

**Parallel Session :** What is the role of science communication in local knowledge dissemination? ( Friday 4<sup>th</sup> July)

**PCST enables indigenous rice varieties and the commercial ones to co-exist :  
A case study from Thailand.**

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**Abstract :** This paper reports on a case study from a rural village of Thailand about rice which is the staple crop of the country for over a thousand years, hence the “rice culture”. It analyses how PCST has undertaken a significant role in bridging local wisdom (LW) and modern science and technology within co-intelligent process. Problems of indigenous rice varieties being replaced by the higher yielding commercial ones, and dependency on commercial seeds were resolved. It shows that the synergy of different knowledge systems, with PCST as a catalyst, could provide perspective for LW and modern science & technology to co-exist and enrich each other.

**Key words :** local wisdom – civic scientist - modern science

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**Deep-root Problems in the Fields**

To all Asian countries, rice is life. Thailand has been known as a “ Rice Bowl of Asia”. However, thousands of indigenous rice varieties are at risk of being replaced by a few higher yield commercial ones. This not only poses a threat to biodiversity of rice varieties but also to the social and cultural aspects in knowledge of traditional rice farming.

The commercial varieties are produced by hybrid rice technology. Rice harvested from these hybrid varieties cannot be used for replanting because hybrid vigor is lost, resulting in lower yield and non-uniform crop stand. Then, the condition creates dependency on buying new seeds for each next planting season.

But in the case of the inbred (indigenous) rice variety, its flower contains both male and female organs, hence, it can self-pollinate and produce seeds that can be replanted (Fernandez, 2004).

**Quest for Solutions**

In Tapaan Hin district, Pichit province, central plain of the country, Sinchai Boon-aaj a young man returned to his hometown from the impact of economic crisis in 1999. He observed that the farmers in his village spent large amount of money on rice farming every year, but with minimal income. Expense on chemical fertilizer was the

biggest part. He tried to find ways to use local natural fertilizer to lower the cost. Though it did not work, Sinchai never gave up.

After his own trial-and-error and observation in the fields, he hypothesized that commercial seeds were technically and chemically treated from the start. So, they acquired the taste for chemicals and did not thrive on natural fertilizer.

Where could he find the commercial *Khaow Ploog* or rice seeds for planting that would have simple taste for natural fertilizer?

Another frustrating fact he discovered was that most of the farmers did not grow the indigenous varieties they preferred to eat. Instead, they bought. Because they had to save space for growing commercial varieties that gave higher yield for better income from the flour industry.

He, together with a few villagers, continued the quest by reading, talking with the old wise men in and out of his village, and traveling everywhere in search of knowledge. The wise men they met taught them how to identify indigenous rice varieties, some traditional formula for natural fertilizers, pesticides, and how to deal with some common rice diseases. And they went to see Decha Siriphat, a retired scientist who now runs Khaow Kwan (rice guardian angel) Foundation in Suphanburi.

The scientist explained and taught them a simple way to regain hybrid vigor of replanting. And he demonstrated an innovative way of propagating the seeds using low cost and low-tech technique to produce high quality *Khaow Ploog*. This technical knowledge seemed impossible for them at the first glance.

After coming back to their village, they experimented by themselves and were surprised of the success. They have been sharing the acquired knowledge ever since among other farmers through networking and mass media. Now in their area, farmers grow indigenous rice varieties for their own consumption almost ten percent of the land. The yields are as high as the commercial ones. And for producing *Khaow Ploog* seeds of indigenous and commercial varieties, there are growing number of farmers using the technique.

### **The Role of Public Communication of Science and Technology –PCST**

We witness more and more of the role of PCST as the country strives to enter a knowledge-based society logic. Fayard (2002) argues that "...when changes occur in the way of producing scientific knowledge, in the scale and the impact of their uses or in the availability of communication tools, as a consequence ways of doing PCST change too."

In this case study, a civic scientist - a scientist who involves himself more in the public arena, made possible the use of scientific knowledge to complement local knowledge. PCST might not just identify new audience, new channels, or new media for PCST's sake to be more effective in promoting modern science in the rural context. But it is a new perspective of communication that creates good condition for these two systems of knowledge to interact and collaborate with mutual respect within sustainable framework. Then, later dissemination of this hybrid knowledge can be

considered to reach all sectors with different ways and means. PCST would find itself to reach more people taking into account cultural and social values of the community.

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