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ARECA NUT SYMPOSIUM

Socio-economic aspects of areca nut use

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Abstract

The socio-economic aspects of areca nut consumption have been overlooked. A narrative review was conducted to establish some of these features of areca nut consumption. Medline, Pubmed and the World Wide Web were searched using the terms: areca nut, betel nut, areca catechu and pan masala. Further analysis was conducted of datasets describing aspects of United Kingdom areca nut sales and consumption. South Asian economies at different stages of development have varying areca nut cultivation practices, employment opportunities and marketing strategies. Attempts at regulation of areca nut import and sales are described. Retail practice among the South Asian communities of the United Kingdom was found to reflect the diverse consumer practices current in their countries of origin. A study of areca nut consumption patterns and motivations among Bangladeshi women resident in East London identified differences between those chewing areca nut in paan with and without tobacco. Further research into the socio-economic aspects of areca nut consumption is needed which should be multidisciplinary in focus, of sound scientific quality and incorporating the opinions of consumers.

Introduction

To discuss socio-economic aspects of areca nut use provides belated recognition of a neglected aspect of a multidimensional behaviour. The main thrust of research into areca nut use has been epidemiological, seeking to identify trends in behaviour and the resulting disease outcomes. Less attention has been given to the social aspects of areca nut consumption. This focus would widen the debate from a disease to a social model of health, recognizing that the determinants of health are broader than individual behaviours. The preventive focus has been upon developing messages for individual consumers, disregarding opportunities to introduce other policies and initiatives that focus upon other determinants of

this behaviour. Changing social and economic policies may lead to changing cultivation and marketing practice which will, in turn, affect individual consumption. The search for a preventive message has given inadequate attention to variations in areca nut use. In the United Kingdom the emphasis has been upon understanding a South Asian model of consumption, which is linked to positive sociocultural messages perceived as promoting increased consumption.<sup>1</sup> In other populations consumption could be different, because areca is associated with abundant availability and tradition.<sup>2,3</sup> Current estimates that 10% of the world's population are regular consumers, comprising perhaps 600 million people, suggest the desirability of widening per-

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spectives. A review was therefore conducted to establish and describe some of the relevant socio-economic features of areca nut consumption.

### Methods

This review has two strands. First, a search of existing literature sources was undertaken. Medline and Pubmed were searched using the search terms: areca nut, betel nut, areca catechu and pan masala. In addition the World Wide Web was accessed for a supplementary search focusing upon the production, processing and marketing of areca nut. Secondly, further analysis of data sets which describe aspects of areca nut sales and consumption within the United Kingdom was conducted.<sup>3-5</sup> Reflecting the limited nature of the resources available to describe the socio-economic aspects of areca nut use, the data are presented as a series of case studies.

### Results

#### *Changing areca nut cultivation*

*Areca catechu*, of which areca nut is a fruit, is one of the palm species. Palms are one of the oldest flowering plants. Initially native to Malaysia, *A. catechu* is now cultivated widely throughout India, Sri Lanka, Thailand and the Phillipines.<sup>6</sup> Palms offer a multiplicity of uses in a rural agrarian economy. They provide fodder for cattle, edible fruits, building materials, fuel and fibres. Gandhi argued that one species of palm had such a multiplicity of use that its cultivation and harvest would banish poverty from the land, while 1000 separate uses have been identified for the coconut palm.<sup>7</sup> The date palm is considered the staff of life by Moslems, recognizing the importance of the date in the breaking of the fast during Ramadan. The cultivation of *A. catechu* is traditionally described as an intercrop in India, alongside the piper betle, as a forest garden in Sumatra or as part of a private allotment.<sup>8,9</sup> The Nepalese government has introduced initiatives to encourage the private planting of species such as *A. catechu*.<sup>10</sup> This individual method of cultivation was mirrored by the complementary consumption of fresh perishable products, based around individual preferences and tastes.

The liberalization of economic policy, trends to urbanization and increased prosperity have introduced tensions into this traditional scenario. *A. catechu* may now be grown and prepared to meet

the needs of a mass market. The development of pan masala, a pre-packaged mix of areca nut, lime and spices, in India has been one response to this need. More pan masala is sold in urban than rural areas.<sup>11</sup> While still individually cultivated, the *A. catechu* tree is found increasingly in privately owned plantations to which a community will have limited access. Communities may well feel exploited and aggrieved, following the loss of a traditional right.<sup>9</sup> The development of areca nut as a market crop has resulted in it replacing other crops such as rice, cultivated previously for subsistence, and the introduction of fertilizer and pesticide applications to improve yields. As a cash crop rather than a rural garden tree, it has to be used to achieve maximum profit. Additional uses have been identified for the nut such as toothpaste, while the husk can be used to make paper or as a source of fuel for electrical power generation.<sup>12,13</sup>

The national and regional companies producing pan masala do so as part of a diverse range of products. The Kothari Group produce Pan Parag, a premium pan masala of fresh areca nuts, cardamom and lime, as part of a product range which includes tobacco products, coconut oil, washing powder, greeting cards, mineral water and writing pens.<sup>14</sup> Suppliers of the raw product for export can be located on the Web, most usually from Indonesia, where it is possible to purchase different qualities of nut in 50- or 85-kg sacks.<sup>15</sup>

The price for harvested areca nut in India appears volatile. In 1997 the government of India was asked to stop imports of areca and prevent smuggling, while by 1999 there were reports of a single premium quality areca nut costing more than a coconut (at 4-5 rupees). In general, the wholesale price appears to have fallen by about 30%, reflecting concerns about the impact of government bans on sales of the processed packaged product either as pan masala or, with tobacco added, as gutkha.<sup>16-18</sup>

#### *Changing employment opportunities*

The processing of areca nut in India has traditionally required the employment of a labour force, especially in preparing the nut for consumption. The nut has then been supplied to individual pan wallahs, from whom individual purchases could be made. Changing cultivation practices have resulted in the recruitment of a

permanent labour force to tend the trees who, in return, receive regular cash wages.<sup>8</sup> The aggressive marketing of pan masala has jeopardized the pan wallahs' livelihoods. There are reports of pan wallahs striking in one Indian town because of reduced profit margins due to the price they pay for areca nut doubling in 12 months.<sup>19</sup> The production of pan masala requires the integration of supplies of individual ingredients in addition to areca nut alone, all of which may be produced in different parts of India. Other industries associated with pan masala production are the spice and silver foil industries. This use of indigenous suppliers enables the Indian pan masala trade association to make the claim that their product is 'swadeshi', signifying a product using domestically supplied ingredients.<sup>20</sup>

One focus of this marketing activity has been on the urban Indian consumer. However, it is estimated that 70% of Indians live in rural areas. Growing rural affluence has led to the creation of a developing market for packaged goods which manufacturers have not been able to meet. This has been ascribed to factors such as inefficiencies in distribution through a fragmented transportation infrastructure. It has been noted that innovative methods of packaging have been introduced to bring down overall costs and create markets. As with products such as hair shampoo and toothpaste, the packaging of pan masala has been changed from containers to 10-g sachets. This change is considered responsible for an increase in sales in India from five million dollars in 1985 to 66 million dollars in 1991.<sup>21</sup>

#### *The regulation of areca nut marketing*

The regulation of areca nut and products such as pan masala is extremely difficult. First, the traditional method of consumption has involved the assembly of a quid with ingredients reflecting individual preferences. Secondly, there is a large informal sector, highly decentralized and unlicensed, which operates outside of official control. While the Indian government seeks to impose excise duty upon the sale of pan masala, it is also recognized that there is wholesale evasion of payment of the duty. Recently, pan masala with no tobacco and no more than 10% of areca nut by weight has had the rate of excise duty reduced from 40% to 16%.<sup>22</sup>

Within North America the US Food and Drugs Administration maintains an import 'alert' for

areca. Imports are automatically detained if detected on the grounds of it being 'adulterated, containing a poisonous or deleterious substance or unsafe food additives'. There are also reports of attempts to import areca nut by misbranding the product as 'fragrant wood slice'. This 'alert' is supported by the US Department of Agriculture. Commentators note the need for clarification of the status of this alert since US Customs advise that dried betel nuts should pay an import duty of 11 cents per kilo.<sup>23</sup>

Areca nut for personal consumption, 'pure nut, chopped and ready to chew', is readily available to purchase on the World Wide Web from American suppliers, at \$10 for 60 g and \$25 for 240 g, along with advice on consumption.<sup>24</sup> Possession of areca nut in the Californian public school system is grounds for suspension. The Food and Drugs Administration has also formally expressed a view to the US House of Representatives that individual possession for personal consumption should not be allowed.<sup>25</sup>

Within the United Kingdom, analysis of pre-packaged pan masala products has identified a group of problems.<sup>26</sup> First, labelling on the packaging was sometimes non-existent. Instructions as to use were also omitted. Secondly, the labelling might be unsatisfactory in omitting items which, on analysis, were found to be present. Thirdly, products contained non-permitted food additives, sometimes in excessive amounts. Samples of the raw ingredients such as pan leaves were also examined and found to be contaminated with salmonella. The labelling inadequacies would be expected to lead to prosecution of the importer of the product.

#### *The marketing of areca nut in the United Kingdom*

Two contrasting studies of retail practice in the United Kingdom have been carried out in London and Leicester.<sup>3,4</sup> The first investigation was carried out in 1996 to map the availability of paan ingredients in the London Boroughs of Tower Hamlets and Newham. First, the addresses of retail outlets selling paan ingredients were mapped. Secondly, a structured interview schedule was administered to the owners of each shop. The overall response rate for the interview was 76%. The schedule contained questions about the type of shop and its opening hours, which paan ingredients were sold, in what quantity and for what price. One hundred and twenty-eight shops