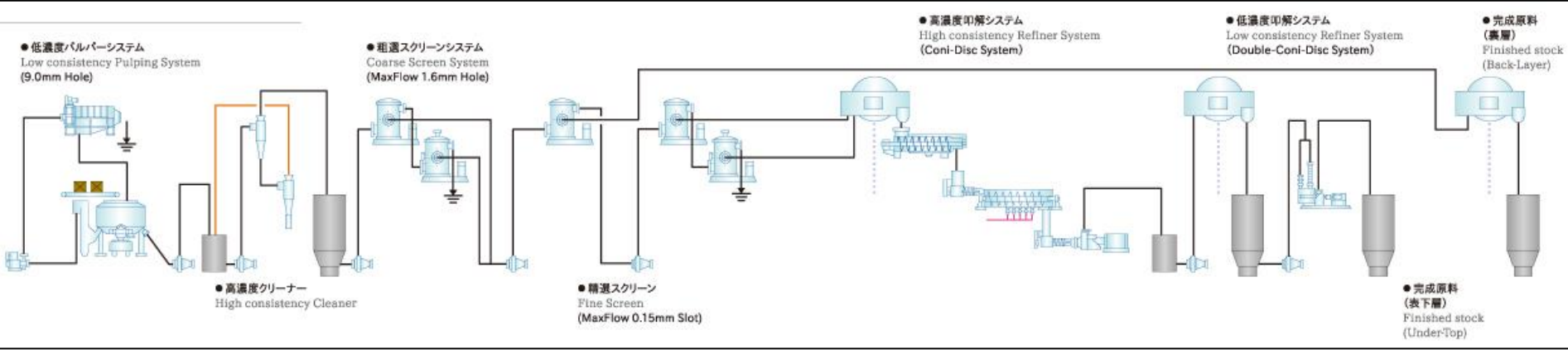


# (1) Introduction of high efficient process plant at Paper Factory

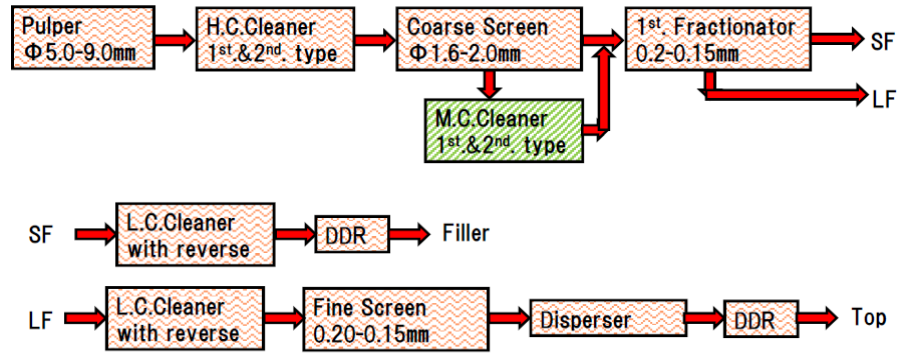
PT Fajar Surya Wisesa Tbk., Indonesia  
Kanematsu Corporation, Japan

# Basic Concept

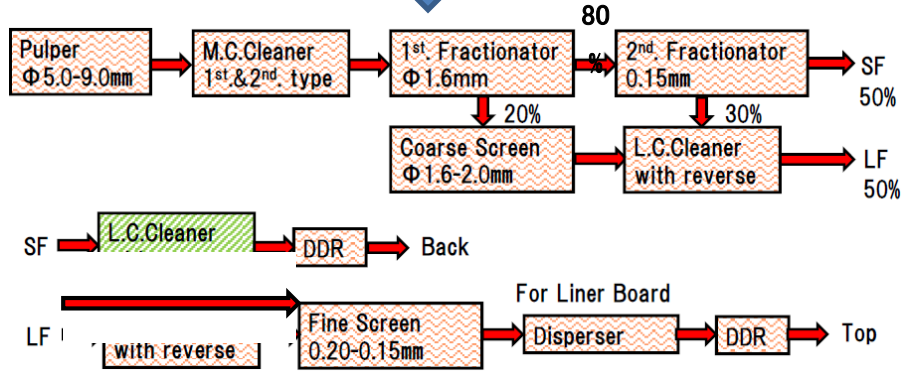
- Our customer, Fajar Paper (second biggest paper manufacturer in Indonesia) is expanding a new line (1,000 ton/day) in the existing factory.
  - Old Corrugated Cartons (OCC) process
- We bring Japanese energy efficient technology to this part, and will reduce the power consumption for approx. 10% (kWh/t basis)
- New equipment is now under construction by applying JCM scheme.



( Existing System )



( New System to be installed )

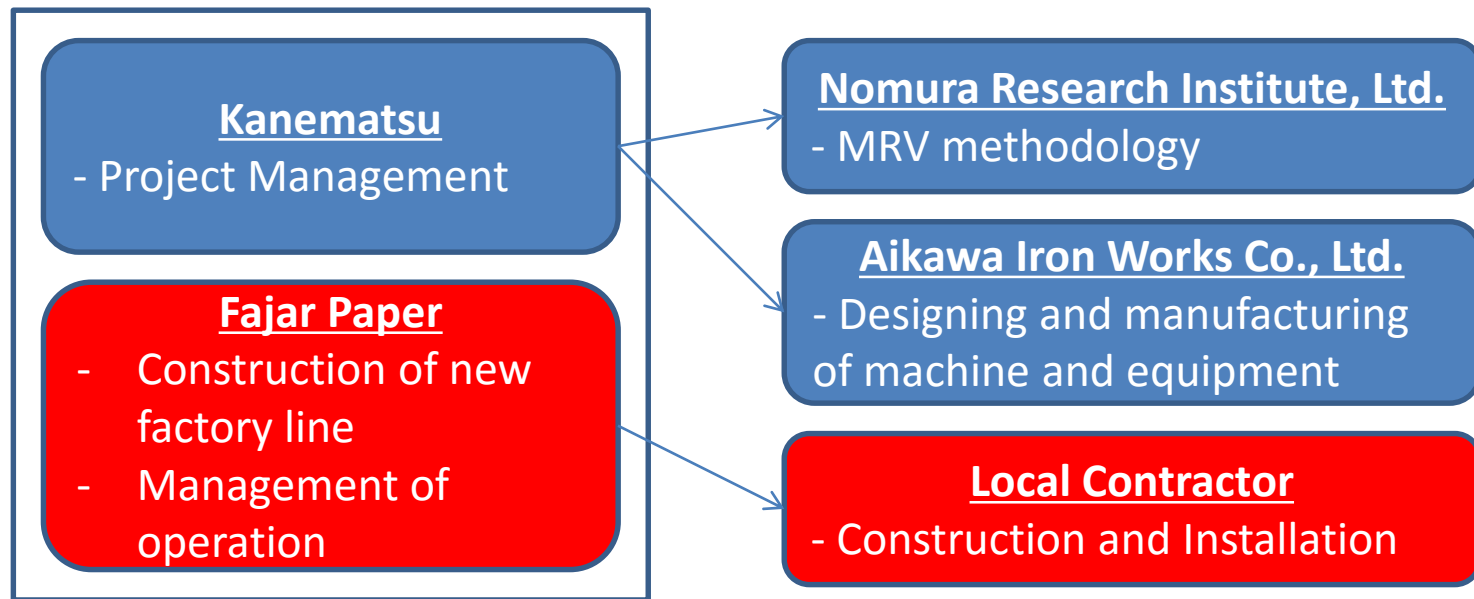


# How to make energy efficiency ?

- Energy Efficiency by total system design;
  - Coarse screen process ( fractionater ) : 20%
  - High.C., Middle.C., Low.C. : 3 grades cleaners
  - ➡ only Middle.C., Low.C., : 2 grades cleaners
- Energy Efficiency by Individual Equipment;
  - Pulper : 1<sup>st</sup> generation Helix Roter was installed 5 years ago, 2<sup>nd</sup> generation 2 years ago,
  - ➡ Now, 3<sup>rd</sup> generation Helix Roter will be installed

# Consortium Scheme

- We have structured a consortium. Each entity has following role;



# Estimated IRR and CO2 Reduction ( according to JCM Feasibility Study )

- We have estimated IRR;
  - Initial Investment : approx. US\$ 12 million
  - Yearly maintenance cost : approx. US\$ 400,000
  - IRR during depreciation period : 14.8%
- We have estimated CO2 emission reduction;
  - Reference Emission : 83,938 tCO2/year
  - Project Emission : 69,054 tCO2/year
  - Emission Reduction : 14,884 tCO2/year

## (2) Boalemo REDD+ Demonstration Project

- Deforestation is due to socio-economic difficulty.
- We reduce deforestation by improving livelihood of communities.

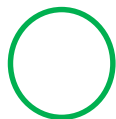
Boalemo District Government  
Gobel Group, Indonesia  
Kanematsu Corp., Japan

# Boalemo District Governor (“BUPATI”) and our REDD+ project team





# Gorontalo Province, Indonesia



Sulawesi Island



Gorontalo Province

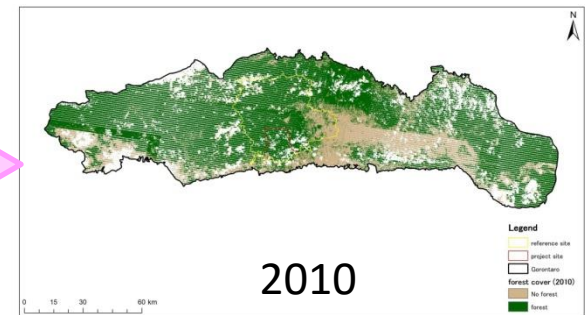
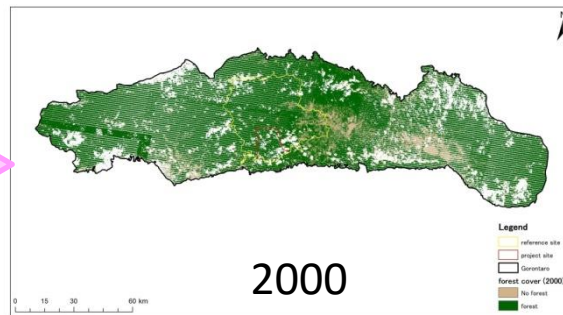
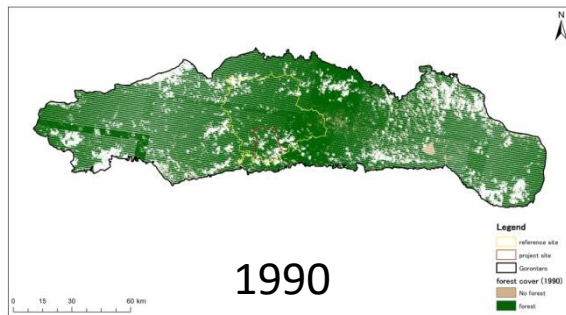
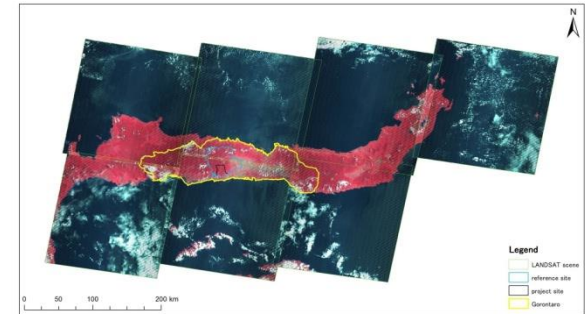
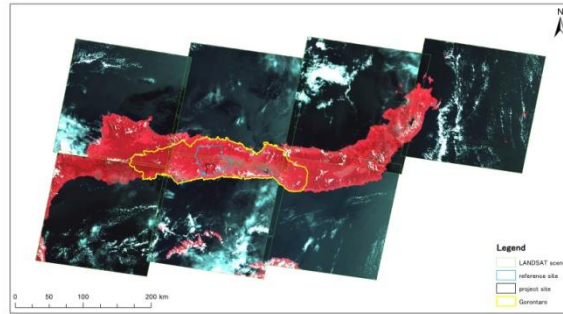
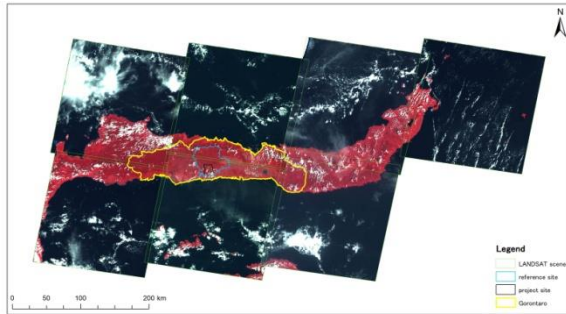
# Deforestation driver of Gorontalo is “Slash & Burn” of Corn agriculture

- Corn is major industry of Gorontalo, because the provincial government is providing subsidies to the corn farmers.



# Deforestation of Gorontalo

## ( Remote Sensing Analysis )



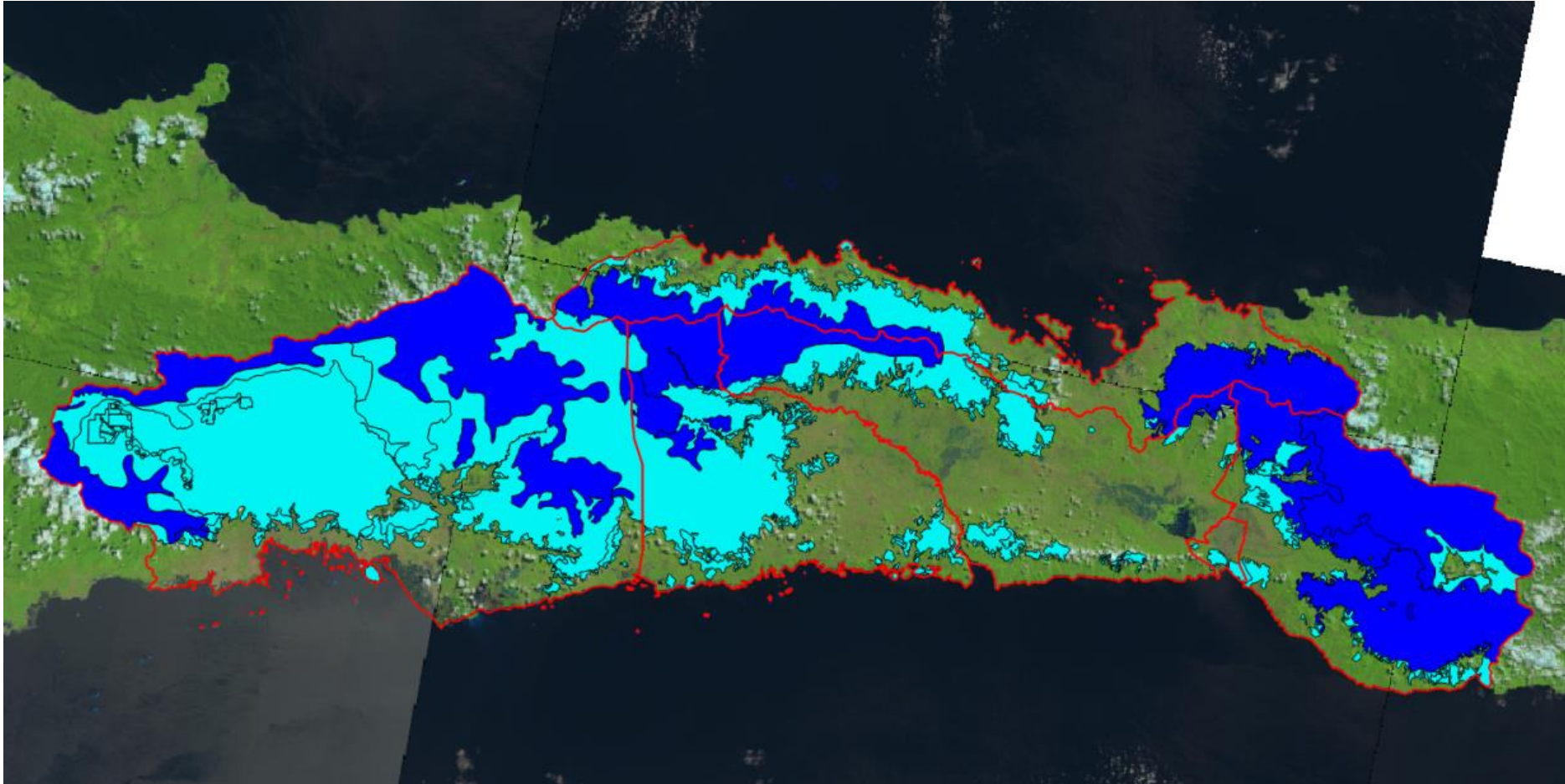
Forest area size (ha)

	1990	2000	2010
Forest	779,832	710,587	592,205
Non-Forest	43,213	112,458	230,547

# Boalemo District



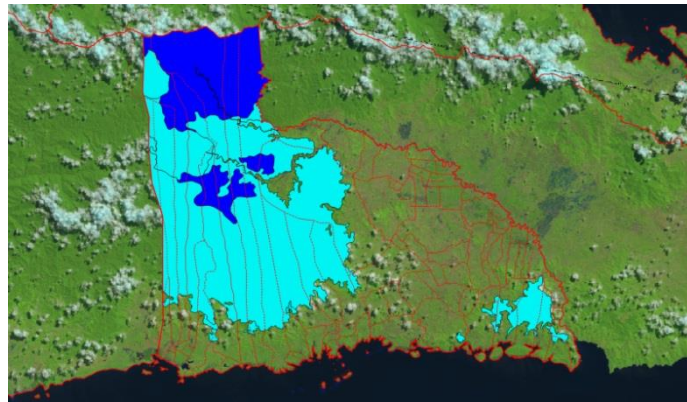
# Reference area : Forest area of Gorontalo Province



- We make REL (Reference Emission Level) by deforestation trend of Gorontalo Province.

# Project Boundary : Forest area of Boalemo District

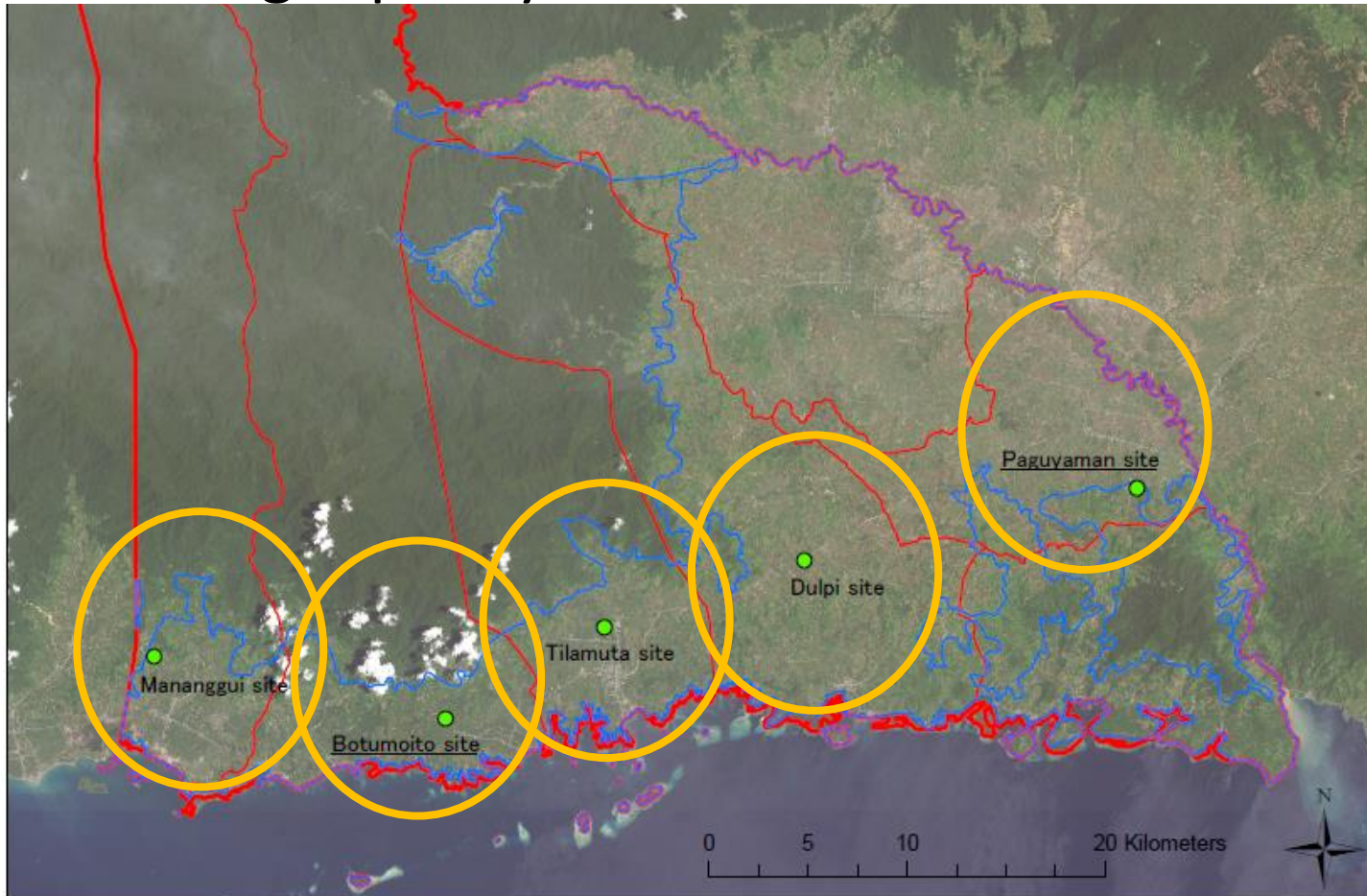
- Project boundary is forest area 88,815ha



- We monitor the forest area every year, and compare with REL, then, we will know the emission reduction amount per year.

# Five (5) demonstration cacao farms

- As a part of REDD+ activities, for each sub-district, we have set up demonstration farm to show how to produce high quality cacao.



# Cacao Program

- By providing “**Capacity Building**” and “**Value Chain**”, we help farmers to shift from **CORN** to **CACAO**.





# Training of cacao production

- More than 20 farmers get together in the demonstration farm, then, farmers will broaden the knowledge to local community.



Seed Bed (Nursery)



Demonstration Farm

# High Quality Chocolate made from Sulawesi Island

- Dari-K, a Japanese chocolate company in Kyoto, is importing fermented cacao beans made by Sulawesi farmers.



# Training at the demonstration farm



# We provide knowledge of cacao.

Nursery

Grafting

Pest&disease

Pruning

Fertilizing

Replanting

Agroforestry



Fermentation

Sun-dry

Bean count

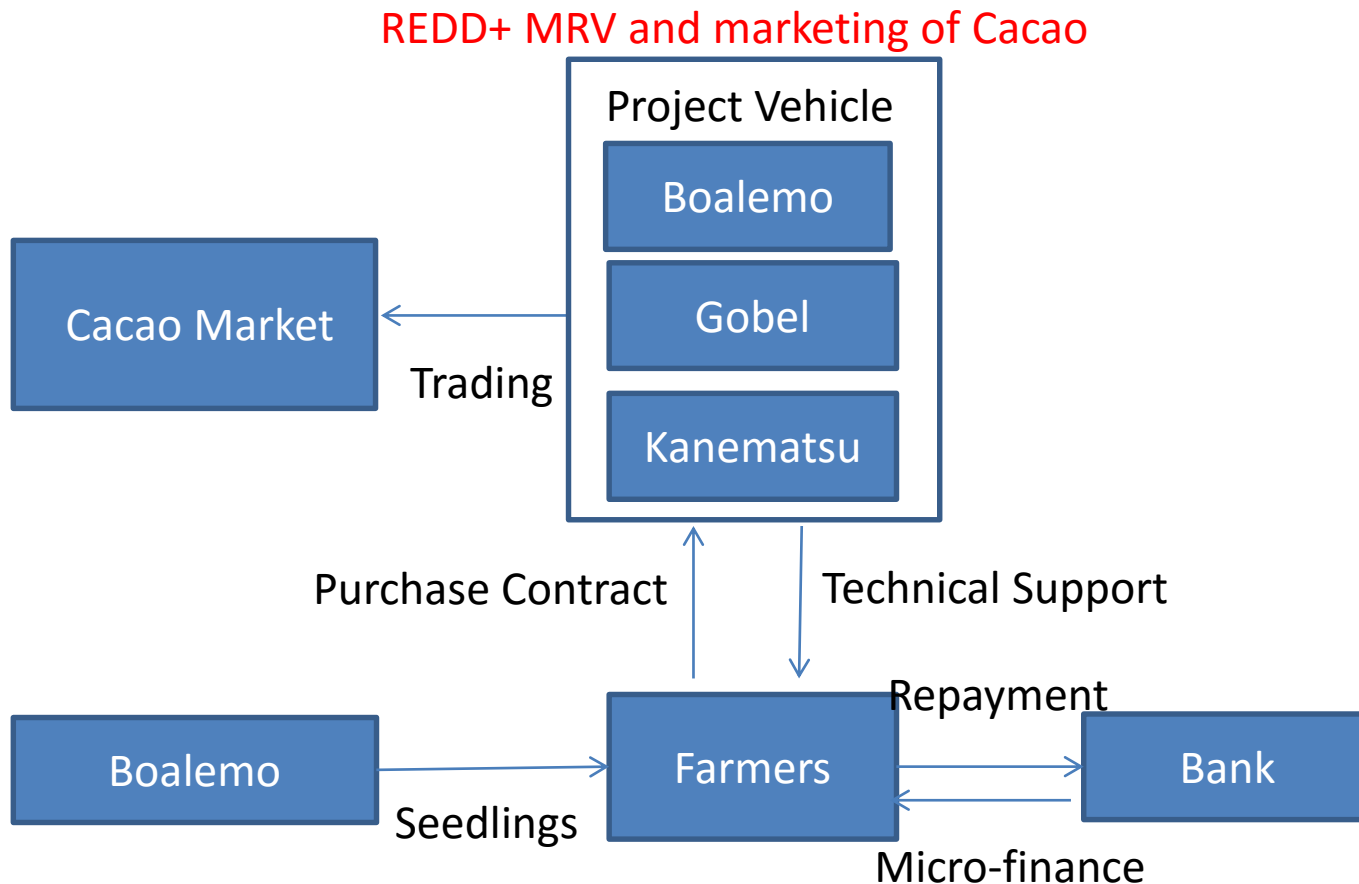
Moisture content

Waste content

# Some corn farmers have already shifted from Corn to Cacao



# REDD+ and Cacao Safeguard program



We provide capacity building, develop value chain,  
and do MRV.

# Concept of our project

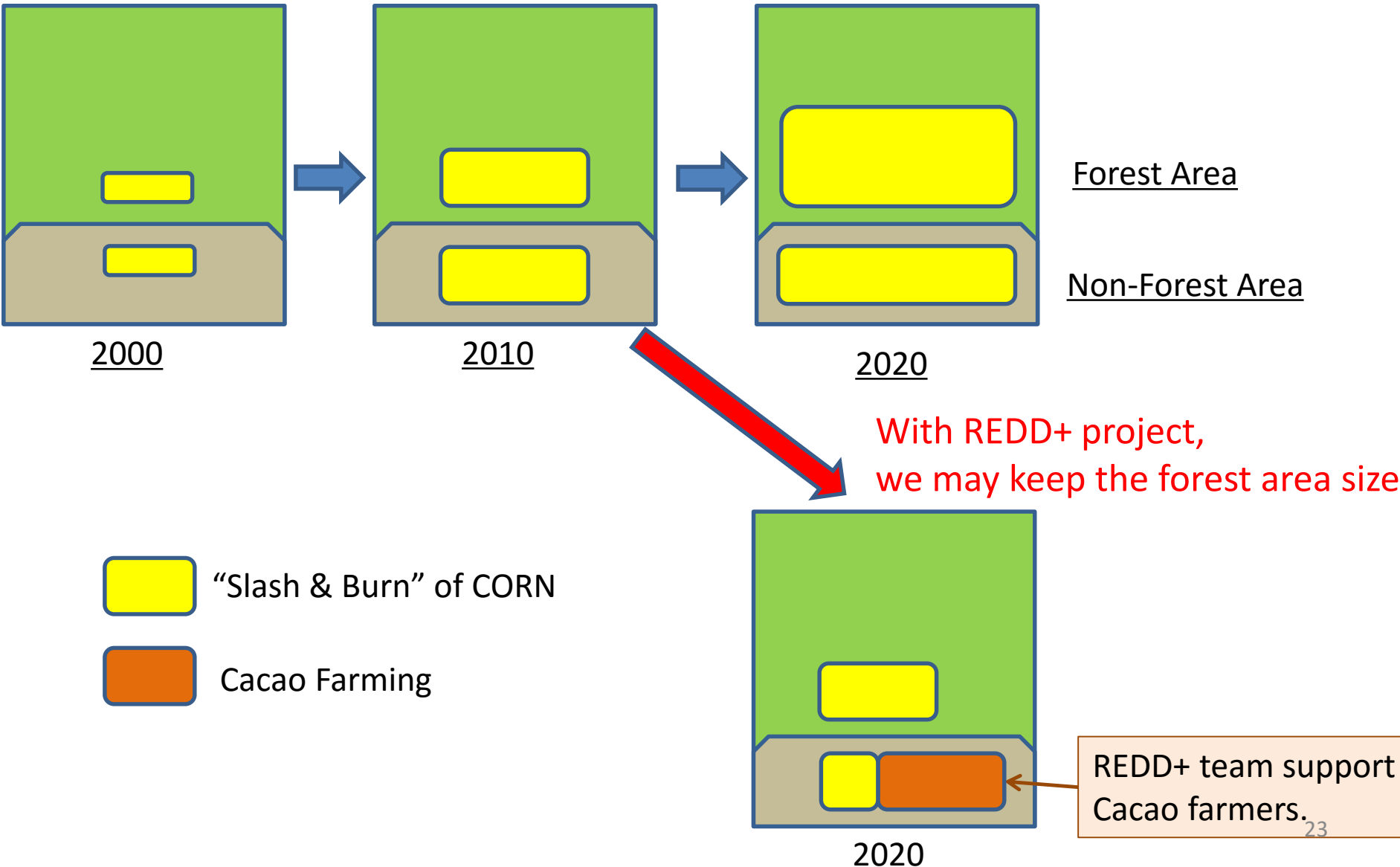
Without REDD+ project, deforestation will increase

Forest Area

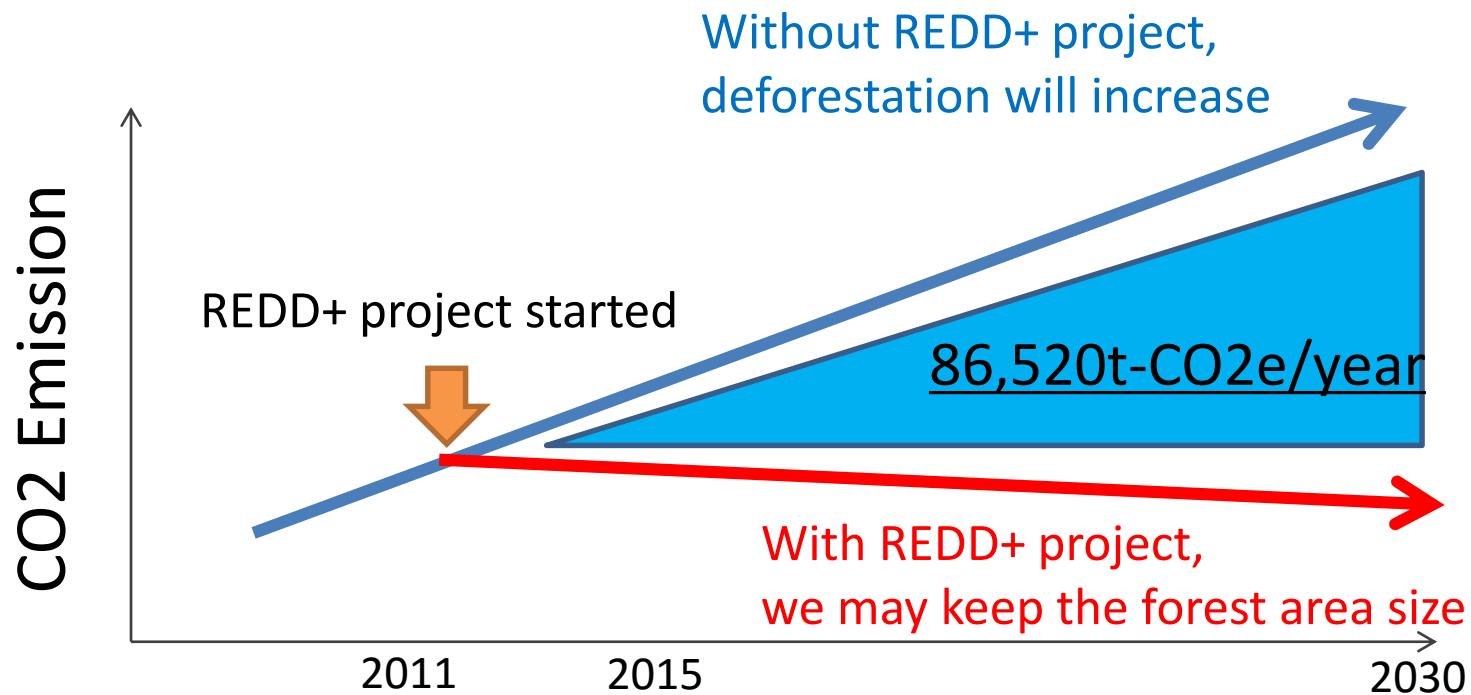
Non-Forest Area

With REDD+ project, we may keep the forest area size

REDD+ team support Cacao farmers.

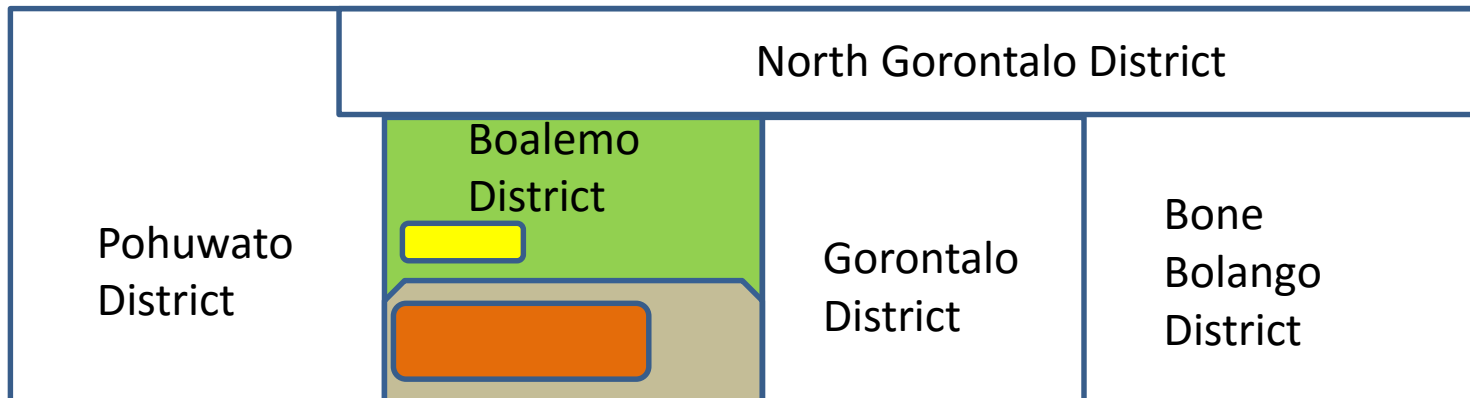


# Estimated CO2 Emission Reduction





# Sub-National REDD+



We apply same MRV to whole Gorontalo Province

Thank you for your attention !  
Shinsuke\_Yazaki@kanematsu.co.jp



Boalemo farmers produce high quality cacao, and bring prosperity to the community. We hope this program expands over whole Gorontalo.