The STAG report and lessons of disaster in Japan
Featured Event: Applying science and technology to policy and practice

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1. The STAG report

This report builds on findings of the report 'Reducing Disaster Risks through Science: Issues and action' presented by the STC at the 2009 Global Platform. The report includes ten case studies, and additional cases are available online.

In 2009 report, the following 'use, useable and used' was stressed:
science can be made *useful* for disaster risk reduction.
science is *useable* for disaster risk reduction
science is consistently *used* in disaster risk reduction

The present report took 10 case studies to describe a disaster risk problem.

Let me try to introduce some of the case studies.

Tsunami warning and mitigation for the Indian Ocean region is fully operational, because in less than three month following devastating Indian Ocean Tsunami, scientists worked together

with policymakers to form an international commitment to develop IOTWS.

An earthquake early warning for Japanese bullet trains was developed after Niigata earthquake using the difference of diffusion velocity between Primary-wave and Secondary-wave which causes large damage.

Through all these case studies, discussion is done for drawing the following policy recommendations.

Recommendations:

1. Encourage science to demonstrate that it can inform policy and practice

2. Use a problem-solving approach to research that integrates all hazards and disciplines

3. Promote knowledge into action

4. Science should be key to the Post-2015 Hyogo Framework for Action

2. lessons of disaster in Japan

Keeping in mind these recommendations, I would like to look back the Tsunami disaster in East Japan, 2011.
The point of discussions is how to use scientific findings to the reconstruction of communities so that they can reduce the

damage of the next disaster they may have in the future.

I would like to introduce three examples here to show the safer reconstruction of communities is not easy.

The first example is the case of Yoshihama fishing and farming village of Ohfunato City, Iwate Prefecture. This is the case which had almost completely no damage in the Tsunami this time thanks to relocation to higher ground in the past.

The second example is the case of Touni-hongo village in Kamaishi City, Iwate Prefecture. A hundred houses moved to the new area and made after Tsunami, 1933 and the previous area of the community became farmland after this.

This time, this community was partly safe, but partly destroyed, because 50 houses were constructed at the low ground.

We have to keep it in mind that constructing huge seawall may even stimulate building houses at low ground from over confidence in sea-walls.

The last example is the case of Taro, Miyako City, Iwate Prefecture. Taro was even internationally famous because they constructed unique, huge and long seawalls to protect the community. However, the community was destroyed and many people were lost in this disaster because the seawalls were destroyed or came over by the Tsunami.

3. Conclusion

These examples told us that only man-made facilities cannot protect communities. The safe location of communities is a key

issue. And the evacuation as well is important.
Therefore, we must insist on finding new safe location for stricken communities, in addition to provide disaster prevention facilities and evacuation facilities.

Science will give us many important things which can be used to build safer communities. Simulation of natural hazards, early warning system, and robust structure of seawalls are some examples of effectiveness of scientific results.
But, those scientific applications must be rooted in daily life and reconfirmed time to time by the communities to maintain or renewed.
Science should be useful, useable and used, and maintained and renewed based on understanding its limitation.
That is the most important message conveyed by the report of STAG.