

PCST in Thailand

PCST as an Integrated Concept & a New Approach for Knowledge-Based Society

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The constantly changing world and globalization together with problems and needs facing Thailand in these few decades stress the importance of S&T underlining social and economic issues. However, the role of S&T is not fully recognized or strongly supported by every sector of Thai society. And the public's indifferent or negative attitude towards science and technology is recognized as an obstacle to the national development of science and technology as well as the development of Thai society.

Though "public understanding of science- PUS", "public awareness of science- PAS", "scientific literacy" or "scientific culture" are of great interest of many countries all over the world including Thailand, their meaning is not easily defined. This paper will put these terms under one umbrella of "public communication of science and technology"- PCST. It will focus on the investigation of PCST in Thailand in the effort to address national problems and needs on diversified issues. Then, it will propose a framework to promote and to widen strategic approaches for PCST policies and practices in the light of what exists in Thailand with the perspective of a knowledge-based society.

PCST aims at empowering people with knowledge outside the learning environment of classrooms or formal education. It tries to raise public awareness and/or understanding of science and technology with efforts to share specialized knowledge. The intention is to help people make sense out of the modern world in which science and technology have a vital role in influencing changes and our society. Knowledge is the key to allow people to be more aware of and to better understand S&T related issues that affect their life in every aspect . S&T are ingrained not only in the economic realms like industry, agriculture but also in health, environment, energy, education even arts and entertainment and help to raise standard of living including making our lives enjoyable. People are convinced, to a certain level, of the importance of S&T in everyday life and development of the nation as well as the benefit of knowledge, education and training. Hence, it is not necessary to replicate this discourse in this paper.

Till now, "public relations-PR" appears to be the dominant practice in the scientific community . PR mainly focuses on the outcome of good corporate images about S&T with the assumption that it will better the status of science and stimulate public awareness and as a consequence, will open the way to science literacy efforts in the public and the media. Though PR is a part of PCST, it is not all of it. One has to note the limits of the outcome of such policies in regards to the issue of entering into a "knowledge-based society". New concepts and strategies are currently needed to step forward. PCST policies are more concerned to convey science and technology concepts effectively, and therefore focus on the target audience , the level of understanding, for example, and the means of communication. Then, it is more appropriate to break through the limits of PR policies and strategies. Yet PCST is not in opposition to PR. Good PCST can benefit PR. However, good PR does not automatically and necessarily benefit PCST. It can even cause a "Perverse Effect" which results in lay people concluding that science is indeed an extremely complex area and meant for only wise people. (Fayard 1991, p.598)

Problems and Needs in Thai Society that Prompt the Emergence of PCST

Increasing population creates a pressing need to better the utilization and management of limited common national and natural resources in order to ensure sustainable development.

Impacts of the economic crisis over the past few years have redirected the vision of Thailand in all aspects, including S&T development. Thailand needs to be more self-reliant, less dependent on imported technology, and yet at the same time balance the integration of traditional technology with “Western” technology.

NGOs take the lead in urging people to assert their rights, usually against the government, on the issues concerning environment and health safety at stake of the public. In recent years the opposition movements against the government or state enterprise’s projects are stronger and recurrent. The government and the academic bodies have shown a rather reactive communication efforts. PCST can be more proactive, and can create an atmosphere of dialogue to prevent or decrease the severity of disputes and to straighten the misunderstanding.

Being ranked the 47th, or the lowest in the year 2000, in term of science and technology competitiveness by International institute for Management Development (IMD), Thailand needs to look closely at this reflection. Because it influences the credibility of the country within the global arena. And it also has a psychological effect on the Thai scientific communities. One of the indicators in the ranking criteria is “science environment” of which public awareness and understanding of science is inherent in this element.

The new face of democracy according to the new constitution enacted in 1999 emphasizes people’s rights and encourages the expression and participation in every aspect for national development as a whole. S&T are in every sector of development, for example, in agriculture, industry, services, energy, health and medicine, education, environment ,and governance. PCST can help people to be more aware of and understand each issue on development and its relationship to development, including promoting the accessibility and availability of relevant information people may need for their decision making.

The 9th National Economic and Social Development Plan (2002-2006) identifies 7 strategies for development. S&T Development is the 6th strategy within this latest plan. It points out the undesirable factors or conditions inherent to the Thai society and culture that pose social and economic problems. One such factor is that superstitious beliefs and being credulous without proper reasoning are omnipresent in Thai society. In addition, its openness to imported cultures as well as technologies renders Thai society a “consumer at convenience” without its own effort for local creativity or innovation. In coping with these undesirable characteristics, the Plan proposes various recommendations. Besides education system reform, Thailand needs to put more effort in promoting awareness and understanding of science and technology for the youth and public. This can be done through the activities that encourage youth and public participation in their communities. Diffusion of S&T knowledge and advancement through mass media is recommended for a wider reach and more exposure both in quality and quantity.

There is interest from the public themselves to see the positive development of Thai society. In 1999, the National Science and Technology Development Agency held a Public Congress on Science and Technology 2020. More than one thousand participants from every walk of life

came to brainstorm for a vision of Thailand in the year 2020. Their proposed recommendations to prepare for the desired future included :

- accessibility to relevant and accurate information and knowledge in timely fashion.
- Self-reliance on technology and local resources
- Building technology upon indigenous technology and local wisdoms
- Promoting of scientific and logical thinking and action
- Promoting of preventive measures for health and environment ,etc.

It is therefore increasingly important that people or non-experts should be able to understand aspects of science and technology which touch their life. And scientific and technological communities should find their ways to allow economic planners and the whole society benefit from their expertise and knowledge. Communicating scientific and technological information to and for the public, then becomes national agenda.

Science and Technology in Thailand

If considered that Thailand, as an independent nation, has existed for more than a thousand years, then, “Science and Technology “ are relatively new vocabularies in the Thai language. They emerged less than two centuries ago. However, when in the broad sense, science and technology are defined as the constitution of knowledge about nature and about how to apply the principles of nature for human benefit, then Thailand has had “science and technology” all through its history. However there might be differences from the modern science and technology of today. The traditional Thai way of life emphasized knowledge for living and blending with nature. The prehistoric evidence of one of the earliest bronze civilizations - Ban Chiang, in the Northeastern of the country dates back some six thousand years. Written records of the Thai kingdoms go back almost a thousand years, from the ancient capitals of Sukhothai. Skills in indigenous technologies especially in agriculture, as well as in arts and crafts, are reflected in houses and objects for daily use, such as, glazed stoneware, weaving and dyeing of fabric, production of silk, and the use of herbal medicine.

Buddhism has influenced the majority of Thai society for a long time in the intellectual thoughts and scientific inquiry into the nature of things. It plays many parts in the Thai culture. Temples were the place where people could find knowledge through Buddhist monks. Also, impressive know-how of temple construction, Buddha images and other religious objects could be seen all over the country. Thai culture, therefore, had scientific and technological nature essence despite lacking the formal statement to point out which particular issues were the knowledge of science and technology.

Besides Buddhism, other religions and cults have also influenced the overall development of Thai society. For example, rites and rituals in agriculture derived from Brahminism (the religion from ancient India), massage and yoga as well as astrology were also from India, Islamic influences were seen in the South, and herbal medicine was derived from China. During early time the Indian and Chinese civilizations influenced many aspects of Thai culture and society. The intermingling of diverse influences and practices shows that Thai culture has the characteristic of pluralism. In later periods substantial influence from the West was found in many aspects from belief systems, medicine, agriculture, art, craft, architecture to other aspects of Thai life. The gradual adoption of modern science and technology from the West in Thailand dates back to the middle of 19th century, and was concurrent with the opening up of the Thai economy to the West through trade. By the beginning of the 20th century, modern science and technology , as distinct from traditional

knowledge and practice, had taken root in Thailand.

Thai culture is well known for its openness and tolerance. Such characteristics combined with the Thai history of national independence has created an environment for science and technology that is both dynamic and selective. While international science and technology give rise to both new products and new knowledge, the open nature of Thai society allowed unlimited introduction of new products, which are regulated only by market forces. However, the introduction of new knowledge is limited by scarce local skilled personnel as the transfer agents, and the underdeveloped infrastructure. This imposes an imbalance of the import into Thai society of *science and technology knowledge* versus *science and technology products*. (Yuthavong 1997, p.18)

The reason that indigenous technologies are not much advanced is that they have not been subject to scientific scrutiny and development, mainly because of the small base of local science and technology, and of education in general. These factors provide a rather clear picture of why Thailand has a rather low science and technology capability.

Attitude and Practice of the Thai People Towards S&T

For a society to have the capability for the development and application of science and technology, it should have a proper attitude towards these important tools. Thailand, and many non-western countries have the attitude that (modern) science and technology have their origins in, and still belong to, the West. This attitude creates alienation from science and technology. In fact, science and technology, in term of concept and system which focus on the use of reason, curiosity-generated observation and experimentation should be the traits of people at all levels in society.

As aforementioned that Buddhism has influenced the majority of Thai society, and logical thinking is the main characteristic of it. Yet some supernatural beliefs are commonly found among all groups of people. This is a not-so-surprising phenomena. Thousands of years before the advent of Thai Kingdom and before the arrival of Buddhism to the region, Animism, Hinduism and Brahminism were prevalent. Those rituals and ceremonies from the prior religious practices and beliefs systems are now intermingled with Buddhism. It is also another characteristic of Buddhism to promote harmony that allows such a combination of differences to co-exist without conflicts. This may, in a certain way, render Thai society to be passive or receivers of everything around them rather than actively inquiring for the logical reasoning in accordance to the higher level of Buddhism.

Scientific culture- a culture of reasons, of systematic investigation, of thinking in conjunction with action, of readiness to be proven wrong- is a desirable culture for any society. Thai society is still a long way from having a scientific culture. As Phra Dhamma Pidok, a well-respected Buddhist monk observes, Thailand only has a “technology-minded” culture, not a “scientific” culture. It is more attracted by the products of technology, rather than the process of thinking and learning. (Yuthavong 1997, p.138)

The report “Relevance of science and basic research to the future of Thailand” by Prof. Montri Chulavatnatol, a renowned scientist of Mahidol University, finds that in the past ten years Thai people have been interested in science. However, the respondents state that there is not enough coverage and dissemination of information on science and technology. And they perceive that science plays not so important a role in the development of the country and mildly degrading to Thai society. However, Thai people depend and consume products of technology in great quantity. The recommendations from 530 people who were involved in the discussion group on foreseeing the role of science and basic research to the future of Thailand in Prof. Montri’s project show that they want scientists/ researchers and the media to communicate with society regularly and accurately in order to allow the public to be well-informed of the research work that can benefit society and also the new technology’s pros and cons. They point to the

government to promote public understanding of science and have an efficient monitoring system on public understanding of science. They believe that every part of society shares responsibilities for the future of Thai science and technology development, among them are: the government, Thai researchers/scientists, research institutes and higher education institutes, research funding agencies, the Thai youth, private sector, media and the society.

Thailand's overall low capability in science and technology cannot be solved solely by communication of science. However, if to be a "knowledge-based society" is the basic goal, awareness and understanding of the importance of science and technology and their impacts on life and society should be promoted among all concerned parties. This will also enrich people's capabilities to understand better and to be able to look with different eyes from different point of view.

PCST in Thailand

Communication of scientific and technological knowledge in various forms has been performed throughout the country for a long time. However, those activities have never been labeled PUS, PAS, nor PCST, the terms unfamiliar to Thai people.

Communication in manners as such in Thailand can be dated back to 1868 when King Rama IV announced to the people his accurate prediction on the phenomena of total eclipse of the sun to be seen on 18th August 1868 at Prajuab Kirikhan province. He proved to them that it was a natural phenomena, not a supernatural one. It was an important event in history when most Thai people held strong supernatural beliefs. In the reign of King Rama V there was a visit of a comet. A visit of a comet was considered as an omen or bad luck for Thai people in the old days. To prevent the chaos and to lessen the worry of his people he provided them with knowledge by public announcement to persuade them to understand the event scientifically and not to panic.

The foremost step of a modern formal national effort in science popularization was the declaration of the National Science Day on 18th August 1983. This was to commemorate King Rama IV Father of Thai Science, for his proficiency in mathematics and astronomy in the calculation of the total solar eclipse in Thailand 115 years earlier. Later, every year 18th -24th August was designated as annual National Science Week. The week is celebrated with science festivals all over the country.

The Center for Educational Museums at which the first Science Museum (now Science Center for Education) was open for the public was established in 1975 under the supervision of the Non-Formal Education Department (NFE), the Ministry of Education. During 1992-1999 NFE has established another 12 science centers at the regional and provincial levels across the countries. The National Science Museum, was newly opened for the public in 2000 by the Ministry of Science, Technology and Environment. Scientific institutions have increasingly recognized the necessity to communicate and educate the public about their science. They initiate various programs that go beyond the communication objectives of PR. There are also foundations, and associations on science and technology, established as part of efforts to have academic peers gathering and to popularize their works and relevant knowledge beneficial to society. For example, the Science Society of Thailand, the Thai Academy of Science and Technology Foundation, Science writers and Publishers Club, and Science Communication Section. (The last two organizations are within the Science Society of Thailand.) Science communication was formally addressed as a discipline among the academics for the first time in 1998 when Chulalongkorn University, Bangkok offered science communication courses as an elective subject for undergraduate students. And by the end of 2001 they will offer a program at

Master's Degree level.

In recent years global issues like Y2K, GMOs, Mad-Cow Disease, Greenhouse Effects, and AIDS have brought scientists and academics to see the importance of PCST. Consequently, concerned organizations-government and private including NGOs- have initiated a variety of activities on communicating science to the public. Public Communication of Science and Technology in Thailand has become increasingly well-accepted and is growing as a specialized discipline and practice. Hopefully, the number of quality actors involved in dissemination of scientific and technological knowledge will be increased as well as the number of PCST campaigns and operations. These will need budgetary commitment from policy and political decision makers. To gain financial supports from them, it is necessary to prove that the programs are worth investment. Measures to evaluate their success or effectiveness will be as important as a well-thought strategic approach to PCST from the start.

FROM 2001 ONWARDS...

Strategic framework for PCST in Thailand should be considered in 3 level:

POLICY : *PCST as an integrated concept and a new approach for " Knowledge-based Society".* All involved or concerned parties should work together and share the same perspective of accepting communication of scientific and technological knowledge and information as central to the issue of entering into "Knowledge-based Society".

STRATEGY : *PCST as a common specialized discipline.* To communicate scientific and technological knowledge and information to the public is not just a matter of "making it simple" for the public. Actors involved in this specialized communication, such as research institutes, science museums and science centres , scientists and the media should have the knowledge and skills for this discipline. Training, seminars, conferences and education in science communication to ensure the efficiency and sufficiency in numbers of the actors are to be provided nationwide and regularly.

TACTICS : *Scientific activities* in various forms for the youth and public must be promoted both in quality and quantity.

However, as PCST is a new emerging discipline in Thai society, Thailand will have the benefit of learning from the experience of other countries and can modify PCST strategies and techniques so that they are in accordance with Thailand's culture, social values and norms.

 (Paper presented in 6th International Conference on Public Communication of Science and Technology – PCST 2001 Geneva, Switzerland 1-3 February 2001)

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