive social impact in the lives of employees and individuals throughout our value chain

Adhering to Principles of Human Rights as The Basis of Business Operations: formulating strategies to enable processes that take human rights into account throughout the value chain by complying with three principles, namely Protect, Respect and Remedy

Being a Learning Organization: focusing on development of skills and potentials of employees, employees’ children, students, and the general public, in order to create future personnel who can create good value for society

Creating Good Work Experience: having strong corporate culture, inspiring people to achieve good results, enhancing corporate engagement, and attracting talents to CPF in a sustainable manner

Measuring Social Positive Outcomes: promoting well-being of people, providing career support, generating local income, and building networks to make positive impact on society, thus resulting in stable self-reliance

Manufacturing businesses often see high labour turnover rates and constant demand for labour to ensure business continuity and corporate growth. More than 3 billion people worldwide have been given employment opportunities. However, a handful of workers are under unfair employment practices, work in unsafe work environment, confront health risks and are in poverty despite being employed. Employment rates, thus, are not an indication that people in society will have a better quality of life. There are also reports of slavery and human trafficking which are important global issues. The pandemic situation of the COVID-19, moreover, has caused the global unemployment rate to rise which is expected to reach 207 million people by 2022, 21 million people higher than 2019. CPF thus recognizes and places importance on respecting human rights and labour rights throughout the supply chain, which includes CPF’s employees and workers, and business partners. CPF is committed to strengthening the foundation of fair and equitable human resources management which is in line with the United Nations Guiding Principles (UNGP) and the International Labour Organization (ILO), and encourages business partners to implement or apply the management approach in their business operations.

2. ILO: World Employment and Social Outlook: Trends 2022 (2022)
Management Approach

- Declarations of Policy and Commitment: declaring commitment and overseeing human rights by implementing the Company’s policies related to human rights and labour practices in order to tangibly demonstrate commitment to combating against violations of human rights law and labour practices.
- Fostering Respect for Human Rights through Policies and Communication: fostering respect for human rights within the organization through relevant policies and communicate these policies to employees and business partners to strengthen the management of human rights and labour practices.
- Human Rights Due Diligence: implementing human rights due diligence regularly on a three-year basis to identify and improve human rights management and labour practices, and to mitigate potential negative impacts that may arise.
- Receipt of Complaints: providing employees with channels for grievances and complaints or reporting tips related to malpractice or misconducts, and investigating issues in order to effectively manage and take corrective actions.
- Monitoring and Disclosure of Operating Results: closely monitoring human rights and labour practices in order to strengthen human rights and labour practices, and transparently disclosing such results to the public through various channels.
- Review for Improvement: improving management plan in order to address impacts and solve arising issues effectively.

Implementation

Respecting and Upholding Human Rights

Human Rights Training

In 2021, 100 percent of CPF employees under CPF’s establishments in Thailand operations and overseas operations attended online and offline human rights trainings.

Training by CPF Training Center

<table>
<thead>
<tr>
<th>Course</th>
<th>Number (person)</th>
<th>Percentage</th>
<th>Number (hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Governance Employees and Workers</td>
<td>63,273</td>
<td>100*</td>
<td>118,953</td>
</tr>
<tr>
<td>Personal Data Protection Act Employees</td>
<td>24,580</td>
<td>100*</td>
<td>12,290</td>
</tr>
<tr>
<td>Occupational Safety, Health and Environment for New Employee at Factory and Farm Employees</td>
<td>2,622</td>
<td>100*</td>
<td>15,732</td>
</tr>
</tbody>
</table>

* 100 percent of target group

This year, CPF in collaboration with the Labour Protection Network Foundation (LPN) organized a remote interactive training on human rights for selected 384 foreign employees who never attended this training before. This training is organized annually by LPN Foundation, and data show that 89 percent of employees from 63 percent previously now have better understanding about human rights.

CPF has applied the Thai Labour Standards (TLS) which is the social responsibility requirements for voluntary business organizations, as the norm for treatment of workers to demonstrate social responsibility in line with the current situation, labour laws, and other relevant international standard requirements. This elevates the Company’s labour management to the international labour standards. This has been CPF’s practice since 2015 by adhering to two main requirements:

1. Labour management system which is a quality management which helps ensure quality treatment of workers in accordance with the requirements as well as continuous and sustainable development.
2. Labour rights and protection which are the bases of the current applicable labour law and additional terms included in the commercial terms (referenced from the International Labour Organization Conventions).

The Company has organized both online and offline programs to educate employees on the Thai labour standards, which include two programs for executives, the TLS 8001 Committee members, and employees as follows:

1. Alterations of Thai labour standards requirements; TLS 8001-2020 and relevant laws.
2. Alterations of Thai labour standards requirements; TLS 8001-2020, relevant laws and internal audit techniques.

Alterations of Thai labour standards requirements; TLS 8001-2020 and relevant laws in the form of online and offline training by internal speakers.
In addition, the Company has several measures to protect workers such as:
- Assessment of suppliers and subcontractors
- Working hours and breaks
- Protecting female workers who are pregnant, while time spent feeding during work counts as working time
- Ensuring safe and healthy working environment
- Preventing sexual assault, sexual abuse or sexual harassment
- Preventing workplace violence
- Organizing activities to promote quality of life among employees according to international principles
- Promoting and passing on good practices to suppliers in order to jointly eliminate the use of illegal labour

CPF has been certified with the labour standards by Bureau of Labour Standards Development, Ministry of Labour, and external auditing units such as TUV SUD (Thailand) Company Limited and SGS (Thailand) Company Limited. This year, the Company received a royal trophy from Her Royal Highness Princess Maha Chakri Sirindhorn as its Pathio shrimp hatchery, Chumphon Province, was granted Thailand Labour Management Excellence Award. The Royal Trophy Award from Her Royal Highness Princess Maha Chakri Sirindhorn: Pathio shrimp hatchery, Chumphon Province, Thailand, Labour Management Excellence Award.

CPF supports participation of employees of all levels and all nationalities, and all diverse and vulnerable groups in terms of gender, race, religion and people with disabilities, in applying for the position of the member of the Welfare Committee in the Workplace, and in voting independently to elect committee members via transparent processes. The Welfare Committee in the Workplace is deemed another communication channel between employees and the Company, to raise awareness and respect for human rights and equalities of all employees at all levels and from all races, and to express views, opinions, suggestions and complaints through elected representatives. The Company increases the number of the Welfare Committee members from the legally required minimum of 5 to 17.

CPF has employed foreign employees according to Memorandums of Understanding (MOU) on the employment of foreign employees signed by the government of Thailand and neighboring countries, directly through legal labour recruitment agencies in countries of origin to ensure that the processes and costs of hiring employees from the countries of origin are accurate and transparent while all employees, be they foreign or Thai, are to be treated equitably and equally. In addition, CPF has clearly defined the responsibility for recruiting expenses of foreign employees. The employees are responsible for personal expenses such as passport fees, and CPF is responsible for recruiting costs occurred from borders to workplaces in Thailand, which includes visa fees, work permit fees, and additional expenses during the COVID-19 pandemic, etc.

CPF has been certified with the labour standards by Bureau of Labour Standards Development, Ministry of Labour, and external auditing units such as TUV SUD (Thailand) Company Limited and SGS (Thailand) Company Limited. This year, the Company received a royal trophy from Her Royal Highness Princess Maha Chakri Sirindhorn as its Pathio shrimp hatchery, Chumphon Province, was granted Thailand Labour Management Excellence Award. The Royal Trophy Award from Her Royal Highness Princess Maha Chakri Sirindhorn: Pathio shrimp hatchery, Chumphon Province, Thailand, Labour Management Excellence Award.

Alterations of Thai labour standards requirements; TLS 8001-2020, relevant laws and internal audit techniques training by internal speakers

Employment

CPF has established a clear employment policy and continued to focus on employment and operation in strict accordance with laws and international labour standards as prescribed in the Employment and Labour Management Policy, the Foreign Worker Recruitment in Thailand Policy, the Non-Discrimination and Anti-Harrasment Policy, and the Diversity and Inclusion Policy which are in alignment with CPF’s business principles that place importance on employee care and fair treatment on the basis of respect for human rights and international human rights standards including the Universal Declaration of Human Rights (UDHR) of the United Nations (UN) and the Declaration on Fundamental Principles and Rights at Work of the International Labour Organization (ILO), as well as the labour laws of the country in which CPF conducts businesses, criteria according to international standards to which CPF has adhered, the Company’s Management Policy and customer requirements. CPF also encourages business partners to comply with the laws and international labour standards which are in line with the Company’s Sustainable Sourcing Policy and Supplier Guiding Principle, in order to have an effect on integrated practices to drive towards sustainable operational goals together.

CPF supports participation of employees of all levels and all nationalities, and all diverse and vulnerable groups in terms of gender, race, religion and people with disabilities, in applying for the position of the member of the Welfare Committee in the Workplace, and in voting independently to elect committee members via transparent processes. The Welfare Committee in the Workplace is deemed another communication channel between employees and the Company, to raise awareness and respect for human rights and equalities of all employees at all levels and from all races, and to express views, opinions, suggestions and complaints through elected representatives. The Company increases the number of the Welfare Committee members from the legally required minimum of 5 to 17.

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Diversity and Inclusion Management

CPF values and places importance on differences and diversity of opinions, employee skills and experience because CPF believes that diversity can enhance employees’ abilities to drive the Company sustainably. CPF has established policies and guidelines to promote organizational diversity with the goals of protecting employees at all levels and promoting zero tolerance on all forms of discrimination due to characteristics of a person or a group in respect of race, nationality, lineage, skin colour, origin, belief, religion, social status, sexual orientation, gender, age, physical anatomy, disability or infirmity, language used, political ideas, marital status or any other information that causes discrimination. Moreover, CPF also prevents abuse and harassment of any kind, whether such behaviour has a sexual connotation or not. This principle has been applied domestically and internationally to employees at all levels.

CPF has integrated the United Nations’ Sustainable Development Goals (UN SDGs) as part of its human resource strategy to drive the Company toward the sustainable goal of gender equality. The 2030 goal includes precipitating equal numbers and compensation rates of female and male employees at the same level of position. In 2021, CPF paid the similar average compensation between female employees and male employees in Thailand operations at the non-management level with the ratio of 1:1.17.

CPF’s guidelines for promoting compliance with the Diversity and Inclusion Policy are as follows:

- Leaders shall
  - Be acutely attentive to different opinions of others,
  - Encourage employees to express their opinions constructively,
  - Enhance work environment and mutual respect in order to be able to coexist on the basis of differences, and
  - Adhere to the principles of non-discrimination and equal opportunity which include providing proper commendations to employees.

CPF also has a policy to encourage employees from all sectors to join as members of the Welfare Committee of the Workplace which is a representative group of employees from all levels and lines of work, to provide opportunities for employees to give suggestions to the Company on improvements of welfare, work environment, complaints and inappropriate labour management, such as putting in place crosswalks to enhance safety within the establishment and creating dining and resting areas during work hours within the establishment. The Welfare Committee shall receive opinions and consider such issues in order to make necessary adjustments and apply them within the organization. In 2021, 70 percent of CPF’s employees in all Thailand operations already benefitted from the improvements according to the recommendations given to the Company’s representatives. In addition, CPF also additionally supports activities or facilitates foreign employees on the issue of language difference, such as announcements and interpretations for foreign employees in the workplace.

Additionally, this year’s cooperation also included planning, implementation, and verification of ethical employment processes, as well as encouraging recruitment agencies in the countries of origin to ensure that foreign employees were accurately, transparently and responsibly recruited when the government allowed foreign employees to enter the country during the COVID-19 outbreak. We also organized focus group activities with foreign employees at the dormitories to enhance understanding and cooperation on disease prevention practices in the workplace and residence, and invited employees to voice their concerns and suggestions in order to promote employee well-being and safe work practices, and to allow harmonization and reconciliation within the organization.

With the ongoing COVID-19 outbreak over the past 2 years, CPF has been providing ready-to-eat food products and fresh eggs to LPN Foundation. The food products are included in the survival kits to be distributed as part of COVID relief to foreign employees who have been continuously affected by the situation in various areas since 2020.

CPF Protection Network Foundation (LPN)

CPF together with the Labour Protection Network Foundation (LPN) have driven the promotion of human rights within the organization through the signing of a memorandum of understanding for four consecutive years. This year, we still placed importance on promoting human rights with good labour practices in accordance with the principles of human rights, managing human rights issue, caring for employee health and safety, and organizing human rights training which covered the labour protection law regarding occupational health and safety at the workplace for employees, along with continuing the "Labour Voices Hotline by LPN" project that ensured a neutral organization that listened to the voices of all employees. The Labour Voices Hotline helps the Company to acknowledge employees’ problems or suggestions in order to align the Company’s measures with the principles of human rights in a timely manner. In addition, the cooperation with the LPN Foundation, which is a civil society organization that specializes in protecting and promoting the rights of foreign employees in the country, reinforces CPF’s commitment to promoting human rights and improving the quality of life of employees, which ensure that employees have equal access to the rights.
In 2021, CPF reviewed the human rights due diligence (HRDD) process for every domestic business of the Company in Thailand. The review took into account all diversity groups, racial and religious minorities considered as vulnerable groups, and all stakeholder groups, by treating them equitably, earnestly and continuously without discrimination. CPF also conducts audits and evaluation, and encourages business partners and farmers in the supply chain to apply good practices in order to promote upholding of human rights according to international standards. Particularly, the Company’s potential can be showcased as a pilot organization which passes on, carries on, and builds on the knowledge and experience in human rights for a wide range of organizations in order to achieve tangible results that lead to sustainable social development.

Occupational Health and Safety

CPF gives priority to employee health, safety and well-being. Therefore, CPF has prepared and implemented intensive measures to monitor, guard against and prevent the spread of the pandemic.

 CPF received a plaque and an honour certificate: Outstanding Human Rights Award 2021 for Large Business Organization, from the Prime Minister as the Company had been outstanding in all aspects of operations according to the principles of human rights and the Company’s commitment to systematically integrating the principle of universality of human rights throughout its supply chain. CPF has placed importance on employees and all stakeholder groups, by treating them equitably, earnestly and continuously without discrimination. CPF also conducts audits and evaluation, and encourages business partners and farmers in the supply chain to apply good practices in order to promote upholding of human rights according to international standards. Particularly, the Company’s potential can be showcased as a pilot organization which passes on, carries on, and builds on the knowledge and experience in human rights for a wide range of organizations in order to achieve tangible results that lead to sustainable social development.

Human Rights Complaint Management

In 2021, CPF received the total of 4 issues concerning human rights complaints through the Labour Voices Hotline by LPN. All were from foreign employees, with details as follows:

- One telephone call was about the employee’s misunderstanding in respect to the reason for dismissal. After fact checking, it was found that the employee had violated preventive measures against the spread of COVID-19 under the bubble & seal system, with which all employees are required to strictly comply. The LPN Foundation and the Company had jointly clarified to the employee that such action might cause serious damage to the Company. Therefore, the Company was obliged to act in accordance with the work regulations. In addition, the Company has made announcements emphasizing that all employees must acknowledge and be aware of the seriousness of consequences as a result of measure violation.

- One telephone call was about a concern of an employee when there was a failure to conduct a transaction at the bank and the employee was informed by the bank that the identity document had expired. It was found that the bank was unaware of the government’s easing measures which extended the period for foreign employees to legally stay and work in the Kingdom of Thailand during the COVID-19 outbreak. The Company had made announcements to inform all foreign employees to thoroughly acknowledge and understand the easing measures.

- Two telephone calls were about employees’ compensation. During the COVID-19 situation, work processes had been adjusted in accordance with various disease control measures, which affected the preparation of documents relating to payment of wages. The Company had investigated and took corrective action immediately upon notification, including adjusting the document processing and data entry to be more precise.

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CPF has established the Center for Preventing the Spread of COVID-19 and 26 Coordinating Centers covering all business units within Thailand operations. Safety officer teams are stationed at the coordination centers, monitoring compliance with factories’ measures. Sub-centers have also been set up in factory areas to ensure operational flexibility and monitor the situation. Six measures have been introduced and implemented:

1. Preventive Measures
   - Determining preventive measures; providing advice on management of infected people and people considered high-risk contacts; and performing duty on disease investigation in compliance with measures introduced by Ministry of Public Health and the Department of Disease Control.

2. Procurement Measures
   - Procuring preventive medical supplies such as masks, alcohol gels, or Antigen Test Kits (ATK) in a timely manner.

3. Communication Measures
   - Communicating practices within the Company, following news related to the Company and creating accurate understanding among employees and third parties.

4. Public Health Measures
   - Providing supervision on academic matters on diseases and disease outbreaks, and proactively testing for pathogens using RT-PCR method.

5. Government Coordination Measures
   - Coordinating with government agencies to ensure continued business operations, such as transportation of goods and cross-provincial travel.

6. Remedial Measures
   - Looking after welfare of infected and high-risk employees and managing field hospitals.

To prevent impacts on health of employees and family members as well as the Company’s business operations, CPF has conducted knocked door audit at the business units and remote audit (On and Off Site Audit) to ensure that the prevention of the disease outbreak is strictly and effectively implemented. CPF has conducted knocked door audit at the business units and remote audit (On and Off Site Audit) to ensure that the prevention of the disease outbreak is strictly and effectively implemented. The strict implementation of measures has resulted in successful management of the prevention of COVID-19 as reflected through CPF’s certification of hygienic standards: “IPHA – Industrial and Production Hygiene Administration” covering its 61 factories, which is the highest number among industrial plants nationwide.

CPF procured and purchased vaccines to build herd immunization for all employees in the production and support functions since November 2021, to ensure continuous stability of food production processes and enhance consumer confidence in the hygiene and safety of the Company’s products.

Although CPF has implemented intensive preventive measures, more than 10,300 of its employees have been confirmed to have COVID-19. CPF has put great effort to control the spread of the disease by immediately conducting a process of screening patients for treatments at hospitals or hospitels arranged by the Company, or Saraburi and Nong Chok field hospitals built by the Company with up to 780 beds. The process also includes isolating high-risk contacts for symptomatic observation and periodic screening using RT-PCR and ATK. In addition, CPF has also provided 24-hour CPF COVID-19 Hotline to answer all questions or concerns from employees about COVID-19 as the Company is concerned about the physical and mental health of all employees.

Occupational Safety, Health and Work Environment Projects

With awareness and focus on occupational health, safety, and work environment of employees and contractors, CPF therefore implements various projects to ensure that employees and contractors can work safely, with details as follows:

Safe Think Safe Act Project

The Layer Business has applied the principles of behavior-based safety to reduce speeding behavior in order to reduce the Company’s car accident statistics, which include assessing risky behaviors and communicating to employees who are in at-risk groups, along with organizing training courses that focus on driving attitudes and behaviors and mandating participation in a 21-day behavioral observation program, in which a supervisor is involved in the behavior assessment once a week. An incentive reward has been introduced to lower risky driving behavior. As a result of the program implementation, the number of at-fault car accidents decreased by 16 percent compared to 2020.

Preventing Falls from Heights Project

In 2020, due to accidents related to working at height, the Livestock Feed Business set more stringent operating standards to prevent accidents, with details as follows:

1. Installing roof walkways and lifeguard anchor points in every area.
2. Installing standard slope ladders or scaffolding for climbing up the roof and coming down.
3. Implementing a full body safety harness and a lifeline with 2 hooks for operators.
4. Using internationally standard-certified equipment for working at heights.
5. Ensuring expertise and experience in working at heights among contractors.
Employee Health Promotion

Employees are the key force in running business. CPF therefore pays attention to and takes good care of health and well-being of its employees, along with implementing projects to promote employee health and well-being.

Happiness, Physical Health and Healthy Heart Project

The Livestock Feed Business has carried out activities to encourage employees to stay healthy through exercising and eating good and beneficial foods, by establishing health clubs, arranging exercise areas, providing in-house stadiums and fitness rooms as well as sports equipment. In addition, there are sports competitions between work units, for example, CPF Running Club and football competition.

Clean and Organic Vegetables Project

The project is implemented to encourage employees working at animal farms in Thailand, Vietnam, and Laos operations to grow organic vegetables for consumption in order to promote good health among employees through clean and safe foods.

Performance in 2021 (Thailand Operations)

Lost Time Injury Frequency Rate of Employees

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
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<tbody>
<tr>
<td>2018</td>
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</tr>
<tr>
<td>2019</td>
<td>0.35</td>
</tr>
<tr>
<td>2020</td>
<td>0.39</td>
</tr>
<tr>
<td>2021</td>
<td>0.38</td>
</tr>
</tbody>
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In 2021 Major causes of work-related injuries - Employees and Contractors:

1. Being cut or stabbed by sharp object;
2. Being pinched or pulled by object;
3. Being injured by falling object;
4. Crashed or collided with object; and
5. Falling or slipping

Despite CPF’s efforts to prevent accidents during work, in 2021, four employees were involved in accidents: pinched or pulled by objects, cut or stabbed by sharp objects, and collisions with objects, causing injuries that have let their bodies unable to restore to original states within 180 days. To prevent future recurrences, the Company had urgently investigated root causes and formulated corrective solutions and measures, for example,

- Checking equipment and work areas to ensure safety before starting work every time,
- Modifying equipment to prevent accidents related to employees being pinched or pulled by machines and being cut or stabbed by sharp objects,
- Strictly enforcing the regulations on personal protective gear based on the risks of each type of work, and
- Increasing frequency of employee and contractor trainings on machine operation.
The current global situation is changing rapidly due to advancements in technologies and innovations that constantly emerge, and the impact of the COVID-19 pandemic. As a result, business conduct guidelines have changed, and competitive rate for quality employment in the market has increased. The Company therefore has to improve its human resource management strategy and organizational structure accordingly, as well as increase strength and happiness within the organization to ensure that employees are ready to deal with changes in a timely manner.

 CPF is committed to creating good work experiences for employees and aims to be a learning organization to provide integrated care for employees throughout their periods of employment with CPF. Skills and knowledge necessary for becoming future workforce will be developed to enhance value of every employee in the organization, all of whom are the key to driving sustainability and passing on the organizational values to the outside society.

3 million hours of education and training for employees

Ms. Pimonrat Reephattanavijitkul
Chief People Officer
Head of Ambition – Lifelong Learning

Management Approach

- **Being a Learning Organization**: focusing on developing personnel skills and potential in order to equip employees with skills to operate in the midst of changing organizational context, and expanding learning opportunities to employees’ families, business partners and people in society.
- **Managing ‘Talents’**: keeping highly qualified employees with the organization and attracting talents to the organization, as well as planning employee career paths, along with succession plan for replacement of key positions to support sustainable business expansion.
- **Corporate Culture and Engagement**: creating a strong corporate culture with morality and ethics under the 6 values of the “CPF WAY.” The Company has placed great importance on shaping employees at all levels to have awareness, understanding, acceptance, and implementation of the corporate values. The Company has also focused on improving employee engagement through the CPF@Heart Project in order to enable employees to generate positive outcomes and organizational goals.
- **Manpower Management**: developing work structures and analyzing human resource management approaches to be in line with a business continuity plan, by using in-depth data analysis to make decisions and to efficiently create a business plan.

Implementation

**Being a Learning Organization**

Technologies and innovations play important roles in the current global situation, causing rapid changes as well as unprecedented skills and an increase of competitive employment. CPF, therefore, strives to be a learning organization that encourages employees to everlastingly develop their skills and potential.

**Employee Development**

CPF is committed to developing employees by enhancing their knowledge, skills and abilities in every aspect to meet requirements of the targeted organizational structure and manpower. CPF has set individual development plans (IDP) to ensure that all employees are ready to perform both present and future tasks quickly and effectively. In this regard, employee learning and development programs have been established and are divided into 4 important areas as follows:

1. **Fundamental Program** consists of basic courses necessary to creating awareness and understanding of duties and responsibilities, which include Compliance with Laws, Rules and Regulations, Corporate Governance, Code of Conduct, Disciplinary Action, and Occupational Health and Safety Work, as well as courses such as Organizational Sustainability Development and Preparation for Digital Workforce.

2. **Future Skills Development Project** that focuses on developing digital literacy of employees, which includes hard skills such as Data Analytics and Robotics, and soft skills such as Design Thinking and Agile. The development programs comprise 4 levels covering basic to advanced levels for laying foundations and enhancing employees’ skills in using digital technology in each target group. Moreover, various courses in other areas are offered that helps develop knowledge and future skills, improve job-specific skills to develop essential work skills, and foster a global vision and synergy among employees to accommodate the organizational growth in the future. In 2021, CPF trained more than 22,000 employees on digital literacy to build digital foundation. CPF has joined forces with True Digital Academy, with more than 600 employees participating, creating 47 data analysts from 10 projects through Data Analytics Boot Camp by analyzing real business problems and proposing
employees’ abilities to ensure their readiness for the business growth, that changes rapidly. In 2021, CPF established Technical Academy for 9 business units, and the initiative will expand to all 27 business units in 2022.

In addition, CPF has recognized the importance of fostering a corporate culture of sustainable learning and therefore creates an atmosphere that supports lifelong learning through a variety of learning formats known as hybrid training. The training includes on-line, on-site, on-ground and on-demand formats tailored to suit each learning course which emphasizes lifelong learning, implementation and development. For example, self-learning through e-Learning, live learning through virtual training, group coaching and on-the-job training. Particularly given the current situation, CPF has provided virtual training, group coaching and on-the-job training.

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Examples of CPF People Manager; One among the Important Future Skills, and Leadership Development Program

Development of Learning Society

CPF has continuously provided educational support to students, employees and children of employees with aim to help them meet future work requirements.

- Scholarship Program for Employees and Their Children: providing opportunities on accelerating human resources development and building personnel with future skills to expand business in important fields that are beneficial to the country and that still face labour shortages. In 2021, 80 scholarships were awarded to undergraduate and graduate students studying domestically and abroad.

New Personnel Development Project in collaboration with a network of higher education institutions from both the public and private sectors domestically and internationally to jointly develop students’ potential and ensure that their knowledge, abilities and experiences meet requirements of the labour market, as well as generating understanding and improving essential business and future skills, along with creating graduates who can be important forces to drive the country in the future through joint developments of a wide range of training programs, research studies and activities that lead to actions, which in turn strengthens human resources, the future, and networks as follows:

Building People
through the program development
that create experimental learning opportunities with hands-on practice, in order to develop students and their knowledge, abilities and experiences that meet labour market needs.

Building the Future
through the research and development
that opens the door for students and faculty members to further expand their knowledge through joint research and application of research results in the business world, as well as providing students with opportunities to build their future by working with CPF.

Building Networks
through various activities and projects
that strengthen good relations between higher education institutions and CPF which lead to wider collaboration.
Building People through the program development in order to create experimental learning opportunities with hands-on practice, such as the Young Agribusiness Entrepreneur pilot program in collaboration with Prince of Songkla University in 2021 and the Master’s degree in Food Science pilot program with Mae Fah Luang University in 2022.

Building the Future through the research and development that opens the door for students and faculty members to further expand their knowledge through joint research and application of research results in the business world such as a research study on the black soldier fly with Chiang Mai University, a research prototype using radiation to screen fertilized eggs with Suranaree University of Technology, and a research study on genetic improvement of cannabis with Kasetsart University.

Building Networks through various activities and projects that lead to wider collaboration, such as the Virtual Hackathon competition with the 42 Bangkok, a coding school under the supervision of King Mongkut’s Institute of Technology Ladkrabang, which was an initiative activity that led to collaboration which aims to tackle programmer shortages in Thailand; and CPF Young Software Developer, a pilot project in collaboration with Kasetsart University and King Mongkut’s University of Technology North Bangkok, to create young software developers by allowing students to develop software based on CPF’s real business issues, resulting in learning and solutions that can be applied in practice.

In addition, CPF has also continuously provided internships, cooperative education and bilateral projects. In 2021, CPF recruited 231 students from 33 institutions. 58 percent of students from these projects have been offered employment at CPF.

- Promoting Knowledge for Students and Teachers in Educational Institutions: driving development and improving quality of Thai education for sustainable development through the CONNEXT ED project established in 2016 and other school development programs. 65 experts of the businesses operated by CPF have served as the Company’s volunteer school partners delivering knowledge on animal farming and production of good quality, hygienic and safe foods for consumers. The partners also help develop students and teachers in 296 schools under CPF’s care. The training is hands-on and is conducted in schools. Therefore, students can access essential nutrients and generate income as well.
- Promoting Knowledge to Enhance Work and Create Careers for People: transferring knowledge to create careers for those who are interested in doing business with CPF, and building communities that can share knowledge by utilizing knowledge management of the CPF Training Center, including sharing knowledge with farmers in the contract farming on animal farming, animal tending and preventing animal diseases according to animal welfare principles, as well as promoting knowledge, understanding and important laws and regulations to develop business partners’ abilities, all of which enhance operations from the beginning of the supply chain (Additional details are available in “Balance of Nature” under the ambition: “Responsible Sourcing for the Planet”).

CPF has placed importance on performance management to attract and retain talents to work and grow with CPF, which is a mechanism that enhances sustainable competitiveness with a goal of becoming a “High Performance Organization”. CPF has determined guidelines for annual employee performance review and development planning for systematic growth, which comprise clear goal indicators that are in line with the corporate strategic goals. CPF also promotes the achievement of employee performance goals through continuous and consistent self-improvement. In 2021, all CPF employees received their annual performances and career development review.

Annual Performance Management

- Jan - Feb: Individual Goal Setting
- Mar: Individual Development Planning
- Jun - Jul: Mid-Year Goal Review and Evaluation
- Aug - Oct: Communicating Progress of Works and Activities During the Year
- Nov - Dec: Year End Evaluation

Career Growth Opportunity

CPF focuses on supporting employee growth paths that match employees’ abilities and individual developments in order to create good work experience, self-development for a happy life and organizational engagement, resulting in performing works and developing the organization towards sustainable growth. Under the “Chance for Change Program”, employees are given opportunities to manage their career path by themselves through applying for vacancies within the organization. As employees have understood CPF’s business and have been familiar with the corporate culture and values, this program therefore provides employees with opportunities to learn and develop skills and abilities for the right job positions, which lead to new skills and experiences from works in which employees are interested. This also encourages talents to be working and growing together with the organization in the long term. In 2021, the proportion of employees being admitted to open positions filled by internal candidates was approximately 65 percent of the positions opened for applications in 2021.

In addition, CPF promotes the “Refer-a-Friend” Project, which has been initiated for employees to recommend friends to work with CPF. This enables new referred employees to adapt to the corporate culture well, resulting in employee engagement and increased job satisfaction. This project implementation corresponds to a lower turnover rate and becomes the most efficient channel with a success rate of about 3:1, meaning that if there are 3 applicants being interviewed, 1 out of the 3 can be successfully recruited to join CPF.
Organizational Culture and Engagement

CPF is committed to operating in accordance with the 6 values of the “CPF WAY” which comprises (1) Three Benefits to Sustainability (for the Country, the People and the Company), (2) Speed and Quality, (3) Simplification, (4) Adapt to Change, (5) Innovativeness, and (6) Integrity, Honesty and Reciprocity.

The Company has adhered to principles of corporate culture according to 3P Corporate Culture Framework as follows:

1. ‘Process’ includes a systematic process and an effective communication process that can transfer knowledge, experience and corporate vision to employees at all levels;
2. ‘People’ includes CP Ambassadors and CPF working groups who drive a wide variety of activities as well as providing opinions on activities related to the formation of corporate culture; and
3. ‘Platform’ represents two-way communication and learning systems that properly support communication, effectively create knowledge and proactively welcome employee feedback.

In 2021, CPF raised a level of cultivating its core value to be recognized and acknowledged, and put it into practice in operations. The Company implemented the CP LOVE Platform to improve communication efficiency, boost compliments, welcome employees’ opinions and encourage good deeds according to the CPF Way.

• Loyalty: promoting atmospheres of appreciation among employees, supporting products and services, conducting oneself according to the corporate values, fostering love and pride, and making employees feel special and important, which result in corporate and product engagements.

• Volunteer: creating engagement with employees at all levels through various projects regarding good deeds and environmental protection, aiming to promote career opportunities as well as generating jobs and incomes to raise community well-being according to the Three-Benefit Principle.

• Education and Empowerment: setting up a group of more than 300 CP ambassadors who were considered the organization’s change agents in order that they could obtain accurate information through training/learning courses, and display desirable behaviour and adopt digital transformation to accommodate changes.

In additional, appreciation activities could be implemented in a wide variety of ways, such as showing appreciation for good deeds through sustainability promotion projects, namely the “Empty Plate, Save the Planet” Project with the goals of reducing food waste and greenhouse gas emissions, and the “Forest in the City” Project aimed to increase green areas, which in turn helps enhance the well-being of community members who help planting seedlings and take care of the project. Employees eligible to participate in both projects based on their interests can earn CP Value Points by sharing photographs as required by the projects through social media channels to create acknowledgement and pride, and encourage employees to participate in more activities, which is part of overall corporate engagement (Additional details are available in “Balance of Nature” under the ambition: “Climate, Water and Waste Excellence” and “Waste to Value”).
CPF has a procedure and communication channels used to transfer organizational knowledge, information, policies, experiences and vision as well as benefits and various kinds of information to employees at all levels. The Company, together with the CP Ambassadors as communication representatives from business units, emphasizes colleague participation in order to drive corporate change and ensure that all employees obtain accurate information and are treated equally and thoroughly.

In the past year, CPF developed the HR-eXp system and CPF Family which are effective communication platforms supporting two-way communication at work, generating knowledge and welcoming employees’ opinions so that employees can easily adapt themselves since the first working day at CPF. The platforms promote better work experience in line with the work from home policy during the current situation pandemic and hybrid work in the future.

Employees can access the system via mobile phones and it still supports on the activities, so that employees can build good relationships among each other on the online platform, along with creating a culture of appreciation to foster bonds among supervisors and colleagues.

Enhancing Employee Engagement

Since 2018, CPF has continuously conducted employee engagement surveys and analysed the survey results to determine areas that had been handled well and those that need improvement at the corporate and department levels. The Company has set action plans to enhance employee engagement by promoting participations of business units’ representatives to learn and study the survey results, as well as taking part in the preparation of action plans as they are the Change Agents playing important roles in creating change, communicating within the responsible departments, driving activities and following up on various issues, all of which have been implemented to achieve success determined in the action plans which are based on factors affecting the corporate engagement. The Company aims to increase its employee engagement from 71 percent to 74 percent in 2022 after implementing the action plans.

To achieve 2022 goals, the Company has organised activities to build employee engagement under the CPF@Heart Project which includes two subprojects; CPF We Care and CPF Love&Share, with details as follows:

1. Care for Benefits: focusing on activities concerning employee welfare and compensation

Example
- Debt relief programs to help ensure happiness and reduce employees’ debt.
- Information on the scholarship programs for employees and employees’ children.

Example: The Launch of The Debt Relief Project to Ensure Happiness, Reduce Employees’ Debt, Improve Employees’ Quality of Life, and Promote Knowledge on Financial Planning and Financial Discipline

2. Care for Career: focusing on employees’ career advancement

Example
- Creating understanding on plan and goal setting, and personal development.
- Creating understanding on career planning.
- Employee development projects in various fields to promote necessary knowledge and skills.
- Promoting the use of “Im-Ru” platform for self-improvement and exchange of knowledge in various fields.
3. Care for Culture: promoting culture

Example

- Showing appreciations to colleagues as soon as they do good deeds (On-Spot Reward).
- Focusing on work atmosphere that promotes giving suggestions, not directions in order to provide opportunities to the new generation so that they can try to do new things instead of following old practices.

4. Care for Well-Being: focusing on employee well-being

Example

- Projects promoting employee well-being both at work and at home, such as massages, “Hang on and Smile” to reduce symptoms of office syndrome.
- Guideline and supports for employees during the situation of COVID-19, such as giving king of bitters extract capsules and antigen test kits (ATK) to executives and employees.
- Self-protection measures during the COVID-19 outbreak, such as COVID-19 vaccines supplied by the Company or the Social Security, and free masks through the Masks for All Project.
- Flu vaccines for employees during the epidemic season.

CPF Love&Share focuses on providing benefits and discounts to employees and their families, activities showing and forwarding love through social media, and establishing CPF ambassadors.

Example

- Collaborating with True to offer True special privileges and True products for employees and their families, such as TrueMove H network’s special packages, True Internet and telephones with special prices.
- Providing simple knowledge in a timely manner to keep pace with the Company’s business operations, such as antibiotic-free fresh meat products, CP fresh eggs, CP Pacific Shrimp fresh, sweet, firm, delicious by just blanching.

Establishment of Employee Clubs

Additionally, in the past year, CPF also established employee clubs and carried out activities for employees having mutual interest in contributing to society and the public through 15 employee clubs relating to recreation, career promotion, sports and health, and social activities. Employees can choose to join the clubs according to their interests, which creates good relationships between the management and employees, as well as providing employees with opportunities to exchange perspectives and accept difference in opinions, leading to positive working environment and happy life that in turn positively affect employee engagement as well.

Workforce Management

Toward becoming a technology and innovation-driven organization, CPF has introduced a technological tool for strategic workforce planning to analyze and create workforce management plans that can meet its vision, mission and strategic goals. In addition, the 6 Rights Principles by Korn Ferry, a global organizational consulting firm, have been systematically applied in the strategic workforce planning as well.

- **RIGHT SOURCE**
  - Adopt modern technologies to reduce labour costs, improve efficiency and create safety in business operations

- **RIGHT SITE**
  - Determine adequate and appropriate number of skilled personnel according to the business requirements in a suitable environment

- **RIGHT SHAPE**
  - Set up appropriate personnel structure and determine levels of positions that correspond to departmental and organizational characteristics

- **RIGHT SKILLS**
  - Analyze future jobs and skills, and consider which jobs and skills can be replaced by technology and automation systems, including setting personnel development plan to move towards defined future goals

- **RIGHT SPEND**
  - Calculate personnel costs in accordance with business productivity

- **RIGHT SIZE**
  - Set appropriate target manpower and plan in order to operate the business efficiently and effectively
The Company has planned to manage strategic manpower to achieve a balance between:

- **Demand Planning** in terms of quantity and quality that are appropriate for each unit in the organization according to the business plans, including targeting productivity that can be measured, such as income per employee and employee cost per income.
- **Supply Planning** by analyzing current manpower data such as turnover rate and retirement.

All principles and data are combined with the use of technology system in order to set formats for manpower planning throughout the Company’s processes and simulate scenarios according to business assumptions. CPF has continuously assessed the strategic manpower planning and applied the analysis results to relevant departments such as Recruitment Department and Human Development Department.

In addition, CPF has promoted the concept of Modular Organization to enable employees from various units or work groups to implement projects mutually, by applying agile principles to promote agile working and readiness to adapt to change in a timely manner.

It also aims to foster open teamwork allowing the team members to learn and accept each other, and to be decentralized and flexible. In 2021, CPF promoted working in the format of Modular Organization through projects related to innovations and productivity improvement, Tao Kae Project, and other Cross-Functional Projects.

The Modular Organization concept has introduced employees to new skills allowing them to quickly respond and cope with changing conditions due to internal and external factors. The employees can work efficiently and also continue to create innovations and drive the organization towards sustainable success.

In the past year, over 12,000 employees had opportunities to learn to work according to the Modular Organization format through more than 6,000 projects. The Company is determined to expand the Modular Organization working format continuously as one of the key indicators, which demonstrates its determination on driving this issue.

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CPF places emphasis on holistic social development, promotes well-being, and enhances knowledge and skills needed by communities, as well as supporting suppliers towards better achievements and preparedness for current and future challenges.

Mr. Wuthichai Sithipreedanant
Senior Vice President in Corporate Sustainable Development
Head of Ambition – Social Impact

Poverty and social inequality have remained challenging issues that affect quality of life and well-being of people worldwide. Moreover, due to the ongoing situation of COVID-19 outbreak over the past 2 years, smallholder farmers who produce agricultural raw materials are one group of people who are facing a difficult situation including problems caused by climate change, low production prices and increased production costs. In addition, small business entrepreneurs, accounted for 90 percent of global business operations with employment rate contributing to more than 50 percent of global employment, is another group that faces these challenges. Meanwhile, the world is entering an aging society and the number of vulnerable social groups due to various crises is increasing. As CPF’s business operations are linked to many smallholder farmers and small business entrepreneurs, CPF recognizes its role of its participation in managing social and environmental issues, by placing importance on developments of farmers and small business entrepreneurs as well as vulnerable groups in order to enhance well-being, increase necessary knowledge and skills, and support business partners and communities to be prepared for current and future challenges.

CPF believes that a genuine commitment to improving the quality of life is a starting point that leads to change, resulting in sustainable outcomes.

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Management Approach

- Declarations of Policy and Commitment: conducting business with social and environmental responsibility, aiming for sustainable growth.
- Ensuring Engagements: engaging with partners, farmers and community members, by listening to their problems and requirements as well as participating in developing operational guidelines that positively affect people’s lives.
- Providing Support and Promotion: deploying organizational potential which includes resources, personnel, and knowledge to support partners, farmers and community members in order to create positive impacts and mitigate negative impacts in societies.
- Building Cooperation and Alliance Networks: collaborating with alliance networks throughout the Company’s value chain, including related stakeholders, to jointly develop operational guidelines that promote the improvement of community quality of life.

Implementation

Community Support

Supporting Income Generation

- Supporting smallholder farmers
  CPF places importance on smallholder farmers who are the cornerstones of the country’s economy. Therefore, CPF supports project initiatives to promote smallholder farmers’ animal farming under contract farming to improve farmers’ quality of life. It started with the broiler farming promotion project in 1975 which has been further expanded to pig farming, layer farming, meat duck farming and aquaculture farming, to create the country’s sustainability which is in line with the ‘Three-Benefit Principle’, namely benefits to the country (every country in which CPF has invested), the people, and the Company. In 2021, CPF contributed to income generations of more than 9,400 smallholder farmers from the operations in Thailand, Vietnam, Turkey, Cambodia, Laos, India, Philippines and Malaysia.
- Supporting small business entrepreneurs
  CPF is committed to continuously improving people’s quality of life by providing small business entrepreneurs with opportunities to start their own businesses with small investing budgets through Tao Kae Lek Project including Five Star Business, Pork Shop, Star Coffee, Chao Sua Duck, Iron Pan, CP Fresh Shop and Fresh Market Refrigerator. In 2021, the number of small business entrepreneurs from the operations in Thailand, Vietnam, Turkey, Cambodia, Laos, India, Philippines and Malaysia were more than 5,300.
- Supporting communities around the establishments
  CPF places importance on participation among factories, farms and communities, and therefore engages with stakeholders by using community tools such as geo-social mapping, building dialogues to explore community requirements and set promotion plans, creating community engagement, and improving quality of life, all of which enable harmonious coexistence between communities and the Company’s establishments. In 2021, Thailand operations adopted 263 community requirements to develop into various projects including the CPF Growing Happiness, Growing Futures Project to promote good nutrition in children and youth studying in schools around factories and farms, Creating and Maintaining Community’s Way of Happiness Project, Community Drinking Water Project, and Eggshell Fertilizer for Community Project, all of which are part of CPF’s effort to promote community quality of life. Moreover, CPF has supported more than 7,000 communities in the operations in Thailand, Vietnam, Turkey, Cambodia, Laos, India, Philippines and Malaysia, such as the Chicken Herd with Red Scarfs Project in Vietnam, and Growing Clean and Non-toxic Vegetables Project in Laos.

Supporting Vulnerable Social Groups

CPF recognizes the importance of food hygiene, particularly for those who are considered vulnerable social groups, including children, youth, elderly and socially disadvantaged individuals. During the COVID-19 outbreak, many families lost their incomes as many were laid-off and became unemployed. CPF, therefore, has imparted abilities and expertise of its employees to children and youth studying in schools around the establishments, so that they could learn the practice of layer chicken and fish farming, and growing home-grown vegetables in order to farm produce for lunch at schools. CPF has also been promoting produce processing and selling within communities as a way to increase income. This project also promotes access to nutritious food and helps reduce malnutrition among school-age children who are the country’s future.

In addition, CPF has also joined in adding support continuously with nutritious foods for elders and victims of COVID-19 pandemic, through CPF’s Fund for Elderly Project, CPF’s Food from the Heart against COVID-19 Project and Krua Pan Im Project, and many more.

Supporting children and youth 364,000 persons (Thailand, Vietnam, Turkey, Cambodia, Laos, India, Philippines and Malaysia operations)

Supporting response to the COVID-19 pandemic

CPF’s Fund for Elderly (Thailand Operations) 371 persons

Supporting Community and Social Activities

CPF is committed to supporting activities that benefit communities and societies, by using the organizational potential to create positive impacts on societies through various activities and projects. In 2021, CPF Thailand operations had supported societies in the form of charitable donation (7 percent), investing in community support (62 percent), and giving supports through commercial activities (31 percent). The forms of social support are different according to activities as follows:

Cash 304.9 million
Volunteer Time 3.5 million
In-Kind Giving 28.3 million
CPF’s Fund for Elderly (Thailand Operations) 371 persons

Measuring Social Performance

CPF’s CSR-in-Process

Farmers in the contract farming program are deemed CPF’s key stakeholders according to the concept of Farmers are Life Partners. Therefore, CPF’s ultimate goal is to create career stabilities and generate incomes and well-being for farmers, which also helps to promote the country’s economic stability and the world’s food security. CPF has continuously developed a farm model in the project promoting fattening pig contract farming. At present, it has received the status of a green farm, which requires public hearing to obtain testimonies from communities and must be located in an area with sufficient natural water resources to avoid negative impact on the surrounding communities. A biogas system has been installed to treat pig manure and water used for raising pigs in order to reduce odors and methane released into the atmosphere. With the goal of zero discharge of water, treated water will then be used to fertilize trees. As a result, communities and farms can coexist harmoniously.
In 2021, CPF conducted Social Return on Investment (SROI) on the Income-Guaranteed Contract Farming of the Fattening Pigs in order to manage social achievements derived from the project implementations in terms of costs, benefits and risks, as well as compare them to investment opportunities in various fields to ensure efficient and effective resource and budget allocations. The calculations have been verified by LRQA (Thailand) Limited. According to assessment results, farmers in the project received the 4.28 times social return on investment (SROI) with a total social achievement value of THB 4,574 million.

**Economic Achievement: THB 4,144 million (91%)**
The top 3 returns are as follows:
1. Farmers have reduced risk of damage from raising pigs by THB 1,365 million compared to running their own business as entrepreneurs.
2. After deducting various investments, farmers have received the total of THB 1,097 million in returns from raising pigs with CPF.
3. Farmers have credit to apply for loans from banks or funding sources. As a result, the financial cost has been reduced by THB 667 million.

**Social Achievement: THB 376 million (8%)**
The top 3 returns are as follows:
1. Farmers have improved their quality of life in terms of children's access to education, valued at THB 156 million.
2. Farmers have had more time with their families, valued at THB 118 million.
3. Farmers have improved relationships with communities, valued at THB 61 million.

**Environmental Achievement: THB 54 million (1%)**
The top 3 returns are as follows:
1. Farmers have reduced chemical contamination in their farmland soils, valued at THB 40 million.
2. Farmers have reduced greenhouse gas (GHG) emissions with the implementation of the biogas systems, valued at THB 14 million.
3. Farmers have created odor which affect nearby areas, valued at THB 310,000.

Additionally, CPF’s Income-Guaranteed Contract Farming of the Fattening Pigs Scheme also helps strengthen the country’s economy in other areas as follows:

**Evaluation Scope:**
- only participated farmers

**Evaluation Time Frame:**
- 1st January to 31st December 2020

**Participated Farmers:**
- 3,093 individuals

**Strengthening suppliers in the pig farming system**
- Transportation companies (596 companies) generated the revenues of THB 536 million.
- Pharmaceutical companies (51 companies) generated the revenues of THB 690 million.
- Construction companies (186 companies) generated the revenues of THB 883 million from building housing and closed-system farms for farmers.

**Strengthening farmers with access to bank funding**
- Instead of borrowing from non-bank financial institutions, 55 percent more farmers are able to increasingly access bank loans accounting for THB 3,703 million in loan value.
- The reduction of interest by THB 667 million significantly affects financial costs.
- Due to the project implementation, 93 percent of farmers feel less stressed about debt repayment.

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The social impacts derived from the project implementation are also consistent with 9 out of 17 goals in the United Nations’ Sustainable Development Goals (UN SDGs) as follows:

CPF is dedicated to forest conservation and rehabilitation, along with promoting job creation for the surrounding communities, under the key projects including CPF Grow-Share-Protect Mangrove Forestation Project which was first implemented in 2014 and further developed into community-based ecotourism in Samut Sakhon and Rayong provinces, CPF Rak Ni-Ves at Phraya Doen Thong Mountain Project which has been implemented since 2016, Community Career Promotion Project; Freshwater Fish Breeding and Nursery in Order to Release Fishes to Pa Sak Jolasid Dam, and Growing Chemical-free Vegetables Project at Lopburi Province. Two projects have been developed as long-term strategic implementations, resulting in continuous operations. Forest areas have been restored to serve as food sources for the communities, creating occupational groups with additional income. CPF therefore has assessed the economic, social and environmental impacts according to the Natural Capital Protocol Principles and the Social & Human Capital Protocol Principles of the World Business Council on Sustainable Development (WBCSD). The assessment information has been certified by LRQA (Thailand) Limited. It was found that all 5 projects resulted in the real value of more than THB 8 million.

**Economic Impact**

- Community members having a better life due to increased income from tourism, wages derived from community employment, and distribution of natural products, as well as an increase of stable foods for communities, totalling economic value of more than THB 24 million*.

**Social Impact**

- Community members’ improved qualities of life in terms of social quality, participation in forest conservation and rehabilitation, and gathering of members for activities and knowledge dissemination, totalling social value of more than THB 5 million*.

**Environmental Impact**

- More fertile mangrove forests which prevent coastal erosion and serve as natural nurseries for aquatic animals; healthier terrestrial forests which help restoring the environment for communities, increasing fish populations in dam ecosystems. The two healthier forests help sequester carbon dioxide in the environment, totalling environmental value of more than THB 5 million*.

![Sustainable Development Goals diagram](image)

- Farmers and communities have reduced soil contamination in areas totaling 1,833,953 rai, (293,432 hectares) valued at THB 76 Million.
- Farmers have reduced GHG emissions by 98,929 tons of CO₂ equivalent to planting 9.88 million trees.
- Farmers and communities have used treated water instead of chemical fertilizers, reducing the cost of agricultural fertilizers by THB 113 million.
- Farmers have received a total revenue of 3,093 farmers participating in the project now have skills in raising pigs in a closed-system, and hygiene management for the prevention of COVID-19 and the ASF epidemics valued at THB 129 Million.
- Farmers participating in the project have reduce financial costs through access bank loans, which replaced loans from non-bank financial institutions accounting for the total loan amount of THB 3,703 Million.
- Compared to running their own business, farmers have reduced risk of damage from pig raising by THB 1,365 Million.
- 74% of farmers have reduced the cost of electricity or cooking gas through the use of renewable energy (biogas), valued at THB 156 Million.
- Farmers’ quality of life has been improved as their children have access to education, valued at THB 1,365 Million.
- More fertile mangrove forests which prevent coastal erosion and serve as natural nurseries for aquatic animals; healthier terrestrial forests which help restoring the environment for communities, increasing fish populations in dam ecosystems. The two healthier forests help sequester carbon dioxide in the environment, totalling environmental value of more than THB 5 million*.

* Before deducting operating costs of the projects.
The use of solar energy from rooftop solar and floating solar systems installed in Korat Ready-to-Eat Food Production Plant.

Take action towards positive environmental impact throughout our value chain

Climate Change
Mitigation and adaptation to future climate change, crucial for agricultural and food industries

Water Resource
Effective risk management of water resources, enabling businesses to continuously operate and peacefully coexist with community and society

Circular Economy
Integrating the principles of circular economy throughout the value chain, allowing for maximum use of valuable resources without environmental pollution

Biodiversity
Zero deforestation and practicing responsible sourcing to protect biodiversity and ensure the world’s future food security

Earth’s surface temperature is likely to rise at least 1.5 °C by 2040, and without drastic measures for reducing CO₂ and GHG emissions, the world’s surface temperature will increase by more than 1.5 °C within this century compared to 1850-1900 or before the industrial revolution. Effects of climate change are already evident worldwide, such as sea level rise, reduced farmland, floods, droughts and extreme weather, which frequently and severely occur and affect food security.

Therefore, CPF, a leading listed integrated agro-industrial and food business, is committed to its responsibility to contribute to mitigating climate change, as well as adapting and taking proactive measures to accommodate short-term and long-term changes to ensure sustainability of the world’s food production systems.

Intergovernmental Panel on Climate Change (IPCC), Climate Change 2021: The Physical Science Basis, Working Group I Contribution to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change; October 2021.
Management Approach

- Risk and Opportunity Awareness: analyzing and assessing risks, opportunities and effects of the Company’s business operations on climate change, water consumption and waste, as well as preparing a risk management plan.
- Mitigating Impact by Applying Innovations and Technologies: creating and developing innovations and technologies in order to become a net-zero emissions organization, and mitigating environmental impacts by introducing the circular economy concept as a guideline for resources optimization.
- Building Engagement: working with various stakeholders to enhance resource management and environmental impact management at both the Company and industrial levels.

Implementation

Climate Change Management

It is crucial that CPF assess risks and opportunities relating to climate change in order to keep its business operations in line with the changing global situation caused by climate change. The Company has adopted the Recommendation of Taskforces on Climate-related Financial Disclosure (TCFD) as guidelines for assessing risks and opportunities relating to climate change, as well as for disclosing climate risk information to investors and stakeholders in order to enable them to analyze the Company’s ability to cope with climate risks.

CPF Guidelines for Becoming a Net-Zero Emissions Organization

CPF is aiming to set its GHG emission target in accordance with the Science-Based Targets Initiative (SBTI), which is in line with the Paris Agreement on limiting global temperature increasing to 1.5 °C by deploying technologies and innovations. CPF’s guideline for becoming a net-zero emissions organization comprises two parts as follows:

Part 1 Decarbonization

- Improving Production Efficiency: choosing equipment and machinery that consume low energy and offer high production efficiency to reduce fuel consumption and waste generation in the production process.
- Deploying Innovations and Technologies to Improve the Production Process: utilizing automated and robotic production systems controlled by Artificial Intelligence (AI) and Internet of Things (IoT), as well as decreasing procedures and process times of productions in order to reduce factories’ energy consumption.
- Promoting Renewable Energy Usage: eliminating use of coal and reducing use of fossil fuels such as fuel oil and other fuels, and increasing proportion of use of renewable energy, for instance biomass, biogas and solar.
- Increasing Business Opportunities from Low-Carbon Products: continuously developing products that respond to requirements of environmentally conscious customers and consumers, such as animal feed products, low-carbon meats, and plant-based proteins, etc.
- Building Factories and Farms of the Future: designing factories and farms by taking into account low energy consumption and ability to recycle available resources in order to reduce waste externally released.

Part 2 Carbon Removal

- Supporting Zero Deforestation: declaring goals on zero deforestation by 2030 for all CPF’s businesses and direct suppliers of agricultural raw materials such as maize, fishmeal, palm oil, soybean and cassava as the Company recognizes the effects of deforestation on biodiversity and soil carbon losses.
- Reforestation and Afforestation: restoring and conserving forests (terrestrial and mangrove forests) as well as increasing green areas by planting trees within the operations with the goal of sequestering accumulated 200,000 tons of CO₂, covering an area of 20,000 rai (3,200 hectares) by 2030.

In addition, CPF also explores new technology opportunities to become a net-zero emissions organization, such as use of energy from wind turbines and sourcing of alternative energy sources, as well as carbon capture, utilization and storage (CCUS).

Supporting Mechanisms for GHG Emissions Reduction

Energy consumption and waste management are major contributors to climate change. Therefore, CPF has implemented projects to increase energy efficiency, managed manure and wastewater, and promoted renewable energy, for instance, biodiesel, biogas and solar to continuously reduce GHG emissions. CPF has registered for Thailand Voluntary Emission Reduction Program (T-VER) with Thailand Greenhouse Gas Management Organization (Public Organization) or TGO. Details of the implementations are as follows:

Energy Efficiency

- GHG emissions expected to be reduced 61,820 tons of CO₂ per year

Renewable Energy

- Energy Consumption:
  - Forest and agriculture: Sequestering CO₂ more than 22,255 tons from trees in an area of over 3,220 rai (515 hectares)
  - Renewable energy: Reducing GHG emissions by more than 0.6 tons of CO₂

Waste Management

- Total of GHG emissions that can be reduced/ sequestered 22,255 tons of CO₂e

Moreover, CPF has been awarded a certificate from TGO for the Low Emission Support Scheme (LESS) Project in the category of forestry and agriculture, for the CPF Rak Ni-Ves at Phraya Doen Thong Mountain Project, green area in farms and factories and renewable energy from solar energy project. Details are as follows:

- Carbon Credit Certified for Trading in Thailand
Cooperation in Climate Change Adaptation within the Supply Chain

CPF has applied a maize traceability system to trace back to planting plots to ensure that maize, a key raw material in the Company’s animal feed production, originates from non-deforestation area. CPF has also implemented “Self-Sufficient Farmers, Sustainable Corn Projects” to raise awareness and understanding among maize farmers and improve agriculture which, in turn, increases productivity while reducing the impact on climate change, adjusts fertilization to suit the areas and growth of maize, promotes use of organic fertilizers instead of chemical fertilizer and growing of ground cover crops, and reduces tilling or stubble burning. In 2021, more than 11,150 farmers participated in the projects, covering the total area of over 250,000 rai (40,000 hectares).

Key Performance in 2021 (Thailand Operations)

- Proportion of renewable energy consumption: 27% of the total energy consumption (3.07 PJ)
- Reduce GHG emissions for 575,000 tons of CO₂ per year
- Biomass Energy: 18% (2.00 PJ)
- Biogas Energy: 9% (1.02 PJ)
- Solar Energy: 0.3% (0.04 PJ)
- Electricity capacity from solar panels in total 20 MW

Direct and Indirect GHG Emissions (Scope 1 and 2)

- GHG emissions (scope 1 and 2) per production unit (kilograms of CO₂ per ton of products)
  - GHG scope 2 emissions (thousand tons of CO₂)
  - GHG scope 1 emissions (thousand tons of CO₂)

Energy Consumption

- Energy consumption per production unit (GJ per ton of products)
- Electricity (PJ)
- Renewable energy (PJ)
- Non-renewable energy (PJ)

Direct and Indirect GHG Emissions; Scope 1, 2 and 3

- Upstream Activities
- CPF Operations
- Downstream Activities

CO₂ Sequestration by Forests (Terrestrial and Mangrove Forests) Conservation, Protection and Restoration and Tree Plantation in Green Area within the Operations*

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of trees</th>
<th>CO₂ sequestered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>1,823,000</td>
<td>11,229 tons per year</td>
</tr>
<tr>
<td>Russia</td>
<td>1,989,950</td>
<td>11,392 tons per year</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2,722,545</td>
<td>3,992 tons per year</td>
</tr>
<tr>
<td>Philippines</td>
<td>2,158,410</td>
<td>1,423 tons per year</td>
</tr>
<tr>
<td>India</td>
<td>1,682,000</td>
<td>14,302 tons per year</td>
</tr>
<tr>
<td>Malaysia</td>
<td>363,992</td>
<td>3,363 tons per year</td>
</tr>
<tr>
<td>Thailand</td>
<td>1,547,200</td>
<td>11,392 tons per year</td>
</tr>
<tr>
<td>Laos</td>
<td>23,744</td>
<td>326 tons per year</td>
</tr>
<tr>
<td>Cambodia</td>
<td>21,840</td>
<td>232 tons per year</td>
</tr>
</tbody>
</table>

Total Number of trees: 4,033,591
CO₂ sequestered: 35,239 tons per year

Unit: Thousand tons of CO₂ₚ"
Water Stewardship

CPF recognizes increasing severity of drought and drought frequency. Moreover, operating complete an integrated agro-industrial and food business constantly requires water resources. The Company, therefore, places importance on selecting locations of its establishments on the basis of management of risks relating to essential utilities, coupled with water efficiency planning. The Company uses water in the production processes, such as water used in steam boilers of the animal feed business, water used for animal husbandry and as condenser water in animal housing of the animal farming and meat processing businesses, water used in cooling systems, and tools and equipment cleaning systems of the food business.

Water Risk Assessment

CPF assesses water risks on a yearly basis based on each unit’s database of volume of water withdrawal, coupled with baseline water stress of watersheds in which CPF’s units are located by using the Aqueduct Water Risk Atlas developed by the World Resources Institute (WRI), all of which help the Company prioritize the water management at the unit level as follows:

- **High** and **Extremely High**
  1. Setting targets for short-term and long-term water withdrawals for each unit of production as well as continuing to follow up on results.
  2. Preparing water reserves and reserving water for future use.
  3. Continuously increasing water efficiency according to the 3Rs principles.
  4. Evaluating impacts and setting a plan to reduce the impacts of effluent released from the unit to public water sources.
  5. Preparing a Business Continuity Plan (BCP) to withstand severe water shortage crisis.
  6. Conducting opinion surveys to gather feedback from of water users and surrounding communities.

- **Moderate** - **High**
  1. Setting targets for short-term and long-term water withdrawals for each unit of production as well as continuing to follow up on results.
  2. Preparing water reserves and reserving water for future use.
  3. Continuously increasing water efficiency according to the 3Rs principles.
  4. Evaluating impacts and setting a plan to reduce the impacts of effluent released from the unit to public water sources.

- **Low** and **Low - Moderate**
  1. Preparing water reserves.
  2. Continuously increasing water efficiency according to the 3Rs principles.
  3. Continuously monitoring the on amount of water withdrawn.

Optimizing Water Use according to the 3Rs Principle

**Reduce**
Reduce water consumption and water loss from processes, optimize water-use efficiency

**Reuse**
Reuse water that has passed through minimal or no treatment processes, reuse water for non-production process activities such as plant watering plants, and cleaning road surfaces etc.

**Recycle**
Recycle water using various treatment technologies to achieve high quality water for both internal and external use

Managing Water Resources together with Communities

CPF recognizes the importance of water which is a key factor in living and therefore implements projects with stakeholders to conserve upstream forests, maintain water sources, and improve access to community water resources, with details as follows:

- **Recycled Water Sharing Project**
  Distributing recycled water (treated water from biogas production system) to communities for use in agriculture such as growing field crops and garden plants around layer farms nationwide.

- **Mun River Conservation Project**
  Conserving and protecting the ecosystem of the Mun River Basin at Chokchai District, Nakhon Ratchasima Province, which is a water source for common use of communities and CPF.

- **Groundwater Bank Project**
  Installing underground water storage system for pig farming and crop cultivation at Farming Village of Nong Wa, Sa Kaeo Province, to alleviate water scarcity problems during the dry season.

- **Drinking Water Project**
  Educating and supporting productions of drinking water for distributions within communities through community enterprises, in order to improve water efficiency in communities and ensure access to clean, hygienic and standardized drinking water for communities.

- **Building Toilets for Children Project**
  Building toilets for schools to ensure access to clean and sanitized water sources for students.

- **Water for Life Project**
  Installing water filters for communities and schools to provide communities with access to clean water sources for usage and consumption.
**Water Consumption**

- **Total water withdrawal** (million m³)
  - **2018**: 18.40
  - **2019**: 17.40
  - **2020**: 17.30
  - **2021**: 15.28
- **Freshwater withdrawal** (million m³)
  - **2018**: 6.69
  - **2019**: 6.67
  - **2020**: 5.94
  - **2021**: 6.55
- **Water withdrawal per production unit** (m³ per ton of products)
  - **2018**: 155
  - **2019**: 146
  - **2020**: 142
  - **2021**: 136

**Water Withdrawal by Area**

- **Water-Stressed Area**
  - **Freshwater withdrawal** (million m³)
    - **2018**: 0.31
    - **2019**: 0.13
    - **2020**: 0.38
    - **2021**: 0.07
  - **Total water withdrawal** (million m³)
    - **2018**: 18.31
    - **2019**: 18.01
    - **2020**: 21.62
    - **2021**: 21.69
- **Non-Water-Stressed Area**
  - **Freshwater withdrawal** (million m³)
    - **2018**: 25.65
    - **2019**: 25.96
    - **2020**: 21.69
    - **2021**: 21.69
  - **Total water withdrawal** (million m³)
    - **2018**: 25.96
    - **2019**: 25.96
    - **2020**: 21.69
    - **2021**: 21.69

**Water Reused and Recycled**

- **2018**: 0.31
- **2019**: 0.13
- **2020**: 0.38
- **2021**: 0.07

**Key Performance in 2021 (Thailand Operations)**

- **Total water withdrawal (million m³)**
  - **2018**: 18.40
  - **2019**: 17.40
  - **2020**: 17.30
  - **2021**: 15.28

**Waste Management**

CPF adopts the circular economy as guidelines for managing waste in the production processes and optimizing use of resources. CPF is committed to reducing amount of waste and recovering waste as follows:

**Used for composting or soil improvement materials**

- From animal manure, chicken housing’s flooring materials, sludge from wastewater treatment system, eggshells, organic waste, and boiler ash

**Used as animal feed**

- From chicken carcasses, innards, and feathers

**Recovered waste to energy**

- By producing biogas from animal manure to generate electricity or thermal power;
- Recovering used vegetable oil to be biodiesel; and
- Incinerating organic waste to obtain thermal power

**Key Performance in 2021 (Thailand Operations)**

- **Waste Utilization**
  - **2018**: 433 thousand tons
  - **2019**: 5% (23 thousand tons)
  - **2021**: 95% (433 thousand tons)

- **Waste disposed by landfill or incineration by a legally disposed agencies**
  - **2018**: 3.08
  - **2019**: 2.38
  - **2020**: 2.23
  - **2021**: 2.44

**Groundwater**

- **2018**: 17%
- **2019**: 17%

**Surface water**

- **2018**: 67%
- **2019**: 67%

**Rainwater**

- **2018**: 4%
- **2019**: 4%

**Seawater**

- **2018**: 20%
- **2019**: 20%

**Tap water and water purchased**

- **2018**: 54%
- **2019**: 54%

**Total water withdrawal (million m³)**

- **2018**: 18.40
- **2019**: 17.40
- **2020**: 17.30
- **2021**: 15.28

**Water withdrawal per production unit reduced by 43% compared to base year 2015**

**Waste Disposed by Landfill or Incineration**

- **Total waste disposed by landfill or incineration per production unit** (kilograms per ton of products)
  - **2018**: 3.08
  - **2019**: 2.38
  - **2020**: 2.23
  - **2021**: 2.44

- **Hazardous waste disposed by landfill or incineration (thousand tons)**
  - **2018**: 0.31
  - **2019**: 0.13
  - **2020**: 0.38
  - **2021**: 0.07

- **Non-hazardous waste disposed by landfill or incineration (thousand tons)**
  - **2018**: 25.65
  - **2019**: 19.92
  - **2020**: 19.01
  - **2021**: 21.62
Becoming the Circular and Net-Zero Emissions Value Chain

CPF is committed to alleviating environmental impacts throughout the value chain, by using modern technology and innovation to manage resources efficiently and for maximum benefits.

1. Raw Material Sourcing

Promote agricultural knowledge to increase yield by maintaining soil properly and efficiently, reducing production costs without forest invasion or burning stubble, which affect the environment and climate.

2. Animal Feed Production

CPF Coal Free 2022
- Using energy from biomass fuel instead of coal
- Reducing GHG emissions for over than 70,000 tons of CO₂ per year

Using Solar Energy
- Production capacity of 8 MW
- Reducing GHG emissions for over than 4,700 tons of CO₂ per year
- Saving cost by THB less than 7 million per year

Using Biogas Energy
- Replacing grid electricity by 99 million kWh
- Reducing GHG emissions for over than 489,700 tons of CO₂ per year
- Saving cost by THB 290 million per year

Smart Feedmill Project
- Applying automation systems and artificial intelligence (AI) to improve efficiency in the feed production process
- Reducing energy consumption for over than 27,000 GJ per year
- Reducing GHG emissions for over than 360 tons of CO₂ per year
- Saving cost by THB 5 million per year

3. Animal Farming

Promote agricultural knowledge to increase yield by maintaining soil properly and efficiently, reducing production costs without forest invasion or burning stubble, which affect the environment and climate.

Using Solar Energy
- Production capacity of 6 MW
- Reducing GHG emissions for over than 4,000 tons of CO₂ per year
- Saving cost for more than THB 7 million per year

Using Biogas Energy
- Replacing grid electricity by 69 million kWh
- Reducing GHG emissions for over than 469,700 tons of CO₂ per year
- Saving cost by THB 290 million per year

Recirculating Aquaculture System (RAS) in Shrimp Farms
- Applying Biofloc and Ultrafiltration to treat and recycling used water for reusing in shrimp farms
- Reducing external water withdrawal by 75%

CARE System in Fish Farms
- Treating and recycling used water for reusing in fish farms
- Reducing external water withdrawal by 80%

Recycled Water and Sludge Sharing Project
- Providing treated water and sludge to over 103 rais (16 hectares) of farmland to help alleviate drought impacts and build water security for communities
- More than 10 farmers benefiting from the project
- Delivered treated water over 143,500 m³

Eggshell Composting Project
- Using eggshells for making compost or soil amendment for farmers within the province and nearby areas.
- Reducing waste by more than 1,100 tons per year.
- Reducing GHG emissions for over than 2,800 tons of CO₂ per year
- Saving cost by over than THB 23 million per year

4. Food Production

Using Solar Energy
- Production capacity of 7 MW
- Reducing GHG emissions for over than 4,000 tons of CO₂ per year
- Saving cost by THB more than 7 million per year

Using Biogas Energy
- Replacing fuel oil more than 520,000 liters at the Minburi and Korat chicken processing plants
- Reducing GHG emissions for over than 2,600 tons of CO₂ per year
- Saving cost by THB 10 million per year

Recirculating Aquaculture System (RAS) in Shrimp Farms
- Applying Biofloc and Ultrafiltration to treat and recycling used water for reusing in shrimp farms
- Reducing external water withdrawal by 75%

CARE System in Fish Farms
- Treating and recycling used water for reusing in fish farms
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- Saving cost by over than THB 23 million per year

5. Customer and Consumer

Low-Carbon Products
- The products certified with the Carbon Footprint Reduction Label by TGO, consisted broiler feeds, live broiler chickens, live ducks, fattening pigs, fresh chicken meat, fresh duck meat and fresh pork meat products
- CP Fresh Chicken Meat Products emit GHG 50% lower than Thailand’s average emissions of chicken meat products* 
- CP Fresh Pork Meat Products emit GHG 13% lower than Thailand’s average emissions of pork meat products* 
- Total GHG emissions reduction by Low-Carbon Products more than 1,483,000 tons of CO₂e calculated by the weight of products certified with the Carbon Footprint Reduction Label and sold in 2021 multiplied by the amount of GHG emissions reduction of CPF products, compared to the Thailand’s average carbon footprint for CPF export products or the base year carbon footprint of CPF products for CPF products sold in Thailand.
- *Based on the emission factor by TGO

6. Community and Society

CO₂ Sequestration by Forest Conservation, Protection and Restoration Projects include:
- Mangrove forests under CPF Grow-Share-Protec Project; 
- Watershed forest at Phraya Doen Thong Mountain under CPF Rak Ni-Ves Project; and
- Green areas in the operations 
- Total area of over than 10,900 rais (1,744 hectares)
- CO₂ Sequestered over than 11,400 tons per year

Forest in the City Project
- More than 28,000 saplings of perennials, ornamental and medicinal plants were distributed to employees to plant at their homes, offices, farms and factories.
- Over than 4,000 employees have participated in the project.
- The project is estimated to sequester CO₂ for 250 tons per year.
Responsible Sourcing for the Planet

2030 Target

100% of key raw materials from deforestation-free areas

100% of key raw materials are traceable

Increase 20,000 rais (3,200 hectares) of conservation, protection, and restoration of mangrove forests and watershed forests in strategic areas (Thailand Operations)

“Over 80 percent of impacts on the food industry often occur in the supply chain. CPF is, therefore, committed to alleviating social and environmental impacts which may occur in the supply chain by promoting responsible sourcing to ensure its procurements of quality and safety raw materials and products, all of which must meet relevant international standards, must be traceable and slavery-free, and must not come from deforestation areas.

Mr. Siripong Aroonratana
Chief Operations Officer in Livestock,
Head of Ambition – Responsible Sourcing for the Planet

During 1970 and 2016, the Living Planet Index (LPI) had continued to decline. By 2016, the average global animal population decreased by 68 percent. Forest resources which are food sources, genetic sources for production of medicines, and habitats of pollinating animals, pollinators and insects, have been constantly destroyed. This is mainly due to forest encroachment for agricultural activities such as growing food crops and raising animals, along with the use of chemicals, pesticides, chemical fertilizers, and agricultural burning. As a result, the world’s biodiversity that is essential to human food production is lost. Food producers and retailers, therefore, have focused on sourcing raw materials that are not derived from areas of deforestation and that are free of forced labours.

![The Living Planet Index](http://stats.livingplanetindex.org/)

Management Approach

- Determining Sustainable Policies and Business operations: sharing sustainable business practices with suppliers through the Sustainable Sourcing Policy and Supplier Guiding Principle, in line with the Biodiversity and Zero Deforestation Commitment, in order to create a solid business foundation on the basis of systematic environmental and social stewardship throughout the supply chain.
- Sustainability Risk Assessment and Audit: assessing supply chain risks on a yearly basis and supporting new suppliers to conduct sustainable business, as well as assessing suppliers according to CPF Supply Chain ESG Management Approach.
- Traceability of Direct Raw Materials: ensuring tracing of raw materials back to their sources to ensure that they are not derived from deforestation sites, that they are free from slavery, forced labour, and that they contribute to the protection of biodiversity on land and in the sea.
- Developing Sustainable Competitive Potential together with Suppliers: promoting sharing of knowledge and experiences, including encouraging exchanges of technologies, innovations, tools, machines and equipment used in production processes and agriculture in order to enhance suppliers’ competitive potential and to grow together in a sustainable way.
- Creating a Network of Cooperation in Conservation and Restoration of Biodiversity: jointly creating the network to promote agriculture and fisheries that do not cause damage to natural resource balance, providing technology to improve efficiency, supporting sustainable sourcing from local to international levels, and collaborating with internal and external agencies to conserve and restore terrestrial and marine ecosystems and biodiversity.

Implementation

Supply Chain Risk Management for Sustainable Sourcing

Suppliers are a group of stakeholders that are important to CPF’s business continuity and sustainability. To prevent and reduce social and environmental risks within the complex and diversified supply chains of CPF’s suppliers, CPF is therefore determined to promote sustainability throughout the value chain together with its suppliers under the “Sustainable Sourcing Policy and Supplier Guiding Principle” which takes into account business operations based on good corporate governance under the law, rules and regulations in business operation, social and environmental aspects, which are reviewed annually. In this regard, “CPF Supply Chain ESG Management Approach” is applied as a guideline for systematically managing risks within the supply chain. In addition, CPF has communicated the implementation of the Sustainable Sourcing Policy to suppliers for their acknowledgement, understanding and being ready to work together regularly according to the Company’s policy, which helps build sustainable trade competitiveness throughout CPF’s value chain.
In 2021, CPF improved its Sustainable Sourcing Policy and Supplier Guiding Principle by appending climate change, biodiversity and water in order to enhance suppliers’ abilities to cope with the changing global context. CPF also announced the Biodiversity and Zero Deforestation Commitment to demonstrate its business intent on protecting and preserving biodiversity in its business operations from sourcing agricultural raw materials, including the Company’s implementations on forest conservation and restoration projects.

Risk Management Plan and Performance in 2021

1. Regularly assessing and reviewing suppliers’ sustainability risks by focusing on suppliers providing high volumes of purchased raw materials that are critical component to production processes and non-substitutable suppliers, as well as supplier group’s social and environmental issues and food quality and safety, 100 percent of suppliers of every raw material group in Thailand, China, and Vietnam operations have been assessed and reviewed. CPF plans to expand the suppliers’ risk assessments to more suppliers in overseas operations in 2022.

2. Delivering and communicating the Sustainable Sourcing Policy to all suppliers in Thailand, Vietnam and China operations. The critical tier-1 suppliers of the groups of raw materials for producing animal feed and other raw material supplier groups accounting for 100 percent of Thailand operations, 100 percent of Vietnam operations and 21 percent of China operations already signed to acknowledge the policy.

3. Screening new suppliers through Online Sustainability Self-Assessment covering environmental, social and good corporate governance (ESG) issues or through Thai Labour Standards (TLS) which is in alignment with the Sustainable Sourcing Policy. For corn suppliers, new suppliers were screened under the Corn Traceability system. These are concluded to 25 percent of new suppliers were screened with social and environmental criteria (Thailand operations). The Company is developing the screening process which will be used to screen all new suppliers for Thailand operations in 2022.

4. Conducting key suppliers’ social and environmental audit and having finished 17 percent of the 2021 operational plan in Thailand, China, and Vietnam operations. With regard to the goal set to completely assess all key suppliers in Thailand and Vietnam operations within 2021, it was found that labour practices, overtime control, and occupational safety and health were the issues that suppliers should continue to develop. The Company had already coordinated with such supplier groups to ensure their further development and monitor their operations.

5. Organizing online meetings to develop trade competitiveness for over 460 key suppliers and strategic partners in Thailand and Vietnam operations this year (Additional details are available at “Developing Competitive Potential and Sustainable Operations”).

Progress of Signing of Acknowledgement of the Sustainable Sourcing Policy

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Suppliers in Thailand Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>100%</td>
</tr>
<tr>
<td>2019</td>
<td>71%</td>
</tr>
<tr>
<td>2020</td>
<td>100%</td>
</tr>
<tr>
<td>2021</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Critical Suppliers are suppliers providing direct raw materials which are raw materials used for animal feed production, and suppliers providing indirect raw materials which are food ingredient and packaging.

Sourcing Zero Deforestation Raw Materials and Protecting Natural Diversity

Recognizing its significant role in protecting biodiversity and solving climate change, one of the causes of which is the decrease in forest areas across the world, which are animal habitats, in order to use lands for agricultural activities and animal raising, CPF therefore has proclaimed its Biodiversity and Zero Deforestation Commitment and set targets for purchasing agricultural direct raw materials, namely corn, fishmeal, palm oil, soybean and cassava. 100 percent of CPF’s global supply must be traceable and come from deforestation-free areas within 2030, which is an extension of the targets in 2020. In addition, CPF has identified the critical raw materials which are at risk of forest encroachment, namely corn, soybean, palm oil and cassava. CPF set up guidelines for deforestation-free agricultural areas verification to ensure that each direct raw material does not come from encroachment areas or areas of deforestation.

Procurement of Corn

Corn for Animal Feed Traceability System

<table>
<thead>
<tr>
<th>Farmers</th>
<th>Middlemen/ Small Collectors</th>
<th>Large Collectors</th>
<th>CPF Animal Feed Production Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID card</td>
<td>ID card</td>
<td>ID card</td>
<td>ID card</td>
</tr>
<tr>
<td>Legal Title Deed</td>
<td>Business Registration Document</td>
<td>Business Registration Document</td>
<td>Business Registration Document</td>
</tr>
<tr>
<td>Register</td>
<td>Register</td>
<td>Register</td>
<td>Register</td>
</tr>
</tbody>
</table>

CPF Corn Traceability System

1. Thailand Operations: In 2018-2020, key suppliers covered suppliers providing direct raw materials which are raw materials used for animal feed production, and suppliers providing indirect raw materials included food ingredient and packaging. In 2021, indirect raw materials were additionally extended to spare parts and machinery, fuel/gasoline, and chemicals/lab supplier groups.

2. Vietnam Operations: In 2018, key suppliers covered suppliers providing direct raw materials which are raw materials used for animal feed production, and suppliers providing indirect raw materials included food ingredient and packaging. In 2019-2020, indirect raw materials were additionally extended to fuel/gasoline, chemical/lab, and spare parts of machinery supplier groups. In 2021, indirect raw materials were additionally extended to services and maintenance supplier groups.
CPF has used the Corn Traceability System to verify that corn imported to distribute to its animal feed mills are sourced from farmland without burning stubble after harvesting, and can be traced back to plantation areas.

In 2021, 100 percent of corn in Thailand operations were traceable to plantation areas through the Corn Traceability System. CPF is also enhancing data management in the corn traceability system by linking it to CPF feed mills’ production processes. In this regard, a blockchain technology is used to improve the speed of agricultural raw material traceability to plantation areas, and to ensure customers that raw materials are from responsible sources / sustainable sources / zero deforestation and reflect “Innovative Organization with Technology” in all CPF’s business processes.

Furthermore, within 2030, CPF sets a target to source 100 percent of corn used in CPF’s global operations must be traceable to plantation with the Corn Traceability System. At present, the Company has expanded the work scope to key overseas operations, such as China, Vietnam and India operations. 27 percent of the total quantity of corn in CPF’s global operations were traceable to plantation.

### Procurement of Soybean Meal

CPF collected information on the origins of soybean, a feedstock of soybean meal, to identify any risk from procuring products which may come from forest encroachment areas, and researched guidelines for responsible sourcing of soybean meal. The information obtained was applied and adapted to match the business strategies and goals setting on purchasing agricultural raw materials that are from zero deforestation areas.

CPF sets a target to source 100 percent of soybean meal that are traceable to production location, countries and states of origin, and also targets to source soybean meal that is from deforestation-free areas by 2030. In 2021, the Company found that around 23 percent of soybean meal that had been procured for its worldwide operations was traceable to the countries and states of origin. CPF is working with the group of soybean meal suppliers to implement the verification data and documents for procurement of soybean meal.

### Procurement of Palm Oil

CPF has procured good quality palm oil as raw material for animal feed and food businesses, which must be systematically traceable or meets international standards such as the Roundtable on Sustainable Palm Oil (RSPO).

Within 2030, CPF targets to expand its practices to source 100 percent of palm oil that is traceable or sources from certified palm oil mill with an international sustainable standard, such as, the Roundtable on Sustainable Palm Oil (RSPO) to the overseas operations.

### Procurement of Fishmeal

CPF has procured fishmeal as one of the raw materials used in animal feed production, and it is the only raw material that links the Company’s business to the fisheries which is found to be at risk of labour practices and marine biodiversity loss. As a leading integrated agro-industrial and food business, the Company is committed to supporting sustainable sourcing of fishmeal in accordance with the “CPF Fishmeal Sourcing Restrictions” which stipulates sourcing guidelines from two sources, namely:

1. By-products derived from aquatic processing plants such as the surimi factory, the canned tuna factory, and the fish ball factory that have been certified by MarinTrust Standard or MarinTrust Improver Programme which is a standard that complies with Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations (FAO), or must not be by-products from species at risk of extinction as listed in the International Union for Conservation of Nature (IUCN)’s Red List of Threatened Species which is internationally recognized, or by-products that can be traced back by third party.

2. By-catch with internationally recognized sustainability and traceability standard: MarinTrust Standard which is certified by the International Fishmeal and Fish Oil Organization or by-catch that can be inspected by inspection mechanism supported by law, which consists of various sectors such as officials or representatives from the Department of Fisheries, entrepreneurs, concerned communities, consumers and technocrats.

In 2021, the Company has been procuring according to the target to source palm oil that are systematically traceable as planned for the feed business and food business as follows:

- **For feed business in Thailand operations, 100 percent of palm oil was traceable to the production plants.**
- **For food business in Thailand operations, around 80 percent of palm oil was certified by RSPO.**

In 2021, the Company has been procuring fishmeal for aqua animal feed production in accordance with the “CPF Fishmeal Sourcing Restrictions”, and was able to report its performance for Thailand and Overseas operations as follows:

- **For feed business in Thailand operations:** 100 percent of fishmeal is made from by-products of processing plants that comply with the “CPF Fishmeal Sourcing Restrictions”.
- **For feed business in Vietnam operations:**
  - 100 percent of fishmeal is made from by-products of processing plants that comply with the “CPF Fishmeal Sourcing Restrictions”.
  - 36 percent of fishmeal is made from by-catch that comply with the “CPF Fishmeal Sourcing Restrictions”.
- **For feed business in other countries of operations:**
  - 36 percent of fishmeal is made from by-products and by-catch that comply with the “CPF Fishmeal Sourcing Restrictions”.

In 2021, the Company has been procuring according to the target to source palm oil that are systematically traceable as planned for the feed business and food business as follows:

- **For feed business in Thailand operations, 100 percent of palm oil was traceable to the production plants.**
- **For food business in Thailand operations, around 80 percent of palm oil was certified by RSPO.**
CPF has focused on improving competitive potential and sustainable operations for suppliers according to the concept of "Thinking Together to Mutually Create and Move toward Sustainable Growth", by organizing meetings or seminars to share knowledge and ideas for sustainable operations from the government agencies, non-governmental organizations (NGOs), and CPF’s experts and among suppliers. Due to the situation of COVID-19 outbreak since 2020, CPF recognizes an opportunity for transforming event format to be online format entirely, which helps reduce environmental impact and facilitate suppliers.

Developing Competitive Potential and Sustainable Operations

CPF has focused on improving competitive potential and sustainable operations for suppliers according to the concept of "Thinking Together to Mutually Create and Move toward Sustainable Growth", by organizing meetings or seminars to share knowledge and ideas for sustainable operations from the government agencies, non-governmental organizations (NGOs), and CPF’s experts and among suppliers. Due to the situation of COVID-19 outbreak since 2020, CPF recognizes an opportunity for transforming event format to be online format entirely, which helps reduce environmental impact and facilitate suppliers.

Agricultural Raw Materials Traceability in 2021, of 8 Countries of Operations, namely Thailand, Vietnam, China, India, Philippines, Laos, Cambodia, and Malaysia

<table>
<thead>
<tr>
<th>Key Raw Material</th>
<th>Traceability Progress (% of Volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>Plantation 27%</td>
</tr>
<tr>
<td>Soybean Meal</td>
<td>Country and State of Origin 23%</td>
</tr>
<tr>
<td>Palm Oil</td>
<td>Production Plant 66%</td>
</tr>
<tr>
<td>Fishmeal</td>
<td>Production Plant 51%</td>
</tr>
<tr>
<td>Cassava</td>
<td>Vessel / Fishing Zone or FAO Zone / Farm of Origin 36%</td>
</tr>
<tr>
<td></td>
<td>Production Plant 37%</td>
</tr>
</tbody>
</table>

* China operation covered the raw materials sourced by Feed Ingredients Trading Business Group only.

Opinions from the Executives of CPF’s Suppliers:

Our company would like to thank CPF for the opportunity given to us for being the uniform manufacturer in CPF’s production line. Working with CPF has contributed to driving small businesses to enhance their quality systems in order to comply with CPF standards, as well as sustainability which is a global trend. Our company is studying and developing fabrics made from fish scales and recycled plastic bottles, as well as adapting our approach to online marketing. Importantly, the Faster Payment Project has promoted good governance, enabled us to pay for goods on time and supported us to be able to thoroughly take care of and help our employees, including temporary employees.

Ms. Naruemon Sangmanee, Managing Director, DMP Uniform Company Limited
As a fresh garlic supplier of CPF that focuses on standardized raw materials, we have been able to join the farmer group and elevate our garlic cultivation according to Good Agriculture Practices (GAP), which is cultivation without chemicals, resulting in positive effects on the environment. It also improves farmers’ quality of life. Now, fifty farmer households have already joined the Phurin group to continually deliver organic garlic to CPF.

Mr. Niwat Deengam, Managing Director, Phurin Green Foods Products Company

Developing Competitive Potential and Sustainable Practices to Farmers

In addition, CPF has also created and has been working with a group of suppliers providing main agricultural raw materials for animal feed production in Thailand operations, namely corn smallholder farmers, under the “Self-Sufficient Farmers, Sustainable Corn Projects”. CPF has promoted knowledge and skills of correct cultivation to farmers in the project, in accordance with Thai Agricultural Standard; TAS 4402-2010, Good Agricultural Practices for maize, which includes soil analysis, cultivation methods, proper use of fertilizers, weeding and properly cultivation according to the good agricultural practices to the farmers in the project.

CPF has also developed mobile applications that have systems to help farmers manage their plantation at the first step before planting, such as, plantation areas preparation, satellite images analysis to help farmers prepare the farmland to plant effectively, cost saving, reduce the climate risk, and during the cultivation by Artificial Intelligence (AI). The system and AI will verify the quality of the corn and be able to estimate the quantity of the produce. Furthermore, CPF has continually developed the CPF Logistics system that helps manage transportation of raw materials to animal feed factories or points of purchase.

With the vision to improve farmers capacity by modern tools and innovations, the Company has continuously enabled smallholder farmers in Thailand to access cultivating knowledge and technology, reducing risks from climate change and problems caused by pests, as well as information for buying and selling produce. Since 2015, the implementation of the project has helped to reduce costs, improve productivity, and increase income. In 2021, the project implementation already covered more than 11,150 smallholder farmers and 250,000 rai or 40,000 hectares of farmland.

Continuity management within the supply chain is one of the key strategies that enable the Company to continue delivering products to consumers. However, the COVID-19 situation has caused changes to the entire supply chain management system, and CPF recognizes the opportunity to promote and develop abilities of suppliers in the countries in which CPF has conducted businesses, as well as supporting domestic economic circulation resulting in business continuity, all of which enable CPF to accomplish its crucial mission of delivering quality and safe foods, accessible to consumers worldwide. In 2021, CPF purchased goods and services from local suppliers in Thailand, which accounted for 96 percent of the local procurement spending of Thailand operations. The operations are representing 37 percent of the Company’s revenue.

Conservation and Restoration of Ecosystems and Biodiversity

Food production is an activity that uses natural resources as raw materials, which may affect ecosystems and biodiversity. CPF, therefore, places great importance on responsible sourcing such as traceability, supporting networks for sustainable fishmeal, human, and adopting nature-based solutions as part of the conservation and restoration of ecosystems and biodiversity.

Sustainable Sourcing Network

CPF is committed to promoting and supporting sustainability in the seafood industry to address concerns caused by issues including degradation of marine resources, unfair employment, human rights violation and impacts on communities due to illegal fishing and labour, especially improvement and development of fisheries management on a variety of marine species which are native to the Gulf of Thailand and which play an important role in marine biodiversity in the regions of Asia.

As a member of the Thai Feed Mill Association (TFMA), CPF has worked with the Thai Sustainable Fisheries Roundtable (TSFR) to improve and develop sustainable trawl fisheries in the Gulf of Thailand; the source of raw materials for the production of fishmeal. CPF has procured fishmeal and promoted sustainable fishmeal acquisition through the Fishery Improver Project (FIP) by setting up the Fishery Action Plan (FAP) of the project that has been implemented since 2016 in the Gulf of Thailand. It has been accepted into the MarinTrust Improver Programme for improving and developing fisheries since 2020 according to the requirements of the MarinTrust standard; the Multi-species Assessment Methodology. The project is the world’s first project which serves as the standard that prevents, combats and eliminates illegal, unreported and unregulated fishing (IUU Fishing). The FIP project is a significant achievement in the promotion and conservation of Thailand’s marine biodiversity. It also helps alleviate the problems caused by forced and illegal labours in the Thai fishing industry.

CPF has collaborated with the Seafood Task Force to be a part of driving social and environmental changes in the Thai seafood industry, including creating a sustainable and transparent supply chain and solving issues related to human rights and human trafficking in the Thai fishing industry. CPF has also jointly promoted and developed shrimp farms to meet international standards in terms of traceability, transparency, and accountability. With regard to environmental aspects, aquaculture must not affect the ecosystem. Further, it is expected that, in terms labour, human rights and human trafficking issues in the industry must be eliminated. CPF has supported fisheries that use legal tools which can reduce impact on the ecology caused by overfishing, and has collaborated with government agencies to enhance efficiency of vessel monitoring system (VMS) to prevent illegal, Unreported, and Unregulated fishing (IUU Fishing).

• CPF has collaborated with the Food Security for Marine Stewardship Council (MSC) to improve and develop sustainable and transparent seafood supply chain system (VMS) to prevent Illegal, Unreported, and Unregulated fishing (IUU Fishing).

• CPF has collaborated with the Seafood Task Force (SeaTOS) for international cooperation in protecting the oceans, natural resources and marine environment in order to move towards the goals of conservation of ecosystems and responsible production of quality seafood for humans in a sustainable manner. There is a mutual agreement on applying global regulations throughout the supply chain, promoting legal fishing, eliminating illegal labour, developing traceability systems, refraining from using antibiotics, and reducing

• CPF has collaborated with the Seafood Task Force (SeaTOS) for international cooperation in protecting the oceans, natural resources and marine environment in order to move towards the goals of conservation of ecosystems and responsible production of quality seafood for humans in a sustainable manner. There is a mutual agreement on applying global regulations throughout the supply chain, promoting legal fishing, eliminating illegal labour, developing traceability systems, refraining from using antibiotics, and reducing
Forest Conservation and Restoration Projects in the Strategic Areas

Since 2014, the Company has continuously implemented the CPF Grow-Share-Protect Mangrove Forestation Project in 5 provinces of Thailand. The project has resulted in the abundance of mangrove ecosystems that serve as the nurseries for marine lives, has brought back marine animals to the areas and thus has allowed the surrounding communities to utilize the restored natural resources.

Based on the information from the survey which assesses impact valuation through interviews with local fishermen in Bang Ya Phraek community, Samut Sakhon Province in Thailand about changes after restoring mangrove forests, it was found that the number of many aquatic animals increased, for example, the oriental angel’s wing, the cockle, the mullet, and the mangrove crab. These aquatic animals are resources that generate jobs and incomes for people in the community and nearby areas. (Additional details are available in “Self-Sufficient Society”, under the ambition: “Social Impact”.)

The Company implements the CPF Grow-Share-Protect Mangrove Forestation Project in areas in which great importance has been placed on the study of aquatic biodiversity.

In addition, under the mangrove forest strategy, the Company initiated the marine waste trap project by launching a pilot at Bang Ya Phraek Subdistrict, Samut Sakhon Province in Thailand, to create the participation of civil society in management of marine debris, develop an appropriate and efficient marine debris management model, provide added value for marine debris, protect and restore ecosystems, and enrich marine and coastal biodiversity.
Waste to Value
2030 Target

**Zero**
- food waste from operations

**100%**
- of plastic packaging for food products to be recyclable or reusable or compostable

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Using technology and innovation such as automation, robotics, and digital technology will help minimize food loss throughout the production process and utilize food loss as much as possible to mitigate environmental impacts to ensure a better world.

**Mr. Pairoj Apiruknusit**
Executive Vice President in Aqua Integrated Business Thailand Area
Sponsor for Food Loss Sub-Working Group

One-third of the food produced is discarded as food waste while more than 690 million people around the world, accounting for approximately 10% of the world’s population, are starving and malnourished. Thus, CPF’s commitment to food waste reduction is to aim to reduce both losses in the economic value and resources, and to end hunger, all of which contribute to global food security.

**Mr. Sathit Sangkanarubordee**
Chief Operating Officer in Five Stars & Restaurant Business
Sponsor for Food Waste Sub-Working Group

As of 31st December 2021

Packaging plays an important role in delivering safe foods to consumers. However, without good management, packaging may cause problems and affect the environment. Therefore, CPF is dedicated to developing innovative packaging to create alternatives via research, to reducing unnecessary use of packaging, and to collaborating with its networks to manage post-consumer plastic packaging through recycling processes and creating value to the packaging after being used.

**Mr. Nareruk Mangkeo**
Executive Vice President in Ready-to-Eat Food Business
Sponsor for Sustainable Packaging Sub-Working Group

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Management Approach

- **Establishing Policies and Guidelines:** creating and driving the Food Loss and Food Waste Policy and the Sustainable Packaging Policy and Principle to achieve goals, as well as monitoring and reviewing performances and continually improving operations.
- **Applying Principles of Circular Economy throughout the Value Chain:** focusing on improving food waste, food loss and packaging management to enable the upcycling process to ensure the most effective way of and cost-effective solutions to use of resources.
- **Raising Awareness:** communicating and raising awareness about food waste and post-consumer packaging management, which will lead to behavioral changes of personnel within the organization and consumers.
- **Building Networks of Cooperation:** jointly working with government agencies, the business sector, independent entities and other stakeholders in order to enhance the management of food waste and post-consumer packaging.

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By 2050, the world’s population will increase to more than 9 billion1 which may cause the world to face a problem of scarcity of resources used food production. Meanwhile, around 30 percent of food is wasted around the world today, accounting for 1,300 million tons per year2. These food wastes cause about 8 percent of total GHG emissions. It is not only food waste that affects the environment. Food packaging is also a major contributor to marine pollution problems. About 10 percent of plastic waste found in the ocean is food packaging causing plastic contamination in the human food chain. Moreover, the COVID-19 situation has led to an increase in plastic packaging waste from home delivery for food and other products. To jointly solve such problems, as well as creating food security and environmental balance, CPF has integrated the circular economy concept throughout the Company’s value chain.

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Implementation

### Input*

<table>
<thead>
<tr>
<th>Animal Feed Sack 5,797 tons</th>
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</thead>
</table>

### Output*

<table>
<thead>
<tr>
<th>Animal Feed Sack 5,797 tons</th>
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</table>

### Measures

<table>
<thead>
<tr>
<th>Feed</th>
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</table>

<table>
<thead>
<tr>
<th>Bulk Feed Tank page 116</th>
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</table>

<table>
<thead>
<tr>
<th>Food Loss</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Food Packaging Metal 71 tons Glass 860 tons Paper 25,261 tons Plastic 18,687 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discarded 1,955 tons</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food Packaging</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Food Loss Used for alternative purposes 124,114 tons Discarded 1,955 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Added Co-Products page 113</td>
</tr>
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<table>
<thead>
<tr>
<th>Value Added Co-Products</th>
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<table>
<thead>
<tr>
<th>Reducing Food Loss to Create Value page 113</th>
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<table>
<thead>
<tr>
<th>Reducing Food Loss to Create Value Reduction of Plastic and Paper Use in Food Packaging page 117, 119</th>
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</thead>
<tbody>
<tr>
<td>Promoting Circulation of Packaging for Maximum Utilization page 118</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Promoting Circulation of Packaging for Maximum Utilization</th>
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<table>
<thead>
<tr>
<th>Circular Meal Project page 114</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Send Plastic Home Project page 118</th>
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</thead>
</table>

The data of Thailand operations

### Food Loss and Food Waste

CPF recognizes the importance and strives to develop production processes throughout the value chain to reduce food loss and food waste. CPF also promotes utilization of waste according to the principles of circular economy, covering animal farming, food processing, distribution center and channels and restaurants. Further to this, CPF supports the United Nations’ Sustainable Development Goals (UN SDGs) on sustainable production and consumption. Therefore, CPF has formulated the **Food Loss and Food Waste Policy** with the following guidelines:

**Production Planning**
Ensuring production planning procedure for all stages from purchasing raw materials, manufacturing, transporting, and distributing goods in order to determine quantities of raw materials, production volumes, and quantities of goods that meet consumer requirements.

**Quality Control**
Controlling qualities of raw materials and products according to set standards or established criteria to reduce disposals of raw materials and poor quality products.

**Maintenance and Inspection**
Maintaining and inspecting qualities of raw materials and goods in optimal conditions to minimize potential damage during storage and transportation.

**Management of Food Loss and Food Waste**
Maximizing value of co-products to minimize food loss and food waste.

### Reducing Food Loss, Surplus Food and Food Waste from the Production Process

The management framework is as follows:

**Production Planning**
Ensuring production planning procedure for all stages from purchasing raw materials, manufacturing, transporting, and distributing goods in order to determine quantities of raw materials, production volumes, and quantities of goods that meet consumer requirements.

**Smart Egg Conveyor System Project**
An automated system has been used to reduce damage during the conveying of eggs from farms to egg sorting plant and during the egg sorting process. Data show that the system has reduced the number of damaged eggs by approximately 1 percent and increased income derived from good quality eggs by more than THB 14 million per year.

**Production Planning**
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**Maintaining and Inspection**
Maintaining and inspecting qualities of raw materials and goods in optimal conditions to minimize potential damage during storage and transportation.

**Management of Food Loss and Food Waste**
Maximizing value of co-products to minimize food loss and food waste.

### Projects to Reducing Food Loss in the Production Process

CPF has implemented a wide range of projects to reduce food loss in the production process, which include:

- **Smart Egg Conveyor System Project**: an automated system has been used to reduce damage during the conveying of eggs from farms to egg sorting plant and during the egg sorting process. Data show that the system has reduced the number of damaged eggs by approximately 1 percent and increased income derived from good quality eggs by more than THB 14 million per year.

- **Promoting Utilization of Food Loss, Surplus Food, and Food Waste**
CPF adheres to food safety standards, resulting in benefits to societies, reducing environmental impact and mitigating effects of climate change.

- **Value Added Co-Products**
- Animal parts and components are sold as fresh food or processed foods e.g., innards, pig head and shredded meat in order to add value to products and ensure safe consumption, for instance, CP pasteurized pork blood cubes and lard, Chip Chip crispy fish skin.

- **Reducing Food Loss to Create Value**
- Processing innards, feathers and eggs that are damaged during production into feed raw materials, which can reduce the amount of waste from the production process by an average of 121,000 tons per year and help reducing GHG emissions from waste disposal by 306,000 tons of CO₂e per year.

- **Value Added Co-Products**
- Providing crushed eggshells from egg processing plants as composting or soil improvement material for farmers around Nakhon Nayok province, which reduces the amount of waste disposed of in landfills by more than 1,000 tons per year, reduces GHG emissions by more than 2,500 tons of CO₂e per year, and reduces production costs and the use of chemical fertilizers by farmers as well.

- **Treating wastewater that contains organic matters from chicken processing plants, farms and eggs sorting plants such as blood, fat and damaged eggs, by using a biogas system in order to produce biogas energy for the production processes. The total GHG emissions of 14,000 tons of CO₂e per year can be reduced accordingly.**

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1. The data of Thailand operations

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Charoen Pokphand Foods Public Company Limited Sustainability Report 2021

Overview Sustainability Strategy Balance of Nature Food Security Self-Sufficient Society
Cooperation Network Project

"Circular Meal" Project

CPF had joined hands with the Scholars of Sustenance Foundation (SOS) and GEPP Sa-Ard Company Limited (GEPP) to transform surplus food into more than 15,000 ready-to-eat, delicious, clean, and safe meals, creating access to food for people including children, paupers and vulnerable groups affected by the COVID-19 crisis, and to collect and recycle more than 5,000 pieces of post-consumer plastic packaging, all of which reduced food waste by more than 3 tons and GHG emissions by more than 8 tons of CO₂e.

Empty Plate, Save the Planet Project

CPF organized an activity to create value-conscious consumption behaviors without leftover food, which supports UN SDG 12.3 at an individual level. The project aimed to instill conscious consumption behavior at the individual level first and foremost which can then lead to each individual spreading the idea and inviting others to take up the practice, which will then result in a wider scope of impact towards the societal and national levels. 17,312 photos of empty plates without leftover food were posted on social media by employees as part of this project activity. This potentially reduced total food waste by more than 1 ton and GHG emissions by more than 3 tons of CO₂e.

Performance in 2021 (Thailand Operations)
Quantity of Food Loss*

<table>
<thead>
<tr>
<th>Product</th>
<th>Harvest</th>
<th>Transport</th>
<th>Production</th>
<th>Storage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Chicken Meat</td>
<td>165</td>
<td>0</td>
<td>1,319</td>
<td>0</td>
<td>1,484</td>
</tr>
<tr>
<td>Egg</td>
<td>24</td>
<td>12</td>
<td>256</td>
<td>179</td>
<td>471</td>
</tr>
</tbody>
</table>

The Amount of Discarded Food Loss Categorized by Production Processes of Fresh Chicken Meat and Egg Products

Performance in 2021 (Thailand Operations)

Sustainable Packaging

CPF recognizes the importance of packaging that protects and maintains quality and safety of products. In the meantime, CPF also takes into account the environmental impact caused by use of resources in the production of packaging that eventually becomes waste. CPF is therefore committed to researching and developing sustainable packaging design and management based on the circular economy concept throughout the value chain, in order to use resources in the production of packaging to gain maximum benefit, to reduce packaging waste problems, and to promote the use of materials that reduce environmental impact according to its Sustainable Packaging Policy and Principle.

CPF’s Packaging Management Framework

Allocation of R&D resources to sustainable packaging and alternative solutions from the beginning of the production process

To phase-out single-use plastic

To ensure that recyclable packaging is actually recycled

* The total weight of food loss covered fresh chicken meat and egg products, collected from enterprise resource planning (ERP) system.
Developing Innovations for Minimization of the Packaging Use

Feed Business

The livestock feed business has developed bulk feed tanks to be used for containing animal feed for transportation instead of using plastic sacks, which reduce the use of plastic sacks by 50 percent in Thailand, Laos, Cambodia, Vietnam, Malaysia, Philippines, India, Turkey, Russia and Republic of China (Taiwan) operations.

Farm Business

In 2006, the aquaculture business developed Q-pass tanks to be used for containing shrimp post-larvae for transporting to customers. The Q-pass tank could be washed, sterilized and reused. Later, the Q-pass tank was further developed to meet customer requirements and can be transported properly according to specific requirements in each area.

Meat Processing and Food Production Businesses

CPF’s packaging research and development unit has worked with packaging manufacturers to develop alternative packaging designs in order to use new materials, reduce thickness, and resize, or change format of food packaging while maintaining properties and efficacy of product protection to ensure safety and preserve complete nutritional value. CPF has set a goal to reduce use of paper and plastic in food packaging by 1,000 tons by the year 2025. In 2021, the total GHG emissions of 3,300 tons of CO₂e can be reduced from several of food packaging development projects.

- **Reducing the total use of plastic by more than 16,000 tons**
- **Reducing GHG emissions by more than 51,000 tons of CO₂e**

Re-Design

To Phase Out Single-Use Plastic

A fast food restaurant “Chester’s” uses melamine plates, stainless steel spoons, forks and knives, as well as glasses for beverages without single-use plastic in more than 200 branches all over Thailand.

Five Star shops in Thailand, Cambodia, Vietnam and Laos operations use paper bags, instead of plastic bags, purchased fried chickens.

Before

Box with 2 pieces of paper

After

Box with 1 piece of paper

Changing the printing method of Ezy Choice chilled food product labels from printing the labels on stickers to printing them directly on sealing films.

Before

Product labels printed on sticker

After

Product labels printed on sealing film

Food Distribution Channels and Restaurants

Q-pass Tank

Q-pass Tank for transporting large post-larvae

V-plus Tank

Mini Q-Tank

Reducing the use of paper by 31 tons per year

Reducing the use of plastic by 25 tons per year

Reducing the amount of papers used for the CP Flamin’ Chicken Tenders packaging, from 2-piece paper boxes to one-piece paper boxes, however with the same strength to prevent product damage from transportation. This design won the 4th Asian Export Awards and is currently patent pending.
Promoting Circulation of Packaging for Maximum Utilization

To Increase the Use of Reusable Packaging

CPF promotes the use of reusable packaging in the production processes, including:

- Stainless steel trays used for transporting chicken parts in the production in chicken processing plants can be washed and reused.
- Plastic baskets used for transporting food products between production plants and distribution centers, as well as delivering food products to customers.
- Egg trays used for transporting eggs between farms and egg processing plants.

To Increase the Use of Recyclable Packaging

CPF has jointly worked with packaging manufacturers to develop new packaging innovation, 2-layer mono-material plastic film technology, resulting in 100 percent recyclable packaging. It is used for production of packaging for all frozen Meat Zero products.

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Chef Cares ready-to-eat food packaging is designed to have the tray, the lid, the film wrap and the product label easily separated from each other, allowing for easy waste segregation and post-consumer recycle.

To Increase the Use of Recycled Material as Packaging Solutions

CPF promotes the use of recycled materials in various packaging without affecting the quality of food products such as:

- Paper boxes and corrugated boxes made from recycled paper for packing products for transportation.
- Glass bottles and metal lids.
- Egg trays made from 100 percent recycled paper and PET plastic with 80 percent recycled plastic in the layer that is not in direct contact with eggs, which can reduce the use of virgin plastic by 700 tons per year.

To Raise Awareness and Participation in Plastic Waste Management

Send Plastic Home Project

CPF collaborated with the private sector, the public sector and the people sector to implement the “Send Plastic Home” Project and promoted among consumers, through joint campaigns, used plastic packaging waste segregation for recycling or upcycling to produce new products. This is to ensure that recyclable packaging is actually recycled. CPF’s plastic packaging waste pickup point is located in front of CP Freshmart, Petchaburi 38/1 branch, (Soi Sukhumvit 39), which can receive the total of 700 kg of post-consumer plastic packaging.

Catch the Trash Project

CPF collaborated with the Department of Fisheries, the private sector and fishing boats to implement a campaign to encourage fishermen to refrain from dumping garbage into the sea, as well as to collect garbage from boats and garbage attached to fishing gear back to the shore. It is further developed as a pilot project, in which CPF cooperated with the JDP; a fishmeal factory in Trang province and fishermen to use plastic bottles collected from the sea to produce 500 upcycling uniforms to be distributed to employees.
Proportion of Food Plastic Packaging Classified by Type of Plastic

<table>
<thead>
<tr>
<th>Type of Plastic</th>
<th>Recyclable</th>
<th>Compostable</th>
<th>Hard to Recycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>PET 5.74%</td>
<td>99.43%</td>
<td>0.21%</td>
<td>0.22%</td>
</tr>
<tr>
<td>HDPE 22.49%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PVC 0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDPE 22.56%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP 26.87%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PS 2.16%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Materials 19.83%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLA 0.21%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Alufoil 0.14%</td>
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<td></td>
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</tbody>
</table>

About this Report

Charoen Pokphand Foods Public Company Limited, also known as CPF, has continuously prepared our sustainability report since 2011, to communicate of CPF’s activities to stakeholders our commitment to conducting business towards sustainability, as well as economic, social and environmental impacts.

Reporting Period:
Accounting Period of 2021, from 1 January to 31 December 2021

Reporting Frequency:
Annually

Reporting Framework:
This report has been disclosed the Company’s performance regarding to the material issues and prepared in accordance with international guidelines as follows:

- This report has been prepared in accordance with the GRI Standards: Core option and additional disclosure guideline for Food Processing Sector Supplement (FPSS)
- Reporting on the Communication on Progress (COP) at the Advanced level in compliance with United Nations Global Compact (UN Global Compact)
- Reporting on the performance of the Company supporting on the Sustainable Development Goals (SDGs)
- Reporting on the climate-related performance of the Company in compliance with the Recommendation of the Task Force on Climate-Related Financial Disclosures (TCFD)

Third Party Assurance:
This report has been prepared in accordance with the GRI Standards: Core option, which is also subject to independent third-party assurance by LRQA (Thailand) Limited according to our policy. The assurance also covers environmental, and occupational health and safety performance. The financial performance is reviewed by KPMG Poomchai Audit Ltd., and details are shown in the Auditor’s Report in the Annual Report 2021.

The report and additional documents as follows:
- Performances Data
  - People
  - Occupational Health and Safety
  - Environment
- Report Boundary
- GRI Content Index
- Communication on Progress Index – UN Global Compact
- Sustainable Development Goals (SDGs) Index
- Task Force on Climate-related Financial Disclosures (TCFD) Index
- Assurance Statement

Contact Point:
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Telephone: (+66) 2766 8571-4  E-mail: sd@cpf.co.th
Website: www.cpfworldwide.com

The documents are available at: