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Official Launching of CARD 2nd Phase

2019/8/30

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Japanese mechanization for Rice production

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1. Cultivation Pudding

Tractor + Rotary

Raise seeding

Nursery centre
Seedling box auto-feeder
Nursery Greenhouse

2. Planting-coordinated tasks

Rice-Transplanter
Fertilizer, Insecticide applicator Weeder

3. Harvesting

Head-feeder
Combine Harvester

4. Drying・Husking

Rice Centre
- Drying Machinery
- Husking Machinery

Farming Assistance System with ICT (Japan)

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Farming support system

Machinery service system

GIS
(Geographic Information System)

Map data

KSAS cloud
(accumulation/analysis of farmwork data)

Operation/location information

Dealer
Kubota

Service staff
(sharing machinery operation status)

KSAS Mobile
(sending/receiving of various data)

Maintenance service:
Responding quickly and properly to vehicle troubles

Farming data

Machinery/ crop data

Work plan

Work records

Wi-Fi

Machinery/ crop data

Combine harvester with taste/yield sensor

Farm manager
(use of data on computer)

Office

Operator on site
(recording of work on mobile device)

Field

KSAS Agricultural Machinery
(collection of crop data, machine data)

Field

Improvement on Productivity & Yield for rice production in Japan

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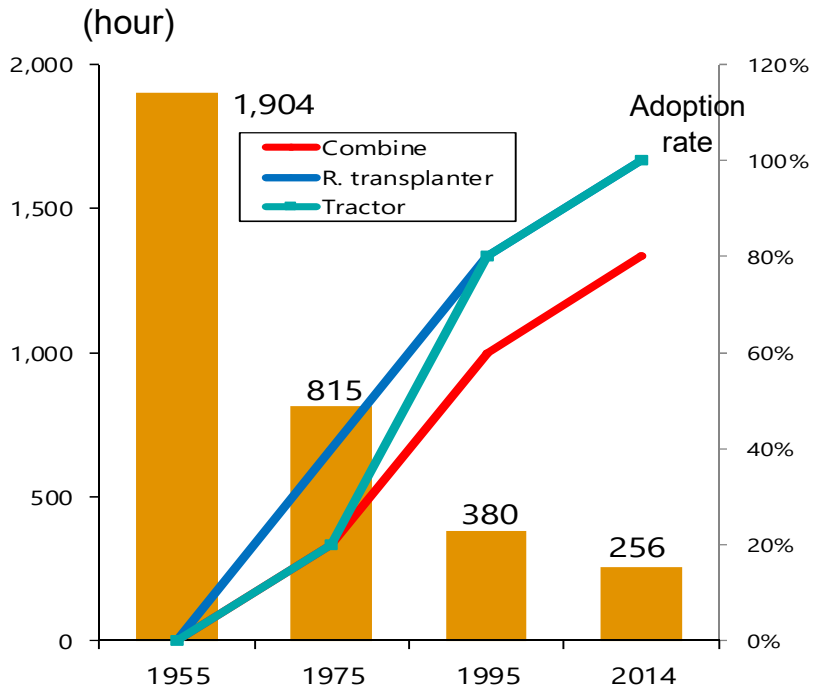
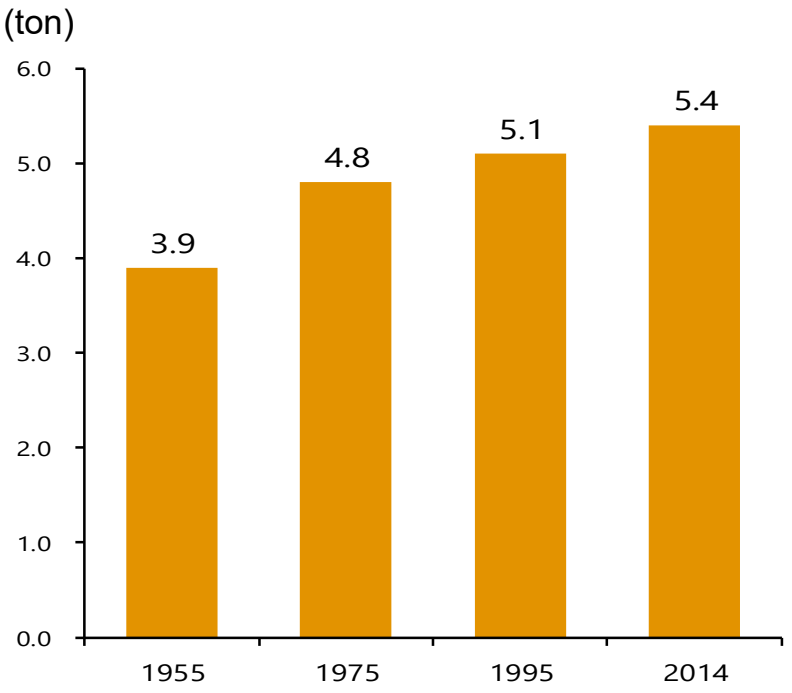
Working hours / ha



Yield / ha



(Sources: Ministry of Agriculture, Forestry and Fisheries of JAPAN)

Combine Harvester for Tanzania

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Model	DC-70H/G
Horse Power (ps)	69ps
Reaping Width(mm)	2075
Working Speed(m/s)	High 1.85
Threshing Drum Size(mm)	620x 1650
Crawler Size(mm)	500x 1700
Ground Clearance(mm)	325

*The product specification is subject to change without prior notice.

Farmers' Benefit of Combine Harvester

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Manual Harvesting

Big Grain loss (approx.12%)

-Loss in reaping

-Loss in carrying

(and loss in threshing etc...)

Grain Loss by Manual Harvesting:
More than 12% in total !

Decrease of earning
630kg/ha = approx.160USD/ha
(ex.Tanzania)

Combine Harvester

Small Grain Loss (< 3%)

Grain Loss is less than 3%

Earning Increases by approx. 10 %

*Actual figures may vary based on crop, field and operators skill conditions.

Farmers' Benefit of Combine Harvester

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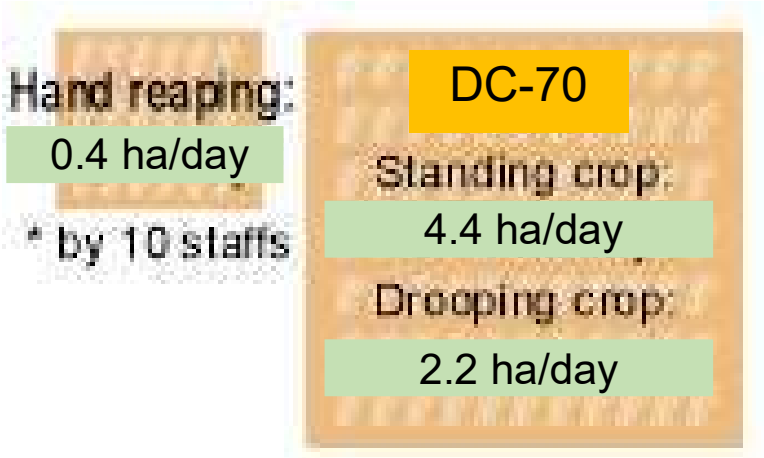
Manual Harvesting

Missing out a Good Harvesting Time

Low efficiency (0.4ha/day, 10 staffs) often cause missing out a good harvesting time, which cause grain damage and increase of grain loss.

Combine Harvester

Keep a Good Harvesting Time



Efficiency grows and farmers can harvest at a best time for their paddy fields

*Actual figures may vary based on crop, field and operators skill conditions.

Farmers' Benefit of Combine Harvester

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Manual Harvesting

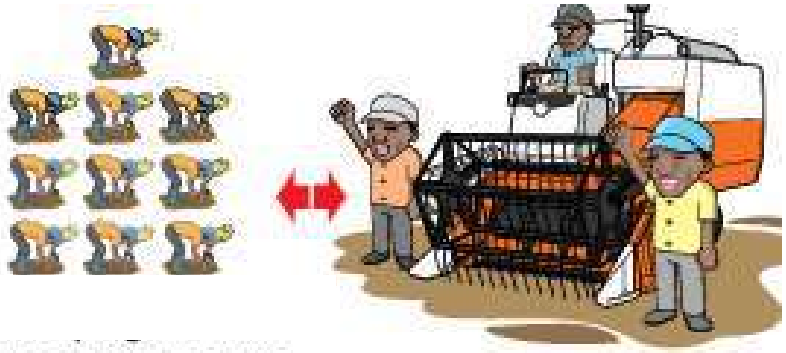
Gathering Staffs is Annoying

・Concentration of needs for staffs at the peak of harvesting season

・Shortage of staffs due to industrialization

Combine Harvester

Free from Gathering Staffs



for 4.4 ha / day

110 staffs

w/o Threshing

for 4.4 ha / day

3 staffs

(1 Operator, 2 supporters)

Incl. Threshing

Combine Harvester frees farmers from annoying job (gathering staffs)

*Actual figures may vary based on crop, field and operators skill conditions.

Combine Harvester User Satisfaction (Tanzania)

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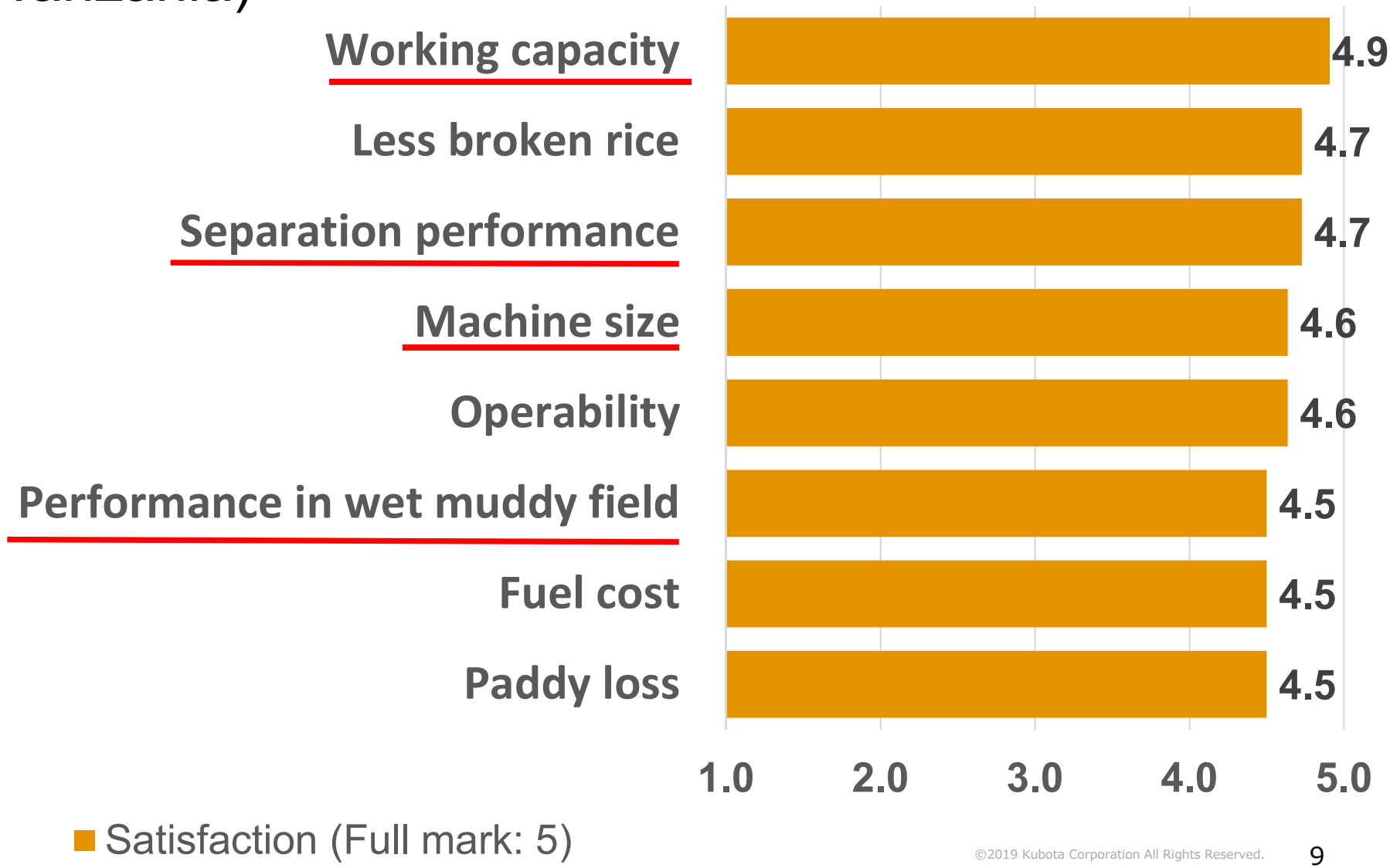

Recommended Kubota Power Tillers

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NC-Plus

Plough type
(8hp-14hp)
The best seller
in ASEAN

PEM480

Rotary type
(14hp)
For the multiple
operations

Model		NC-Plus	PEM480
Tilling method		Plough	Rotary/Plough
Speed		3F/1R	6F/2R
Power		8-14hp	14hp
Dimension (With cage wheel)	Width	1050mm (1200mm)	861mm (1061mm)
	Length	2960mm	2425mm
	Height	1220mm	1067mm
Weight	Power Tiller	215 kg	227 kg
	Engine	107 kg	116 kg
	Total	322 kg	343 kg
Capacity	Wet field	7.0hr/ha	5.4hr/ha
	Dry field	8.3hr/ha	9.2hr/ha
Engine	Main Model	RT120	RT140DI
	Max. output	12hp/2400rpm	14hp/2400rpm
	Displacement	624cc	709cc

*The product specification is subject to change without prior notice.

Introducing Power Tillers to West Africa

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Nigeria

- Power Tiller with Kubota Engine was **certified by NCAM,** Nigeria in 2015.
  (NCAM : National Centre for Agricultural Mechanization)

- The engineers of NCAM was trained at Kubota Indonesia.

Power Tiller - **G1000 Boxer** (Manufactured by CV. KHS, Indonesia)
Diesel Engine - **RD110DI-2S** (Manufactured by Kubota Indonesia)

[Field test at NCAM, Ilorin, Nigeria, May 2015]

Introducing Power Tillers to West Africa

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Chad

- Kubota engine mounted power tillers were supplied to IOM project in chad.

Power Tiller - **G1000 Boxer** (Manufactured by CV. KHS, Indonesia)
Diesel Engine - **RD110DI-2S** (Manufactured by Kubota Indonesia)

[Field test in Chad by NCAM, November 2017]

Tractor for Africa

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Model	B series	L series	M series
			
Engine Power	18-23hp	34-45hp	70-130hp
Target crop	Vegetable, Tomato, Coffee, Cacao, Flower, Fruit	Paddy field, Vegetable, Cereal, Fruit	Vegetable, Wheat, Corn Dairy farmer, Vineyard, Fruit
Application	Trailer, Sprayer, Mower, Rear cutter	Cultivation, Leveling, Trailer,	Trailer, Sprayer, Cultivation, Rear cutter
Positive feedback	・Short turning radius ・Comfortability ・Light weight ・Lower fuel consumption	・Higher quality ・Water resistance ・Light weight ・Lower fuel consumption	・Short turning radius ・Comfortability ・Lower fuel consumption

*The product specification is subject to change without prior notice.

Movie (Combine Harvester in Tanzania)

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Proposed Plan

by
Working Group on Agriculture,
Africa Business Council

2019.8.30

Africa-Japan Innovation Center for Modernized Agriculture

【Overall Goal Toward 2030】

Improvement of agriculture productivity / quality of agricultural products

through dissemination of life-time cost-effective Agricultural Materials, Machines, Technologies of Japan/Africa…

Establishment of an Innovation Base
for Experiment and Demonstration of Modernized Rice and Horticulture
Business & Human Resource Development for Extension

(Image)

Role of Stakeholders

Japanese/African Companies

1. Grant/lease of agricultural materials/machines/technologies
2. Research & Development of agricultural mechanization technologies
3. Dispatch of agricultural engineers
4. Formulation of after-sales service system

Africa-Japan Innovation Center

in several countries

JICA

Host Gov.

1. Provision of experiment and demonstration plots
2. Coordination with domestic research and training institutes
3. Recommendations for agricultural mechanization policies, strategies, and plans

JICA

1. Establishment of experiment and demonstration plots
2. Dispatch of Japanese Expert(s)
3. Support for research of rice industry business
4. Training for African stakeholders

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Thank you very much!

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