Feasibility study for JCM project in the Republic of India using rice straw solid fuel production ~RSSF (India) ~

17th February 2026

SUURI-KEIKAKU CO., LTD. (SUR) &

National Productivity Council in India (NPC)

Mr. KUWAHARA Fumihiko (SUR)

Ms. NIKITA (NPC)

SUURI-KEIKKAKU CO.,LTD.

Establishment day: 10th Jun. 1967 (Start of Operation: Jan. 1971)

Number of Employees: 207 (as February 2025)

Main Shareholders: SHOGAKUKAN Inc., Shueisha Inc., CAC Holdings Corporation.

Business Activities:

1) Development of Publishing information systems specializing in publishing-related service

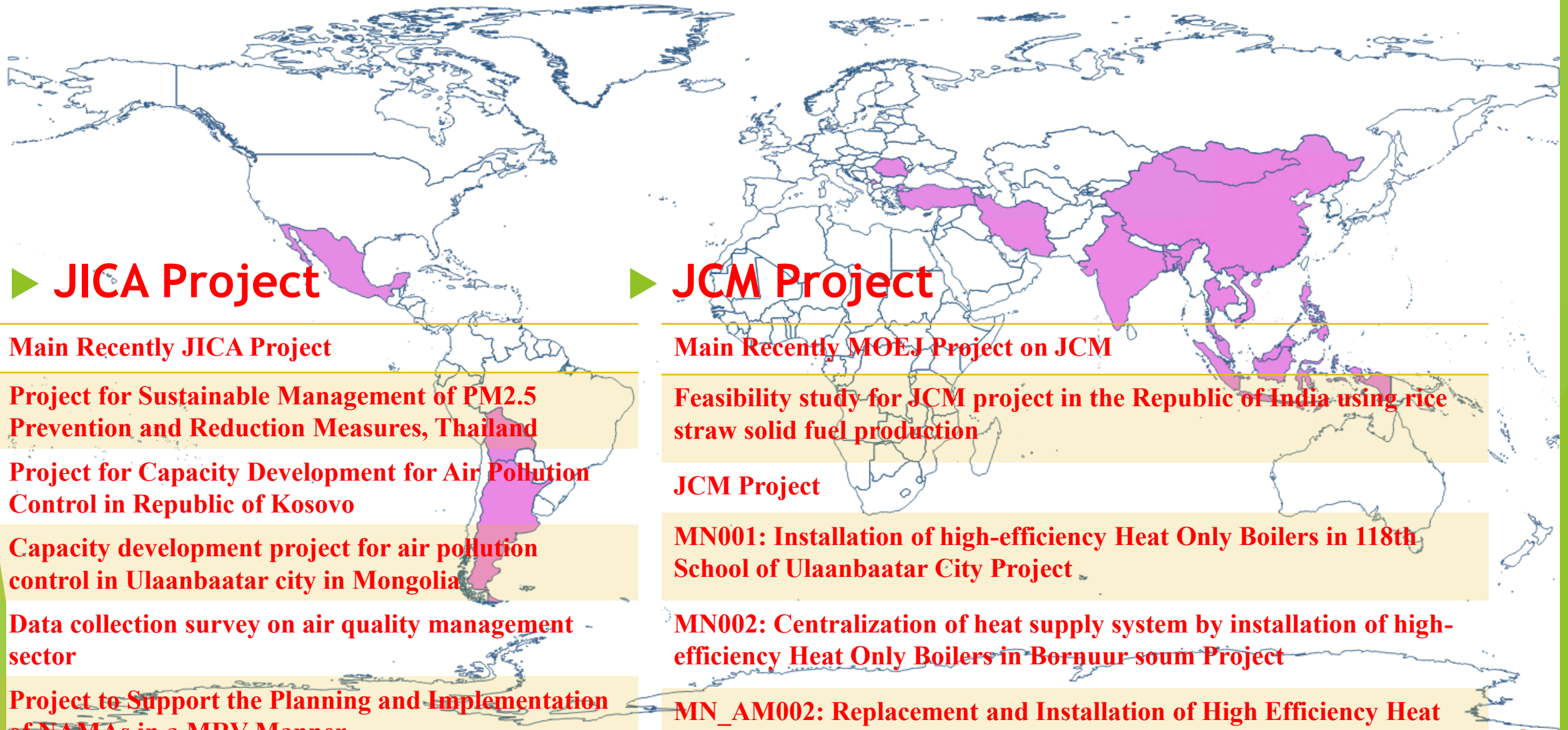
2) Development of IT services (information system services)

3) Environmental Consulting Services

Comprehensive consulting services ranging from environmental surveys and analysis to predictions and evaluations

URL: https://www.sur.co.jp/

2. Examples of recent project countries (SUR)



JICA Project

Main Recently JICA Project
Project for Sustainable Management of PM2.5 Prevention and Reduction Measures, Thailand
Project for Capacity Development for Air Pollution Control in Republic of Kosovo
Capacity development project for air pollution control in Ulaanbaatar city in Mongolia
Data collection survey on air quality management sector
Project to Support the Planning and Implementation of NAMAs in a MRV Manner (Capacity Enhancement of Local Governments)

JCM Project

Main Recently MOEJ Project on JCM
Feasibility study for JCM project in the Republic of India using rice straw solid fuel production
JCM Project
MN001: Installation of high-efficiency Heat Only Boilers in 118th School of Ulaanbaatar City Project
MN002: Centralization of heat supply system by installation of high-efficiency Heat Only Boilers in Bornuur soum Project
MN_AM002: Replacement and Installation of High Efficiency Heat Only Boiler (HOB) for Hot Water Supply Systems

NPC in India

- National Productivity Council of India (NPC), established in the year 1958, is an autonomous organization under Department for Promotion of Industry & Internal Trade, Ministry of Commerce and Industry, Government of India. Besides undertaking research in the area of productivity, NPC has been providing consultancy and training services in areas of Industrial Engineering, Agri-Business, Economic Services, Quality Management, Human Resources Management, Information Technology, Technology Management, Energy Management, Environmental Management etc., to the Government and Public & Private sector organizations. NPC is a constituent of the Tokyo-based Asian Productivity Organization (APO), an Inter-Governmental Body of which the Government of India is a founding member.
- NPC aims at being a promotional body with a professional approach and competence. It seeks to realize its primary objective of productivity promotion through various means, including:

Technology of TROMSO (Briquettes made from rice straw)

Grind Mill

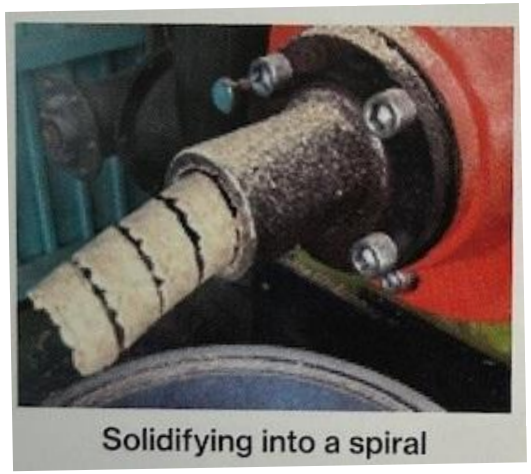
This technology developed from Japanese shipbuilding technology has a significantly higher compression rate than other technologies and can crush and solidify rice straw and rice grains under high pressure.

Grind mill (Curl Chip machine: TRM-200CR)

Speed of production: Approx. 200kg/h
Size: 2200(W)×1100(D)×1480(H)
Weight: Approx. 985kg
Power: AC200V 3φ 50/60Hz
Motor: 30KW 4P reduction ratio 1/7.12

No need to build a factory!
Just install the required number of machines!

Briquettes made from rice straw



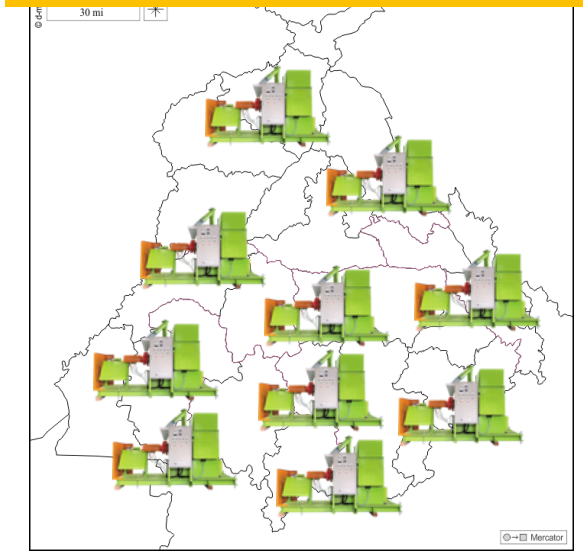
Solidifying into a spiral

Curl Chips

Briquette can be made from 100% rice straw.
No binders are used.
Calorific value: 3600~3700 kcal/kg for rice straw blocks (around 4000 kcal/kg for regular firewood)
It can also be mixed with other materials (sawdust, peanut shells, etc.).

Draft Basic idea for JCM Project

Idea is that Grind-mills will be installed in Farmers' Cooperative (FC) in each district of Punjab State.

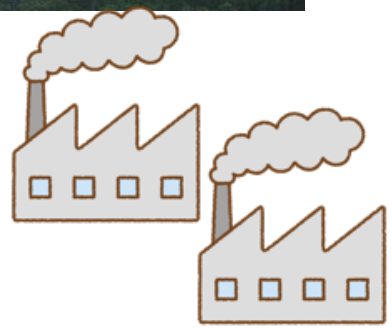


Producing Briquettes from rice straw

Two Options for providing Briquettes

Power Plant

Option 1



https://tsukatte.com/factory-dirty-smoke/

Option 2

Factories
Chicken farms, etc.

Source: Author-generated using Microsoft Copilot (generative AI)

Reducing fossil fuel use

Co-Benefit

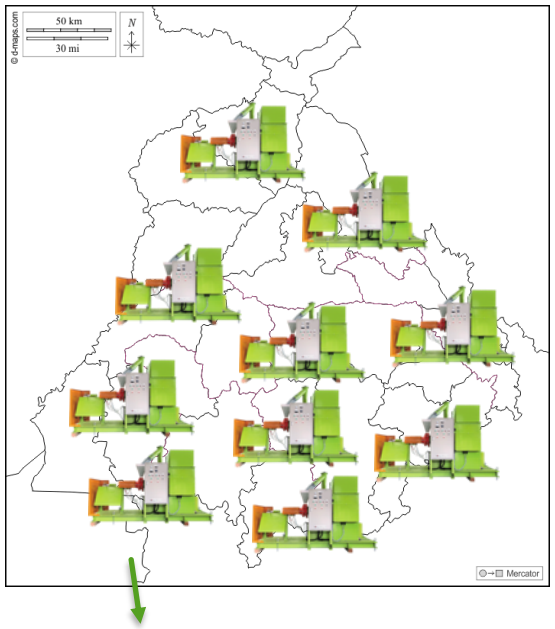
Reducing CO2 emissions from coal.

Use of high-quality Bio-Briquettes reduces air pollutions.

Selling Bio-Briquettes becomes an incentive for farmers because of additional incomes.

6

Implementation Structure



Framework for JCM FS Survey

Indian Side
NPC
Dadhahur Farmers' Cooperative

Collaboration

Japanese Side

SUURI-KEIKAKU
TROMSO

Japanese side and Indian side have collaborated for field survey in the Punjab Rural Area.

Workshop in Panjab
Demonstration of Grind-mill

Relevant Organizations such as Indian Government, Government of Punjab State FC, Farmers, Factories, etc.

Benefit1: Emission Reductions for Air Pollutants and GHG
Benefit2: Carbon Credit is Additional income for famers

In the case of open burning at rice field, incomplete combustion releases large amounts of air pollutants, causing health problems.

CO, VOCs, NOx, SOx, etc

By burning high-purity solid bio-fuel (Briquette) under proper management, the emissions of air pollutants can be reduced.

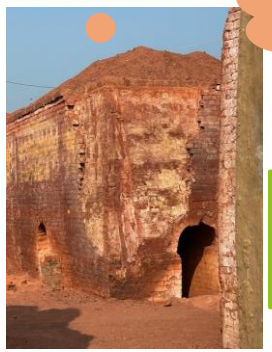
Fuel Shift

CO, VOCs, NOx, SOx, etc

Ex. Brick Factory using coal


Coal Yard


Stack



CO2, etc

Reducing coal consumption because of using Bio-Briquettes

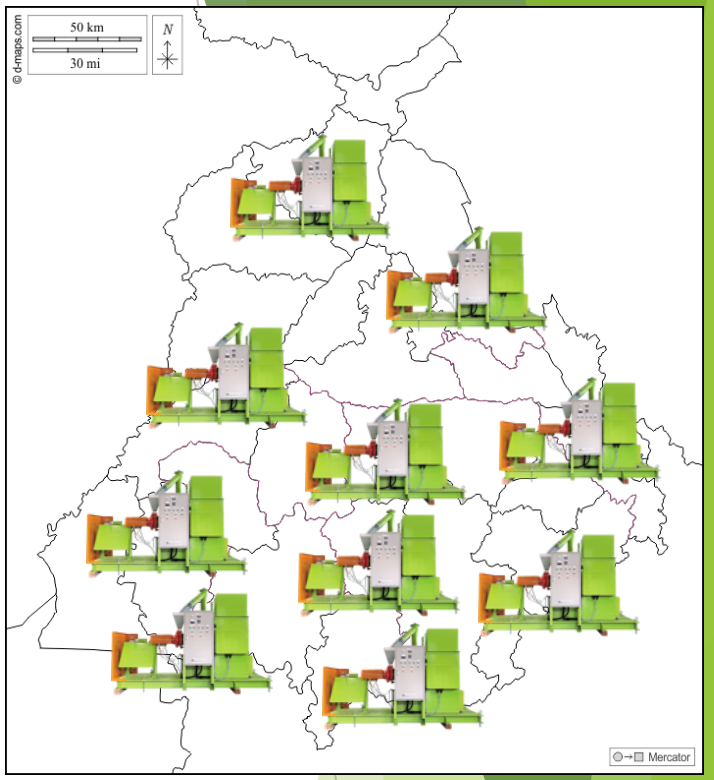
JCM FS in India

Demonstration of a Grind-mill in Punjab State

Japanese side is exporting a Grind-mill.

TROMOSO will carry out the training of operating a Grind-mill for Indian side staff and farmers of FC.

Indian side and FC will carry out demonstration of operating a Grind-mill in Punjab.



Feasibility Study for JCM Project

SUURI-KEIKAKU with support of Indian side will carry out interview survey for factories and farmers.

- Discussion on issues for collection and storage of rice straw.
- Cost Evaluation: Electricity Consumption, Fuel Price, fee of operators, etc.
- Market research for demands of Briquettes, how to record fuel consumption in factories, etc.

Seminar on introduction of JCM FS in Punjab

9

Draft Concept for JCM Methodology

Baseline

Coal

Factories/poultry farms, etc.

Estimation for Coal Consumption by referring Biofuel Consumption under the Project Activity

Project

Rice Straw
(Raw Material)

Grind mill

Biofuel

Factories/poultry farms, etc.

GHG emissions from raw material collection
(Consideration of default calculation based on production volume)

Production volume (or sales volume)
(Consideration of monitoring items such as mass and quantity)

Purchase volume
(Confirmation and consideration on fuel procurement recording methods)