Policy Interventions and Economics of Betel Leaf and Areca Nut Use

Betel quid and areca nut products are often homemade or manufactured within a network of small locally owned businesses. Lack of product standardization, lack of mass commercialization, and high product diversity make policies especially difficult to implement and enforce (NCI & CDC, 2014). Data on the economics of betel quid and areca nut use and policy interventions to reduce use of these products are limited.

Trade

Areca nut is usually listed as an edible fruit and therefore normally sold as a food substance in many countries. Foods imported to a non-producing country must meet the general food safety requirements within that country, but are rarely declined due to the health effects of areca nut use (IARC, 2004). Some countries have placed limitations on trade in areca nut. In the Marshall Islands it is a crime to import, distribute, or sell areca nut (WHO, 2012).

Taxation

The varied and informal nature of the betel quid and areca nut market presents challenges for effective taxation of products. Tax rates can vary widely across product categories and across countries and tend to be lower for smokeless tobacco products compared with cigarettes. The scarcity of data on tax evasion and avoidance from low- and middle-income countries also makes it difficult to determine effective tax rates.

However, effective implementation of taxes on betel quid and areca nut products could reduce consumption (NCI & CDC, 2014). One small study in India suggests that a 10% increase in the price of gutka would decrease consumption by 5.8% and the prevalence of gutka use by 2.7% (Joseph, 2010). Other research suggests that combining taxation policies for cigarettes and betel quid can have beneficial effects on cessation rates because the two habits of smoking and chewing betel quid are closely related (Chen et al., 2010).

Bans

A few countries have attempted full or partial betel quid bans at a national level. Most states in India have banned the sale of gutka. However, enforcement of the bans varies across regions and manufacturers have circumvented the bans by selling co-branded tobacco and pan masala products in separate pouches (NCI & CDC, 2014). One study evaluated the gutka ban in Maharashtra state and found that 24% of study participants quit their habit and 56% of study participants reduced their gutka consumption after the ban. One main reason for cessation or reduced consumption cited by respondents was the added difficulty of purchasing gutka (Mishra et al., 2014).

Other countries have implemented bans, but on a much smaller scale. In Papua New Guinea, a ban on betel quid chewing in government offices was implemented in the late 1970s. In Singapore, spitting in public was outlawed to indirectly discourage the practice of betel and areca nut chewing (IARC, 2004). Beginning in August 2016, several classes of new and existing tobacco products, including gutka, will also be banned in Singapore, following a 2015 ban of e-cigarettes (Chew, 2015).

Areca nut sachets in Karnataka with warning. Image: By Ask27 - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=38771866

Warning Labels

The imposition of warning labels on betel quid/areca nut products is much less common than with cigarettes. While the FCTC sets standards for warning messages on tobacco product packaging, most Parties to the Convention have lower standards for smokeless tobacco products than for cigarettes. Some countries allow warnings to cover less space on smokeless tobacco products than on cigarette packages; others have mandated health warnings only on cigarettes but not smokeless products (NCI & CDC, 2014).

For example, in India, public health experts have noted that the warning on areca nut sachets in Karnataka is displayed in very small print and written in English (not the local languages), and no pictures associated with the specific health risks are displayed. Supporters of warning labels believe these warnings should be more prominent and written in local languages (Gupta & Malhotra, 2015).

Areca Nut in Tobacco Control Policies and Programs

Due to the high prevalence of areca nut use and related diseases in Western Pacific countries, the World Health Organization Western Pacific Regional Office has set out a plan of action for control of areca nut and tobacco use. Their 2012 report proposes a range of strategies, including surveillance, public education and awareness, treatment services, multi-sectoral partnerships, and effective governance (WHO, 2012). They also recommend specific policies to address the problem (See Table 1).

Table 1. Policies Recommended for Addressing Areca Nut-Related Diseases

Social Determinants (environmental, economic, and sociocultural)	Risk Factors (chewing areca nut alone; chewing betel nut with tobacco or other substances)	Intermediate Conditions (oral leukoplakia and submucous fibrosis)	End Disease (oral cancer, other tobacco-related cancers)
• Regulate the sale of areca nut (e.g., laws prohibiting sales to minors) • Establish import and export trade policies • Establish laws and policies restricting areca nut use on school property, at health care facilities, etc.	• Implement relevant supply and demand reduction provisions of the WHO FCTC	• Mandate funding for oral screening and cessation services • Establish guidelines for screening for precancerous conditions by oral health care providers	• Pass legislation to support cancer registries, including mandatory reporting of oral and other cancers

Adapted from: World Health Organization (2012). Review of areca (betel) nut and tobacco use in the Pacific: a technical report.

The Economics of Betel Leaf and Areca Nut Growing

Statistics on the production and economics of betel quid growing are limited. Table 2 presents gross production values for specific countries, as reported by FAOSTAT. The production of areca nut and other associated ingredients (tobacco, lime, and leaves) may provide a source of income for farmers and their families in some countries. For example, in Papua New Guinea areca nut is referred to as “green gold” for families (WHO, 2012). But research has not been done on the potential for crop substitution or other supply-side measures to reduce areca nut use.

Table 2: Production Value and Quantity of Areca Nut in Select Countries

Country	Gross Production Value in Million US$	Gross Tons of Areca Nut Produced
Bangladesh	197.7	101,000
Bhutan	21.33	10,500
Myanmar	-	119,500
Sri Lanka	-	38,742
India	988.58	609,000
Indonesia	67.39	181,000
Kenya	-	115
Malaysia	-	705
Maldives	-	3
Nepal	6.5	11,560
Taiwan	-	122,000
Thailand	-	30,000
China	-	122,000

Statistics from: FAOSTAT (Food and Agriculture Organization of the United Nations). Agri-Environmental Indicators; 2016 [Cited April 2016].
Available from: http://faostat3.fao.org/download/Q/QC/E.