NEWS of the government wanting to revive the local tin mining industry and bring back the good old days when Malaysia used to be the largest tin producer in the world cannot come at a better time. In commemoration of the first anniversary of Pakatan Harapan taking over the administration of our country and also in an effort to enliven our weekly gatherings, my former classmates and I had resolved to enlighten each other with selected discussion topics involving the various initiatives taken by our ministers to help propel our nation forward.

With my turn coming up next week, the suggestion by the Water, Land and Natural Resources Minister Dr Xavier Jayakumar will surely bring back fond memories of past geography lessons taught by our discipline master.

According to Jayakumar, there are still tin deposits in the millions of tonnes to be found in this country as there has been no large scale mining of the ore over the past four decades. Considering the fact that the metal is now fetching upwards of USD$20,000/tonne in the international commodities market, it definitely makes perfect sense to pursue this venture seriously.

Steering clear of all things that have already been taught in school, I decide to seek out interesting anecdotes about early tin mining activities conducted in Malaya to enlighten my friends in the week ahead.

FIRST MINERS
The tin dredge was featured in Perak revenue stamps used during the Japanese Occupation.

The wealth of related information in the local state library proves extremely useful. Before long, I find myself hurtling back in time to the days when the first miners, the Orang Asli and Malays, began working the ground in Perak, the state with the richest tin deposits in the whole of Malaya.

While not much is known about the rudimentary activities of the Orang Asli, several references noted that their subsistence ventures were carried out to collect just sufficient quantities of tin to barter with Malay traders for necessities like knives and sarong clothing.

The Malays, however, mined in a fairly more sophisticated manner. Renowned French geologist and accomplished explorer, J. Errington de la Crix, in his 1881 article published in the *Journal of the Straits Branch of the Royal Asiatic Society (JSBRAS)*, said that the most common Malay mining method used in the 19th century was the *lampang*.

These mountain mines, traditionally situated near streams, were ingeniously operated by harnessing the natural power of water currents to carry away lighter soil particles and leave the valuable tin deposits behind. By just looking at the extracted sediments, experienced Malay miners were able to effortlessly distinguish between tin ore and compounds of other metals that were present within the mining boundary.

The mining activities of early Malay miners were not just based on techniques. It was in actual fact a belief system which involved a comprehensive understanding of nature. Back then, the locals believed that tin ore was a living organism, born of the tin lode called *ibu timah*.
It was believed that the tin lode moved freely underground in the form of a buffalo and could reproduce itself and possessed specific likes and affinities. As such, it was of paramount importance for prospectors to treat tin ore with respect.

**PAWANG PANTANG**

Dulang washers sold the fruits of their labour to middlemen in the nearest town.

Early miners usually sought out the special powers of the Malay pawang or medicine man to both divine the tin as well as placate the hantu or spirits guarding the mines in order to ensure safe extraction of the ore.

In a description of 19th century mines and miners in Perak's Kinta district, published in the JSBRAS in 1885, Abraham Hale mentioned that the pawang had a special vocabulary called bahasa pantang which was used similarly by forest product collectors to ward off unfriendly spirits and ensure smooth mining operations.

The pawang's duties involved performing required ceremonies as well as enforcing rules and levying customary fines if any regulations were breached. On the first day of the operation, the pawang would erect a wooden platform about a metre above ground level and fill it with an offering of burning sweet-smelling wood and aromatic gums before calling upon the local spirits to assist in the mining enterprise.

During this ceremony, no one was allowed to wear black except the **PAWANG**. Those who ignored this rule were liable for a penalty of $12.50 as stipulated in a set of wide ranging laws called **hukum pawang**. Once the mining began, the prospectors were required to strictly observe a series of pantangs or abstention that had been put in place for the sole purpose of keeping them safe.

Gambling and quarrelling in the mines were forbidden as loud noises were deemed to be offensive to the spirits, while all eating and drinking receptacles had to be made from coconut shells or wood as the sounds
of glass or pottery breaking were believed to be extremely disturbing to the hantu.

The Malay taboos and beliefs associated with mining rubbed off on the Chinese migrants when they began arriving in great numbers from Selangor and Sungai Ujong by the late 1880s. During those initial years, they relied heavily on Malay pawangs to locate tin lodes and the Orang Asli to clear the land of forests and undergrowth.

BORROWED MYTHS

The high labour cost prompted European companies to introduce efficient mining equipment.

Among the many is a classic example which stems from the word bijih which the Malays used to term tin oxide. They also used the same name to connote heavy concentrates that were qualified as 'unripe' as they wouldn't yield any tin.

The Chinese Hokkiens adopted this belief and called tin oxide siak bee, which literally meant tin seeds. It became common belief that tin seeds, when matured, germinated in the ground.

Prospectors believed there was a waiting period for them to ripen properly and become suitable for extraction.

Miners also observed that tin oxide percentage increased each time it rained heavily and erroneously thought that the deluge promoted tin seed germination. Actually, all the rain did was to simply wash away the lighter minerals and that made the ore appear like it had significantly increased in quantity!

While looking at the many interesting early photographs and illustrations in a very informative book called Kinta Valley: Pioneering Malaysia's Modern Development, it becomes clear that the first Chinese tin rush in the Kinta district which lasted for half a decade, beginning from 1884, brought many economic changes to Perak.

During that time of great prosperity, the number of land acreage set aside for tin mining increased four-fold. This phenomenal progress reached its peak in 1888 when the price of Straits tin went on a steep incline in the London Commodities Exchange.

SIMPLE TOOLS OF TRADE
Miners used opium liberally to self-medicate fevers, diseases and aches.

Using nothing more sophisticated than mere agricultural equipment used to work their farmland back home in southern China, the Chinese immigrants wielded hoes, rakes and wicker baskets to great effect when excavating the ground for tin ore.

The former, known locally as the changkol, was recognised as the single most important piece of mining equipment introduced by the Chinese. This rudimentary tool allowed Chinese mining owners to start mines with significantly low capital outlay.

In 1880, it was estimated that the cost to open and work a mine employing 600 labourers for five years and without using any western machinery was equal to the sum of just one English Gwynne centrifugal steam pump!

Chinese employers were quick to understand that the fate of their mines didn't lie in superior mining technology but in the spirit of enterprise as well as efficient labour and capital organisation. When the mine turned unproductive, all the owner had to do was to simply load everything onto a few bullock carts and move on to places with better prospects without much trouble or expense.

**ALTERNATIVE INCOME SOURCES**

European miners making their appearance in the local tin mining scene during the last few decades of the 19th century were rather taken aback after noticing that Chinese mine owners could afford to remain in business even though their operations were running at a loss.

Over time, they discovered that the mine owners actually had other income sources apart from tin production. Among the major non-tin derived profit sources came from providing coolies with wage advances and lines of credit.

These easily available financial facilities, together with their usurious interest rates, allowed mine owners to have an iron-clad grip over their workers and ensured that they remained in service to pay off their burgeoning debts.

Tin mines were located deep in the interior where living conditions were
challenging. Apart from the constant threat of diseases like malaria, beri-beri and smallpox, those in open-cast mines were at the constant mercy of the blazing tropical sun while the rest diced with death working in dangerous shafts hundreds of feet below ground. As such, the workers regularly consumed opium sold on credit by the mine owners to take their minds of empty stomachs, fevers and aching muscle.
Salaries were traditionally settled at the end of the eighth and 12th after the commencement of mining operations. At that time, it was standard practice for the employer to set up gaming tables to entice the coolies to try their luck at the game of chance.

In addition, prostitution dens and pawn-broking shops were established next to the opium and gambling dens to relieve the unfortunate male workers of their last remaining coins in exchange for temporary earthly pleasures and excitement.

**INDUSTRIOUS WOMEN**

Although a large majority of miners were men, the industry was also supported by a comparatively smaller but equally important group of industrious women who were involved primarily in recovering tin ore remnants in river beds through panning or dulang washing activities.
Dulang washers concentrated around places where tin mine tailings were discarded.

Comprising both Malay and Chinese, these women expertly swirled tin-bearing earth mixed with water in round trays with deep centres to collect the tin ore which were then sold to middlemen before their onward transmission to smelting enterprises owned primarily by Europeans and wealthy Chinese businessmen.

1965 receipt for the sale of RM2,000 worth of the Sam Poh Tin Mining Kongsi shares in Tapah.

The French Tin Mining Company became the first European enterprise to open tin mines in the Kinta district after it was floated as a public listed company in Paris in 1881. Although three other western interests were established soon after, the French were the only ones left standing three years later. The rest succumbed to inexperience, high operating costs and, more importantly, difficulty in engaging Chinese labour.
European ventures only began reaping profits when efficient equipment that drastically reduced the need for manual labour was introduced. Beginning with hydraulic pumps in 1892, other cutting edge machinery of their time, such as gravel pumps, suction dredges and hydraulic elevators began finding their way to Perak.

The way tin was mined changed forever when the highly efficient and low labour intensive bucket dredge was introduced in 1913. Widely considered as the final major technological innovation in the Malayan tin mining industry, the bucket dredge was quick to stamp its dominance. By 1952, nearly 40 bucket dredges were in operation in the Kinta Valley alone. Constructed before the Second World War, they survived the ravages of the Japanese Occupation thanks to Japan's unquenchable thirst for Malayan tin.

END OF AN ERA
The tin dredge was so important to the Japanese that the postal department featured it on the four cent stamp.

Tin production in Malaysia began experiencing a sharp decline during the early 1980s due to intense competition from Brazil. The matter was exacerbated when the International Tin Council announced its insolvency in October 1985.

The resulting collapse in world tin prices brought the local tin mining industry to an ebb. Even steps like the establishment of the Malaysian Tin Products Manufacturers' Association in 1989 did little to help turn fortunes around. Today, Rahman Hydraulic Sdn Bhd in Perak remains the only company still mining tin ore on a large scale.

At the library exit, I pause momentarily to recollect my thoughts. Our tin mining industry has definitely come a long way since the heady days of smoke emanating from opium pipes and magical incantations of the revered pawang.

With news from the Department of Lands and Mines saying that many industry players have indicated interest to explore the various places throughout Malaysia that still hold huge tin deposits, the future promise of a rejuvenated tin mining industry definitely bodes well for our nation.
Guan Eng's graft charge sparks heated debate at Penang assembly | New Straits Times

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