

17th SGRA Manila Seminar
From the Fukushima Disaster

Empathy & Collaboration

**Our Challenge toward
the Resurrection of Life & Industry
in Fukushima**

February 11, 2014

NPO Resurrection of Fukushima
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Conclusion

□ Iitate - Nature-rich Village

Known as “One of the most beautiful 100 villages of Japan”



Spring



Summer



Autumn



Winter

Life and Industry which cultivate lives
under blessing of nature



Rice Cultivation

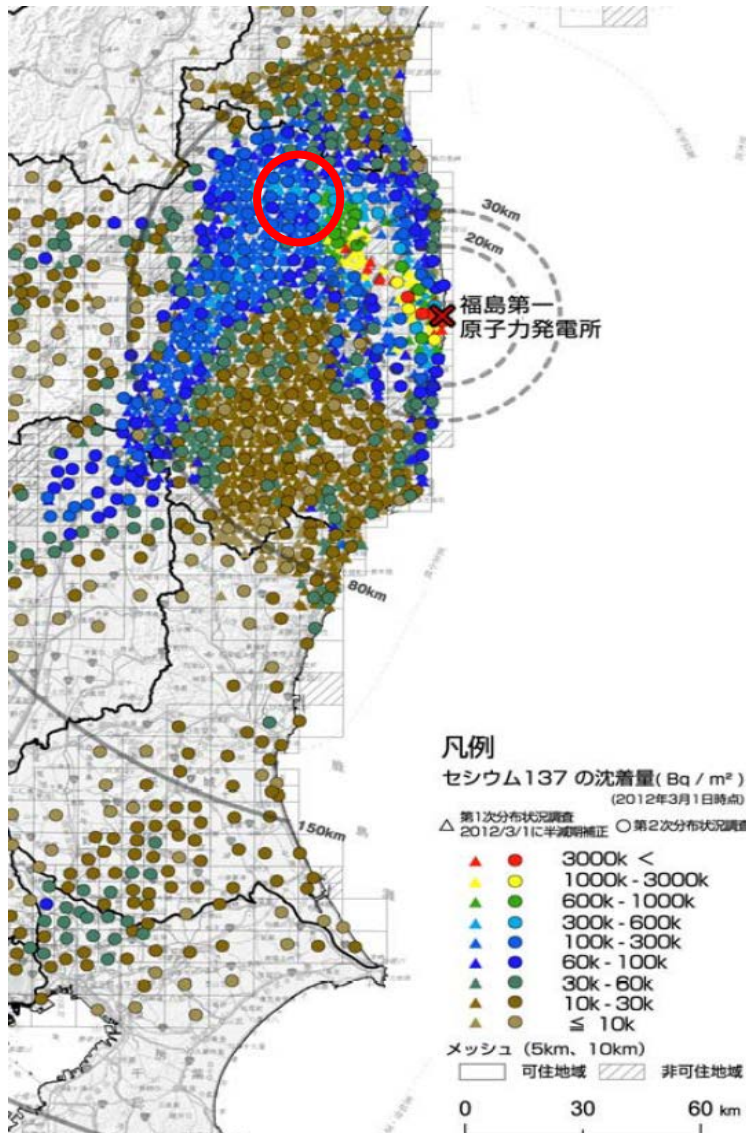


Stock Raising-Iitate cattle

❑ Accident at Fukushima No.1 Nuclear Power Plant, March 14th 2011



□ Contamination of Soil in Iitate Village



- Contaminated by Cesium 137
- in Iitate Village ;
 $30,000\text{Bq/m}^2 \sim 1,000,000\text{Bq/m}^2$
- Can they go back to the village?
- Can they restart agriculture?

セシウム137の各種分析結果(文科省による調査結果 2012年3月1日時点)
http://radioactivity.mext.go.jp/ja/contents/7000/6213/24/338_0912_18_rev0914.pdf

❑ Encounter of “Resurrection of Fukushima” with Iitate Village

- Yoichi Tao ,Director of “Resurrection of Fukushima” , and other 15 members visited Iitate Village in June 2011 and offered their support.
- Came to an accord on following points.
 - Accident of Fukushima No.1 Nuclear Power Plant was obviously man-made disaster.
 - Nuclear Power Plant should have technology for restoring accident.
 - Government should take necessary measures which villagers can go back and work the earth.
 - This issue is world issue, not Fukushima’s only.
 - We supply all the data to administration and make proposal for resurrection.
 - We agreed to make investigations and experimentations using houses which families are away, farmland and forest.
- The project started as “Resurrection of Fukushima”.

Then we started our collaboration.

□ What is “Resurrection of Fukushima” ?

■ Object

Resurrection of life and industry of disaster stricken area destroyed by the accident of nuclear power plant.

■ Management

- Managed by volunteers and farmers
- Funded by membership fee and contribution
- NPO in July, 2012
- Individual member 250, Corporate member 6-groups (as of December, 2012)
- Corporate with research institutes and university laboratories.

■ Principle for our activities

- At the disaster-attacked sites
- Collaborate with farmers
- With continuity

■ Major activities at present

- Radiation measure and analysis of radioactivity
- Experimentation of decontamination – housing, farm land and forest-
- Measure and experiment for resurrection of agriculture
- Dispatching information to the world
- Care for the victims

Empathy & Collaboration

The Resurrection of Fukushima: Characteristics & Keywords

Goal: Recovery of the area
Collaboration
Independent Volunteers
Vitality from the varieties of participants
Knowledge, technics, work experience, network
Breadth of vision
Flexible handling
Detailed care

Power for Recovery
Experience, knowledge,
Tradition, culture, wisdom

Villagers

Collaboration against
Scattering

Empathy & Collaboration

Resurrection of Fukushima

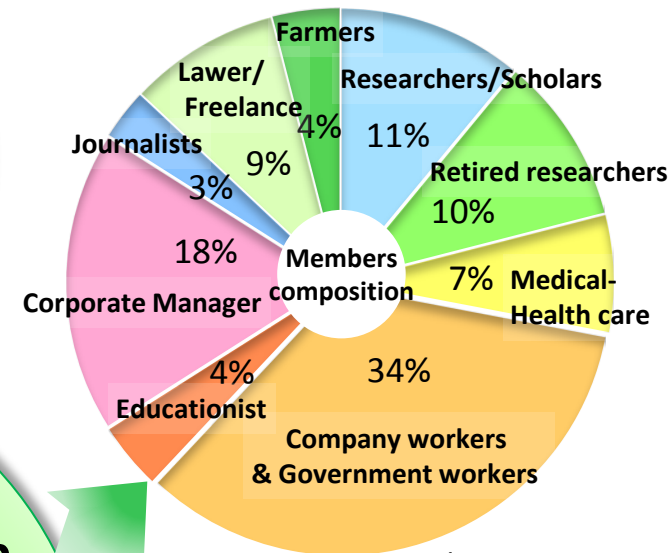


Non-Profit Organization

Specialists
Science & Technology
**Universities/
Research Institute**

Interdisciplinary
Collaboration

Members



(Nov. 2013)

Public Service
**National
Prefectural
Local**

Overcome Sectionalism
& Bureaucratism

250 Members , 6 Corporate Members

Board of Directors : 7 Directors & 2 Auditors

❑ Challenge 1: To know the exact situation of Contamination

◆ Development of Radiation Monitor

As GPS and dose rate meter are built-in, this monitor can register the position and measure doses of radiation automatically.

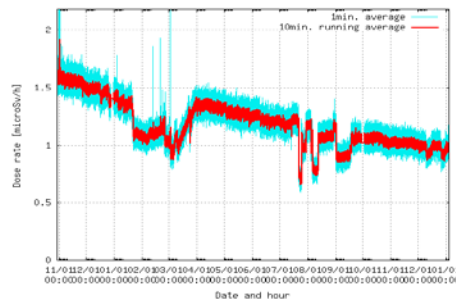


◆ Fixed Point Observation of Dose Rate

Record weather data and dose rate data, and transmit to server

◆ Making Dose Rate Maps

Measured by villagers themselves and Making precise Dose Rate Map



□ Challenge 1: continued

◆ Measure radioactivity of “Aerosol” in the air

“Aerosol” is a colloid of fine solid particles or liquid droplets, in air or another gas.

Measure radioactivity of aerosol continuously by high-volume-air samplers

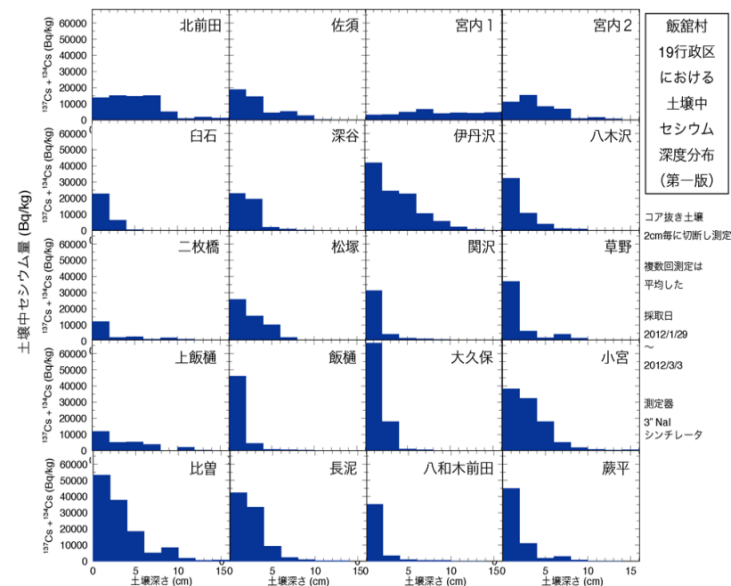


No	Date/time	m ³	Bq/m ³		
			Cs-134	Cs-137	Total
No.1	Mar.20 14:10 - Mar. 31 11:46	7847.6	0.000328	0.000484	0.000812
No.2	Mar.31 11:50 - Apr.8 17:28	5926.2	0.00165	0.00233	0.00398
No.3	Apr. 8 17:40 - Apr. 14 11:00	4122.2	0.0005	0.000697	0.0012

◆ Analysis of radioactivity of soil in the farm land

Measure radioactivity in the soil of farm land to 15cm depth take in samples every 2cm depth sampling at 20 spots in the village

Soil sampling gathered with a soil sampler



□ Challenge 1: continued

◆ Wild Boar Project



- Monkeys and wild boars are increasing in numbers in the uninhabited villages.
- Wild boars ruin farm land and decontamination works of farm land becomes difficult.
- It is said spoil pollution by wild boars is still lasted in Europe after Chernobyl.
- Capture and dissect wild boars and measure radioactivity of body parts .

**Collaboration of Department of Agriculture, the University of Tokyo
and Villagers**

We will continue such measurement.

□ Challenge 1: continued

◆ Organization for Continuous Measurement

- Making data-base and dose rate maps from the data which farmers , volunteers and specialists measure
- Making data-base from data of radioactivity of soil, crops ets
- Supervision of data by specialist
- Establishing Collaborating Firm by villagers in near future which control, analyze and supply such information to villagers

“itate Collaborating Firm “

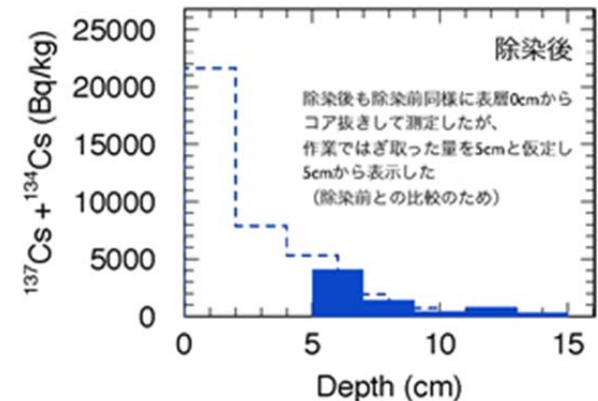
Reliable Monitoring Center

Challenge2: Recovery of Home Land and Farm Land

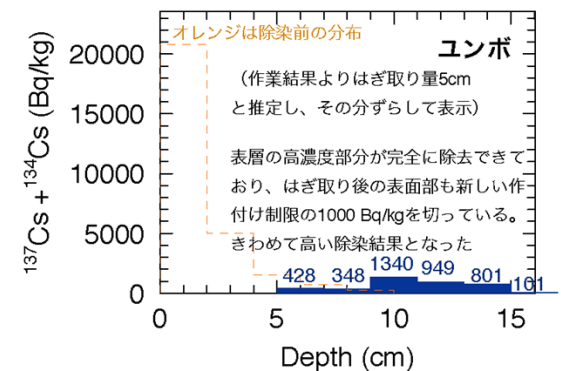
Development of decontamination method which can be carried out by villagers themselves

◆ Experimentation of Decontamination of Farm Land - 1

- Water is drawn in the farm land and washed away in 5cm thickness as muddy water.



- Peeling off in 5cm thickness of the surface by power shovels.



❑ Challenge2: continued

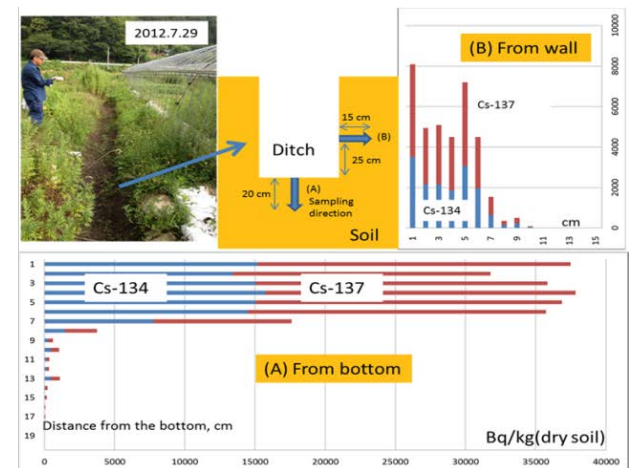
◆ Experimentation of Decontamination of Farm Land -2

When 5cm thickness of soil be frozen, it is peeled off and laid under the ground



◆ Disposal of contaminated Soil

Result of measurement of radioactivity in each depth. Sampling muddy water which accumulated in the ditch and the bottom and the sides to be measured separately after drying out.

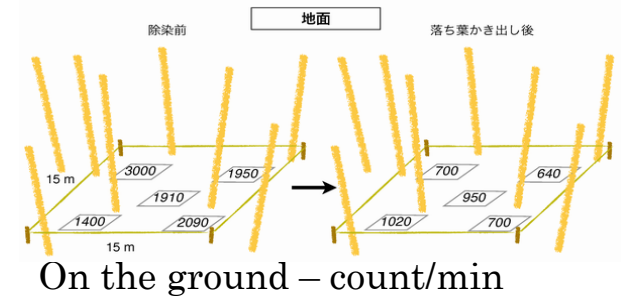
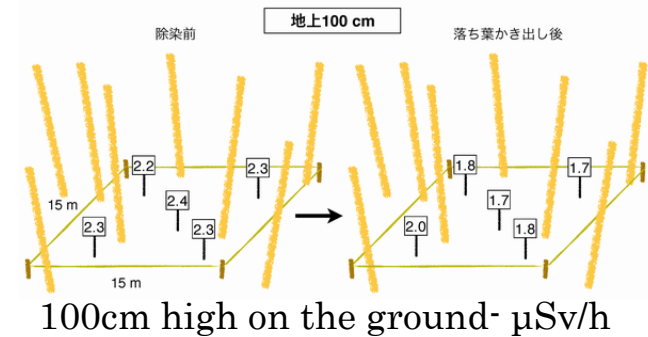


Cesium does not soak in to the soil !

Challenge2: continued

◆ Decontamination of Forest

- Experimentation of decontamination of fallen leaves of broad-leaved trees



◆ Decontamination of Housing



Woods in the backyard seems to affect dose rate of the house



Pruning trees

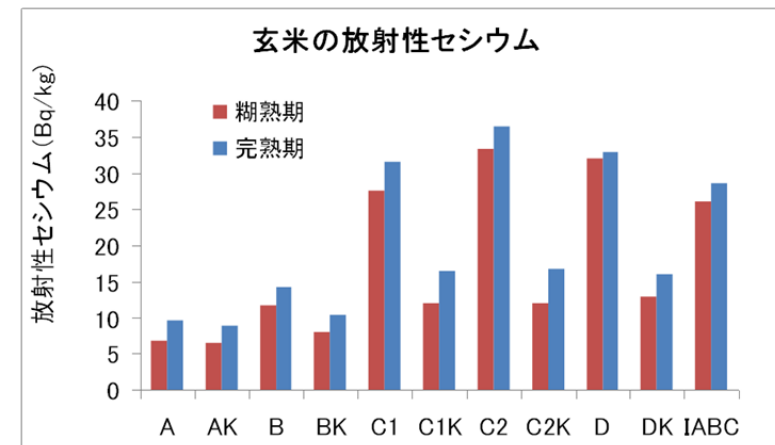


Maintenance of drainage ditch in the backyard

□ Challenge 3: Recovery of Agriculture

- Rice planting(even if it is for experimentation)is prohibited in Iitate Village as this area is under evacuation order
- After persevering negotiation, rice planting under the agreement with agriculture research organization in Tsukuba has been initiated

◆ Experimental Rice-Planting



- brown rice: under 40Bq/kg
- white rice: under 10Bq/kg

Challenge 4: Recovery of Industry

- Installation of small size hydroelectric power generation
“Piko-Pika (light of resurrection)”



❑ Challenge 5 :Activities for Health and Medical Care

- Photo-right: As important activities of “Resurrection of Fukushima”, “Resurrection Network for MADEI “,consist from doctors (mental/internal), social workers, psychology counselors and area supporters
- Practical activities like visiting examination care and nutrition education started from this meetings.
- Health promotion program of evacuated residents consist of walking, muscle training and stretching exercise



□Challenge 6 : Dispatching Message to the World

■ Fukushima accident is a global issue

- Nuclear Power Generation is now all over the world
- Radioactivity released to the air diffused to the planet

■ Actuality of Fukushima is hard to be understood through the media

- Fukushima is a unique situation in the world
- It will be forgotten or fade away
- We can dispatch message using ICT

Debates among
foreign students in
Japan and Iitate
Villagers using
Skype and
Ustream.
Health consultation of
evacuated residents
using Skype



Held “Let’s talk with Iitate Villagers” in Tokyo. (Relayed by Ustream – more than 6,000 viewers in total)

Dispatch message through the network of ICT and through the people

□Challenge 6 : continued

◆ SGRA Study Tour to Iitate Village

The 1st Tour(Oct.19~21,2012) 14 members from
Korea, Singapore, Norway,Taiwan , China and Japan

The 2nd Tour(Oct.18~20,2013) 20 members from
Philippine, Spain, China, Germany, Hungary , Syria, Korea, US, Norway, Japan



in front of Nagadoro Barricade



Three elementary schools are evacuated



Visit and talk at farmer's house

◆ Sweden has been suffering from Chernobyl disaster.

- The group members are local community leaders, firemen, nurses and civil volunteers.
- Swedish Embassy inquired about us to coordinate their visit of Iitate Village



Visit and talk at farmer's house



in the forest near by farmer's house

Challenge 7 : What is Resurrection of Fukushima, Iitate Village ?

1. Existing Situation of Fukushima, Iitate Village

- Run 2 years and 11 months, since the disaster
- All villagers are still refugees in the temporary housing and other rocation
- No clear accomplishment of decontamination process and no clear vision for restarting life and farming
- Un-responsive government
- Villagers are scattered and mentally driven into an unavoidable corner
⇒ “Barrier to recovery” is becoming higher and higher

◆ Need to develop actions to overcome

Challenge 7 : continued

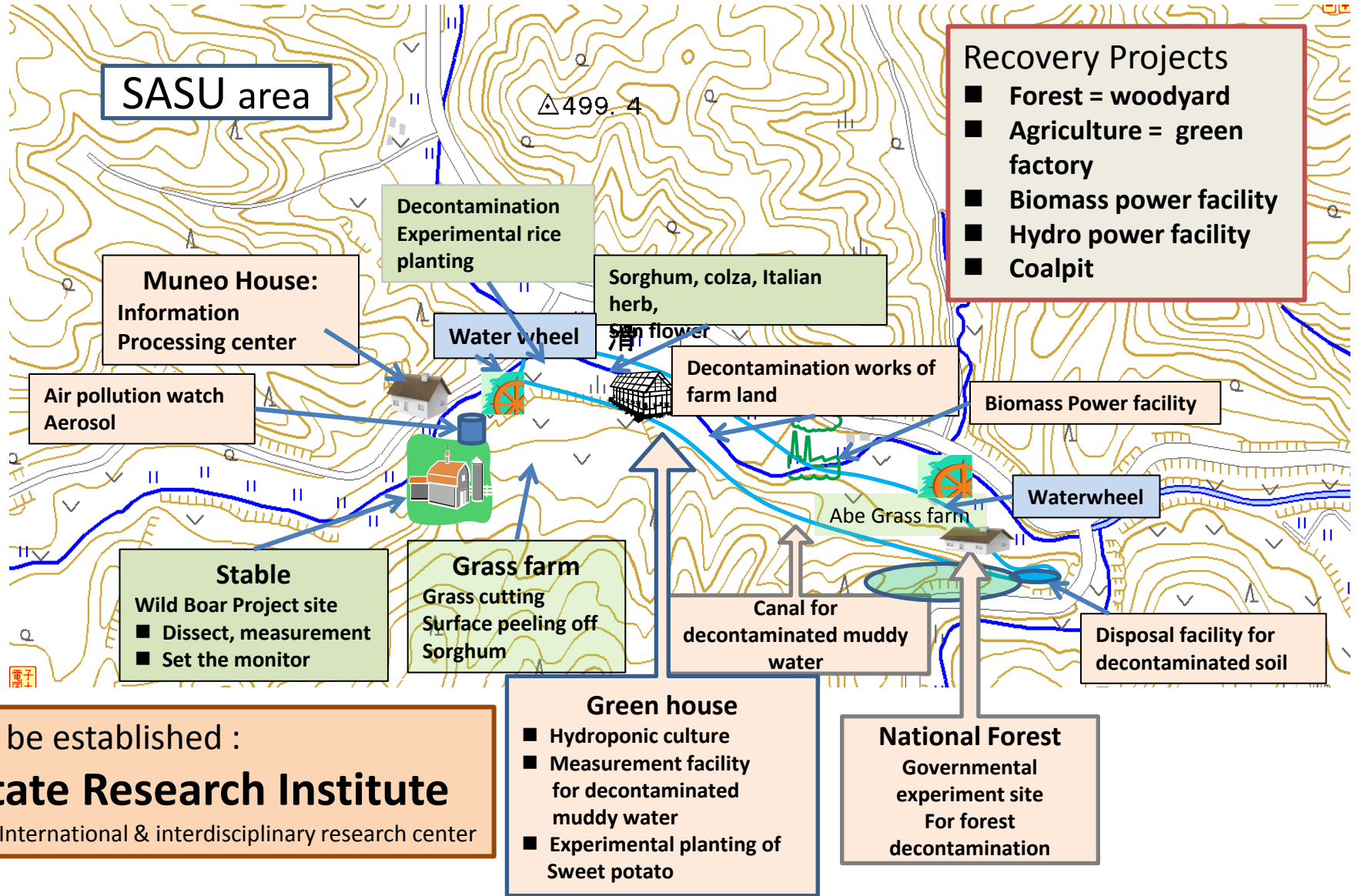
2. The Meaning and the Significance



- MADEI means gentry, politely, slowly
- To boost MADEI life of the Village
 - Respect for the local tradition and culture
 - Reconstructing gentle & careful life style, harmonization with nature
- Meaning & Significance to 21st Century
 - Doubt about “economic growth and science-technology “supremacy of this modern world
 - ⇒ Our planet is facing a deadlock
 - Constructing New GOALs of our global society
- Aiming for “ sustainable life and industry ”
 - Iitate village is in the forefront to prove the new paradigm of new goals.
 - Iitate is trying to overcome global issues:
 - ⇒ Food shortage, Energy Crisis, Aging society problem etc.

Challenge 7 : continued

“Madei Farm” in Iitate : a realistic road map for resurrection



Challenge 7 : continued

3. What is “Total System” ?

- ◆ MADEI life means a harmonization and sustainable co-existence of “Nature”, “Human being” and “Agriculture”.
⇒ I think this is a model of “Total System” in 21 century .
- ◆ Today’s nuclear power plant system is just an assembly of parts, not a total system.
 - Disaster caused by this defective system has been destroying the life and agriculture of the people in Fukushima.
 - This system has been designed and operated by the people who can not understand “nature”, “human life” and “human society”.
 - Today’s Science & Technology has lost the identification with “nature”.
- ◆ The accident in Fukushima disclosed that these system would not contain :
 - whole process until the final disposal.
 - the process for dealing with accident.
 - the adaptability for the natural environment.

Absence of the “Total System Designer” in the world

□ Conclusion

- Visit and Look at the site, and listen to the voices of villagers.
- Study comprehensive and appropriate technologies which help the site.
- “Collaboration” which surmounts areas and organizations.
- There is key in the wisdom of villagers.
- Gather what we can do.
- Mobilize all talent and knowledge

Act as quickly as possible

Empathy & Collaboration

Thank you !



