



# To make Sri Lanka a major exporter

## Team Japan

I : Introduction of soil conditioner (Fujimin)

◆ Japan Conservation Engineers Co., Ltd.

II : Introduction of agricultural land drainage and irrigation system  
(Sheet-pipe System)

◆ Kyouwa Corporation

III : Introduction of fruit and vegetable freshness preservation technology (Freshmama)

◆ Nissan Steel Industry Co., Ltd

Supported by: I C NET LANKA (PVT) LTD



# To make Sri Lanka a major exporter 【Full support at Team Japan!】

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Kyouwa Corporation



Sheet-pipe System  
(SPS)

Introduction of agricultural land  
drainage and irrigation.

Japan Conservation Engineers Co., Ltd.



Fujimin

Introduction of soil conditioner

Nissan Steel Industry Co., Ltd



Freshmama

Freshness preserving film of agricultural  
products.

## Taiwan fruits export success story

- Taiwanese fruits exports in the first half of 2019



Item	Export value (USD)	YoY	Export volume (tons)
Pineapple	\$ 280,000,000	66.4%	47,900
Banreishi (Custard Apple)	\$ 135,000,000	18.0%	10,204
Lemb (Wax Apple)	\$ 64,000,000	88.0%	3,559
Mango	\$ 60,000,000	49.6%	3,785
Guava	\$ 20,000,000	66.4%	3,085
Banana	\$ 15,000,000	70.9%	2,139

# J-Methods Farming

- Set up demonstration farms in order to display Japan's excellent agricultural technologies as a package.
- Truly Win-Win project; to improve agricultural productivity and food safety in developing countries with supporting Japanese companies to foray into overseas markets. Suggest the way to solve the food shortage caused by increase of world population.
- In 2019, cucumbers and cabbages were cultivated in the state of Gujarat, India with 13 excellent Japanese companies. Highly appreciated with quality of produces and providing local people learning and job opportunities.

## 【Participated Water saving tech, Seeds, Pesticides, IT and Cold Chain etc.】



## 【 Outcomes in 2019 】



Install Japanese technologies



Juicy and flavorful cucumbers



Locals with priceless smile



Tasting event at the Embassy in India

→WIN-WIN project : To improve agricultural productivities in India with supporting overseas expansion of Japanese companies

## 【 Challenges from the experience in 2019 】



### Differences in conventional farm work

The demonstration field with much plenty watered

Having technologies localized and making proper directions



### Unclear import procedures

The schedule was delayed due to custom procedure

Streamline complicated import procedures



### Shortage of initial investment

Costs were owned by each company

Supports for initial investment especially for small companies

## 【 Plan for 2020 】



Reboot activities with participating companies



Start cultivation on site from October



Trial sales In January

→Expand JMF to other states and countries



Our mission to make Sri Lanka a major exporter of agricultural products.

- Mango
- Melon
- Sweet and sour banana
- Pineapple
- Queen Pineapple
- Mangosteen
- Dragon fruit
- Lemon

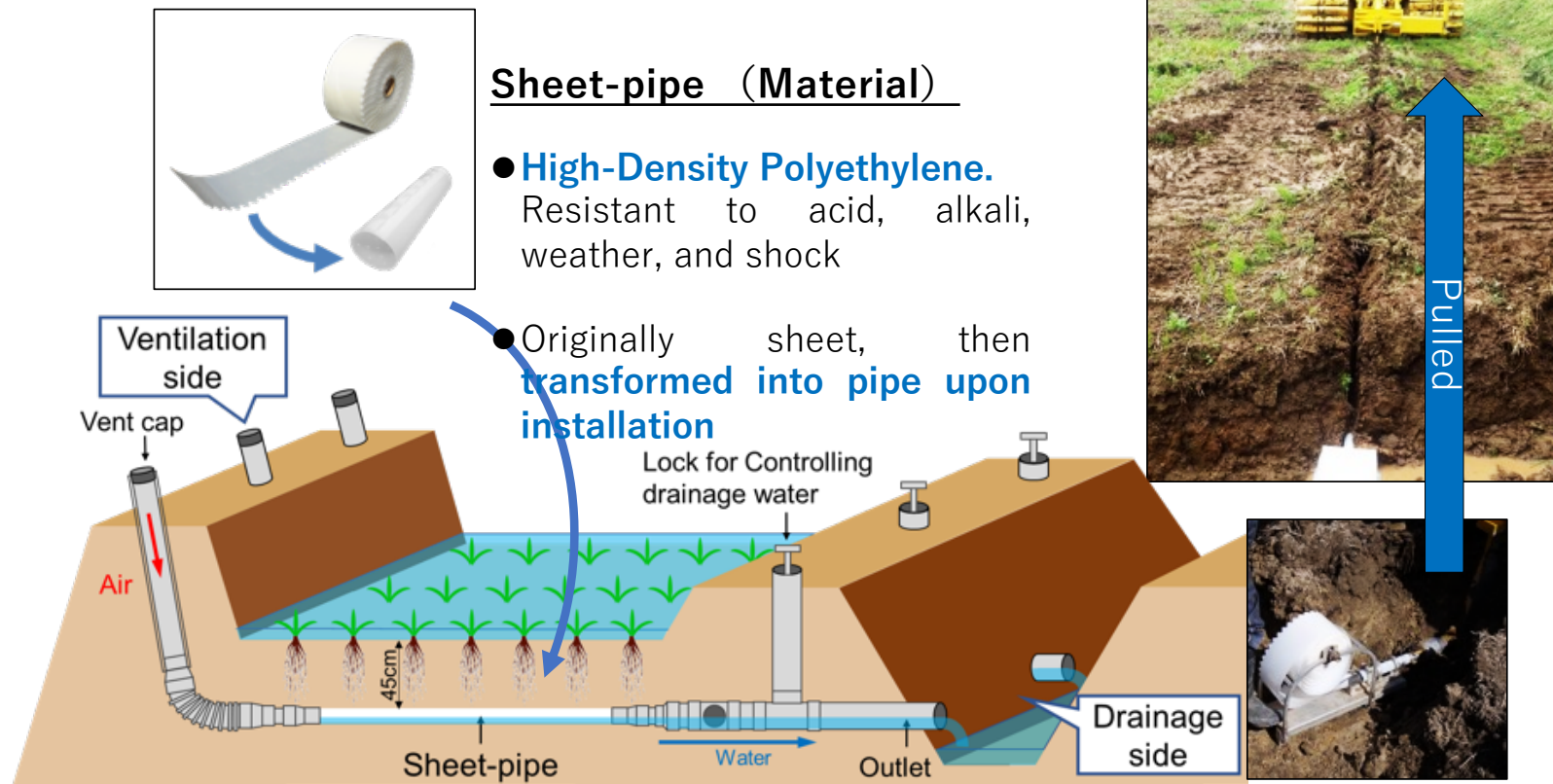
- Suitable for growing a variety of crops, and one-third of the land is arable.
- Known to produce a large variety of tropical delicacies in demand worldwide.

# Sheet-pipe System (SPS)

Kyouwa Corporation

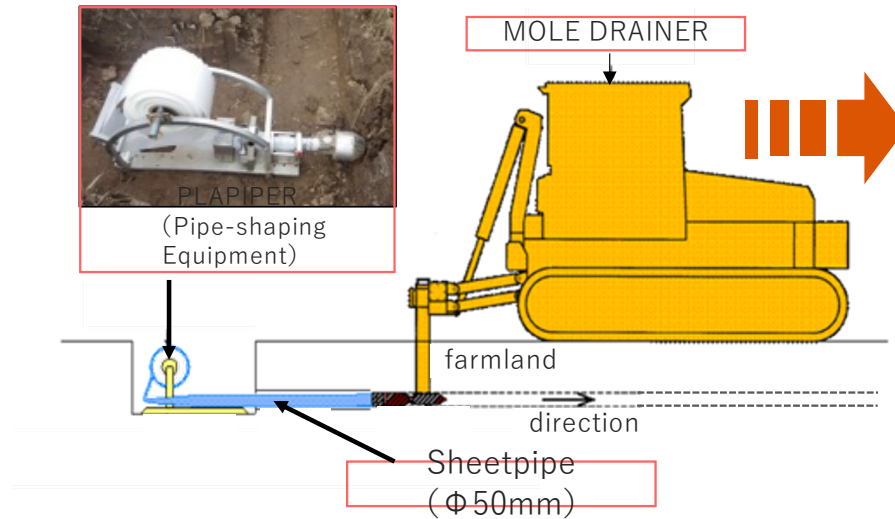


Improving drainage management of farmlands by laying a special drainage pipe (Sheet-pipe) directly underground without excavating the soil using a dedicated heavy machine (MOLE DRAINER).



**Team Japan**

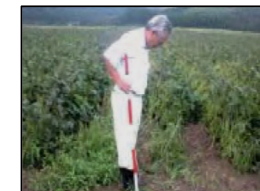
# Advantages of Sheet-pipe System (SPS)



## Effectiveness

- ❑ Farmlands can be **well-drained quickly**
- ❑ Realizing **Mechanized Farming**
- ❑ **Improvement of wetland**
- ❑ Possibility of **crop diversification**
- ❑ **Improved production (15% - 20% yield increase)**
- ❑ Sustainable **salt removal** using natural rainfall

❑ **Increased production** by multiple **Before** **cropping** **After**



## Construction Technology

Shorter construction period

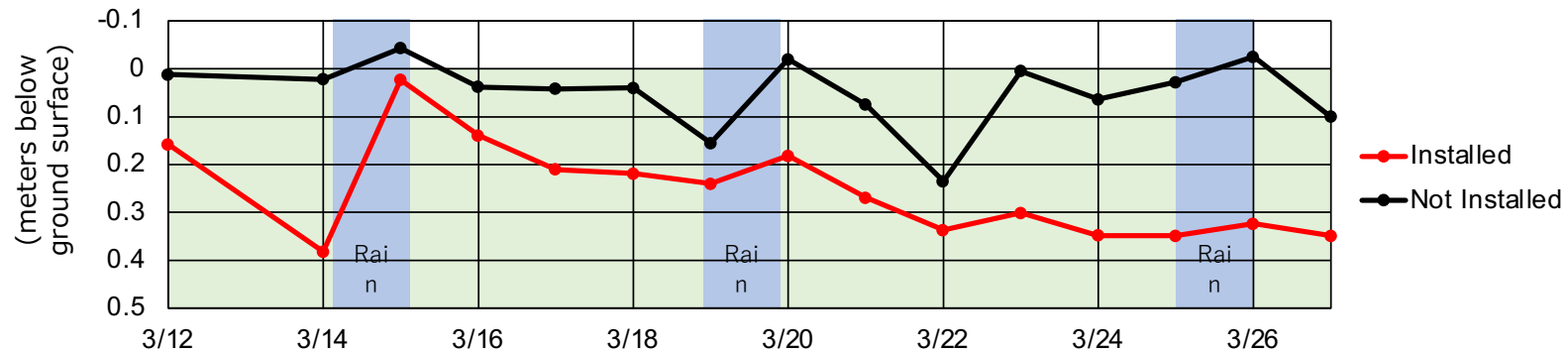
**1/5**

Lower construction costs → **1/2**

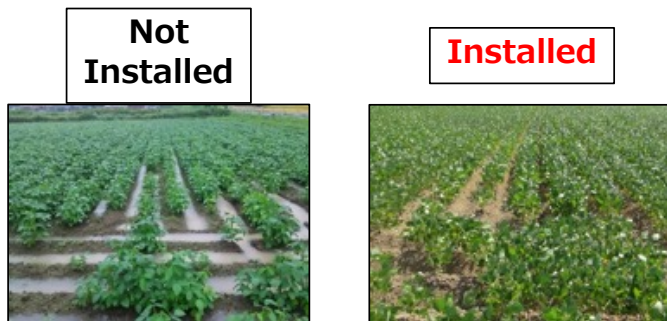
compared to regular underground drainage system

# Performance of Sheet-pipe System (SPS)

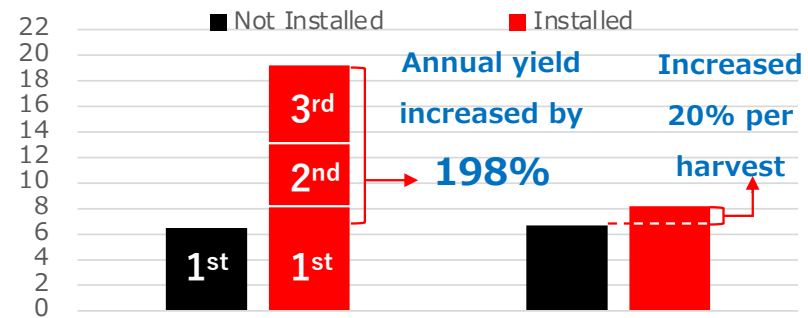
Quick surface drainage effect → Maintaining underground pF value → Preventing root rot



Comparison of groundwater level changes (2018, Indonesia)



Comparison on soybean field (Mine city, Yamaguchi Pref. Japan)



Comparison of rice yields in Indonesia and Soy Bean in Japan (ton / ha)



## Soil Amendments/Plant Growth Biostimulant: High Concentrate Fulvic Acid "Fujimin<sup>®</sup>"

- Fujimin is the high concentration fulvic acid which is firstly developed in the world in the commercial scale production using natural materials in forests. In contrast, fulvic acid is a natural resource which is normally available in very small quantities in nature and is normally found in humus.
- Fujimin<sup>®</sup> is defined as “soil amendments” and also “plant growth biostimulant” because it promotes taking the essential minerals for photosynthesis, such as Fe<sup>2+</sup>, Mg<sup>2+</sup>, into plant cell, in addition to the soil condition improvement.
- Fujimin<sup>®</sup> is certified “the accreditation of Organic JAS (Japanese Agricultural Standards)”.



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# Application Cases of "Fujimin®"

## Tomato (Paraguay)

Fujimin® promoted the growth of plants much faster.



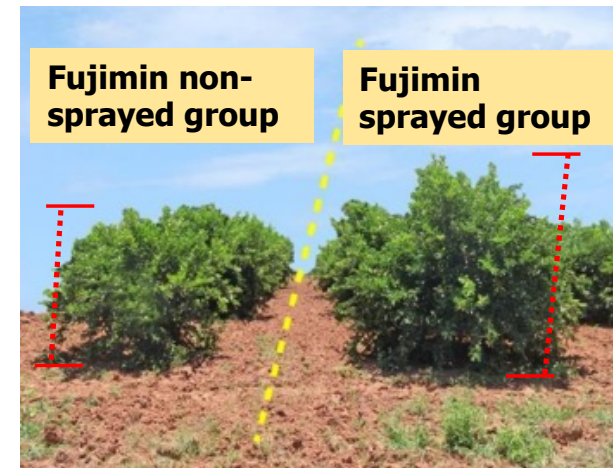
Fujimin non-sprayed area



Fujimin sprayed area

## Lime tree (Paraguay)

Fujimin® promoted the growth of trees much faster.

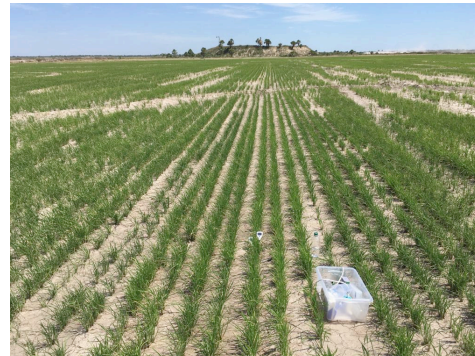


## Rice (Paraguay)

There were differences in height, leaf color, and root length & number.



Fujimin non-sprayed area



Fujimin sprayed area



# Application Cases of "Fujimin®"

## Soybean (Paraguay)

The average yield was 2.9 tons / ha since the field was extremely acidic (pH4). Then, Fujimin® was sprayed the next year and the yield became 4.3 ton / ha.

$$4.3\text{tons/ha} \div 2.9\text{tons/ha} = \text{Increased by 1.5 times}$$

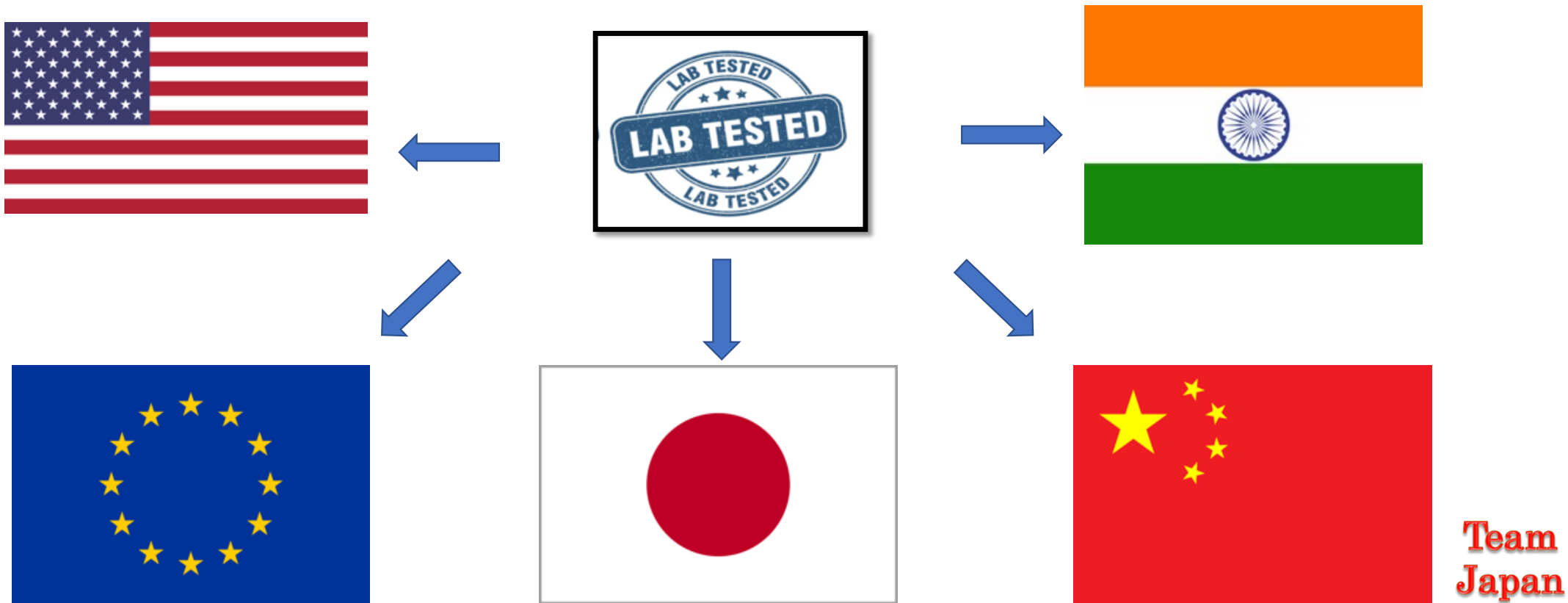


Fujimin non-sprayed area



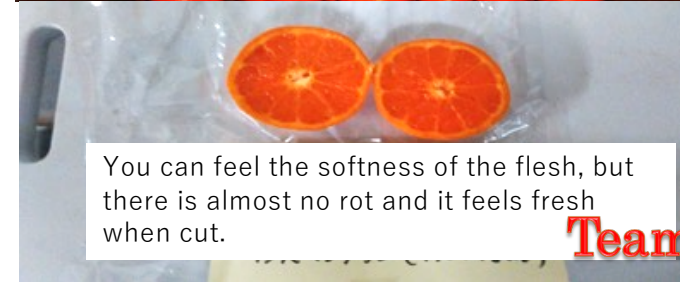
Fujimin sprayed area

New sterilization technology without chemical use.



# Freshmama® [California Non-Chemical Mandarin 45 days after import to Japan]

« By placing one Freshmama on the fruit, ethylene gas can be decomposed to suppress mold and keep the freshness for a long time. »



You can feel the softness of the flesh, but there is almost no rot and it feels fresh when cut.

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# Hawaiian papaya export test and simulation



Hawaiian papaya



Degenerated / disposed



Available



Loss rate **30%**



Hawaiian papaya  
+ **Freshmama**



Loss rate **<5%**

Transportation fee / box **\$6.50**



Loss rate **<5%**

Transportation fee / box **\$1.20**

# Litchi storage test (India)

Low ethylene load environment

Truck transport test  
from Muzaffarpur to Mumbai



- ◆ In the control test area, 3 boxes of the 8 boxes are discarded due to burning of fruits.
- ◆ Freshmama demonstration test was successful

Control



No refrigeration

Freshmama



36~40°C

72 hours



Loss 38%



Loss 0%

# 【Full support From】

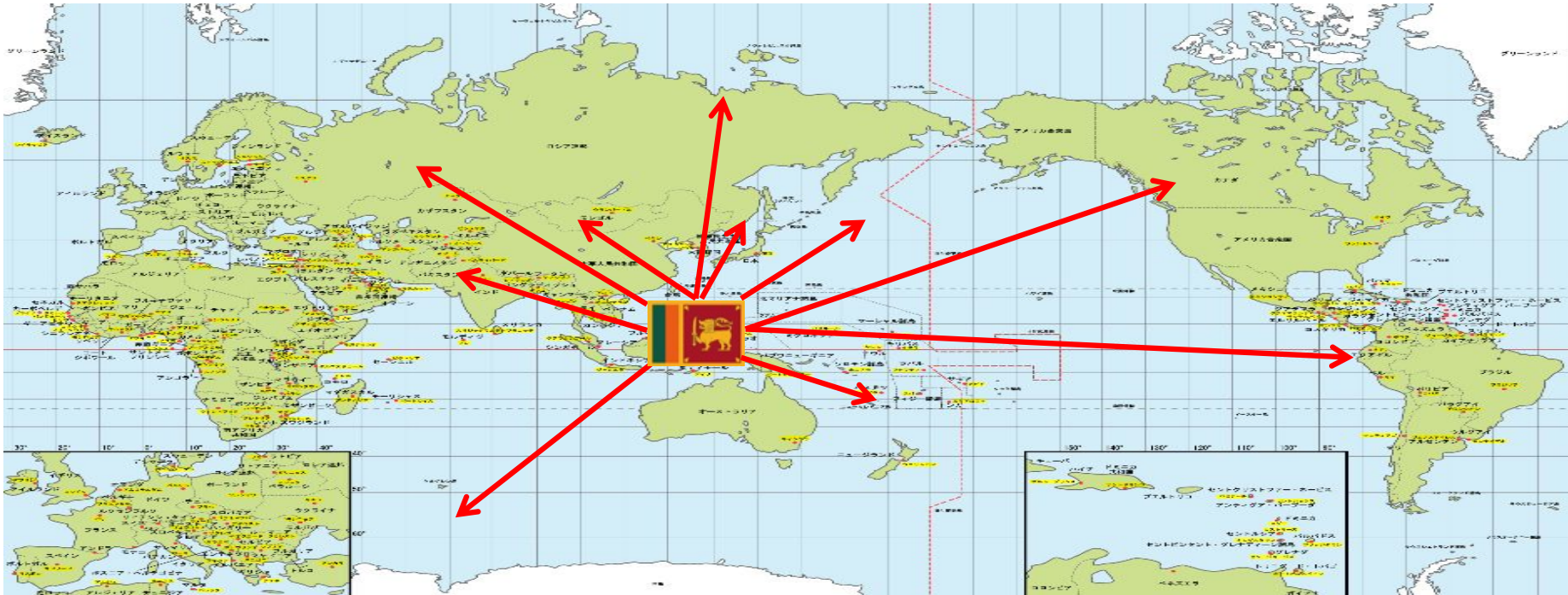
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- Education of farmers (Cash crops production and export methods etc.)
- Agricultural land improvement.
- Introduction of agricultural land irrigation system.
- Introduction of automatic sorting equipment etc. for fruits and vegetables
- Infrastructure maintenance
- Steaming treatment
- Pesticide problem
- Sterilization cleaning treatment
- Freshness preservation technology (Freshmama)

**Team Japan**

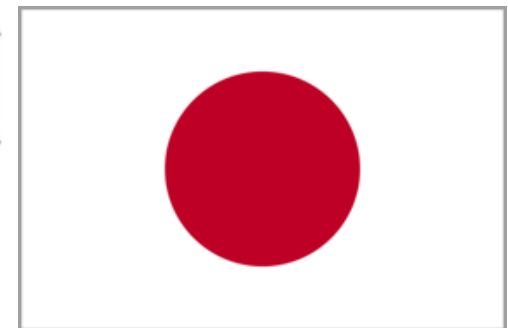
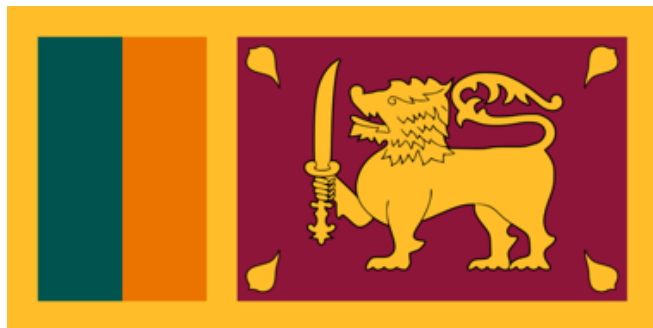


- Increase export of agricultural product.
- Increase in GDP.
- Increase in employment.



**Team Japan**

Business opportunities for both countries.



Thank you

ありがとう



**Team Japan**