Transforming Rubber Smallholders into a Resilient Sustainable Supply Ecosystem

Thai Eastern Group Holdings PCL

Presentation for **Supply Chain Management Awards 2026** by SET

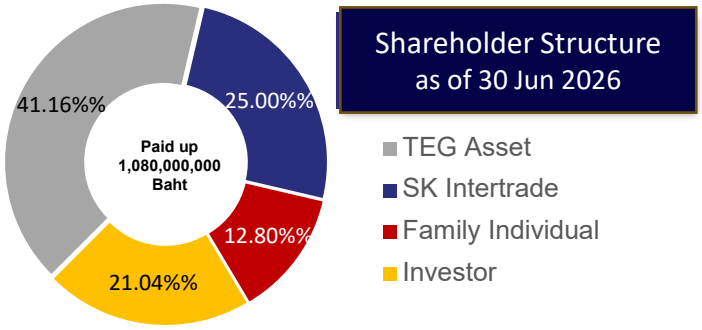




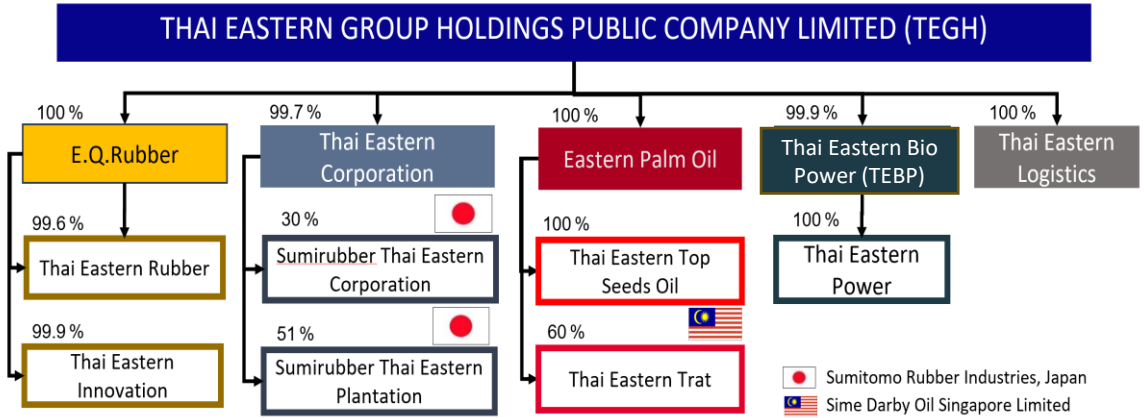



TEGH Overview

Company	Thai Eastern Group Holdings Public Company Limited
Ticker	**TEGH**
Type of Business	The Company operates as holding company with three core businesses. The three core businesses are following: (1) Rubber business (2) Palm oil business (3) Renewable energy and organic waste management
Secondary Market	The Stock Exchange of Thailand ("SET")
Industry	Agro and Food Industry
Dividend policy	Pay dividends at a rate of not less than 40% of net profit after income tax and legal reserves



Remark:
1. TEG ASSET CO., LTD. is wholly owned by Kokanutaporn Family.
2. SK INTERTRADE PTE. LTD. is holding company, established under the laws of Singapore, and held by K Ventures Company Limited. And K Ventures Company Limited is wholly owned by Kokanutaporn Family.



Top Management Introduction



คุณเฉลิม โกกนุทาภรณ์
ประธานเจ้าหน้าที่บริหาร



คุณสินีนุช โกกนุทาภรณ์
กรรมการผู้จัดการ



คุณเกริกกุล โกกนุทาภรณ์
ประธานเจ้าหน้าที่บริหาร
ฝ่ายปฏิบัติการ-ด้านยางพาราและปาล์มน้ำมัน



คุณวงศ์กฤษณ์ เจียมศรีพงษ์
ประธานเจ้าหน้าที่บริหาร
ฝ่ายกลยุทธ์องค์กร



คุณพีระพงษ์ วงศ์จิตตภิญโญ
ประธานเจ้าหน้าที่บริหาร
ฝ่ายการเงินและบัญชี



คุณศิริวรรณ โกกนุทาภรณ์
ผู้อำนวยการ
ฝ่ายทรัพยากรบุคคล

Strictly Private & Confidential

FROM SSCM & EUDR PLATFORM IN 2024

TEGH

1. DATA COLLECTION

MULTI-SOURCE CAPTURE



Mobile App
Geo-photo
Geotag
Timestamp



GIS / Mapping
GeoJSON
Polygon / Point
Spatial Indexing



Satelliite
High Resolution
Monitoring



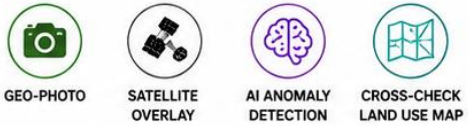
DOCUMENTS
Occupation Evidence
Cultivation Evidence
Land Authority Certificate
Postal Address
File DDS ≤ 25 MB

2. VERIFICATION WORKFLOW

STATUS



VERIFICATION METHODS



3. DDS / SD & EUDR COMPLIANCE



SUBMIT TO EU SYSTEM
BEFORE PLACING ON EU MARKET OR EXPORTING FROM EU

4. KEY PRINCIPLES

- **NO BLIND SPOT SUPPLY CHAIN** — Traceable Every Lot
- **SEGREGATION IS MANDATORY** — No Mass Balance, Mixed = Whole Non Compliant
- **DEFORESTATION-FREE** — No Deforestation or Degradation after 31 Dec 2020
- **INCLUSIVE LAND ELIGIBILITY** — Public Land, Community Land, Customary Land, De Facto Used Land Accepted
- **LEGALITY OVER TITLE** — If national law allows farmers to produce and sell legally → Satisfy legality requirement

5. END-TO-END TRACEABILITY – NO BLIND SPOT SUPPLY CHAIN



SEGREGATION REQUIREMENT



6. DATA & TECH ENABLERS

- GeoJSON Support (Polygon / Point)
- Geotag Photo & Timestamp
- Spatial Indexing & Fast Search
- AI & Satellite Integration
- Verification Workflow & Audit Trail
- Secure Cloud Storage (File ≤ 25 MB)
- API Integration to DDS/SD
- Dashboard & Reporting

TOGETHER, WE TRANSFORM TODAY FOR A NET ZERO TOMORROW

FOR PEOPLE
Better Livelihood
Stronger Communities

FOR PLANET
Lower Emissions
Restoring Nature

FOR PROSPERITY
Resilient Business
Sustainable Growth

TEGH

The Reality of Commodity Business

PAIN POINTS



COMMODITY PRICE | CLIMATE CHANGE | LABOUR SHORTAGE | SUPPLY CHAIN RISK | CUSTOMER PRESSURE | REGULATORY PRESSURE

Volatility. Uncertainty. Complexity. The new normal for every commodity business.



TEGH

2000 - 2010

"World's ***Best Quality Rubber Processor****"*

2010 - 2020

"World-Class ***Eco-Agro Industrial Complex****"*

2020 - 2025

"Your ***Strategic Partner*** *for* ***Sustainable Value Chain****"*

"Empowering the ***Low Carbon Value Chain****"*

Strictly Private & Confidential

Integrated Plantation for Resilient Livelihoods

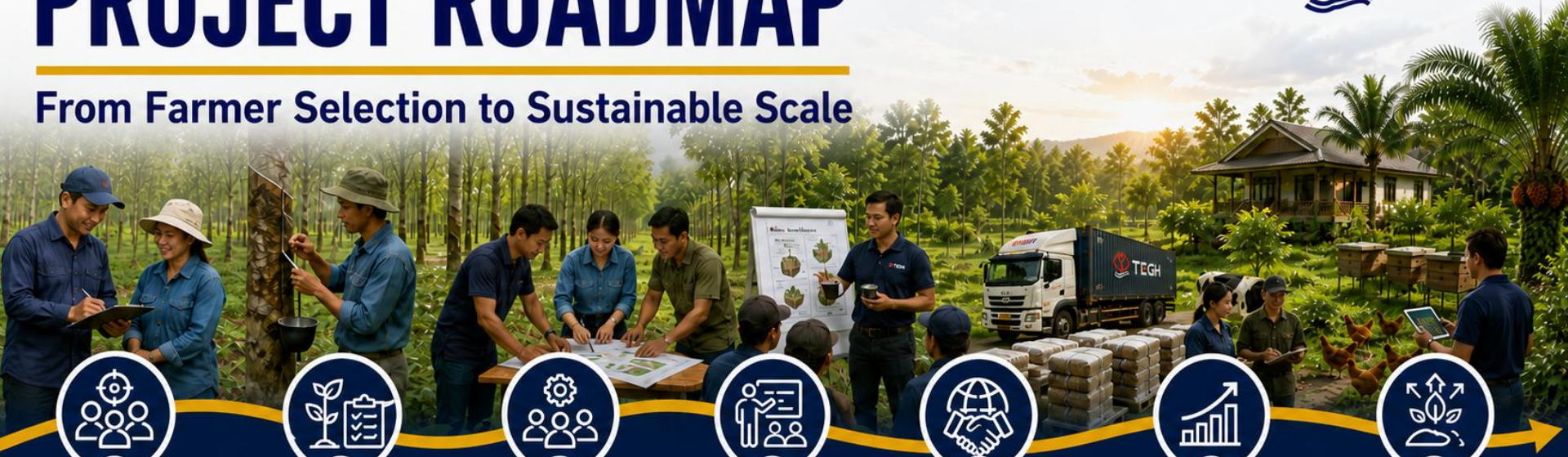
From Traceability to Farmer Prosperity Project

The Integrated Plantation Project is a farmer-centric sustainable supply chain initiative designed to enhance income stability, food security, and climate resilience through diversified and nature-based agricultural practices.
The project promotes circular agriculture, where farm by-products are reused, reducing external inputs while strengthening farmer livelihoods and supply chain resilience



PROJECT ROADMAP

From Farmer Selection to Sustainable Scale



01 SELECT TARGET FARMERS

EXPECTED

40 Qualified Farmers
Traceable • Deforestation-free
Scalable Potential

02 ASSESS FIELD POTENTIAL

EXPECTED

Field Insights
Site Suitability
Tailored Farming Model

03 CO-DESIGN DEVELOPMENT PLAN

EXPECTED

Farm-specific Plan
Income • Cost Targets
≥ THB 50K / Farmer / Year

04 TRANSFER KNOWLEDGE & BUILD CAPABILITY

EXPECTED

Integrated • Regenerative • LIT
3,000 t Circular Soil Enhancer
Lower Cost • Soil Health • GHG Reduction

05 STUDY MARKETS & DEVELOP CHANNELS

EXPECTED

Market Opportunities
Commercial Linkage
Recurring Income

06 ENABLE SALES & GENERATE REAL INCOME

EXPECTED

> THB 1M Added Value
Supplementary Income
Less Single-crop Dependence

07 MONITOR RESULTS & SCALE IMPACT

EXPECTED

100% Area Retention
485,524 → 700,000 rai
Resilient Supply Ecosystem

COLLABORATION FOR A RESILIENT & SUSTAINABLE FUTURE

TEGH

Stakeholders co-design, co-implement and co-scale the Integrated Farming Ecosystem — enabled by TEGH







1 PLAN & DESIGN TOGETHER

Co-design farm layout & farming model



2 SUPPORT & BUILD CAPABILITY

Knowledge • Tools • Inputs • Training



3 PRODUCE & DEVELOP VALUE

Integrated Crops • Livestock • Quality Products



4 CREATE MARKET & SHARED VALUE

Market Access • Commercialization • Scale



TEGH ENABLES FARM ASSESSMENT • TRAINING & COACHING • INPUT SUPPORT • MARKET LINKAGE • TRACEABILITY • KPI MONITORING

INTEGRATED FARMING ECOSYSTEM

INTERCROP



STINGLESS BEE (MELIPONICULTURE)



COW & CHICKEN



CIRCULAR FARMING LOOP



SHARED VALUE | RESILIENT LIVELIHOODS | STRONGER SUPPLIER NETWORK | STABLE TRACEABLE SUPPLY

COCOA & PAK LIANG UNDER RUBBER

Turning Underused Space into Income, Resilience and Shared Value

TEGH

COCOA

Shade-compatible • High-value beans • Processing potential

PAK LIANG

Shade-loving vegetable • Regular harvest • Local food

FARM & INCOME

- Multiple Income Streams
- Better Use of Inter-row Space
- Reduced Dependence on Rubber Price
- Harvest & Processing Opportunities

ENVIRONMENT

- More Plant Diversity
- Permanent Ground Cover
- Improved Soil Organic Matter
- Less Erosion • Better Moisture Retention
- Stronger Climate Resilience

COMMUNITY

- Local Food Security
- Community Processing
- New Skills & Local Employment
- Collective Marketing
- Shared Knowledge

COCOA – RESEARCH BENCHMARK

202–250 kg dry beans / rai / year

Promising DOA varieties under trial conditions

PAK LIANG – TRANG FIELD TRIAL

Year 3: 40 kg / rai

Revenue: THB 4,000 / rai

Net income: THB 2,835 / rai

BCR: 3.4

INTERCROPPING → HARVEST → LOCAL PROCESSING → MARKET ACCESS → ADDITIONAL INCOME

*Reference benchmarks, not guaranteed farm results. Actual performance depends on variety, spacing, shade, soil, water, management, market quality and pricing.

STINGLESS BEE FARMING IN OIL PALM PLANTATIONS

Pollination • Biodiversity • High-value Supplementary Income

TEGH





STINGLESS BEE HONEY

- Rich in Phenolic & Flavonoid Compounds
- Demonstrated Antioxidant Activity
- Antibacterial Activity in Laboratory Studies
- Naturally Tangy • Higher Moisture • Distinct Aroma

BIODIVERSITY & POLLINATION

- Pollinates Flowering Plants & Intercrops
- Supports Plant Reproduction
- Enriches Pollinator Diversity
- Strengthens Agroecosystem Resilience

FARMER VALUE

- Premium Honey Product
- Supplementary Income
- Low-space Farm Enterprise
- Knowledge-based Community Business

FLOWERS → STINGLESS BEES → POLLINATION → BIODIVERSITY → RESILIENT FARM

HONEY PRODUCTION | POLLINATION SERVICES | BIODIVERSITY | ADDITIONAL INCOME

Bioactive properties vary by bee species, floral source, location, processing and storage. Laboratory findings are not medical claims.

CIRCULAR SOIL REGENERATION

From Biogas Digestate to Living Soil

TEGH



1 BIOGAS PRODUCTION
Organic Residues → Renewable Energy

2 DIGESTATE RECOVERY
Capture Nutrients & Organic Matter

3 STABILIZE & CONDITION
Improve Maturity • Reduce Odor • Safer Handling

4 QUALITY ASSURANCE
Test Nutrients • pH/EC • Stability • Pathogens • Heavy Metals

5 SOIL APPLICATION
Right Material • Right Rate • Right Place • Right Time

6 REGENERATIVE OUTCOMES
Healthier Soil • Lower Chemical Inputs • Productive Plantations

WHAT THE MATERIAL BRINGS

- Organic Matter
- Plant-available Nutrients
- Microbial Biomass & Metabolites
- Carbon for Soil Microbial Activity
- Improved Nutrient Cycling

2025 PROJECT RESULTS

- **93 FARMERS**
- **1,000 t** SOIL-IMPROVEMENT MATERIALS
- **116 FARMERS**
- **2,000 t** PALM BIOMASS / RHIZOMES
- **1,000 t** EFB COMPOST |
- **THB 1.5M** COST AVOIDANCE

HOW THE SOIL RESPONDS

- Better Soil Aggregation & Structure
- Improved Water Retention & Aeration
- Stronger Root Development
- More Efficient Nutrient Use
- Potential Reduction in Chemical Fertilizer
- Long-term Soil Productivity

FARMERS

Lower Input Costs • Knowledge • Resilient Livelihoods

TEGH

Waste Valorization • Circularity • Lower Environmental Footprint

COMMUNITIES & NATURE

Local Resource Recovery • Healthier Land • Shared Value

ORGANIC RESIDUES → **BIOGAS ENERGY** → **SOIL REGENERATIVE MATERIALS** → **RUBBER & OIL PALM** → **CIRCULAR VALUE**

Benefits depend on feedstock, carbon and nutrient content, stabilization, application rate and soil conditions. Land application requires product-quality testing and field monitoring.

LOW INTENSITY TAPPING (LIT)

Less Frequent Tapping. Greater Labour Efficiency. Longer Bark Life.

	CONVENTIONAL TAPPING S/2 d2 • Every 2 Days		LOW INTENSITY TAPPING S/2 d3 • Every 3 Days*
TAPPING FREQUENCY	Higher • More Tapping Days		Lower • More Recovery Time
LABOUR REQUIREMENT	100% Baseline		≈ 33% Fewer Tappers
YIELD PROFILE	Standard Yield per Tapping		Higher Yield per Tapping • Comparable Cumulative Yield*
BARK CONSUMPTION	Faster Bark Use		Less Bark Use • Longer Panel Life
FARMER OPPORTUNITY	More Time Spent Tapping		More Time for Integrated Farming & Additional Income





LABOUR IMPACT — FARM ≥ 150 RAI

- 150 rai ≈ 24 ha
- CONVENTIONAL d2: ≈ 12 tapper-equivalents
- LIT d3: ≈ 8 tapper-equivalents

≈ 4 FEWER TAPPERS | ≈ 33% REDUCTION

LOWER LABOUR COST | REDUCED TAPPING STRESS | LONGER BARK LIFE | TIME FOR INTEGRATED FARMING

*Illustrative comparison: S/2 d2 vs. S/2 d3. Actual labour needs and yield depend on tree density, field layout, clone, tree health, tapper capacity, weather and the approved stimulation protocol.

NEXT GEN FARM SUCCESSION PROGRAMME

Building Capable Successors for Sustainable Rubber & Oil Palm Plantations

TEGH







INPUT

PROFESSIONAL OIL PALM PLANTATION MANAGEMENT

- Plantation Operations
- Productivity & Cost Management
- Field Practice
- Business Management
- Future Market Readiness

OUTPUT

42 TRAINED FARM SUCCESSORS



OUTCOME

18 SUCCESSORS

STAND-ALONE FARM MANAGERS

Ready to independently manage the full oil-palm plantation business

24 SUCCESSORS

ACTIVE IN THE FAMILY BUSINESS

Participating under guidance from the parent generation



LONG-TERM VALUE

- Business Continuity
- Reduced Risk of Farm Abandonment
- Lower Risk of Forced Farm Sale
- Knowledge Retained within the Family
- More Professional Farm Management
- Stronger Supply-chain Continuity
- Intergenerational Sustainability

PARENT GENERATION → KNOWLEDGE & FARM TRANSFER → **NEXT GENERATION** → SUSTAINABLE FARM BUSINESS

TEGH ENABLES | Training • Coaching • Field Learning • Network Building • Continuous Support

FROM FARM KNOWLEDGE TO FARM OWNERSHIP — FROM ONE GENERATION TO THE NEXT



TEGH

2025 KPI PERFORMANCE

Quantitative Targets, Results and Strategic Contribution

7/7 KPIs Achieved or Exceeded

1 TRACEABLE & SUSTAINABLE AREA

2025 Target 450,000 rai

2025 Result 458,427 rai

101.9%

End-of-Project
676,000 rai | 67.8%

2 RAW-MATERIAL TRACEABILITY

2025 Target 100%

2025 Result 100%

100%

End-of-Project
100% | 100%

3 MODEL FARMERS

2025 Target 100 farmers

2025 Result 128 farmers

128%

End-of-Project
500 farmers | 25.6%

4 INTEGRATED FARMING VALUE

2025 Target THB 3.0M

2025 Result THB 4.68M

156%

End-of-Project
THB 15.0M | 31.2%

5 CIRCULAR SOIL ENHANCER

2025 Target 2,000 tonnes/year

2025 Result 3,000 tonnes/year

150%

End-of-Project
20,000 tonnes/year | 15%

6 FERTILIZER COST SAVINGS

2025 Target THB 5.0M

2025 Result THB 6.0M

120%

End-of-Project
THB 120.0M | 5%

7 SSCM AREA RETENTION

2025 Target 100% of project area

2025 Result 100% of project area

100%

End-of-Project
100% | 100%

STRATEGIC CONTRIBUTION

- SUSTAINABLE SUPPLY CHAIN
- STAKEHOLDER ENGAGEMENT
- OPERATIONAL EXCELLENCE
- DECARBONIZED ECONOMY
- ORGANIZATIONAL ACHIEVEMENT

All seven 2025 quantitative KPIs achieved or exceeded their annual targets.

2025 FARMER KPI

Quantitative Target and Results per Participating Farmer

BENCHMARK

ANNUAL TARGET

THB 50,000

Additional income beyond rubber and oil palm

ADDITIONAL INCOME

THB 36,562.50

per farmer / year

+

FERTILIZER COST SAVINGS

THB 28,708

per farmer / year

=

TOTAL ECONOMIC BENEFIT

THB 65,270.50

per farmer / year

130.5% OF TARGET

THB 15,270.50 above the annual target

THB 50,000
Target

THB 65,270.50
Result

Diversified income and lower input costs strengthen farmer livelihoods and long-term resilience.



2025 RESULTS

Measurable Economic, Social and Environment Value



TEGH

1 QUANTITATIVE IMPACT

THB 82.02M
Premium Value from Traceable & Compliant Raw Materials

THB 5.96M
Additional Income from Integrated Plantation Activities

THB 135.65M
Farmer Premium Income from Certified & Compliant Raw Materials

THB 4.68M
Additional Income from Integrated Farming • 128 Farmers

THB 36,562.5
Average Integrated Farming Income / Farmer / Year

THB 28,708
Average Fertilizer Cost Saving / Farmer / Year

- Capacity Building: **42** Farmers
- Stingless Bees: **45** Trained • **11** Adopted • **512** Hives
- Livestock: **58** Interested • **20** Participating
- Cocoa in Rubber: **25** Farmers
- Soil Improvement: **93** Farmers • **1,000** t Materials
- Palm Biomass: **116** Farmers • **2,000** t
- EFB Compost: **1,000** t • THB **1.5M** Cost Avoidance
- Stingless-bee Income Generated: > THB **1.28M**

CERTIFICATION COVERAGE

- EUDR: **20,218** Farmers • **293,898** rai
- FSC: **787** Farmers • **27,152** rai
- RSPO: **344** Farmers • **17,004** rai
- USDA: **11** Farmers • **6,600** rai

2 QUALITATIVE IMPACT

FOR FARMERS & COMMUNITIES

- Diversified Income • Lower Single-crop Dependence
- Improved Livelihood Stability & Food Security
- Reduced Input Costs
- Better Soil Health & Long-term Productivity
- New Knowledge, Skills & Adaptive Capacity
- Local Enterprise, Processing & Employment
- Greater Resilience to Price & Climate Risks

FOR THE SUPPLY CHAIN

- More Resilient & Diversified Raw-material Base
- Stronger Farmer Loyalty & Long-term Partnerships
- Enhanced Traceability & Sustainability Compliance
- Improved Raw-material Supply Stability
- Lower Climate and Price-volatility Risk
- Stronger Credibility in Sustainable Sourcing

3 STRATEGIC VALUE CREATION

TRADITIONAL PROCUREMENT → FARMER-CENTRIC VALUE ECOSYSTEM → RESILIENT, NATURE-POSITIVE SUPPLY CHAIN

SUPPLY CHAIN RESILIENCE & READINESS

- Supply continuity through a diversified, traceable farmer network
- Greater resilience to climate events and natural disasters
- Diversified farmer income cushions commodity-price volatility
- Lower input dependency and stronger operational adaptability
- EUDR and deforestation-free readiness for evolving regulations
- Trusted data and certification protect market access

FROM COMPLIANCE TO CRISIS-READY COMPETITIVE ADVANTAGE

SUSTAINABLE SUPPLY CHAIN | STAKEHOLDER ENGAGEMENT | OPERATIONAL EXCELLENCE | DECARBONIZED ECONOMY | ORGANIZATIONAL ACHIEVEMENT

REGISTERED SUSTAINABLE PLANTATION
458,427 Rai
101.9% of Target

PRODUCT TRACEABILITY
100%

FARMER ENGAGEMENT
3,164 persons

EUDR-COMPLIANT RAW MATERIAL
89.80%
vs Target

EUDR SALES VOLUME
108,396 T
+92.31%

SUPPLIER SATISFACTION
97.04%
Target 90%

DEFORESTATION-FREE DUE DILIGENCE
100%

SCALABILITY & LONG-TERM SUSTAINABILITY

From Proven Eastern Pilots to a Scalable, Community-Owned Carbon Accounting Plantation Model

TEGH



1 PILOT
Chonburi & Rayong

- Validate Integrated Farming
- Field Learning & Farmer Feedback
- Proven Practices

2 EXPAND
Northeast & Other Regions

- New Farmer Clusters
- Regional Suitability
- Market-driven Rollout

3 ORGANIZE
Community Enterprises

- Collective Implementation
- Local Coordination
- Shared Market Access

4 REPLICATE
Standardized, Locally Adapted

- Traceability & EUDR
- Training & KPI Monitoring
- Adapt Crops and Farm Design

5 UPGRADE
Carbon Accounting Plantations

- Plantation Carbon Baseline
- Digital MRV & Data Quality
- Low-carbon Raw-material Pathway

MARKET-DRIVEN • SYSTEMATIC • LOCALLY ADAPTED • QUALITY-CONTROLLED

HOW THE MODEL SCALES

- Cluster-based Farmer Expansion
- Train-the-Trainer Approach
- Replicable Tools and Playbook
- Knowledge Transfer Across Regions

HOW SUSTAINABILITY ENDURES

- Community-enterprise Ownership
- Continuous Farmer Capability Building
- Reduced Reliance on External Support
- Long-term Market Linkage

VALUE CREATED FOR THE FUTURE

- Regulatory Readiness
- Climate-resilient Plantations
- Stable, Traceable Raw-material Supply
- Shared Value for Farmers and Communities
- Foundation for Low-carbon Supply Chains

DEFORESTATION-FREE → EUDR COMPLIANCE → INTEGRATED FARMING → CO_2 CARBON ACCOUNTING PLANTATION

EXPAND REGIONALLY • ORGANIZE LOCALLY • UPGRADE FOR A LOW-CARBON FUTURE

EMPOWERING BAN THAP MA COMMUNITY ENTERPRISE

Stingless Bee Farming in Rubber & Oil Palm Plantations

TEGH







1,200
STINGLESS BEE HIVES

107
COMMUNITY MEMBERS

150 kg
HONEY PRODUCED IN 2026

≈ THB 600,000
TOTAL SALES — HONEY & VALUE-ADDED PRODUCTS

COMMUNITY PRODUCT PORTFOLIO

HONEY



SOAP



HERBAL BALM



MASSAGE OIL



SKIN-CARE CREAM



TEGH ENABLES

- Knowledge & Technical Training
- Hive-management Capability
- Product Development
- Quality & Packaging Improvement
- Market Access & Business Linkage

VALUE CREATED

- Supplementary Community Income
- Local Entrepreneurship & Employment
- Skills and Knowledge Transfer
- Pollination & Biodiversity Support
- Stronger Community Enterprise
- More Resilient Farmer Livelihoods

PLANTATION FLOWERS → STINGLESS BEE HIVES → HONEY & BEE PRODUCTS → COMMUNITY BRAND → MARKET & INCOME

FROM POLLINATION TO PRODUCTS — FROM COMMUNITY SKILLS TO SHARED PROSPERITY

2026 figures provided by Ban Thap Ma Community Enterprise / TEGH project records.

Q&A

Thai Eastern Group Holdings PCL

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