



COFFEE INNOVATION

Adena Kenawat Agni-dryer

Making Natural Processed Coffees Efficient and Profitable



CHALLENGE

Natural coffee price is valued 30-33% higher more than washed process but can take up to three times longer to dry. Outside capital strength, the limitation for small scale processors to process natural-coffee is in production yield per meter square of drying area and insolation of the sun.

INNOVATION

QUALITY & CONSISTENCY

ADENA – KENAWAT is going to manufacture, deploy and sell a dry-air based mechanical dryer. Using this dryer, processors can reduce the overhead of natural processing by 20-30%. The fuel for the dryer is a combination of LPG and wood pellets or coffee waste.



COMPANY DESCRIPTION

Adena is a coffee processor and trader in Indonesia which has the vision to improve rural livelihoods by connecting coffee farmers to markets. Since 2016, we developed our coffee mills together with farmers in Gayo Kenawat, Flores Kelimutu and Lintong Nauli.

NUMBER OF STAFF

4 EMPLOYEES



COST-BENEFIT ANALYSIS

COSTS

LESS THAN 20,000 EUR PER DRYER

EFFECTS ON REVENUE

NOT YET DETERMINED

EFFECTS ON YIELD

NONE EXPECTED



PREPARATION



TIMELINE

3-5 MONTHS

MATERIALS & EQUIPMENT

- AGNI-DRYER
- LPG TANK
- ELECTRICAL CONNECTION
- LEVEL AREA AT LEAST 3M X 4M WITH ROOFTOP ABOVE 3M TALL



STAFFING

REQUIREMENTS

1 OPERATOR



LESSONS LEARNED

CHALLENGES

Price of materials was unpredictable due to exchange rate fluctuations.
Machine cycles need to dry coffee without damaging the coffee.

TAKEAWAY

Finding the right technical partner (machinery workshop) makes a big difference to the success of the project.

RESULTS

As a result of Adena's trial,



Cloud cover makes usual solar dome drying impractical in parts of Indonesia where seasons are shifting thanks to climate change, like this farm in Flores.



Up to 30%

INCREASE IN INCOME FROM
NATURAL PROCESSING VS.
WASHED



75

FARMERS & 500 HA'S
IMPACTED



20-30%

REDUCTION IN COSTS FOR
PROCESSING NATURAL COFFEE

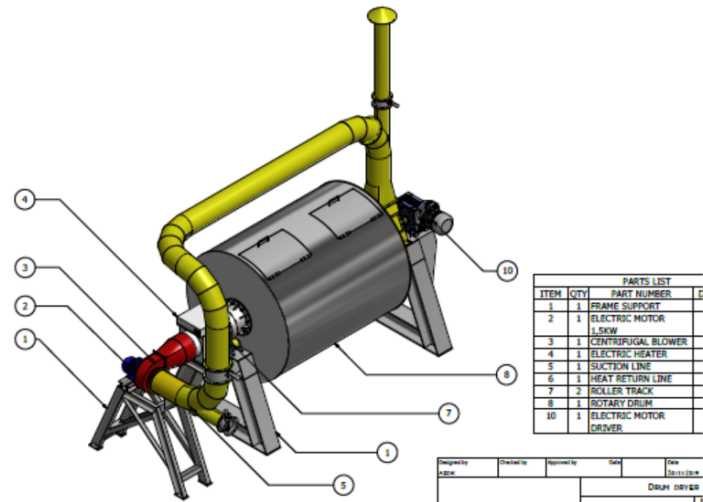


CHERRY PRICES EXPECTED TO
INCREASE AS PROCESSING
CAPACITY AND DEMAND
INCREASE

IMPLEMENTATION



Exhaust connection.



Dryer plan.

1

PREPARE PLACE FOR AGNIDRYER AT LEAST 3M X 4M OF AREA WITH ROOFTOP ABOVE 3M TALL

2

UNLOAD AGNIDRYER DRUM SETS TO THE PLANNED AREA

3

INSTALL EXHAUST PIPE TO THE DRUM SETS

4

CONNECT ALL CABLE CONNECTIONS TO CONTROL PANEL

5

PLUG IN MASTER POWER CABLE AND PREPARE LPG TO BE PUT INTO GAS REGULATOR

6

SWITCH ON AND TEST FUNCTIONALITY OF THE MACHINE BASED ON CERTAIN INDICATOR SETTINGS (TEMPERATURE AND HUMIDITY)

7

LOAD THE DRUM WITH COFFEE CHERRY AND RUN MACHINE. TEST CHERRIES AFTER ONE CYCLE FOR MOISTURE CONTENT.

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MISSION

The Fund's objective is to increase profitability of small-holder coffee farmers, and foster greater, more equitable value distribution in the supply chain through promoting innovative farming systems, transparent and inclusive business models, and access to new markets.
