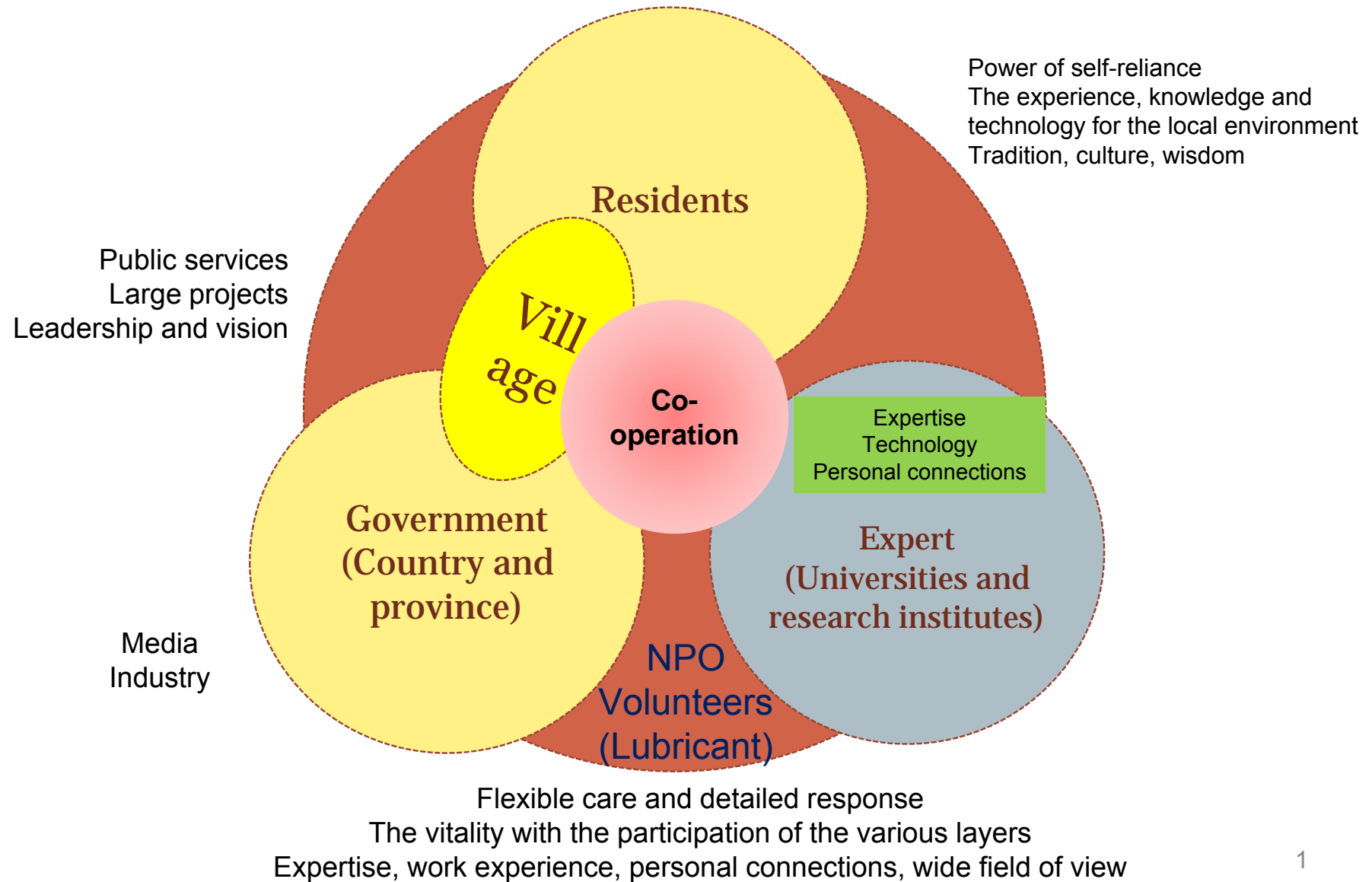


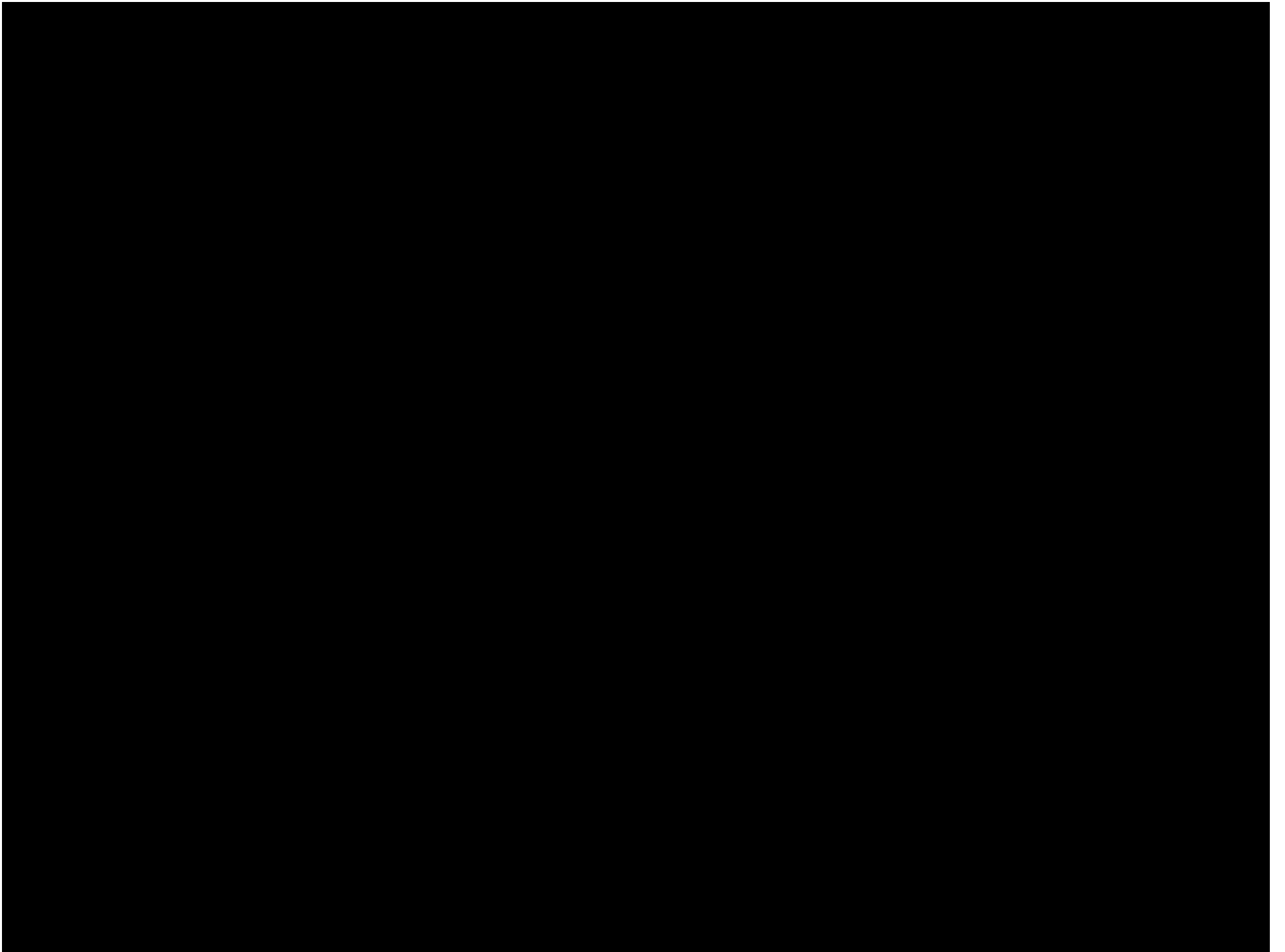
# Collaboration is important!



# Volunteer group activity by “Resurrection of Fukushima”

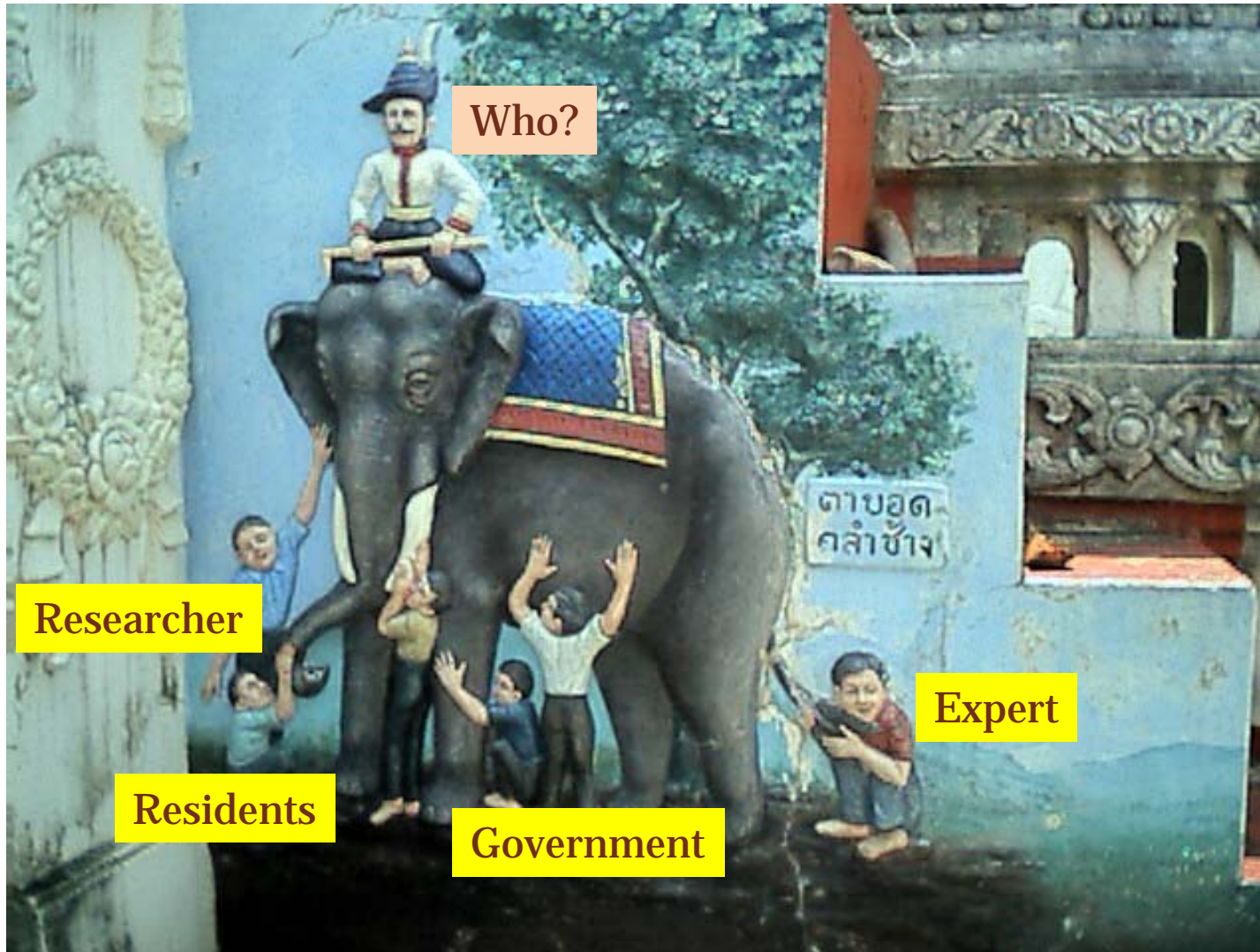


FRAE; Fukushima Reconstruction by Agricultural Engineering (2011.9.4)



# Blind men and an elephant

Who has the responsibility to Fukushima?



# Battles of Soil Scientists in Fukushima, Japan

Monday, November 4, 2013

1:00 PM-4:00 PM

Marriott Tampa Waterside, Room 8

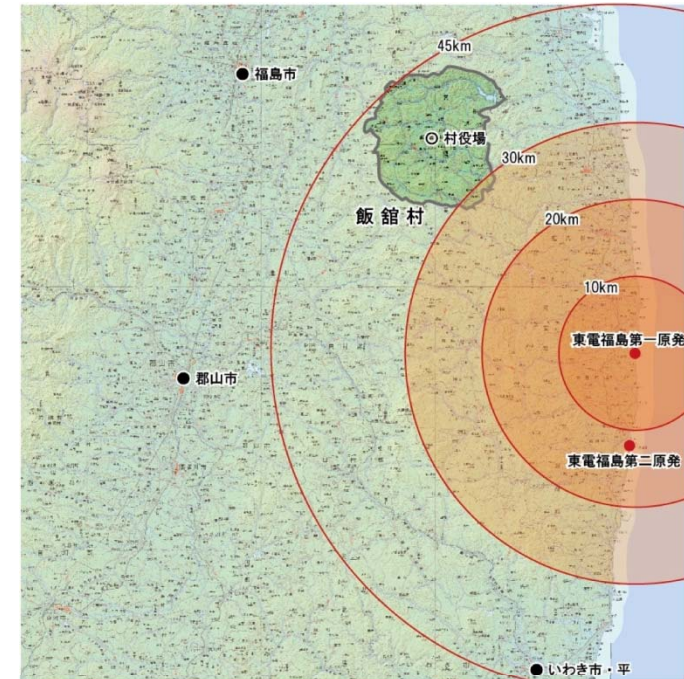
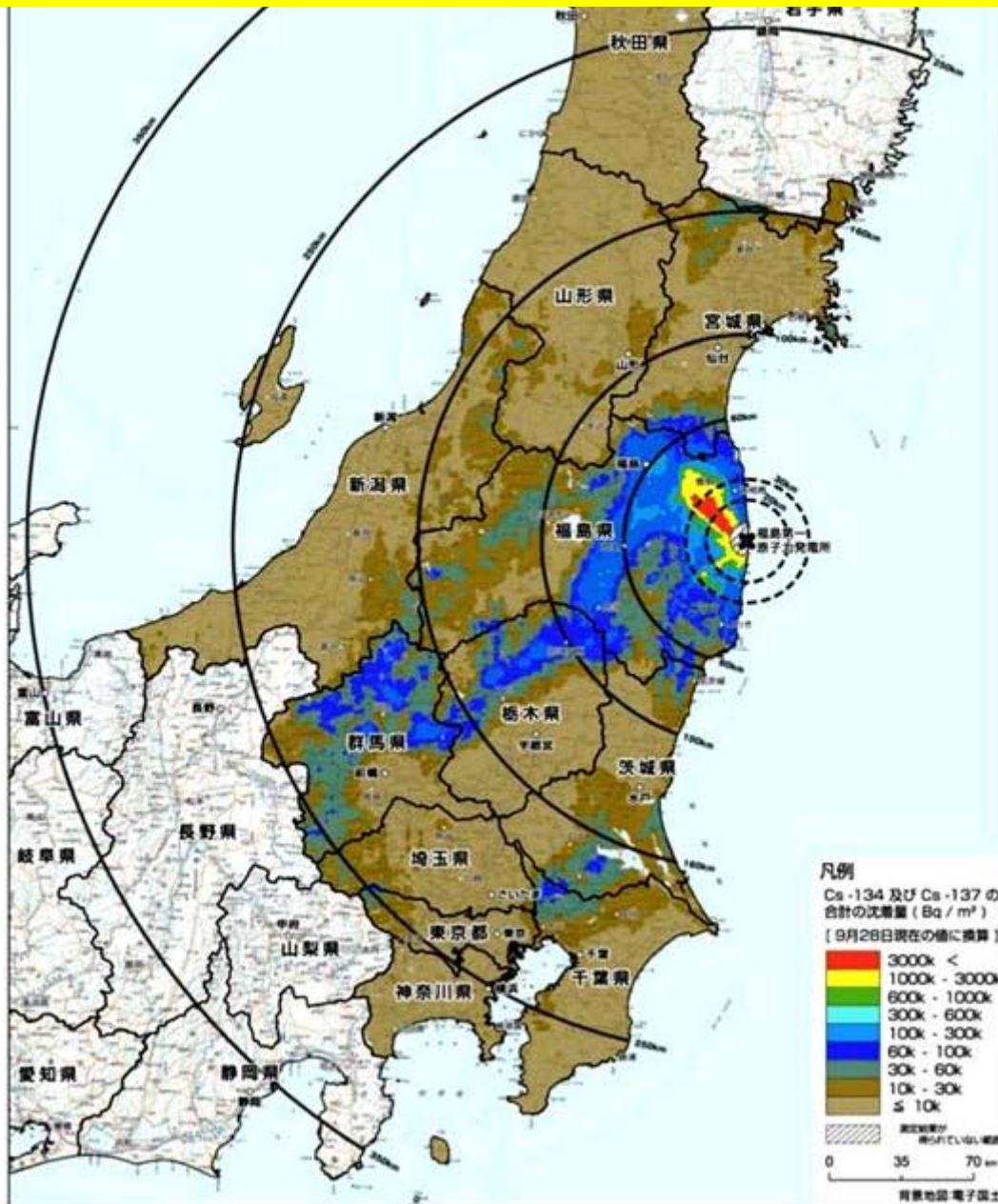
## Additional information-1



By  
Masaru Mizoguchi

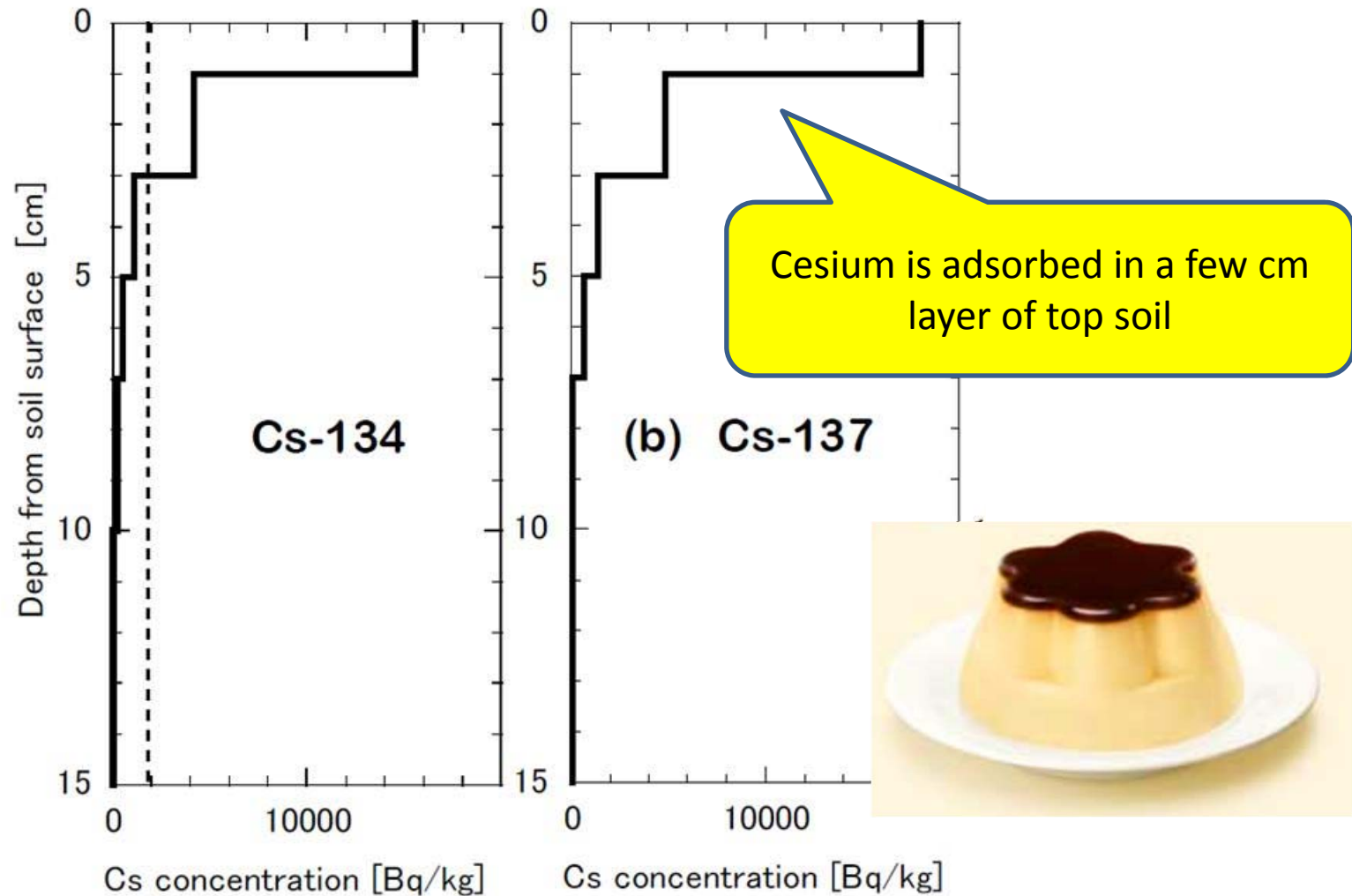


# Iitate Village in Fukushima Prefecture



<http://blog.goo.ne.jp/yampr7/e/3252>

# Radiocaesium Conc. In soils (2011.5.24)



Shiozawa, et.al: Vertical Concentration Profiles of Radioactive Cesium and Convective Velocity in Soil in a Paddy Field in Fukushima, RADIOISOTOPES, 60, 323-328 (2011)



Stripping topsoil method



Soil puddling method



Deep plowing method

# 農林水産省

Official decontamination  
methods by Government

## MAFF

Ministry of Agriculture, Forestry and Fisheries

From August, 2012



# Where is the destination of a pile of flexible container bag containing the contaminated soil



Kusano, iitate, Fukushima  
(2012.6.24)



Sugaya, iitate, Fukushima  
(2013.8.17)

# How should we decontaminate paddy fields in mountainous land?



Weed cut  
(2013.8.3)



Harm of monkey



Harm of wild boar  
(2012.4.14)

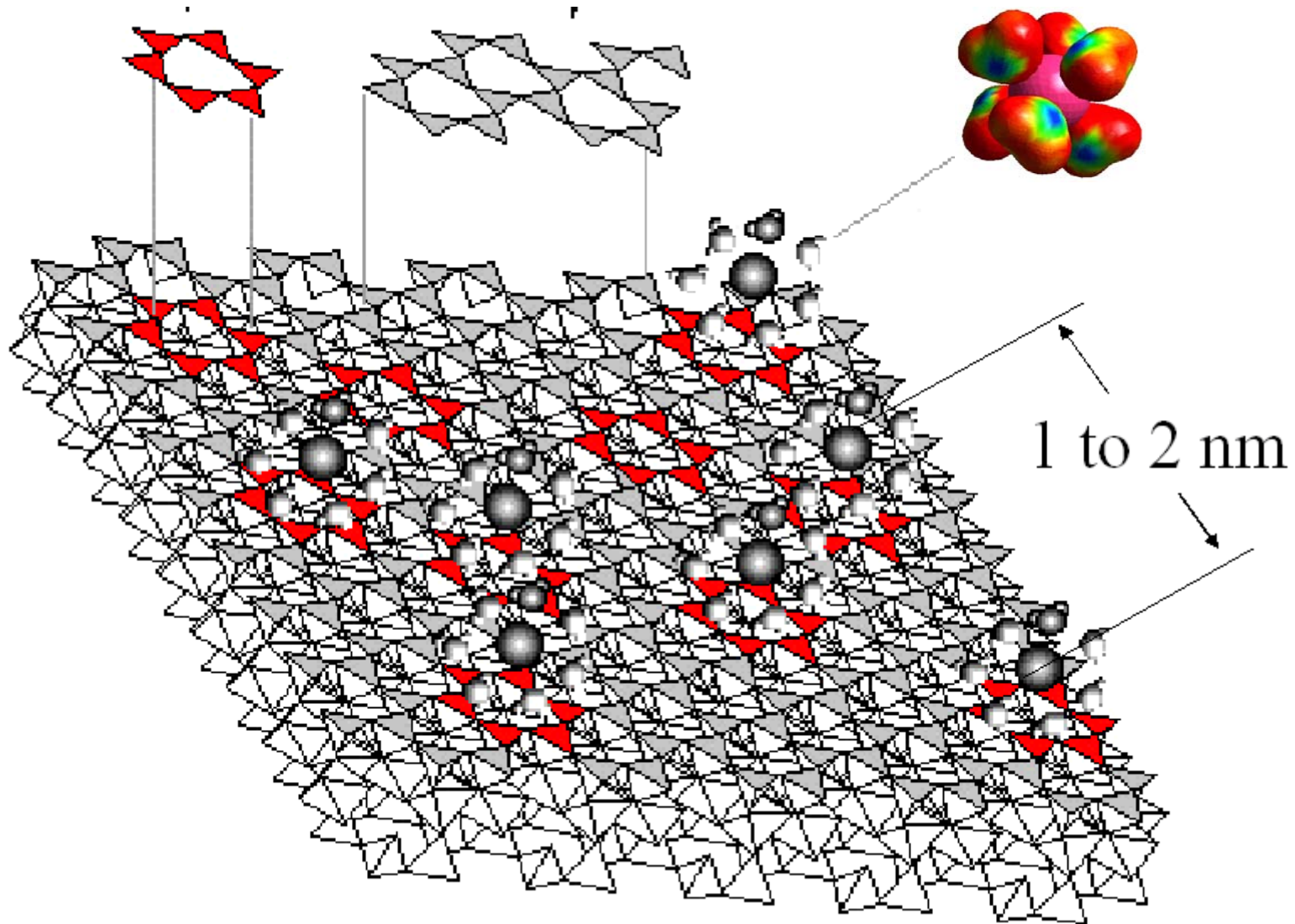
Special seminar on May 30, 2011  
(by Prof. Cliff T. Johnston @Univ of Tokyo)



<http://www.iaai.gai.a.u-tokyo.ac.jp/mizo/seminar/110530cliffseminar.html>

Hydrophilic Sites  
(red)

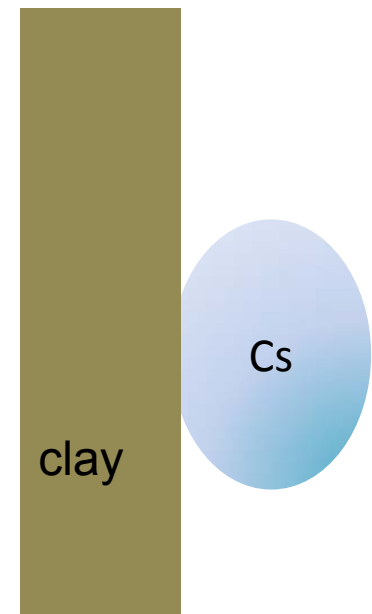
Hydrophobic sites  
(grey)



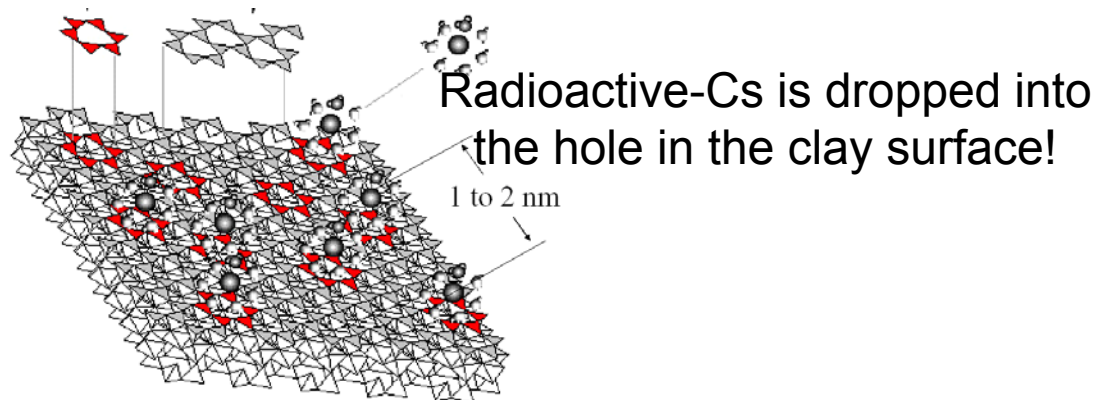
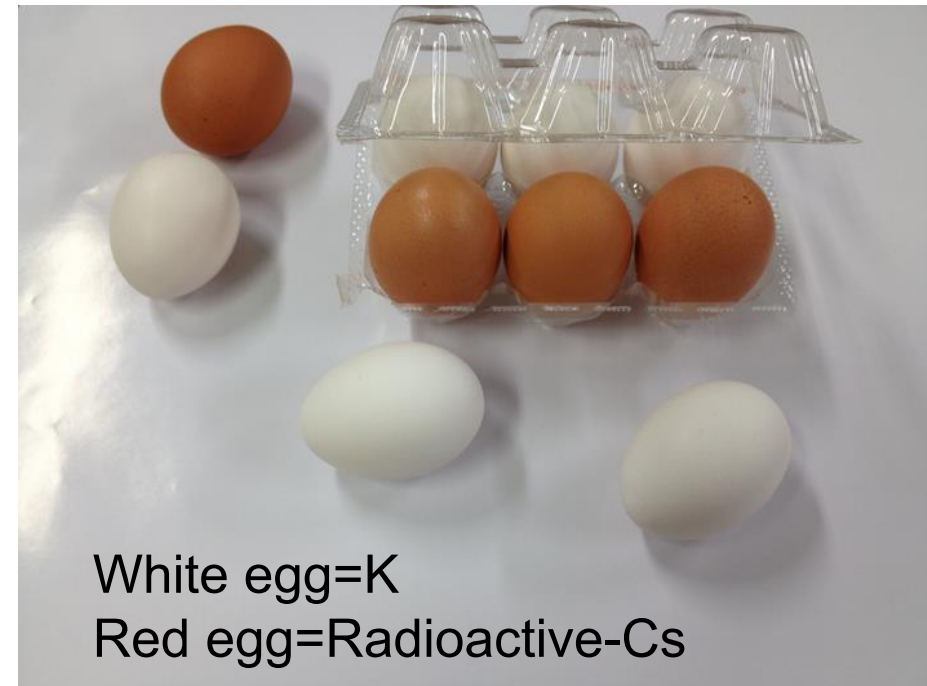
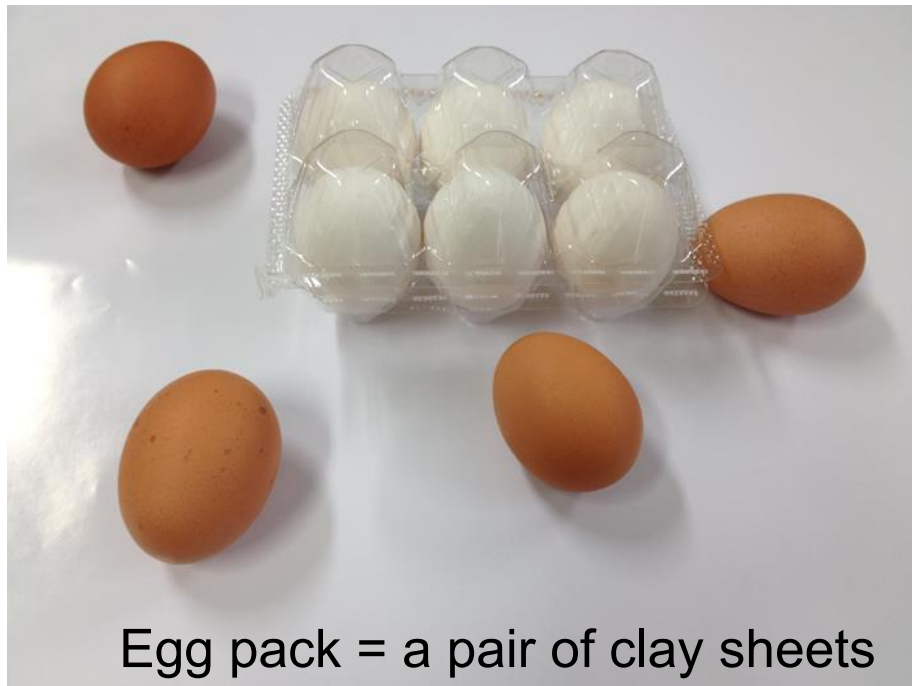
After a material of seminar by C.T  
.Johnston

# How to think of radiocaesium

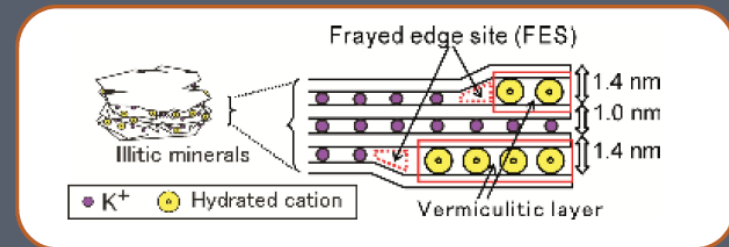
- We should
  - Regard as a complex of cesium and clay particles
  - Note the movement of the clay
  - Think the removal of the clay



# Radioactive-Cs is replaced with K and fixed to the clay particles

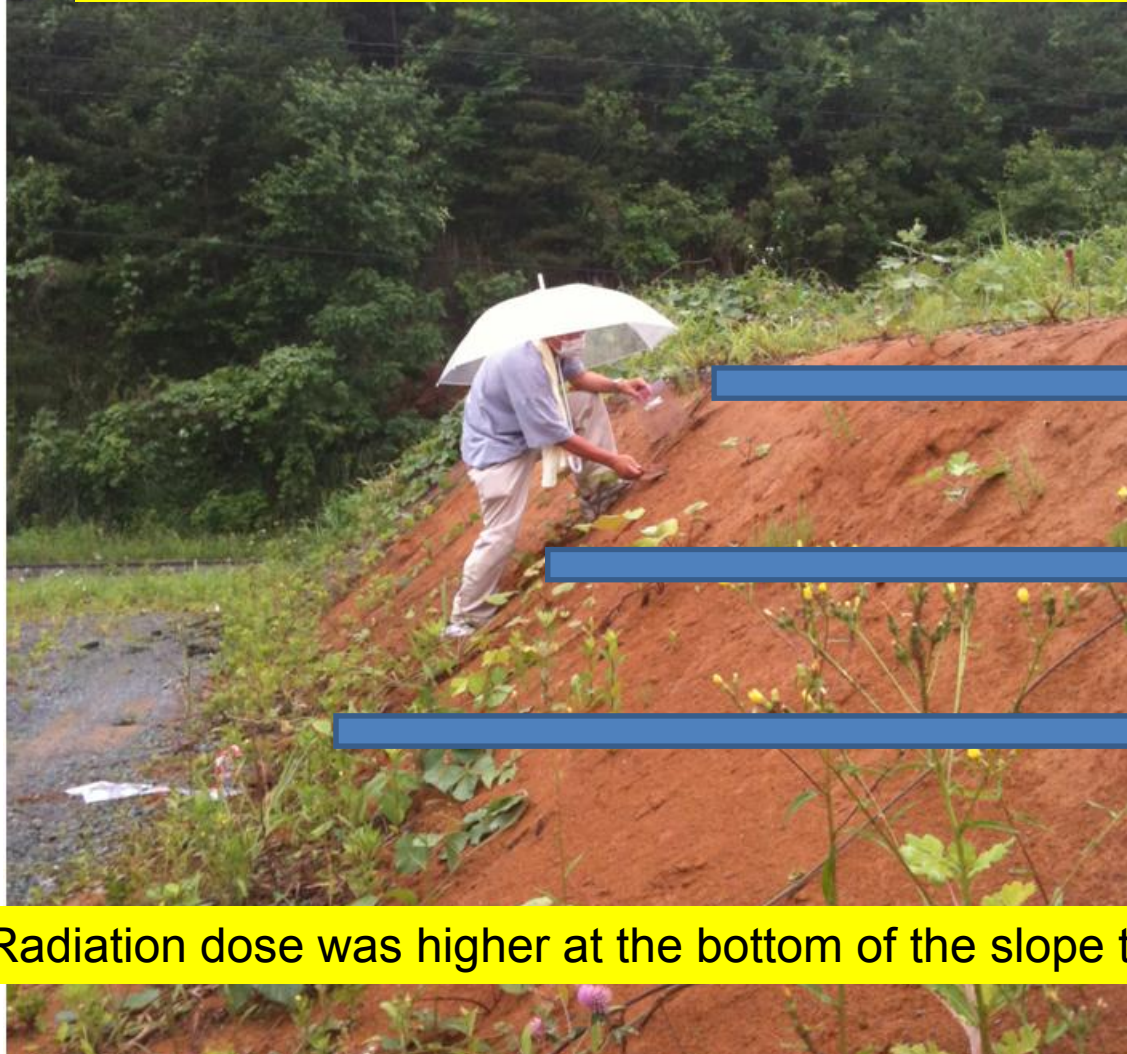


by Prof. C.T Johnston @Purdue Univ.



RIP(Radiocesium Interception Potential)  
(Cremers et al., 1988 in Nature)

Measurement of radiation dose on a slope near the Iitate Village office (2011.6.25; Mizoguchi and Noborio)



2.5  $\mu\text{Sv/h}$

3.5  $\mu\text{Sv/h}$

7.0  $\mu\text{Sv/h}$

Radiation dose was higher at the bottom of the slope than at the top of the slope



若者の力、シニアの経験を世界の被災地「ふくしま」へ

# ふくしま再生の会

[English site](#)

- トップ
- 設立
- 活動
- 資
- メテ
- 会員
- 会員
- 運営
- 現地活動を
- お問合せ



- [Japanese Top Page](#)
- Top Page**
- [Organizational Purpose](#)
- [Activity Reports](#)

**Resurrection of Fukushima**  
 Postal Address:  
 c/o Yu-iki Keikaku  
 Bunkyo-ku,  
 Honkomagome 1-1-17,  
 Kyurazu Honkomagome 9F,  
 Tokyo, 113-0021  
 Japan  
 TEL: [+81-3-3823-5191](tel:+81-3-3823-5191)  
 (Japanese speaking only)  
 FAX: +81-3-3823-5894  
 E-mail Address:  
[desk@fukushima-saisei.jp](mailto:desk@fukushima-saisei.jp)



Faceb  
 「Re  
 of F

ふくしま再  
 生

✓ いいね!

あなたか「いいね!」と言っています。

Let's unite power of the young and experiences of seniors for Fukushima

## Resurrection of Fukushima

We are a volunteer organization which aims at reconstruction of the lives and the industries in the area which were severely damaged by the Great East Japan Earthquake and the atomic power plant accident of Fukushima Dai-ichi nuclear power plant. Among the disaster stricken areas we have been conducting activities with a central focus on Fukushima Prefecture.

We established a base of activities in litate village in June 2011 and are advancing various projects toward resurrection/reconstitution of the area, finding the best way with the afflicted people.

Major projects that are now under development are shown below.

- Conducting thorough radiation measurements and drawing radiation dose survey maps
- Decontamination demonstrating experiments in houses, agricultural lands and forests
- Cares for the afflicted people by teams of professionals including medical doctors
- Sending out the real lives in the area stricken by the atomic power plant accident through information communication technologies

- 詳細な放射線計測と放射線マップの作成
- 家屋、農地、山林の除染実証実験
- 医師らによる被災者のケア
- 情報通信技術を活用し原発被災地の現実を発信

特定非営利活動法人  
 ふくしま再生の会  
 〒166-0004



# Practices using the properties of radiocaesium and clay

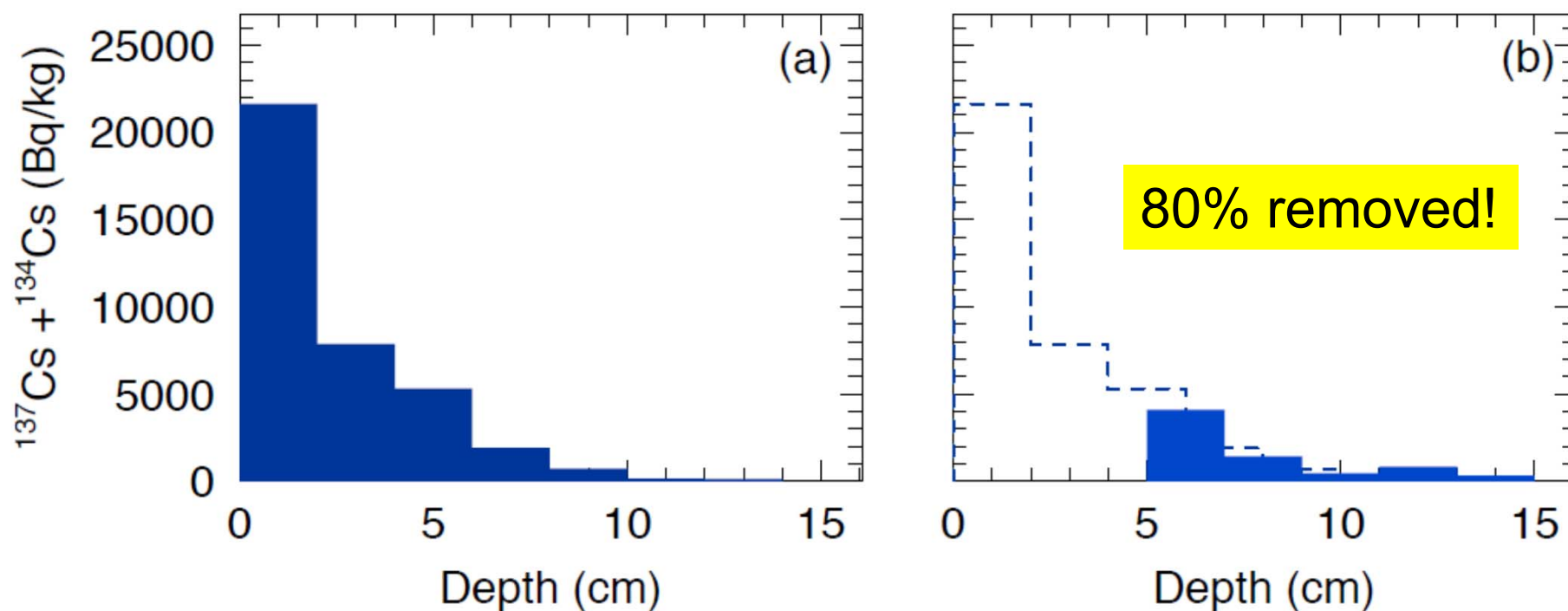


Decontamination method by stripping frozen soil  
(2012.1.8)

# Rotary weeder method that was tested by a volunteer group (2012.4)



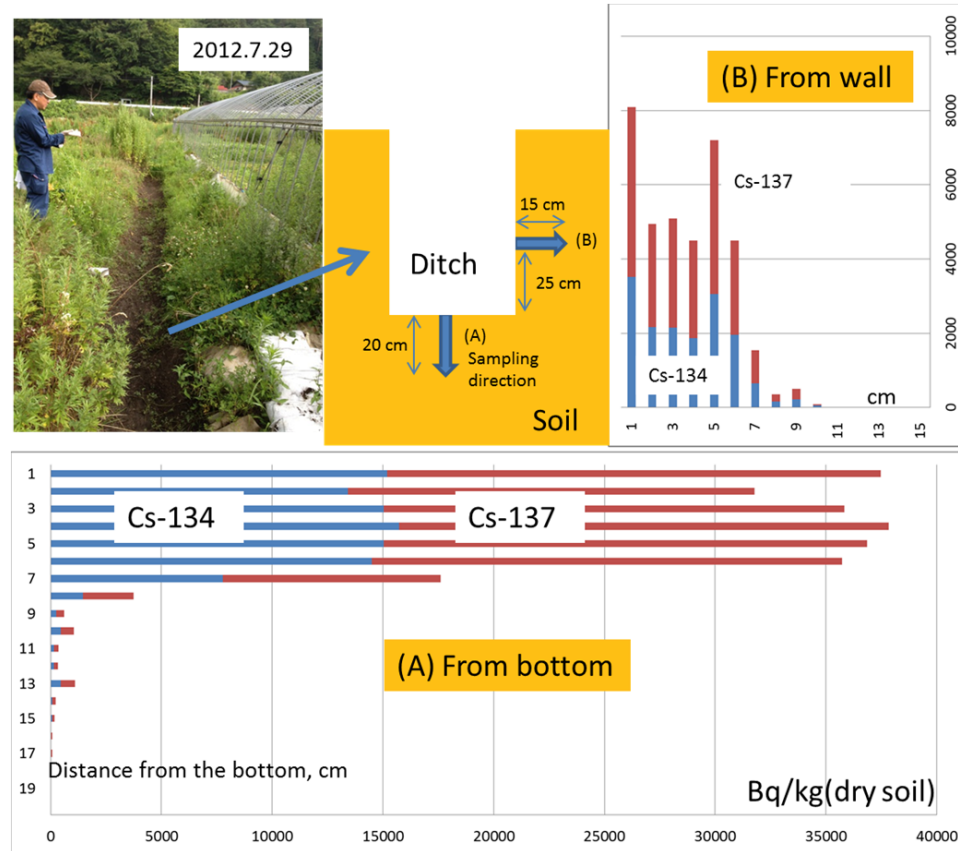
# Amount of radiocaesium profiles before/after rotary weeder operation



Resurrection of Fukushima, 2012

<http://www.fukushima-saisei.jp/>

# Contaminated muddy water was flushed out into the drain hole



A result of the radioactivity measured at each depth by sampling the soil of the bottom and sides of the groove after a dried-up Cesium is not expected to immersion in the soil!

# Why all right? – Soil Filtration function



By Monitor Field  
(2012)

Fresh water comes out when muddy water is poured in the sand. When this operation is repeated, fresh water becomes slow to come out. Clay particles with radioactive cesium are also trapped in the sand by this principle.

When, where, how much, by what  
mechanism  
does the radiocaesium move?

# Let's move to the next presentation!

- 5 Field Monitoring and Application Of WEPP Model For Sediment and Radiocaesium Movements In Fukushima. (Model)
- 6 Colloid Facilitated Transport of Radioactive Cesium in a Fukushima Soil. (Mechanism)
- 7 Role of Clay Minerals in Controlling the Fate and Transport of Radioactive Cs in the Soils of Fukushima. (Theory)