



## **Patent Issues in Thailand\***

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During the last few years the U.S. government has asserted continuous pressure on the Thai government to broaden and extend protection provided under Thailand's Patent Act 1979. This has raised unfavorable response from the Thai public for three main reasons: local industries might be destroyed; prices of patented products might be increased, especially for some important drugs needed by the poorer sections of the population; and local technological ability could be discouraged. This article provides some preliminary data as to the last concern and investigates the present patent system's effects on technical innovation.

### **MAIN FEATURES OF THE PATENT SYSTEM IN THAILAND**

The main purpose of the patent system in Thailand is to provide incentives for technology development in the private sector, by granting monopoly rights to the owner for the use of his or her invention during the period covered by the patent.

The Patent Act 1979 protects two types of industrial assets: designs and inventions. Some of the more important stipulations are:

- The protection period is 15 years for inventions and seven for industrial designs. The current act does not protect inventions in food, beverages, pharmaceuticals, agricultural machinery, biological inventions, information systems and computer software.
- Patent fees are fixed at 2,000 baht, starting from the fifth year after the patent is granted and increased by 2,000 baht every year until the final year of the protection period when the fee reaches its maximum of 30,000 baht.
- Foreign patents are not automatically protected under the current system. Foreigners wishing to protect their assets need to apply for a Thai patent no later than 12 months after filing abroad.
- Compulsory licensing may be enforced if the patent is not used after three years since the granting of the patent.
- A special license is required before goods already covered by Thai patents can be imported.

### **PENDING AMENDMENTS**

The Ministry of Commerce is now under pressure to extend the protection period to 20 years for inventions. Pharmaceuticals, biotechnology, and agricultural machinery are likely to be included in the amended law. It will be illegal to produce patented products, even if the production process is different from that used by the patentee. The compulsory licensing clause will be enforced at the end of the third year after patent issuance, or the fourth year after filing, whichever is longer. This clause will be enforced only if a potential licensee can prove that a "reasonable" return has been offered to the patentee.

Proponents argue that these amendments show that Thailand respects the international rules of the game. They also believe that protection of intellectual property rights would stimulate local research and development (R&D) and would also encourage transnational corporations to transfer technology to Thailand.

### **WHAT IS PATENTED IN THAILAND?**

From 1979 to June of this year, the Ministry of Commerce received a total 11,311 applicants for patent rights. Of this, 1,827, or 16 percent, were issued—1,304 (or 71 percent) for industrial designs ([Table 1](#)). A closer examination of some industrial design patents at the Patent and Trademark Office (PTO) reveals that most of these required a low level of technology. Examples include designs for bags or belts, designs for ice cream (e.g., shape of lion's head or a smiling child), and a push cart for selling ice cream, etc.

The PTO classifies inventions into two categories i.e., engineering or chemical inventions. Up to June 1990, out of 7,950 applications, a total of 523 patents were issued, 183 (35 percent) of which were for engineering inventions and the remaining 65 percent for chemical inventions. Let us suppose that inventions had more substantial technical components. If this were the case, over the past decade only 500 inventions were given patents—fewer than 50 a year. Compared to the Republic of Korea's average of issuing over 2,000 patents per year, Thailand's figures are rather discouraging.

### **WHO APPLIES FOR, WHO OBTAINS PATENTS IN THAILAND?**

Up to September 1990, the number of registered patents totaled 527, of which only 63 were inventions by local scientists. Clearly, the local science and technology community is a very minor beneficiary of this particular incentive system.

An obvious question is: Why is the local private sector not interested in using the patent system? Two hypotheses can be proposed. First, local firms have low technological ability and have been unable to produce inventions that are sufficiently novel to be granted patents. Second, Thai firms have other ways of keeping industrial secrets. An examination of the makeup of an inventor's team and the legal ownership of a patent holder indicates that, while foreign inventors are likely to work as a team, Thai inventors tend to go it alone ([Table 2](#)). Moreover, only 17 percent of the local patents are held by corporate enterprises ([Table 3](#)). Compare this with 96 percent for foreign patents.

Questionnaires were sent to 63 local inventors in an attempt to extract information regarding their background and how their R&D was funded. Only 13 replied. Nine of these had Bachelor's Degrees, the highest education level. Almost all relied on personal funding. Most inventions required rather small amounts of investment. Only two inventors spent more than one million baht for their inventions. Six spent less than 100,000 baht. Four of the 13 inventions have been commercialized by the inventors themselves.

It can be concluded that the local patent system has had little impact on improving local knowledge and technology owing to limited investments in both human and financial resources. Local inventions have low commercial value or potential as they come from lone researchers. Modern inventions generally require a team of scientists and technologists combining their knowledge. If, for example, a biochemist discovered that a part of a particular plant could produce a useful drug and had this knowledge patented, this is still a long way from actual production. A pharmacist would be needed to determine the dosage and the level of potency, an engineer to identify the process technology and to conceptualize a prototype machine, and a horticulturist to determine the most productive way the plant could be cultivated.

Other information, obtained from interviewing private firms, also suggests a low level of R&D activities in the private sector (TDRI 1990). R&D expenditure is believed to be negligible, constituting much less than a third of public R&D expenditure. It is also very low by international standards, i.e., around 0.22 percent of Gross Domestic Product (GDP) in 1987 compared with the Republic of Korea's 2 percent. Local firms rely mostly on ready-made technology because they produce mainly standardized products.

Industrial development in Thailand is at such a simple stage that in-house R&D is not yet a deciding factor in maximizing profitability for most firms. Most of the 19 firms interviewed do not have a formal R&D department or a budget specifically for R&D. Local joint ventures tend to rely on the R&D of their foreign partners. One joint-venture company with annual sales of over one billion baht has done no R&D at all. The ones that do engage in at least some R&D are involved in product and process improvement and hire only a few people with Master's Degrees, at best. Such companies feel that their research output is not novel enough to be patented. Only two firms reported hiring more than 10 Ph.D.'s in their R&D departments, but

these are Thailand's largest conglomerates in food and construction materials.

The acute shortage of scientists and engineers following the industrial investment boom since 1987 has further lowered the short-run priority of R&D activities in private corporations. Moreover, the necessary supporting industries, i.e., the metalworking and machinery industries, have low (although increasing) technical capability.

It is important to note that private firms lacking R&D departments and weak supporting industries make it difficult for local firms to exploit local patents, some of which contain ideas only, without actual prototypes. As private local firms are rarely involved in the patent system, it can be said that Thai patents are mainly supply driven.

### **WHAT NEXT?**

Debates on the patent system so far have centered on anticipating the likely impact of the amendments. Concern over possible trade loss has forced the Thai government to sit at negotiation tables before it has been able to thoroughly scrutinize the whole situation. The threat of Super 301 has superseded many important domestic issues which the patent system has been designed to serve. The information presented earlier is only preliminary and a number of domestic issues need to be examined, regardless of whether the amendments become law or not. Many questions need to be resolved. These include: To what extent are foreign patents used in Thailand? How have foreign patents affected the market structure, exports and local technical ability? Which coverage, claims, annual and renewal fees, and dissemination procedures would most benefit local inventors? What resources are needed by public agencies to evaluate patent applications and to monitor their possible impact on the community at large? Without sufficient understanding of the underlying domestic conditions, debates on public policy in this area are unlikely to yield practical solutions.

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