Betel Nut Explosions: The maturing of a Taiwanese drug culture and market

By Melati Kaye

In the Qing dynasty classic novel "Dream of Red Chamber," two rich, teenage aesthetes flirt with each other by sharing betel nut in a Northern Chinese courtyard. Their surroundings are cold but the betel nut they share is an exotic drug from distant, flat and muggy southern Chinese lands. The ritual of sharing this nut is a sign of their wealth and high status.

Today, their cultural descendants in Taiwan would laugh at the idea of betel nut signaling wealth. Instead the drug is associated with an island-wide oral cancer epidemic, high altitude soil erosion and scantly clad young women who sell the nuts in neon-lit glass boxes along major highways.

Despite its descent into notoriety in Taiwan, the drug ranks as the nation’s 2nd most produced crop and boasts a consumer base of 2.4 million\(^1\), significant given Taiwan’s total population of 22,858,872.

What does such a popular drug do to a country, culturally and economically? How does it become so popular? What are the environmental costs, especially when the drug is usually grown on flat land and 70% of the country in question is mountainous? These are all questions that I wanted to answer. But given that my research time was limited to two and a half months, my topic narrowed.

In this paper, I would like to focus on an idea I derived from a section of the graph below, from a Council of Agriculture report on betel cultivation and its effect on soil erosion.

\(^{1}\)
The graph shows the increase in acres of betel palm plantation in Taiwan since 1921, during Japanese colonization of the island. After decades with negligible levels of betel plantation, there appears to be a steady ramp up in production from 1964. This slow build up raised uncontrollably from 1986 to 1996, when production went from 11,000 acres to 54,000 acres—a five-fold increase over the course of ten years.\(^2\)

While this rise seems sudden, I would like to argue that a major causes of the rise lies in government policies during the first days of Taiwan’s nationhood. These first policies by the newly arrived Mainland Chinese National party, the Kou Ming Tang (KMT) were focused on land reform and industrialization. I will split my argument into three parts. The first will discuss what is betel nut and describe its market in Taiwan. The second will look at land reform and industrialization policies during Taiwan’s early nationhood. And third will explore the responses to these policies by Taiwanese farmers.

**What is betel nut?**

Betel nut is a pan Asian stimulant. It is chewed in the form of a quid that combines the nut of the Areca (or betel) palm with and slaked lime and the leaves, stems

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\(^2\) In an article from the Taiwan Review by Anita Huang, Betel Nuts, Better Not, 10/01/1997
or catkins of the *piper betle* vine. Ben Cao Gan Mu, the Ming dynasty medical and herbal dictionary, says that the drug can

“kill germs, bacteria and diffuses bad energy flow in the body.” But it also ascribes “enigmatic” effects to the nut. It can “fill you up if you are hungry but help with digestion if you are full…. [It] picks you up if you are tired but relaxes you if you are stressed. Chewing it can make you drunk red but eating it after drinking (during a hangover), it will clear your head”

The Australian and American drug prevention networks believe that betel nut’s enigmatic effect is, in fact, due to Arecoline, an alkaloid found in the fruit. Arecoline has the potency of the caffeine of six cups of coffee and is believed to be what makes betel nuts addictive. Betel’s addictive properties make it the world’s fourth most widely used psychoactive substance, after coffee, tobacco and alcohol.

Taiwan is the world’s second highest producer of betel nut and most of this production is for a domestic market. According to a 2003 National Statistics Bureau report, only .4% of that product was exported. Since Taiwan entered the WTO in 2002, 1,806.5 tons of betel nut was imported a year to supplement national production but this import only accounted for 1% of national consumption. Taiwan has a 3.3 million-consumer base and many of these consumers chew up to 50 betel nuts a day. To support such a large consumer base, the betel nut market has a complex four-stage distribution system. One distributor was so confident in her market that she said

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4 As cited in the Chinese Wikipedia:

“喫南人喫檳榔片茶葉癡，其功有四。一曰：醒能使之醉，荅食之久，則煩然煩赤，若飲酒然。蘇東坡所謂紅潮登頰醉檳榔也。二曰：醉能使之醒。荅酒後嚼之，則難氣下痰，餘醒頓解，朱晦庵所謂檳榔收去痰也。三曰：


7 For instance, betel nut sellers I interviewed in Pu li and Taipei, the son of a betel nut wholesaler in Taizhong and a betel nut wholesaler in Taidong all reported that their regular customers averaged 60 betel nuts per day apiece.
“Taiwan eats enough betel nut annually to build a highway from [the northern city] of Taipei to [the southern city] of Tainan…. the government will never be able to kill production, the distribution…it is a Taiwanese addiction…. 2.2 million people work in the betel nut industry”

The Taiwanese Government feels differently and has blamed the industry for rampant aggravation of soil erosion, the island-wide oral cancer epidemic and deforestation of medium altitude forests. Betel nut beauties that sell the drug are also seen as a moral hazard.

Every year, the trees have a growth spurt over a course of three months (approximately June through August, with some local variation). During this time, they grow four rings, approx. 10cm each, and a leaf, a flower bunch and later a fruit bunch for each ring. Each fruit bunch holds 200-300 betel nuts.

Betel nut trees have all their leaves on top so the tree itself is like a funnel. Each leaf conducts water to the leaf stem, each leaf stem to the main stem, and so on, right down to the roots. The tree’s spread-out leaves do not protect the ground much from direct rainfall and its shallow roots do not hold water for long. All these facts make betel nut not a suitable plant for mountain slopes. Experiments by Council of Agriculture research teams at Lien Hua Chih research station have found that betel nut plantations, whether mature or new, have only half the soil quality (organic...
Betel nut plantations have high water retention (measured by absorption capacity and porosity) equivalent to clear-cut forestlands.

<table>
<thead>
<tr>
<th>Area Investigated</th>
<th>Soil Depth (cm)</th>
<th>Soil Type</th>
<th>Absorption Capacity (Specific Gravity)</th>
<th>Organic Content (%)</th>
<th>Porosity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature betel plantation</td>
<td>0</td>
<td>Dirt</td>
<td>1.19</td>
<td>3.3</td>
<td>55.09</td>
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<td></td>
<td>30</td>
<td></td>
<td>1.43</td>
<td>1.91</td>
<td>46.04</td>
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<tr>
<td></td>
<td>60</td>
<td></td>
<td>1.5</td>
<td>0.96</td>
<td>43.4</td>
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<tr>
<td>Newly planted betel plantation</td>
<td>0</td>
<td></td>
<td>1</td>
<td>5.18</td>
<td>52.26</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td></td>
<td>1.22</td>
<td>2.16</td>
<td>53.96</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td></td>
<td>1.24</td>
<td>1.56</td>
<td>53.21</td>
</tr>
<tr>
<td>Clear cut woodland</td>
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<td>1.16</td>
<td>4.22</td>
<td>55.92</td>
</tr>
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<td>60</td>
<td></td>
<td>1.33</td>
<td>1.84</td>
<td>50.84</td>
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<tr>
<td>Natural broad leaf forest</td>
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<td></td>
<td>0.63</td>
<td>10.85</td>
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<td></td>
<td>60</td>
<td></td>
<td>1.21</td>
<td>1.78</td>
<td>54.8</td>
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</tbody>
</table>

Table 1. Results of experiment done at Lien Hua Chih. Water retention is measured in absorption capacity and porosity. Soil quality is measured in organic content.
Cancer has been the leading cause of death in Taiwan since 1982 and claimed 34,342 lives in 2002. The five most common forms of cancer for Taiwan’s men are liver, lung, colorectal, stomach, and oral cancer.”

Betel nut beauties are vendors of betel nut. For most non-users of betel nut in Taiwan, these girls are all they know about the betel nut industry. Nuts for any given season will come from one region and barely distinguishable from one another. So these vendors, all girls between the ages 18 and 30, use sex appeal in the form of skimpy clothing and neon lights to attract customers.

Figure 3. Betel nut beauty. The combination of sex appeal as a sales

Figure 4. Percent of Annual Betel Crop Produced per Month.
Left Axis: % of Annual Production, Bottom Axis: Month
- - = upland plantations, - - = island-wide output, - - = lowland plantations
Source: J.P. Lin, op. cit.

8 Taiwan Yearbook on public health, 2003
tactic and regional betel production
make betel nut an industry with high
price volatility, as seen in figure 4.

Land Reform and Industrialization policies from 1949 to 1960

Figure 1 shows betel nut acreage in Taiwan from 1921 to 2000. During this time period, Taiwan went from being a Japanese colony (1895-1945) to a country under martial law ruled by the Kou Ming Tang (KMT)-- the Chinese Nationalist Party transplanted from Mainland China (1949-1987)--- and eventually to a country with democratic elections and no martial law (1987- present).

While the graph shows a surge in betel production from 1986 to 1996, the betel nut market had been growing for twenty years already and the surge was a sign of a matured market. The large betel chewing consumer base was addicted to chewing the nut,
betel farmers had found a niche and small entrepreneurs had found a good marketing strategy. One of the major influences on the growth of the Taiwanese betel nut market were government policies established in the first years of Taiwan's nationhood.

Arriving in Taiwan in 1949, the KMT's first goal was extensive land reform. As a newly arrived power from the mainland, the KMT found itself unpopular with the locals, supported mainly by landless soldiers and a need to shift Taiwan from an exporting colonial breadbasket to a agriculturally self-sufficient nation.

Prior to The Japanese Office of the Governor General’s slogan during World War 2 had been ""Industrial Japan, Agricultural Taiwan." This indicated the importance of Taiwan to Japan’s war effort. Taiwanese paid higher taxes and 3,000 Taiwanese men died fighting in the Japanese army and arable land in Taiwan was almost all devoted to rice and sugar production.  

From 1949 to 1953, the KMT carried out an extensive land reform program. Within three months of arriving in Taiwan, the KMT placed a land rent ceiling of 37.5 % of the annual production of main crops. In 1951, they sold previously Japanese owned land---about 1/5th of all arable land in Taiwan--- to tenants on the same land. And under the land to tiller acts of 1953, the government made all landowners with 2.9 hectares or more of medium quality land o paddy sell their land to the government in exchange for 2.5 times its annual yield, commodity bonds and stocks in four growing government enterprises. The bought land was subsidized and sold to tenant farmers at 70% of the original buying price.

As a result of the land reform policies, the KMT established eminent domain for the newly arrived party since the policies provided land to the previously landless lower class. Land was made more viable for lower classes tenant cultivated land reduced from 44% in 1948 to 17% in 1953. Owner-cultivator households increased from 32% in 1947 to 55% in 1953 and eventually hit 78% in 1970. The policies also redirected upper-class capital towards industry since the upper class, who were previously landowners were  

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11 164, Samuel Ho
given capital, in the form of stocks and bonds and only limited to 2.9 hectares of cultivatable land. The new limitations and capital forced the upper class to shift their focus towards industry and a decentralized industrial sector, which was 70% rurally based, emerged. And KMT soldiers and supporters that had come to Taiwan with the party could also buy land.

Ironically though, more equitable land distribution made agriculture a less attractive career path. In 1940, agriculture, forestry and fishery accounted for 64% of national employment. By 1956, it accounted for 55.4% and by 1974, a mere 31%. 12

Heavy subsidies on rice and sugar, which were still Taiwan’s staple crops in 1949, actually made agriculture unsustainable for rice farmers. Paddy owners were required to grow rice and barter crop for fertilizer and government land taxes. Rice taxes to the state were valued at 70% of it’s market rate and what rice was sold on the market had its price set by the government. State procured rice kept KMT supporters and support staff supplied with rice and the low market rate kept cost of living low nationwide. But for the farmers, this created an unsustainable livelihood that needed to be subsidized by other income sources. As Lee Tung Hui, an eminent Taiwanese economist and ex-Taiwanese president said in his 1971 book, *Intersectoral Capital flows in the economic development of Taiwan*, “Government collection of rice, sugar and other important products in addition to the unfavorable terms of trade resulted in a tremendous net capital outflow from agriculture.13"

A rapidly growing population also made little work for the younger farm family members. The presence of a farm created a safety net of stable minimal income and housing for the rural youth to fall back on. By 1960, many rural youth had shifted to working in the industrial sector. The “manufacturing” industry in particular grew rapidly, from 7.7% in 1940 to 12.4% in 1956 and eventually 26.8% in 1974. Trade, transportation and communications sector growth paralleled manufacturing but grew at a slower rate. Meanwhile, by 1960, agriculture had become a sideline for 19.8% of total cultivating

12 Table 8.7, Samuel Ho
farm households and agriculture was the main occupation of only 30.9% of all cultivating farm households.\footnote{Table 9.5, extent of Off-farm economic activity by farm size in 1960, pg 163, Samuel Ho}

**Betel Nut: filling a niche**

Farmers needed a crop that could subsidize the unsustainable livelihood that the government had forced on them. Young industrial workers needed to endure long hours of repetitive work. Betel stalls also provided a social gathering ground for the industrial workers that had just migrated to the city. Betel nut—a powerful, energizing stimulant—not only sustained these laborers through their long hours but the stands where it was sold provided a sense of community around the stands. As a low maintenance cash crop, mass consumption of the stimulant also created a niche for farmers. For example, Han Yi-chih, a plantation owner in the Yu Chih township of Nantou “only requires more than 3 people during harvest season. Even then, only 8 people are required to harvest 3 acres, twenty to thirty old women to clean and count the crop and two truckers to ship the crop to various urban centers.”\footnote{Interview by author} By putting in the little bit of effort of bordering their fields with betel palms, farmers found a high payback. Given the four-stage distribution system, payback at each stage was high. Farmers sold their crop to local distributors for NT$ 0.002 a nut (betel palms have 1200 nuts a tree and 120 palms an acre.) Local distributors sold to regional distributors for NT$ 0.4 a nut. Regional distributors sold to smaller urban, rural and highwayside vendors and betel nut beauties for NT$ 0.44 a nut and these vendors and beauties in turn sold to their customers for anywhere between NT$ 2-50 a nut, depending on the local betel season.\footnote{This data was gathered from various interviews by the author with vendors, distributors and farmers in Nantou, Taidong and Taipei counties.}

As Taiwanese industry grew, individual Gross National Product grew too. In 1951, per capita GNP was rated at NT$ 6,308 but this grew to NT$ 21,235 in 1973.\footnote{Samuel Ho, Table 8.1, page 122} Between 1970 and 1985, the World Bank found that Taiwan’s Gross domestic product growth rate was 6% a year.\footnote{Figure 1.2 Growth Rate Persistence, Pg 30, The East Asian Miracle:economic growth and public policy, World bank Policy Research Report}
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