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The Savior that is Hemp

Jimmy Tham wakes up in his small two-room house in Kapit, Malaysia while it is still dark outside. He dresses in a blue t-shirt and jeans then walks outside with the chicken feed to give to the chicks and geese roaming outside his house in the fenced off yard. The sun is beginning to peek out behind the mountains to the east as a light mist lingers, covering the mountainous, jungle, and lake neighboring the one-hectare farm. Jimmy hears his wife begin to prepare the congee that his family will eat for breakfast that morning. He watches his son of 24 years prepare the tools for the days work in the field. At age 71 Jimmy is reminded of how grateful he is that his son has not left the country farming life. Many of the young people have to seek work in Sarawak's capital city Kuching. (Tham)

The Tham family has a field of rice paddies growing on their one-hectare farmland. In their family, everyone must work in the fields everyday, weeding and managing the rows of plants growing in ditches below the path. It rains often in the humid environment beside the lake. The land is recovered jungle, therefore the soil lacks many of the nutrients needed to grow the rice paddies and fertilizer is needed. There are hundreds of these small farms growing rice paddies along the Rajang River and all over Sarawak. Soon, however, the farmers will have to find a new crop to grow.

The production of rice paddies as a food source has been slowly declining and the price continues to fall. The average yield for a rice paddy farm is 3.5 ton per hectore (Agriculture Statistical Handbook). The current price of rice is about 367 USD per metric ton (World Bank). After the cost of farm production, cost of processing, and marketing only 47.6% of the total profits of the rice are returned to the farmer (Food and Agriculture Organization of the United Nations). This translates to a local farmer making about \$611 in a crop season of 4 months.

It was reported that 88% of rice farmers in Malaysia were under the poverty line (The Third Malaysia Plan). The productivity of rice farming has seen marginal increases while the market for the rice has steadily decreased. Recently farmers were also reported to be taking out loans to pay for bug weddings, liquor and motorbikes. The Malaysian currency then underwent demonetization and the farmers were put into extreme debt by the banks (Ramachandran). They were later provided assistance from the government, but the problem may be recursive. The Malaysian people want to take advantage of the technology of the western world, however without the solid economic base, the country is not prepared to take on the issues this technology comes with.

As Jimmy drives his truck on the single lane dirt road, winding through the dense vegetation on either side of the mountain road, he thinks of how new technology and the banks have affected the surrounding farms. The banks have encouraged the men to take out credit cards to spend money they do not have and buy new commodities from the cities such as motorcycles where only an old bicycle was needed. Jimmy finally reaches the pick up location for one of the national distributors of the rice paddies, Supreme Maju. He soon learns that the price of rice has declined again and

that he will be making less for his crop. This has been a continuing cycle, one that has made the debt situation worse for the small farms. Jimmy contemplates what he will tell his family and what they will do in the future. Soon his family may have to look for new work if they cannot make more from farming.

Hemp is not a new product to the world of agriculture, as it has been grown and its fibers have been used for over a thousand years. Hemp was first discovered in China around 2700 BC where it was used as a medicinal plant. The plant later spread into Europe between 0 – 200 AD and had many uses including clothing sail making, and papermaking (Ranalli and Venturi). Currently, hemp has over 25,000 other industrial uses. Newfound uses for the renewable hemp plant include: “oils from seeds and essential oils or secondary metabolites from inflorescences for food, cosmetic or pharmaceutical industry; straw and hurds for the building industry and for energy production” (Ranalli and Venturi).

Over the recent century the growth of hemp has been regulated by the world as it is labeled as a cannabinoid, within the same species as marijuana, and as such is labeled as a Schedule 1 narcotic. The enzyme delta-9-tetrahydrocannabinol (THC) has been labeled as the primary source of the psychoactive properties of the plant and is present in conjunction with cannabidiol (CBD), the enzyme found to have medical uses. Hemp has a chemical makeup that has more CBD compared to THC, the opposite from marijuana (Meijer, Kamp and Eeuwijk). This means the ability to get “high” from hemp is greatly lessened while the potential medical applications are greater.

Hemp has been used for its medical properties long before it was discovered to have hallucinogenic properties. In ancient Egypt, hemp was used as an anti-

inflammatory and antimicrobial while in Islamic countries hemp was used as a painkiller. Currently, the CBT enzyme in hemp has been used to in medical fields such as relief of nausea and anorexia, associated with radio- and chemotherapy and systematic mitigation of multiple sclerosis” (Appendino, Chianese and Tagliatela-Scafati). It is important to explore these medical fields and not be ruled by current societal fear. There are valid concerns as to when hemp should be a controlled substance, but the benefits that hemp allows have been understood for thousands of years, and should be continued to be studied using modern technology. The medical uses for hemp are just one reason for why hemp is currently in high demand.

As a result of the high demand for hemp on the global market, since it has a variety of uses, many other countries, like China, have turned to the plant as a cash crop. Hemp can be grown by local farmers for much greater returns to decrease poverty in historically poor areas. Industrial hemp is now being grown in the Yunnan, Heilongjiang, Gansu and Anhui provinces (Horton). With the new crop, rural farmers in China have now doubled their income. To comply with international regulations, this change has needed new regulatory restrictions from the government to distribute the seeds for the crop.

If grown in Malaysia, hemp has the potential to drastically increase the earning potential of the local farmers. The effects of hemp production would not only be seen on the rural level, but also for the economy as a whole as new products can be produced and exported. This could have the same effect as it did in China to raise the poverty line of rural Malaysia and allow the population to better manage their income. For local farmers in Malaysia like Jimmy Tham, growing hemp would be the difference between

having to find a new profession and making enough money to feed his family and escape poverty.

By looking at the poverty of rural farmers in Malaysia, we can see that a cause of their situation is a lack of profitable crops to grow. This is important because this problem can be fixed by introducing a new cash crop such as hemp that will also have compounding benefits for the entire country. It is important to consider the problems facing the country of Malaysia as a whole. In his article "Collapse", Jarrod Diamond cites twelve problems that countries and the world must solve or else the state will fail (Diamond). One of these issues that concern Malaysia is that of population growth and the resources that the rising population is using. It is found that population growth is much greater in areas of poverty and low standards of living. This growth in population begins to put strains on the environment, just as Garrett Hardin writes in "The Tragedy of the Commons" (Hardin). Hardin writes how when there were less people, one person did not have to be concerned with throwing sewage waste into a river. However now that the population is so much greater, if everyone were to throw their sewage waste into the river, the river would become polluted and unusable. Both of these authors come to similar conclusions that population growth must be controlled and people cannot live the same way that their fathers did.

One of the best-seen solutions to population growth is increasing the poverty rate. This is seen in the recent history of countries, as when economic growth is increased, the birthrate will decrease. Therefore, finding ways for people in developing countries to rise out of poverty is important to begin to solve these problems. Of course, there is no

one solution to a problem of this magnitude, however small steps may have large impacts towards solutions.

There may exist a future where the Malaysian government supplies Jimmy Tham and the other local farmers with hemp seeds to grow on his farm. When Jimmy walks outside his house, he admires the mist rolling down the mountains and across the lake. Since growing hemp he has not worried about having to move away from his farm. The money from the hemp is much more stable and he has enough money to feed his family. Instead of the rice paddies growing in the ditches of his field, the tall stalks of seven-leafed hemp grow. Jimmy still drives his truck into town every four months but now drop of his crop off at a new textile factory. There they take the fibers to make cloth for exports. Jimmy does not know how long he will keep farming; all he knows is that he is doing what he loves in the place that is near to his heart with all his family beside him.

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