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ROSEWOOD PRODUCTS AND CONSUMPTION

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TRAFFIC REPORT

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EXECUTIVE SUMMARY

ROSEWOOD PRODUCTS, OR HONGMU IN CHINESE, REFER TO A GROUP OF DARK, RED-TINTED HARDWOODS SOURCED FROM VARIOUS TROPICAL TREE SPECIES, ESPECIALLY *DALBERGIA* SPP. AND *PTEROCARPUS* SPP.

A detailed list of the species is provided in Annex I. These species have been used in the traditional Chinese furniture and craft industries for hundreds of years (Mao, 2015; Zhai et al., 2014).

The excessive consumption of rosewood products and the presence of illegal timber in supply chains has attracted international attention due to associated negative impacts on the environment, governance and livelihoods of local communities in source countries. Conservation concerns associated with the trade are well documented, and several studies have been conducted on the rosewood market/industry itself (Treanor, 2015; Shi et al., 2015; Yang, 2009; Mao, 2014). However, the drivers and characteristics of rosewood consumption by Chinese citizens have not been thoroughly explored. The research summarised here aims to fill that knowledge gap and complement two additional pieces of work conducted under the EU supported "China's Champions of Change" initiative - a market research report and a policy review relevant to rosewood product trade and consumption in China. China has been identified as the destination of half of the world's illegal timber (Hoare, 2015), thus identifying new and novel ways to promote responsible consumption of rosewood in China is critical.

This study reveals the socio-demographic profiles of rosewood product purchasers, their product preferences, purchase channels, motivations to buy and deterrents against consumption. Social research was conducted through an online survey delivered alongside a qualitative research process, delivered during January to March 2019. A total of 3,160 questionnaires were collected from middle to high income individuals residing in four municipalities and 11 provinces in China considered active for rosewood consumption. Some 37 self-reported rosewood consumers also participated in in-depth discussions. The research revealed that amongst rosewood buyers about 88% are persuadable, hence a social behaviour change approach can be applied to intervene in their rosewood consumption. Deterrents to purchasing rosewood products include price (27%), dissatisfaction with the quality or design (25%), and concerns about fake products (21%). Some 87% of persuadable buyers claim to be influenced by legal risks, and 72% report they might reduce purchasing for ecological concerns.

Alternatives to rosewood, e.g. paintings, calligraphy, fruit pit-carving and similar crafts,

can be accepted by 99% of persuadable purchasers to meet the underlying needs provided by rosewood. These were identified as including cultural heritage (34%), hedonic pleasure and increased quality of life (23%), and aesthetic values (i.e. appreciation of the beauty and craftsmanship in a carved/finished rosewood product, 19%).

Consumers also report being open to receiving guidance on how to distinguish between legally and sustainably sourced rosewood and of seeking assurances as to the legality and sustainability of the supply chain. Well-known collectors or investors are influential messengers.

The research findings provide evidence and insights for the design of behaviour change communications to promote the responsible use of rosewood. They also provide a potential baseline for the evaluation of the impact of such activities.

While the research identifies potential directions for behaviour change approaches and messaging that would promote the responsible consumption of rosewood products, the need is noted here for effective delivery of a campaign to promote responsible consumption, especially for the 12% of buyers who are "diehards" and neglect legal risks and conservation risks and reject alternatives. Combined efforts should be made by the industry to improve rosewood product supply-chain traceability, and this should be backed up alongside enhanced law enforcement efforts to remove the laundering of illegally sourced timber into legal and sustainable supplies. Amendments to regulations in line with those identified in the policy review and market research reports should complement these actions and align with the findings in the consumer-focused study.



INTRODUCTION

“Rosewood” is a commonly used term for red and rose-coloured hardwoods sourced from various tropical tree species, in particular *Dalbergia* spp. and *Pterocarpus* spp. Rosewood is classified by the term “Hongmu” in Chinese, with 29 species identified as legitimate sources of Hongmu products. The Hongmu trade in China also relates to 17 additional species offering similar characteristics. 34% of the species traded for legitimate Hongmu products are Endangered or Critically Endangered on the IUCN Redlist™ (IUCN, 2001) and 59% are listed in the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) owing to concerns over unsustainable or illegal international trade. Action is required to address this and promote more responsible choices amongst consumer groups.

Market research - including that conducted under the European Union (EU) supported “China Champions of Change” initiative (Zhang, 2022a) - suggests that various source species have been used for Hongmu in different parts of China over a long period of time. In 2000, the National Hongmu Standard of P.R. China was established to define species that could provide outstanding rosewood product attributes prized by consumers, such as texture, density, hardness and oiliness.

The National Hongmu Standard was revised in 2017 (GB18107-2017), but the broad definition of “rosewood” (i.e. a colloquial term for various species providing rose-coloured wood products) is still used by those consumers without expertise in species or texture identification (Zhang, 2022 b). It is also used

in this study as the adoption of the narrow definition in accordance with the National Hongmu Standard may exclude general consumers with limited timber knowledge. To avoid confusion, in this study the term “rosewood” represents timbers sourced from species both included in and outside of, China’s National Hongmu Standard, while “GB-Hongmu” represents timber sourced from species listed in the National Hongmu Standard only.

China is the world’s largest processing centre, retailing cluster and demand market for rosewood products (Zhang, 2020a; Mao, 2015; China Green Times, 2015). The market for such products peaked in 2013, when the value of imports of GB-Hongmu reached USD12 billion (Mao, 2014). In 2018, the import value of tropical hardwood logs into China was USD2,803 million (UNODC, 2020).

Rosewood products are highly sought after for their intrinsic characteristics, including appearance and durability, and for their traditional value and associations in Chinese culture. Although by the time of this research (2019), the average price of rosewood timber was lower compared to that in 2013, the scarcity of this slow-growing material still makes it attractive to those seeking the product for its exclusivity, including long-term investors (Yang, 2009; Mao, 2014 & 2017). The increase of disposable income among Chinese citizens has increased the number of those able to afford rosewood products (Yang, 2009; Mao, 2014 & 2017).

The policy research of the EU supported “China Champions of Change” initiative explains that the National Hongmu Standard is meant to regulate the industry and increase public understanding of cultural associations and the broader significance of rosewood (Zhang, 2022a). The revised standard of 2017 (GB18107-2017) includes 29 species of tree from five genera (Annex I), among which only four species are native to China (Zhai et al., 2014; Mao, 2015). With the depletion of domestic rosewood resources, sourcing has shifted to species available in other Asian countries and Africa, which has led to increasing pressure on wild species sourced for rosewood globally and concern from the international community (Treanor, 2015).

In some African countries, excessive logging and illicit trafficking have severely undermined populations of rosewood species. Consequently, many are now classified as globally threatened (IUCN, 2017). Two of the 29 GB-Hongmu species are considered Critically Endangered by IUCN, eight are Endangered, six are Vulnerable, and four are Near Threatened. In fact, only two GB-Hongmu species with sufficient data are identified Least Concern, which highlights the importance of well-regulated sustainable trade to ensure the survival of species.

The United Nations Office on Drugs and Crime (UNODC)’s 2020 “World Wildlife Crime” report stated that 32% of global seizures of wildlife products in the years 2014–2018 were of rosewood, the largest share of any wildlife group used in the “World WISE” analyses.

In recent years, customs seizures have demonstrated that large-scale cross-border and intercontinental trafficking of rosewood timber and products is often associated with organised crime (UNODC 2016; Treanor, 2015). Corruption in sourcing countries also facilitates these criminal activities (UNODC 2016; Treanor, 2015). Such stresses also erode the ability of China to progress towards ecological civilization, a cornerstone political philosophy for the country and cultural priority.

In 2016, CITES reviewed and upgraded the trade regulation measures in place for some rosewood species to try and halt the rapid decline in their populations. Of the 29 species listed in China’s National Hongmu Standard, 17 have been included in the CITES Appendices, including *Dalbergia nigra* in Appendix I (international commercial trade forbidden), and *Pterocarpus santalinus*, *P. erinaceus*, and all other *Dalbergia* spp. in Appendix II (annual quotas applied and official import and (re-) export CITES permits required). For species not listed in the National Hongmu Standard, 17 yield rosewood timbers that are popular in the Chinese market, with five of them included in CITES Appendix II (see Annex I).

Due to poor management and law enforcement in the past two decades, large volumes of slow-growing rosewood timber have been smuggled. After CITES began implementing trade regulation measures for some species, the trade of non-CITES-listed species grew rapidly. In response, source countries established their own national controls, but the need for multi-lateral co-operation to counter trafficking may require more species to be included in the CITES Appendices in the future (UNODC 2016).

Even though the value of global exports of timber products was USD270 billion in 2018 (FAO, 2019), rosewood trafficking has not

generated high levels of public interest - especially considering how threatened some species are - compared with that in addressing the African Elephant *Loxodonta africana* and rhino *Rhinocerotidae* poaching crises. Awareness of the adverse impacts caused by illegal rosewood exploitation on countries and Indigenous Peoples and Local Communities (IPLCs) is low. Rosewood trafficking also severely undermines ecosystem integrity, leads to wildlife habitat destruction, and further damages the material, social and economic security of source countries.

To address these various issues and with support from the EU, TRAFFIC conducted research under the EU supported "China Champions of Change" initiative to answer the following questions:

- Identify the key consumer/buyer segments of rosewood products, estimate the size of these segments and understand how often they purchase and the main motivations for doing so.
- Understand how consumers value rosewood products. Identify the preferences of different consumer segments and their corresponding purchase frequencies.
- Examine channels of advertising and consumption: Identify where consumers seek information about rosewood and where they buy it.
- Motivations to buy and deterrents that limit purchases: Identify the major motivations driving the purchase of rosewood and the barriers that may trigger decisions not to purchase.
- Measure awareness of the legal status of rosewood, the attitudes towards the scarcity of rosewood resources and environmental influences on each consumer segment.
- Test consumers' initial reactions to some broad responsible consumption campaign messages.

METHODOLOGY

SURVEY DESIGN AND SAMPLING

The survey design follows that of previous studies carried out by TRAFFIC and WWF, including annual ivory consumer surveys (2017 & 2018), and builds upon insights from rosewood market assessments and a policy review in China (Zhang, 2022a & 2022b). Consumption insights into "rosewood" in general were addressed, including species listed in the National Hongmu Standard and other species referred to as rosewood and actively traded in China. The study uses online questionnaires to collect quantitative data and conducted further qualitative in-depth interviews with both expert rosewood purchasers and rosewood merchants/processors to provide further insights into the results of the online survey.

The questions in the questionnaire were designed to help assure the veracity of answers from respondents, and there were also questions assessing less tangible aspects, such as "knowledge of rosewood". The questionnaires were pre-tested with members of the general public to support refinements in survey structure and flow, before being officially delivered.

The online survey was distributed in four municipalities and 11 provinces in China, including Beijing, Shanghai, Tianjin, Chongqing, Guangdong, Zhejiang, Jiangsu, Guangxi, Fujian, Yunnan, Shandong, Hebei, Heilongjiang, Liaoning, and Jilin (Figure 1). Heilongjiang, Liaoning, and Jilin were combined because of their sociological, and economic similarities. According to a rosewood market survey conducted in late 2018 by TRAFFIC, these 15 municipalities/provinces were identified as either major locations for the rosewood product supply chain or regions with active rosewood markets.

The total online survey sample size (n) was 3,160. Since rosewood and its products are expensive and considered luxury items, the sampled population included only medium to high income consumers with a minimum

monthly income of RMB25,000 (USD3,623) in Beijing, Shanghai, Guangzhou, and Shenzhen and RMB20,000 (USD2,897) in other cities. The sample can be considered representative of likely rosewood purchasers in the 15 municipalities/provinces. The gender ratio of the sample was balanced, and the age-group was 21–60 years old, with a lower proportion of 51–60 years old because they have lower response rates to online questionnaires. The sub-sample size (nx) of each city was calculated to be in proportion to the actual medium-to-high income population of each city in the sample (provided by SUN Wenkai, Renming University). See Annex II for details. With a sample size of 3,160, the margin of error is close to 1.83% at a 95% confidence level.

Twenty-minute (on average) in-depth qualitative interviews were also conducted with 37 expert rosewood buyers including 20 collectors. Three more "general" rosewood buyers were also interviewed through phone calls, others participated in face-to-face discussions.



FIGURE 1
Sample sites distribution.comtrade.un.org/data)

SEGMENTATION CRITERIA USED IN THE ANALYSIS

An analysis was conducted to identify respondents who had previously purchased rosewood products. The buyers were then segmented according to their reaction to the following four questions:

- Future purchase intention - Q11. Will you purchase rosewood products in the future? (very likely; likely; no idea; unlikely; no)
- Substitutability - Q14. If rosewood products are not available, which of the following products may provide similar satisfaction? (six groups of substitutes plus the last option: none of the above)
- Resource attitude - Q24. Over-harvesting driven by excessive consumption of rosewood may endanger the species. Do you believe that consumers would reduce their consumption of rosewood products? (very likely; likely; no idea; not likely; no)
- Legal attitude - Q43. What would you do if you knew that purchasing products made from illegally sourced rosewood timber was considered a legal violation? (not purchase anymore; cautiously ask about the source before buying; purchase certified rosewood products with a higher price; I don't think the enforcement authority will track to consumers)

Based on their responses to these four questions, respondents to the online questionnaire were then categorised as follows:

- Diehard buyers: indicated a strong intent to purchase rosewood and cannot be influenced by any of the criteria i.e. legal attitude (the knowledge of buying smuggled rosewood materials being illegal), natural resource attitude (the knowledge of rosewood natural resource being almost depleted) and substitutability (rosewood products can be replaced by other materials);
- Persuadable buyers: can be influenced not to purchase rosewood products by at least one of the criteria i.e. legal attitude, natural resource attitude, and substitutability;
- Lapsed buyers: believe they would not purchase nor consume rosewood products anymore.

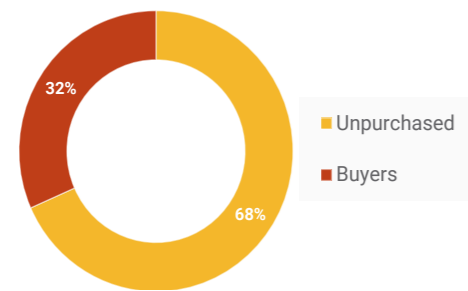


RESULTS & ANALYSIS

OVERALL CONSUMER PROFILE

FIGURE 2

Sample categories. Distribution of rosewood purchasers.



Among 3,160 online survey respondents, almost a third reported purchasing rosewood products previously (Figure 2). The overall demographic profile of the majority of rosewood buyers is summarised in Table 1.

The following is a list of different materials that can be used to make a variety of products. For each one, please indicate if you have ever bought this material or anything made from this material? Please select all that apply.

TABLE 1

Key features of rosewood buyers.

SUBJECT	FEATURE OF ROSEWOOD BUYERS
Age	31–50 (73%)
Gender	Balanced
Employment	Most are full-time employees (78%) or business owners and freelancers (21%)
Education	University and postgraduate (84%)
Property situation	Living in properties 100 m ² or more (able to contain rosewood furniture sets and ornaments; 72%)
Knowledge about rosewood	Limited (a little knowledge to no knowledge at all; 73%)
Product specificity	Low (over 90% of buyers purchased at least two types ² of rosewood products; over 30% of buyers purchased 5 types)

The results were verified and compared with 37 in-depth interviews and discussed with Wenwantonxia.com, the largest online collection platform in China. The results of the quantitative survey and qualitative research, along with the consultation with Wenwantonxia.com, confirmed that the majority of rosewood consumers are between 31 and 50 years old. The combined results of the quantitative and qualitative studies also indicate that most of the consumers were highly educated.

Regarding aesthetic value, the qualitative research revealed that experts consider that non-experts or general consumers seek style and pattern primarily, while specialist collectors care more about the design and craftsmanship.

Style and patterns can also be achieved with other materials:

“It is a waste of rosewood timber” (collector).

There was no correlation between gender and rosewood consumption. About 56% of all buyers preferred to purchase small items, including art and jewellery, bracelets, and ornaments. More than 90% of past buyers reported having purchased at least two types³ of rosewood products, and more than 30% had purchased more than five types of products. The data imply that self-identified rosewood buyers are usually repeat purchasers who should be targeted for responsible consumption, and future campaigns can target rosewood products in general rather than a specific product type.

^{2,3} Self-identified buyers were asked to select all categories of products they have purchased, where rosewood furniture (which is normally sold in sets) was defined as one category.

KNOWLEDGE OF ROSEWOOD

LEGAL AND CONSERVATION STATUS

Some 73% of self-identified buyers reported little knowledge of rosewood (Table 1). Therefore, their awareness and understanding of rosewood’s legal and conservation status, and their knowledge of its value were explored (Figure 3). More than 60% of buyers were aware of the potential for smuggled material to be in rosewood products but only about one-third believed that such products could be tracked:

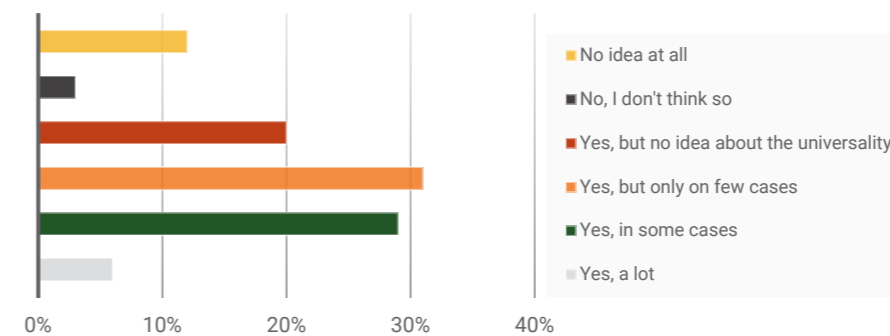
“smuggling is only tackled at borders, and the law does not apply to downstream consumers” (interviewee).

Meanwhile, although over 60% of rosewood buyers believed timber resources are limited, the qualitative research revealed that this understanding is not connected to conservation issues:

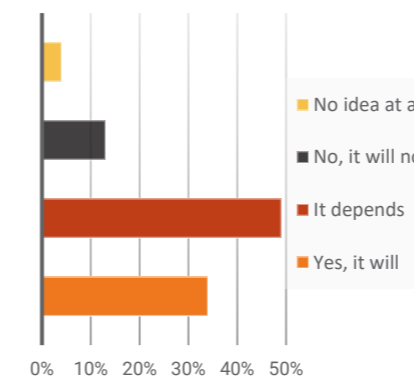
“I think the rosewood we can purchase in market is all cultivated, products made from wild trees must be more expensive” (interviewee).

It also indicates little understanding that rosewood tree species need hundreds of years to generate quality, usable timber (Zhang, 2022a).

Knowledge of Smuggled Rosewood Raw Material



Awareness of Legal Risks to Consumers



Rosewood Resource

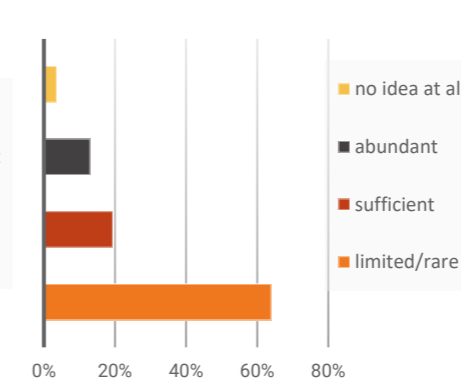


FIGURE 3, A,B,C

Buyers’ awareness/understanding of legal risks and resource abundance for raw rosewood materials.

Q20. In your opinion, is there any chance that part of the rosewood supply chain is illegal/involved in smuggling? [SA] (see Annex V).

CONSUMER PREFERENCE - PRODUCT VALUATION

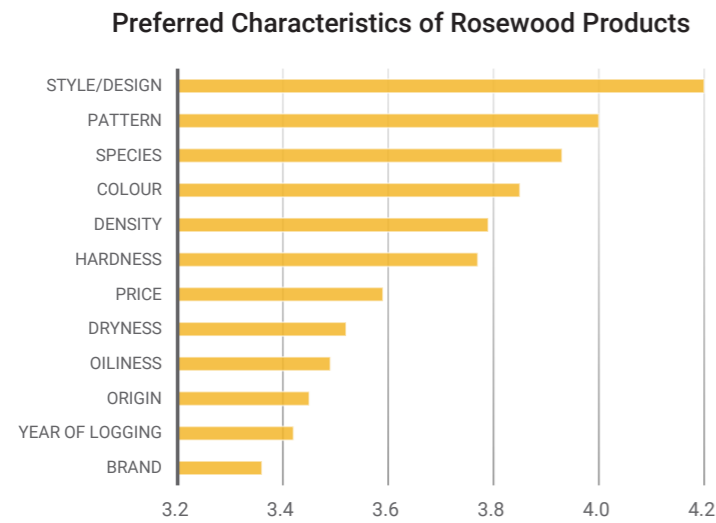


FIGURE 4
Figure 4. Buyers' preferences for various characteristics of rosewood products (5 = most important) Q30. If you intend to purchase a piece of rosewood/rosewood products, which factors below would you consider most when evaluating the value of the piece of interest? The factor deemed most important to you should be given a score of 5, the factor least important should be given a score of 0. [Q3 code "rosewood" or Q28 code 1 or 2] (see Annex V).

Unlike the qualitative research responses from rosewood traders and experienced collectors, the quantitative research showed that more general buyers value the texture of the material (i.e. oiliness⁴, density, dryness⁵) less, and the aesthetic appeal (i.e. style, pattern, design) more (Figure 4). Although species is a critical factor for these buyers in determining the rosewood's value, they overlook the importance of its origin, which is an indication of the rosewood's authenticity. The importance of the year of logging is also not considered,

even though that is related to the legality of the timber/product. Consequently general buyers lack knowledge regarding the legality and sustainability of the rosewood they purchase, thus reducing merchants' motivation to source sustainably. This highlights the critical importance of providing guidance to buyers on identifying sustainable and legal rosewood, in conjunction with efforts to improve sustainable sourcing and traceability protocols within the timber industry.

⁴Rosewood timber can gradually secrete oil years after harvesting. High-end rosewood products are not usually varnished or a sheen applied and can become more attractive with age.

⁵The degree of dehydration. Some rosewood products may crack if the timber was not sufficiently dehydrated before processing.



ANALYSIS BY SEGMENTS

Almost all previous rosewood buyers indicated that they intend to purchase rosewood products again in the future, with 88% classed as persuadable buyers and 12% as diehard buyers (Figure 5). The tiny proportion of lapsed buyers (5 out of 3,160) are not discussed further in this report. The consumption insights of diehard buyers and persuadable buyers are analysed separately below.

Sample Sub-category Distribution

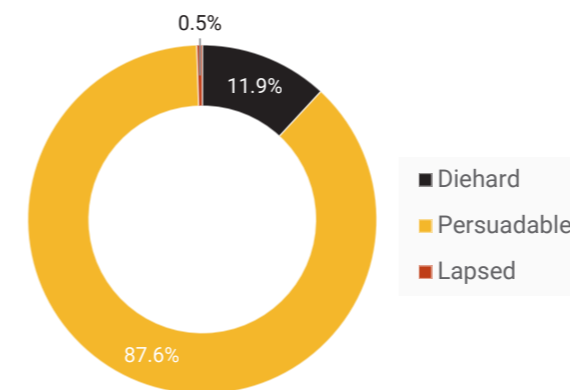


FIGURE 5
The sample sub-category distribution of rosewood buyers when evaluating the value of the piece of interest? The factor deemed most important to you should be given a score of 5, the factor least important should be given a score of 0. [Q3 code "rosewood" or Q28 code 1 or 2] (see Annex V).

DIEHARD BUYERS

The highest frequencies of purchasing large and small items are similar - once every two years for large items and more than once a year for small items (Figure 6). About 30% of diehard buyers repurchase large rosewood products

(i.e. living room sets⁶, beds, wardrobes for furniture) after four years. More than 60% purchase small rosewood products (i.e. bracelets, baubles, ornaments) at least once every six months.

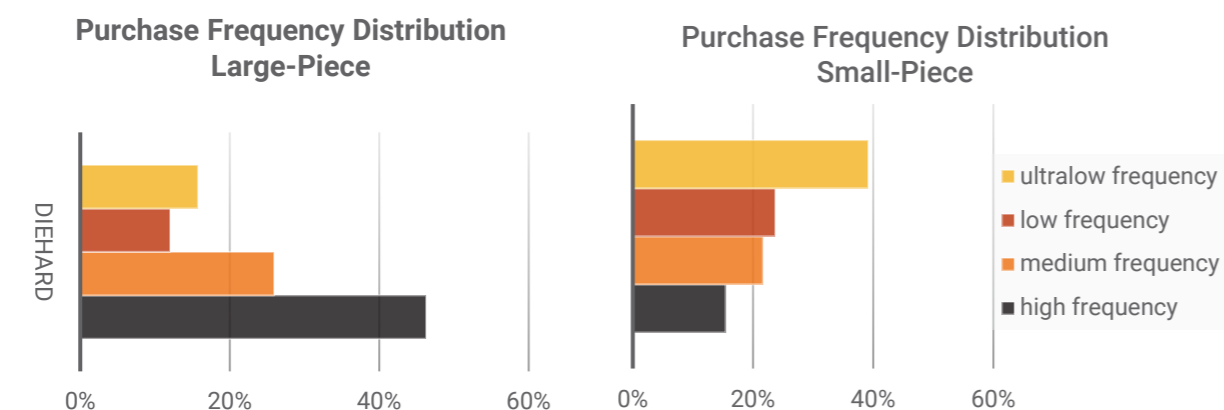


FIGURE 6

The frequencies of large⁷ and small⁸ rosewood product purchases by diehard buyers.

Q5. How often do you purchase a large piece of rosewood (raw wood/timber/solid wood/furniture/instrument) [SA][Q4 code 1, 2, 3, 4, or 8] (see Annex V).

Q6. How often do you purchase a small piece of rosewood (products other than raw wood/solid wood/furniture/instrument) [SA][Q4 code 5 to 7] given a score of 0. [Q3 code "rosewood" or Q28 code 1 or 2] (see Annex V).

Although diehard buyers said they intend to purchase rosewood products, 30% of them purchase impulsively rather than on a planned basis (Figure 7).

Planned cf. Impulse Purchase - Diehard Buyers

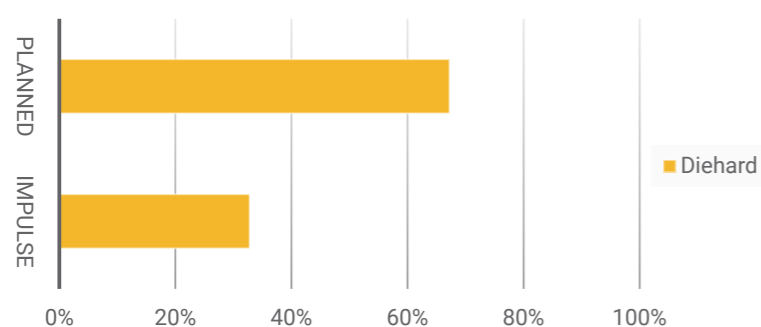


FIGURE 7

Impulsiveness of purchasing by diehard buyers.

Q9. Please think about the last time you purchased rosewood or a product made of rosewood. How did you make the decision to purchase? [SA][Q3 code "Rosewood"] (see Annex V).

⁶Rosewood furniture is often made and sold as sets. A set for a living room may include 10–11 items, including a table, several side cabinets, sofas, and chairs.

⁷Frequencies for purchases of large rosewood products: at least once in 2 years (high); once every 2–4 years (medium); once every 4–6 years (low); once after more than 6 years (ultralow).

⁸Frequencies for purchases of small rosewood products: at least once a month (high); once every 3 months (medium); once every 6 months (low); once a year or more (ultralow).

PURCHASE CHANNELS

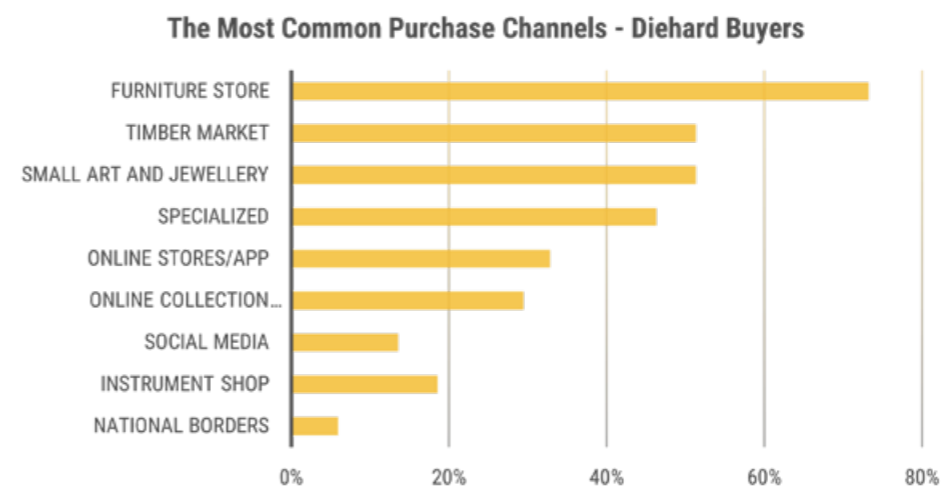


FIGURE 8

The most common channels for purchase⁹ amongst diehard buyers. Q4. What kinds of rosewood and/or rosewood products have you ever bought? Please select all that apply. [SA] [Q3 code "Rosewood"] (see Annex V).

The most common channels (outlets) for purchases were Furniture Stores, used by 73% of buyers, followed by timber markets (lumber yards for raw/unprocessed wood) and shops for small art and jewellery (each 51%), followed by other specialist shops (47%) (Figure 8). Single online channels tended to be less common for diehard buyers, but because there are a wide variety of these (i.e. independent online stores, online markets, social media, etc.), the importance of online channels should not be neglected.

National borders were the least common place for making purchases. According to market surveys conducted by TRAFFIC, the enforcement of rosewood timber regulations near borders is less strict than in central China where import documentation was double and even triple checked for timber from CITES regulated rosewood species at key transportation centres, such as Mengzi and Kunming in Yunnan province (Zhang, 2021a).

However, the research also revealed that most roughly processed products were exceptions, with smuggled timber being hewn before entering these cities after buyers had paid a deposit so they could pass checkpoints legally as "processed products" (Zhang, 2022a). This timber laundering process is discussed further in the market research. Consequently, there tends to be heightened peddling of illegal rosewood at border areas. This underlines the need for strict monitoring at borders, as consumers lacking rosewood knowledge are likely to be deceived and unintentionally purchase illegal products. Furthermore, the laundering of illegal products into legal markets reinforces the necessity of developing traceable and sustainable supplies in the rosewood industry.

⁹Rosewood buyers were asked where they had purchased rosewood products and to select all channels used. The percentage of each channel demonstrates the proportion of buyers who had bought rosewood product from this channel. E.g. 73%-furniture store means that 73% of buyers had bought rosewood products at furniture stores.

MOTIVATION AND BARRIERS FOR DIEHARD BUYERS

The aesthetic value is the biggest reason for diehard buyers to desire rosewood, followed by improving or demonstrating quality of life and to provide a gift to others, all considered more important than cultural reasons (Figure 9).

Although Fengshui (good fortune) is a selling point for rosewood it is not a major motivation for this group. Diehard buyers tend to purchase rosewood products for mental pleasure, and the resulting hedonism can also improve the quality of life:

"sometimes a product made from rosewood does have a better quality and looks more beautiful than similar products made from other materials;" (interviewee)

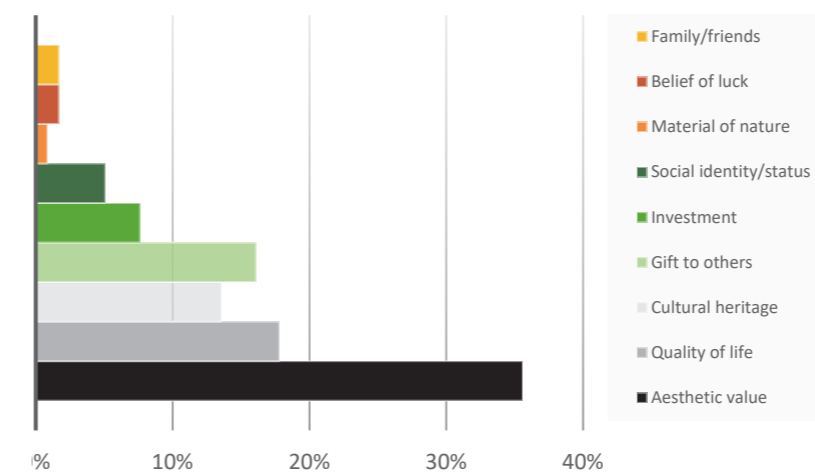
Diehard buyers tend to overlook the legal and conservation risks associated with rosewood consumption, and they reject alternatives. However, purchasing can be discouraged and postponed if these buyers do not like the quality/style/design, have concerns or lack knowledge as to whether it is genuine, or are put off by the high price. Not purchasing because of dissatisfaction with the quality/style/design is linked with the most important motivation for buying - rosewood's aesthetic value.

As self-identified diehard buyers are not collectors or rosewood experts, they lack knowledge about rosewood, and so messaging that helps them avoid buying products which are not genuine and legally sourced could be effective. More than 64% of diehard buyers agreed that a price premium of up to 20% would be acceptable for rosewood that is

certified as legally/sustainably sourced and genuine. This could be used to encourage the rosewood timber industry to develop a quality assurance mark that identifies genuine, sustainably produced and responsibly sourced quality rosewood products.

Research has reinforced the role consumption of rosewood products in China has in providing an avenue for laundering illegally harvested timbers. In addition, the rosewood trade is almost certainly unsustainable. Incentivising diehard consumers to make responsible purchasing decisions (and for the timber industry and Hongmu retailers to give assurances of quality and sustainable sourcing) is critical. To achieve this, it is vital that better ways are found to ensure adequate traceability within the whole timber supply chain. Transformation within the industry is required to enable tracking of legally and sustainably harvested timbers. This could form a new criterion in corporate standards and public procurement requirements and underpin a quality assurance or "kitemark" for consumers. Policy and supply chain structural improvements, such as an industry supervision and quality inspection system for rosewood, would also facilitate responsible practices in the industry and help secure the supply of genuine, legal, sustainable rosewood products for diehard buyers. The policy research of the EU funded "China's Champion of Change" project provides more perspectives on this topic.

Why people buy rosewood? - Diehard Buyers



Barriers to Buying - Diehard Buyers

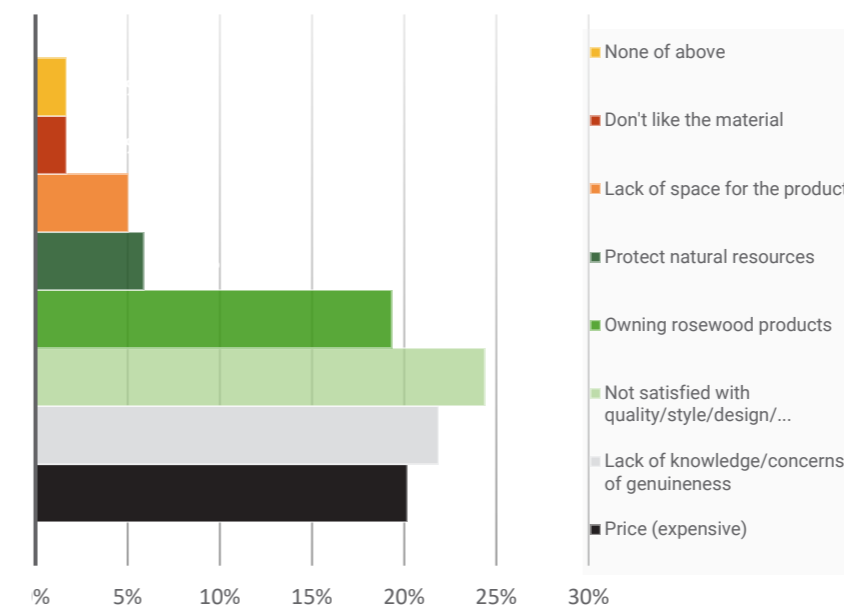


FIGURE 9

Motivations and barriers to buying rosewood products amongst diehard buyers.

Q13. what are the reasons for your purchase (hypothetically)? [MA] [Q3 code "Rosewood" or Q11 code 1,2,3] (see Annex V).

Q16. If you consider not to purchase rosewood or products made of rosewood, the reason could be _____

PERSUADABLE BUYERS

For persuadable buyers, the highest frequency of consumption for large items is at least once every two years (45%), and the highest frequency of consumption for small items is once a year or more (40%) (Figure 10). Similar to diehard buyers, persuadable buyers tend to

purchase rosewood products every 1–2-years, regardless of whether large or small items. In addition, over 40% of persuadable buyers said they were impulsive in their purchases (Figure 11).

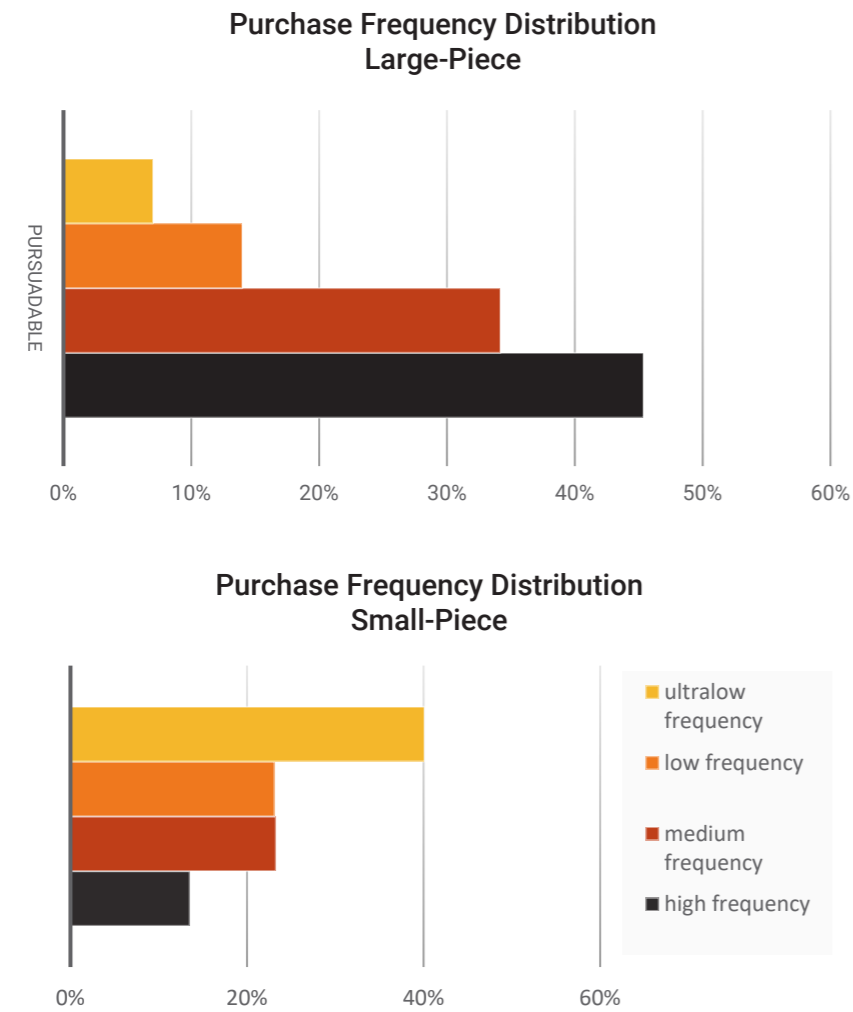


FIGURE 10
The frequencies of large¹⁰ and small¹¹ rosewood product purchases by persuadable buyers.
Q5. How often do you purchase a large piece of rosewood (raw wood/timber/solid wood/furniture/instrument) [SA][Q4 code 1,2,3,4, or 8] (see Annex V).
Q6. How often do you purchase a small piece of rosewood (products other than raw wood/solid wood/furniture/instrument) [SA][Q4 code 5 to 7] (see Annex V).

¹⁰ Frequencies for purchases of large rosewood products: at least once in 2 years (high); once every 2–4 years (medium); once every 4–6 years (low); once after more than 6 years (ultralow).

¹¹ Frequencies for purchases of small rosewood products: at least once a month (high); once every 3 months (medium); once every 6 months (low); once a year or more (ultralow).

Planned cf. Impulse Purchase of Persuadable Buyers

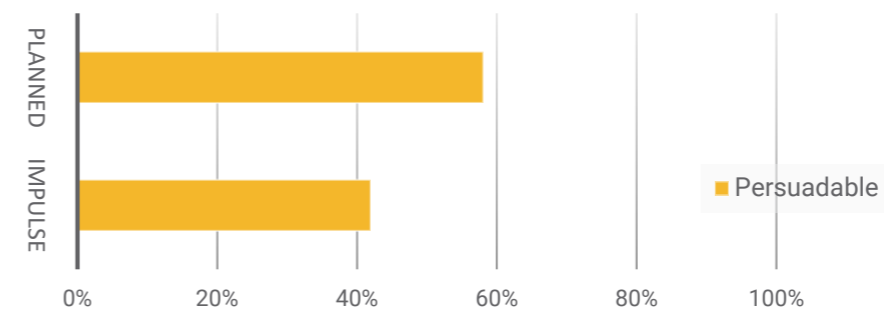


FIGURE 11
Impulsiveness of purchasing by persuadable buyers. Q9. Please think about the last time you purchased rosewood or a product made of rosewood. How did you make the decision to purchase? [SA][Q3 code "Rosewood"] (see Annex V).

PURCHASE CHANNELS

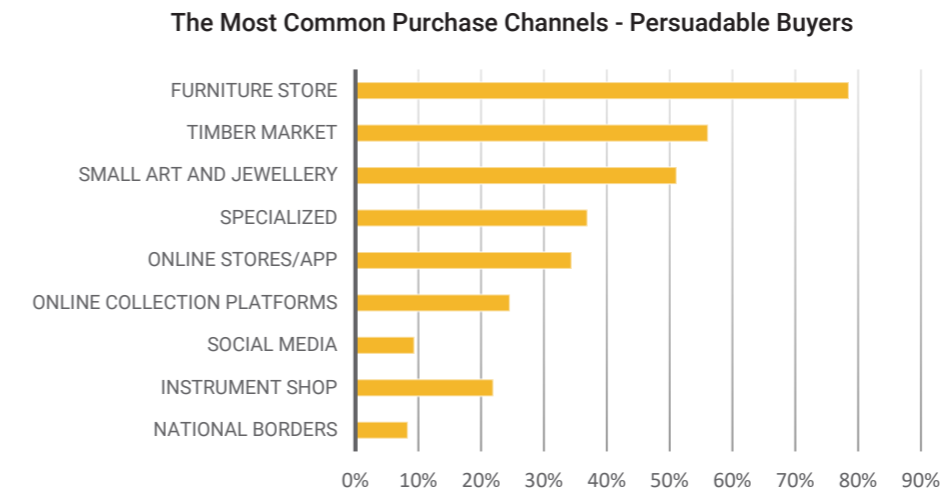


FIGURE 12
The most common channels for purchase amongst persuadable buyers. Q4. What kinds of rosewood and/or rosewood products have you ever bought? Please select all that apply. [SA] [Q3 code "Rosewood"] (see Annex V).

Furniture stores were the most common channel for purchases followed by timber markets (lumber yards for raw/unprocessed wood), small art and jewellery and other specialist shops (Figure 12). Since the research suggests the consumption ratio of large vs small items is close to 1, the disconnect between channel of purchase and product purchase may be due to product specificity in timber markets and diversity in small product markets. Thus, although

furniture stores stand out in rosewood trading channels, places trading these products (i.e. art and jewellery shops, online channels) should not be overlooked for future consumer behaviour change interventions. Nevertheless, the implication is that furniture stores, timber markets, art and jewellery shops and the online market are potential locations for offline campaign activities. The means by which persuadable buyers could receive information about rosewood are discussed later.

⁹Rosewood buyers were asked where they had purchased rosewood products and to select all channels used. The percentage of each channel demonstrates the proportion of buyers who had bought rosewood product from this channel. E.g. 73%-furniture store means that 73% of buyers had bought rosewood products at furniture stores.

MOTIVATION AND BARRIERS FOR DIEHARD BUYERS

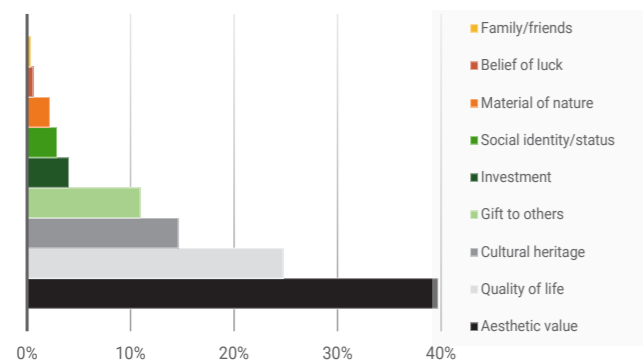
For persuadable buyers, the top motivation to purchase rosewood is for aesthetic value followed by quality of life, and the cultural value of rosewood is more important than purchasing for gifts (15% vs 11%) (Figure 13). The top three motivations account for 80% of rosewood consumption and therefore should be targeted in any consumer behaviour change campaigns. Additional emphasis on market regulation and industry practice in relation to legality, sustainability, and traceability, remain critical to complement campaigns, and in particular could help reduce purchases for gifts.

Although the positive mental attitude brought on by the attractive appearance of rosewood products was considered to enhance the quality of life for some persuadable buyers, others choose rosewood products because the material is not harmful to health:

“It is formaldehyde-free solid wood and little glue or paint are used. However, it does not have to be made from rosewood, any product with these features and which looks good would be fine” (interviewee).

The study found that 99% of persuadable buyers would accept alternatives to rosewood. The acceptance of alternatives was highest for cultural heritage (34%), followed by quality of life (23%) and aesthetic value (19%) for social status and as gifts. This indicates it could be difficult to persuade buyers to choose a substitute when they are purchasing rosewood to impress or please others, even though they are persuadable in other situations (i.e. legal risks and conservational issues).

Why people buy rosewood? - Persuadable Buyers



Acceptance of Alternatives in Product Classification

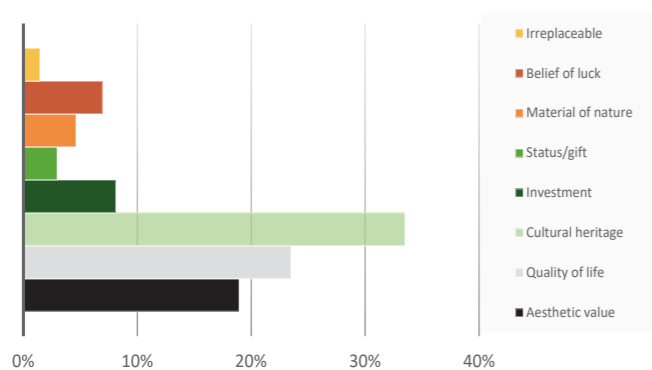


FIGURE 13 Purchase motivations and acceptance of alternatives amongst persuadable buyers. Q13. what are the reasons of your purchase (hypothetically)? [MA] [Q3 code "Rosewood" or Q11 code 1,2,3] Q14. If rosewood products are not available, which of the following products may provide similar satisfaction? [MA] [Q3 code "Rosewood" or Q11 code 1,2,3] (see Annex V).

Although dissatisfaction with quality/style/design is still an important deterrent to persuadable buyers, unlike diehard buyers the primary deterrent discouraging persuadable buyers is price (Figure 14). Concern around buying fakes is lower than concerns around design and price, which indicates persuadable buyers could be tempted by attractive prices.

In addition to concerns about the authenticity of rosewood, persuadable buyers report they would react positively to messaging around legality (Figure 15). However, communicating "legal risks" may not be relevant because few legal punishments apply to the ultimate purchasers. According to China's customs law, timber is not regulated as protected species but as commodities, to which the penalties are measured by evasion of duty, and the duty related to a single product is limited. Thus, amendments to current laws and regulations are recommended to address this and are explored further in the associated policy review.

Although the lack of adequate protection for a natural resource is not a major barrier to most persuadable rosewood buyers (Figure 14), many report a willingness to reduce purchases after reading about current conservation concerns for rosewood tree species, and the consequences of over exploitation (Figure 15).

Moreover, 60% of persuadable buyers agreed that a price premium of up to 20% would be acceptable for rosewood that was certified as legally/sustainably sourced and genuine. Creating credible certification standards with auditing conducted by third-party organisations would be time consuming, but worth investing in. In the short-term, consumers need to be able to determine which rosewood has been responsibly and sustainably sourced, thus supply chain traceability and transparency efforts should be urgently prioritised.

FIGURE 15 Persuadable buyers' attitudes towards consumption after being informed about the legal/conservational risks. Q44. What would you do if consumers who bought rosewood/rosewood products made from illegally sourced timber were also deemed guilty of smuggling? Q24. It can take decades to yield good timber, while some rosewood species need hundreds of years to grow utilisable timber. Illegal trade and over-harvesting threaten the survival of these species. If the given statement is true, are you willing to reduce your consumption of rosewood [SA] (see Annex V).

Barriers to Buying - Persuadable Buyers

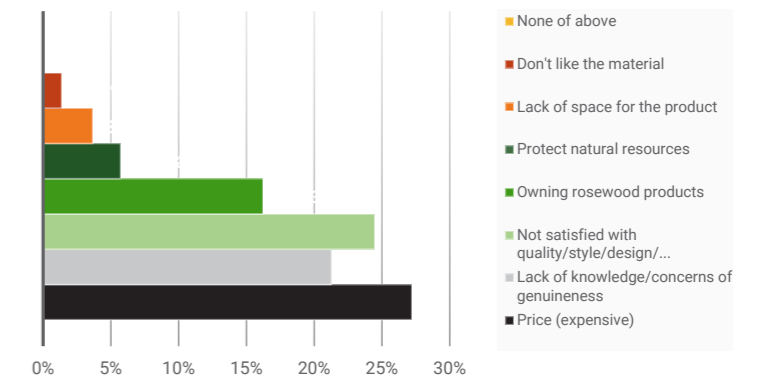
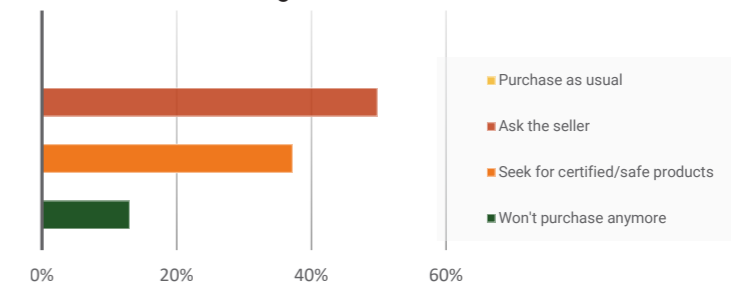
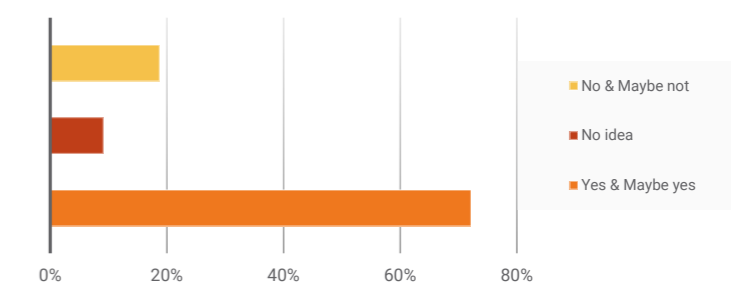


FIGURE 14 Barriers to buying rosewood products amongst persuadable buyers. Q16. If you consider not to purchase rosewood or products made of rosewood, the reason could be _____

Reactions to Known Legal Risks



Chance of Reduced Consumption for Biodiversity Concerns



MESSAGES AND MESSENGERS FOR CAMPAIGNS

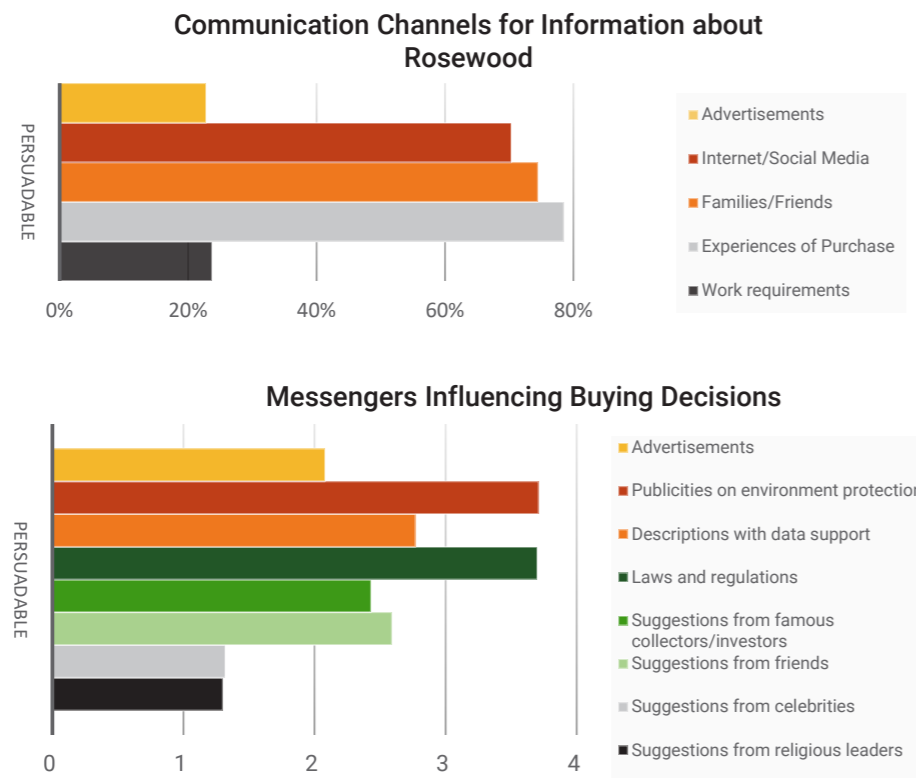


FIGURE 16
The most important communication channels and messengers for persuadable rosewood buyers.
Q29. How did/do you acquire this knowledge? Please select all that apply [Q1 code 1-3] [MA] (see Annex V).
Q26. Below is a list of messages and of potential messengers about rosewood. Which of the following do you think would most influence your ideas about rosewood purchasing? Please rank the influence of options below from 0 to 5 [0-not influential; 5-most influential]

The most effective potential communication approaches were explored for persuadable buyers, of whom over 70% are highly educated - those tending to be the most caring about the natural environment. Legality issues too were influential, while celebrities (who scored¹² 1.32) - well-known individuals commonly used in conservation campaigns - were less influential compared to collectors and investment advisors (who scored 2.43). Regardless of which channel persuadable rosewood buyers

purchased from, more than 70% learned about rosewood online or through chats with family members and friends, regardless of whether they intended to purchase it or not. Thus, online platforms, especially social media platforms, could be efficient channels through which to reach general rosewood buyers of all product types.

SUMMARY OF THE CHARACTERISTICS OF DIEHARD BUYERS AND PERSUADABLE BUYERS

The major differences in consumption behaviour between diehard buyers and persuadable buyers are summarised in Table 2. There are more business owners and freelancers among diehard buyers, which explains their higher incidence of purchasing for gifts used for business activities. Persuadable buyers tend to be more impulsive in their purchasing, with fewer repeat purchases of large items after four years, suggesting lower long-term interest in rosewood than diehard buyers.

legal risks, or conservation issues, they react positively to measures helping them to avoid fake products. For persuadable buyers, communication approaches incentivising consumers to make wise choices based on legal/conservation concerns and their real motivations (i.e. the beauty of designs/carvings, good quality, or the material) could be effective, while a certification scheme giving assurances over the authenticity, legality, and sustainability of rosewood products might be widely accepted by both diehard and persuadable rosewood consumers.

Although diehard buyers tend to be less willing to consider alternatives to rosewood,

TABLE 2 Summary of major differences in consumption behaviour between diehard and persuadable buyers.

SUBJECT	DIEHARD	PERSUADABLE
Business owners and freelancers	25%	19%
Large item repurchases after 4 years	30%	21%
Impulsive consumption	33%	42%
Top three purchase channels	Furniture store (73%) > timber market (51%) > art & jewellery store (51%)	Furniture store (79%) > timber market (56%) > art & jewellery store (51%)
Top three motivations	Aesthetic value (36%) > quality of life (18%) > gift to others (16%)	Aesthetic value (40%) > quality of life (25%) > cultural heritage (14%)
Acceptance of alternatives	-	Cultural heritage (34%) > quality of life (23%) > aesthetic value (19%)
Top three barriers	Dissatisfaction with the quality/design (24%) > concerns over authenticity (22%) > price (20%)	Price (27%) > dissatisfaction with the quality/design (25%) > concerns over authenticity (21%)
Acceptance of 20% price premium for certified genuine/legal/sustainable products	64%	60%
Reactions to known legal risks	-	87% desired additional information about safe products
Chance of reduced consumption for biodiversity concerns	-	72% might reduce their purchasing

¹² Respondents were asked to score the messengers from 0 (not influential at all) to 5 (most influential). Weighted averages were then calculated for each option.

CONCLUSION

This study in 15 municipalities/provinces in China revealed that about 30% of sampled medium-high income citizens purchased rosewood products. Most were aged 31–50, in full employment, and highly educated. Most had limited knowledge of the tree species from which rosewood products originate, the conservation status of these species, legal risks associated with the rosewood supply chain and the pricing of rosewood. Most desired rosewood products primarily for their aesthetic value, to enhance their quality of life, for cultural heritage and as a gift for others. Amongst these self-identified consumers, about 88% were classed as “persuadable buyers” who were eager and willing to receive information about rosewood, and hence can be influenced to consume rosewood responsibly by well targeted behaviour change campaigns. Alongside this, there is a need for a concerted effort to improve the traceability and sustainable sourcing abilities of the Hongmu industry.

Most buyers purchased both large and small rosewood items. Deterrents to purchasing rosewood for all buyers included concerns about the authenticity of products, their price, and the design. Persuadable buyers were specifically influenced by legal risks and the conservation status of rosewood tree species and sought guidance on buying legal and genuine rosewood products and were open to consider alternatives.

Drivers for diehard buyers included the need to impress others with their social status in owning luxury items. Market regulation and ensuring the legality and sustainability of rosewood products by the industry are necessary.

Furniture shops followed by timber markets were the most popular purchasing channels. Small rosewood items were sold in art and jewellery stores, speciality shops, and online platforms. Most persuadable buyers learned about rosewood online in addition to information shared by their families and friends and identified professional rosewood experts and investors as influential messengers.



Rosewood sap

RECOMMENDATIONS

SHORT-TERM—DEVELOPING A CAMPAIGN TO ENCOURAGE THE RESPONSIBLE CONSUMPTION OF ROSEWOOD

Launching Social and Behavioural Change Communications to reduce demand for rosewood products is a priority. Any campaign should target persuadable buyers rather than diehard buyers to purchase rosewood responsibly and to seek alternatives. There was no correlation between gender and rosewood consumption, thus any campaign need not take specific gender factors into account.

Persadable buyers purchase rosewood for its aesthetic value (beauty and craftsmanship), the hedonistic pleasure which improves their quality of life, and for its cultural heritage. However, the overwhelming majority of persuadable buyers would consider alternatives to rosewood, such as paintings, calligraphy and other crafts, to meet the same underlying needs.

Persadable buyers want to purchase legal and sustainable rosewood products. They are concerned about the risks of buying illegal products and of buying unsustainably sourced products. Furthermore, they are concerned about the risk of buying fake products. Multiple messages should be developed and pre-tested with the target group to identify which resonate most and are most likely to lead to reduced demand.

PRIORITY CITIES AND CHANNELS

The priority cities for the first wave of any campaign should be Beijing, Shanghai, and Guangzhou and communications should encompass both offline and online channels:

- Offline channels: furniture stores, small jewellery and artware shops, timber markets.
- Online channels: social media platforms including WeChat, Weibo, Baidu, Wenwantianxia.com, online rosewood retailers, relevant industry webpages, EU sustainable timber trade webpages (i.e. the forest law enforcement governance and trade (FLEGT) initiative), etc.

Persadable buyers indicated that they are likely to respond to well-known rosewood collectors and investors as messengers.

LONG-TERM - BEYOND THE PROJECT

The most effective way to achieve more responsible consumption of rosewood in the long-term will be to reduce demand by conducting targeted behaviour change campaigns as described above. This should be carried out alongside actions by the government to strengthen legislation and improve law enforcement to remove illegally sourced rosewood from the supply chain coupled with industry action to improve transparency in the rosewood supply chain so that consumers can identify legal and sustainable sources. The latter should include the development and implementation of credible certification standards. This study finds that more than 60% of persuadable buyers would be willing to pay a price premium of up to 20% for certified rosewood, but this needs further research to be validated.

The parallel rosewood policy research (Zhang, 2022b) reviewed current policies and legislation in China and internationally and provided options for potential measures to strengthen regulations. The development of an industry standard which includes traceability requirements in public procurement/quality assurance criteria was also described.

Implementing these recommendations will require the co-operation of multiple stakeholders, including companies, business organisations and government agencies such as the Chinese Academy of Forestry, the

China Timber & Wood Products Distribution Association, the China Wild Plant Conservation Association and non-governmental organisations (NGOs). These entities should collaborate and develop guidelines, toolkits, and standards and facilitate improved practices throughout the rosewood timber supply chain. In addition, international NGOs could take advantage of their networks to share best practices to encourage rosewood processors and merchants to conduct more responsible and sustainable trade.

The resolve to develop an ecological civilization in China is an opportunity to reduce the demand for illegal wildlife products and to improve industry standards. Also, China's efforts to enhance cultural identity through initiatives such as the Belt and Road Initiative (BRI), will require the green development of traditional industries including the rosewood industry.

As the host of the 15th Conference of the Parties to the Convention on Biological Diversity (CBD CoP 15), China's experience, achievements and plans with regards to natural resource management will receive significant international attention. With its huge population and dynamic economic growth, successful behaviour change efforts and green industry transformation in China could demonstrate how countries can address conservation issues and achieve benefits for the environment, society, and the economy.

ANNEX I

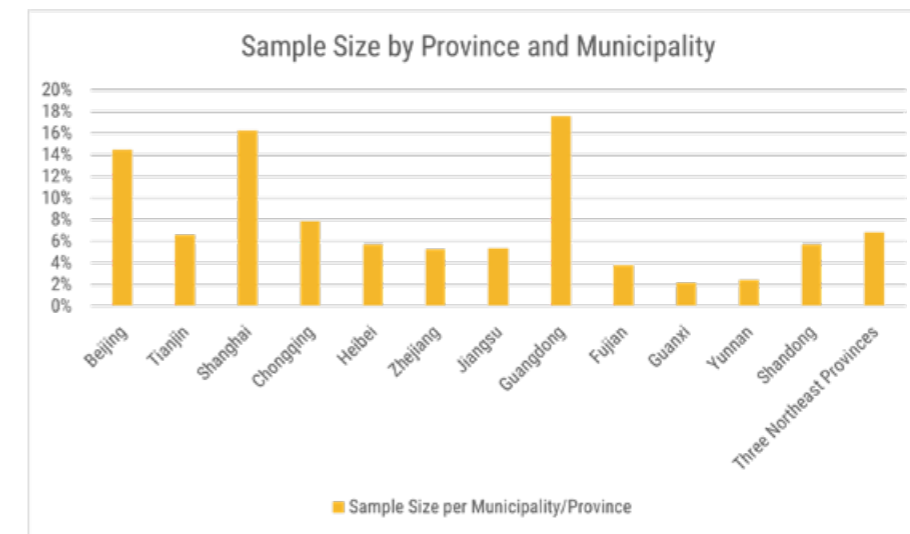
ROSEWOOD SPECIES WHICH APPEAR FREQUENTLY IN THE CHINESE MARKET

	GENUS	SCIENTIFIC NAME	CITES APPENDICES	IUCN ¹³
Species listed in China's National Hongmu Standard (GB/T 18107-2017)	Dalbergia	<i>Dalbergia cultrata</i>	II	NT
		<i>D. latifolia</i>	II	VU
		<i>D. louvelii</i>	II	EN
		<i>D. melanoxydon</i>	II	NT
		<i>D. nigra</i>	I	VU
		<i>D. spruceana</i>	II	-
		<i>D. stevensonii</i>	II	-
		<i>D. bariensis</i>	II	EN
		<i>D. cearensis</i>	II	-
		<i>D. frutescens</i>	II	-
		<i>D. granadillo</i>	II	CR
		<i>D. oliveri</i>	II	EN
		<i>D. retusa</i>	II	CR
		<i>D. cochinchinensis</i>	II	-
		<i>D. odorifera</i>	II	VU
	Pterocarpus	<i>Pterocarpus santalinus</i>	II	NT
		<i>P. erinaceus</i>	II	EN
		<i>P. dalbergioides</i>	-	VU
		<i>P. indicus</i>	-	EN
		<i>P. macrocarpus</i>	-	EN
<i>P. marsupium</i>		-	NT	
Diospyros	<i>Diospyros crassiflora</i>	-	VU	
	<i>D. ebum</i>	-	-	
	<i>D. philippinensis</i>	-	EN	
	<i>D. pilosanthera</i>	-	-	
Millettia	<i>Millettia laurentii</i>	-	EN	
	<i>M. leucantha</i>	-	LC	
Senna	<i>Senna siamea</i>	-	LC	
Species not listed in China's National Hongmu Standard (GB/T 18107-2017)	Dalbergia	<i>Dalbergia congestiflora</i>	II	EN
	Millettia	<i>Millettia stuhiamannii</i>	-	-
	Pterocarpus	<i>Pterocarpus angolensis</i>	-	LC
		<i>P. soyauxii</i>	-	-
		<i>P. tinctorius</i>	II	LC
	Guibourtia	<i>Guibourtia tessmanni</i>	II	-
		<i>G. demseusei</i>	II	-
		<i>G. pellegriniana</i>	II	-
		<i>G. coleosperma</i>	-	-
		<i>G. ehie</i>	-	LC
		<i>G. conjuata</i>	-	-
	Swartzia	<i>Swartzia madagascariensis</i>	-	LC
		<i>S. benthamiana</i>	-	LC
<i>S. zanthopetala</i>		-	-	
<i>S. bannia</i>		-	-	
<i>S. leiocalycina</i>		-	-	
<i>S. fistuloides</i>		-	LC	

¹³ IUCN red list categories:
 EX – Extinct;
 EW – Extinct in the Wild;
 CR – Critically Endangered;
 EN – Endangered;
 VU – Vulnerable;
 NT – Near Threatened;
 LC – Least Concern;
 DD – Data Deficient;
 NE – Not Evaluated

ANNEX II

SAMPLE DISTRIBUTION BY PROVINCE AND MUNICIPALITY



Percentage of the total sample by province and municipality (in proportion to the distribution of medium-to-high income population).

ANNEX III

ALTERNATIVE PRODUCTS THAT ADDRESS THE MOTIVATIONS TO PURCHASE ROSEWOOD (Q14¹⁴).

PURCHASE MOTIVATION	ALTERNATIVES
Cultural Heritage	Artware, jade crafts, antiques, calligraphy, paintings
Quality of Life	Furniture made from other good quality material
Aesthetic value	Cucurbit, fruit pit bracelets and crafts, walnuts, fidget relief toys
Investment	Artwork, gold
Belief in luck	Other items for Fengshui
Material of nature	Plants
Status/gift	Watches, jewellery, special clothes
Irreplaceable	Nothing can meet my needs except rosewood

¹⁴ If no rosewood product is available, which of the following options can help you address the same motivations? (multiple choice with above options; each option was independently presented, and the left column of categories was hidden).

ANNEX IV

SUMMARY OF QUOTES

TYPICAL QUOTES FROM SELF-IDENTIFIED/GENERAL CONSUMERS

When being asked about why choose rosewood products, self-identified/general consumers say,

- "It is formaldehyde-free solid wood and uses little glue or paint. However, it doesn't have to be made from rosewood, any product with these features and which looks good would be fine."
- "Sometimes a product made from rosewood does have a better quality and looks more beautiful than similar products made from other materials."

When being asked about the preference of product category,

- "I'm not stuck on any specific type of rosewood product. When the price and quality are suitable, I make the purchase."
- "The bracelet recommended by my colleague fits my clothes."

As for knowledge and attitude of legal risks in the supply chain,

- "smuggling is only tackled at borders, and the law does not apply to downstream consumers."
- "I think illegally supplied product should be more expensive because it costs more for the cover-up; of course, I would like to choose legal ones."
- "I wouldn't touch the item if I knew there are legal risks. But if I don't know, I may still buy it."

As for knowledge about tree species producing rosewood and resulting conservation issues,

- "No idea."
- "I think the rosewood we can purchase in the market is all cultivated, products made from wild trees must be more expensive."
- "If it takes hundreds of years to yield utilisable timber, then it should not be defined as a renewable resource (timbers are generally believed regenerable/renewable)."

TYPICAL QUOTES FROM COLLECTORS

These focus on how rosewood should be utilised,

- "For a mature timber industry, the material itself should be less valued than the design, the aesthetic value, and the craftsmanship. However, general buyers of rosewood have a limited sense about art. They purchase because it is scarce, not from an aesthetic aspect."
- "It is a waste of rosewood timber" - a collector who believed that style and pattern that does not require very fine craftsmanship could be achieved with materials other than rosewood.
- "Good material must be in good hands, otherwise it is a waste."
- "It's about art. Yes, having a suitable carrier [material] would be great for some designs and carving, but a suitable carrier is not always rosewood."
- "Unfortunately, if rosewood is not available, I believe the Chinese will find another material to present their creations."

Responses to questions about supply chain legal risks and rosewood resources:

- "If the tree is already 200 years old, it is crueler to cut down one tree than kill an animal!"
- "But a limited resource will stimulate consumption!"
- "If a product is really made from high-end rosewood, knowing the material is smuggled might stimulate consumption."
- "Late-entrant dealers/merchants appear because many consumers don't understand this industry. If consumers are hard to cheat, the dealers/merchants would be much cautious going about their business."

ANNEX V

CONSUMPTION SURVEY QUESTIONNAIRE

This is an anonymous questionnaire, information related to your personal identities will not be collected. Your responses will be not be used on any commercial purposes or share to any third parties. [don't show title & headline]

SECTION I. GEOGRAPHICAL DISTRIBUTION

Q1. In which province/Municipality/Autonomous Region in China do you currently reside [SA] [ROTATE codes 1 to 16]

- | | |
|--------------|------------------|
| 1. Beijing | 9. Fujian |
| 2. Shanghai | 10. Yunnan |
| 3. Tianjin | 11. Shandong |
| 4. Chongqing | 12. Heilongjiang |
| 5. Hongkong | 13. Sichuan |
| 6. Guangdong | 14. Hebei |
| 7. Guangxi | 15. Jiangsu |
| 8. Zhejiang | 16. Other |

Q2. In which city in China do you currently reside [SA] [S1 code 6-16] [ROTATE codes 17 to 45]

- | | |
|--------------|------------------|
| 1. Guangzhou | 16. Dalian |
| 2. Shenzhen | 17. Harbin |
| 3. Zhongshan | 18. Nanning |
| 4. Jiangmen | 19. Dongxing |
| 5. Dongguan | 20. Pingxiang |
| 6. Chengdu | 21. Nanjing |
| 7. Xiamen | 22. Suzhou |
| 8. Hangzhou | 23. Wuxi |
| 9. Wenzhou | 24. Zhangjiagang |
| 10. Dongyang | 25. Tangshan |
| 11. Kunming | 26. Shijiazhuang |
| 12. Ruili | 27. Jinan |
| 13. Jinghong | 28. Qingdao |
| 14. Fuzhou | 29. Other |
| 15. Shenyang | |

SECTION II. OWNERSHIP AND PURCHASE PREVALENCE

Q3. The following is a list of different materials that can be used to make a variety of products. For each one, please indicate if you have ever bought this material or anything made from this material? Please select all that apply. [MA] [Q3 code "Rosewood"]
[ROTATE codes 1 to 10]

- | | |
|------------------|--------------------------------|
| 1. Gold/Platinum | 7. Crystal(s) and other jewels |
| 2. Silver | 8. Tortoiseshell |
| 3. Ivory | 9. Natural pearl/coral |
| 4. Jade | 10. Rosewood |
| 5. Diamond | 11. None of the above |
| 6. Amber | [Keep at the end] |

Q4. What kinds of rosewood &/or rosewood products have you ever bought? Please select all that apply. [SA] [Q3 code "Rosewood"]

- | | |
|--|--|
| 1. raw wood/log | 6. ornaments |
| 2. timber (thick solid wood, one piece) | 6. art work/medium to large ornaments |
| 3. solid wood other than any above (i.e. solid wood for floor) | 7. chopsticks/plates and other small tableware |
| 4. furniture | 8. instrument |
| 5. bracelets/talisman/small | |

Q5. How often do you purchase a large piece of rosewood (raw wood / timber / solid wood / furniture / instrument) [SA] [Q4 code 1,2,3,4, or 8]

1. more than once per year
2. once a year
3. once every two to four years
4. once every four to six years
5. it has been more than six years since last purchase

Q6. How often do you purchase a small piece of rosewood (products other than raw wood / solid wood / furniture / instrument) [SA] [Q4 code 5 to 7]

1. more than once per month
2. once a month
3. once every season / three months
4. once in 6 month / half of a year
5. once per year
6. it has been more than a year since last purchase

Q7. Do you or your families own rosewood or anything made of rosewood? [SA]

Note: By 'owning rosewood', we mean any rosewood or product made of rosewood which is currently in your possession, regardless if you bought it yourself or received it by someone else or through a different way.

1. Yes
2. No

Q8. Where did you purchase rosewood in the past? Please select all that apply. [MA] [Q3 code "Rosewood"]

- | | |
|---|--------------------------------|
| 1. Furniture malls | 6. Customized [Specialized] |
| 2. Timber markets | 7. Online stores / app |
| 3. Timber distribution center at national borders | 8. Online collection platforms |
| 4. Small art and jewelry shops | 9. Social media |
| 5. From a private individual who does not operate a retail store or a market stall and who is not a street vendor [Specialized] | 10. Instrument shop |

Q9. Please think about the last time you purchased rosewood or a product made of rosewood. How did you make the decision to purchase? [SA][Q3 code "Rosewood"]

1. It was unplanned, I made the decision to purchase rosewood only when I saw the specific item I then purchased.
2. It was unplanned, I made the decision to purchase rosewood while visiting the website where I purchased it.
3. It was planned.

Q10. Out of all people that you know, how many of them have bought or consumed rosewood products [SA]

1. None
2. Less than 20%
3. 20%-40%
4. 41%-60%
5. 61%-80%
6. 81%-99%
7. 100%
8. No idea

Q11. How likely will you be to purchase rosewood and/or anything made of rosewood in the future? [SA]

1. very likely
2. likely
3. neither likely, nor unlikely
4. unlikely
5. very unlikely

Q12. How likely will you be to purchase rosewood and/or anything made of rosewood in future _____? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

	Q5.B) PURCHASE INTENTION IN THE NEXT 3 YEARS	Q5.C) PURCHASE INTENTION IN THE NEXT 12 MONTHS	Q5.D) PURCHASE INTENTION IN THE NEXT 6 MONTHS
Very likely	5	5	5
Likely	4	4	4
Neither likely, nor unlikely	3	3	3
Unlikely	2	2	2
Very unlikely	1	1	1

Q13. what are the reasons of your purchase (hypothetically)? [Please select the top 5 reasons and rank them from 1 (most important) to 5] [Q3 code "Rosewood" or Q11 code 1,2,3]

	PURPOSE TO PURCHASE ROSEWOOD PRODUCTS [DON'T SHOW]	TOPICS [DON'T SHOW]
1	Gift to others	Gifting
2	It is beautiful	Art
3	Rosewood grows in nature, so it connects me and nature	Material of Nature
4	Rosewood can be purchased to show-off social identity and wealth	Status
5	Rosewood can be purchased as an investment	Investment
6	Rosewood can be purchased to alter luck/fate (Fengshui)	Belief/luck
7	Rosewood can be purchased to cure disease for its special scent and the avoidance of plywood (glue)	Belief/health
8	I'm convinced by my family/friends	Social Influence
9	Rosewood can be purchased to improve living quality	Quality of Life
10	Rosewood can be purchased to present and inherit Chinese Culture	Culture

Q14. If rosewood products are not available, which of the following products may provide similar satisfaction? [MA] [Q3 code "Rosewood" or Q11 code 1,2,3]

	ALTERNATIVES [DON'T SHOW]	GROUPING [DON'T SHOW]
1	Pearl/Amber	Group 1
2	Delicate dress	
3	Other jewellerys, expensive handbags	
4	Watches	
5	Other solid wood furniture	Group 2
6	Simple and comfortable modern furniture	
7	Leather furniture	Group 3
8	Other artwares	
9	Calligraphy and painting	
10	Antiques	Group 4
11	Jade	
12	Niche for Buddha	
13	Taishan Stone / water fountain	Group 5
14	Fengshui mirror	
15	Gourd	
16	Puti (fruit pits / solid bulb of plant) beads bracelet	Group 6
17	Fruit bit carving	
18	Press-relief hand toys	Irreplaceable
19	Gold	
20	Living plants	
21	Nothing could replace rosewood	

Q15. From all of your experiences with rosewood, how likely are you to recommend purchasing rosewood or products made of rosewood to family members, friends or colleagues/business associates? [SA]

1. Very likely
2. Likely
3. Neither likely, nor unlikely
4. No, I would not.

Q16. If you consider not to purchase rosewood or products made of rosewood, the reason could be _____

Note: Please rank the reasons below. Please rank the most important reason as "1", and the reason matters least as "8".

1. the price is not acceptable
2. lack of knowledge/concerns of reliability
3. not satisfied with the item (i.e. in quality, appearance, style, design, crafts)
4. I already own the rosewood product I want, and there is no need to buy another piece.
5. to protect natural resource
6. lack of room/space for placement
7. I don't like rosewood/rosewood products. Rosewood/rosewood product does not make any sense to me.
8. None of the reason above.

Q17. If the store recommended / advertised wood furniture with rosewood veneer when you were about to buy rosewood furniture, you would _____? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

1. Consult the shopping guide and compare the products carefully
2. Insist to buy rosewood products
3. Go to other wood furniture with rosewood veneer
4. Doubt the rosewood furniture in this mall are fake. It is actually made from other timber with rosewood veneer.

Q18. If your families were attracted by furniture made from other wood when you were about to buy rosewood furniture, you would _____? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

1. Give up rosewood furniture for my family
2. Convince him/her to buy rosewood furniture
3. Re-consider

Q19. If desired rosewood product for a long time and was about to buy a pair of wardrobe, but was reminded that same price could afford smaller rosewood products with better quality, you would? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

1. insist to buy the large item
2. sacrifice a bit of size for better quality
3. re-consider
4. completely give-up the idea of buying large items, size does not matter at all

Q20. To your opinion, is there any chance that part of the rosewood supply chain is illegal/involved in smuggling? [SA]

1. yes, a lot
2. yes, in some cases
3. yes, but only on few cases
4. yes, but no idea about the universality
5. No, I don't think so
6. No idea at all

Q21. Do you believe that consumers could be involved in the illegal process described above and perhaps being charged? [SA]

1. No, illegal activities took place in supply chain should not implicate consumers.
2. Maybe
3. Yes, consumers are also part of the illegal chain.
4. No idea

Q22. Are you willing to convince rosewood consumers around you to buy verified legal rosewood products? [SA]

1. Yes
2. No

Q23. What do you think about the richness of rosewood species around the world? [SA]

1. Very rich
2. rich
3. neither rich nor poor
4. poor
5. very poor
6. no idea at all

Q24. It could take decades to yield good timber, while some rosewood species need hundreds of years to grow utilizable timber. Illegal trade and over harvesting threaten the survival of these species. If the given statement is true, are you willing to reduce the consumption of rosewood? [SA]

1. Very likely
2. Likely
3. Not sure
4. Unlikely
5. No, I would consume as usual

Q25. How much more would you be willing to pay for a piece of rosewood/rosewood product with certifications or symbols clarify its legality or sustainability? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

1. No, I don't accept the rise in price for certification
2. I could accept no more than 10% rise in price
3. I could accept 10% - 20% rise in price
4. I could accept 20% - 50% rise in price
5. I could accept 50% - 100% rise in price
6. I could accept more than 100% rise in price
7. I would not buy rosewood product anymore no matter it is certified or not.

Q26. Below is a list of messages and of potential messengers about rosewood. Which of the following do you think would most influence your ideas about rosewood purchasing? Please rank the influence of options below from 0 to 5 [0-not influential; 5-most influential]

1. Laws and policies
2. Publicities on environment protection
3. Descriptions with data support
4. Advertisements
5. Suggestions from famous collectors/investors
6. Suggestions from friends
7. Suggestions from celebrities
8. Suggestions from religious leaders
9. Suggestion from well-known Religious leader

Q27. How much are you willing to pay for a piece / set of rosewood product below (i.e. bracelets/talisman/small ornaments/ small tableware)? [SA][Q3 code "Rosewood" or Q11 code 1,2,3]

COSTS IN RMB	LESS THAN 500	500 - 1000	1000 - 2000	2000 - 5000	5000 - 10000	10000 - 30000	30000 - 100000	MORE THAN 100000
	Small items (bracelets/talisman/tableware/comb, etc.)							
Ornaments/musical instruments etc.								
Furniture/timber etc.								

Q28. How much knowledge do you have about rosewood and its products [SA]

1. A lot of knowledge
2. Some knowledge
3. A little knowledge
4. Little knowledge
5. No knowledge at all

Q29. How did/do you acquire this knowledge? Please select all that apply [Q1 code 1-3] [MA]

1. Experience of purchasing
2. Internet and/or social media
3. From friends and/or family
4. From and/or required by occupation/profession
5. Advertisements

Q30. If you tend to purchase a piece of rosewood/rosewood products, which factors below would you consider most when evaluating the value of the piece of interest? Please score the following factors, the factor seemed most important to you could be given with 5 scores, the factor that is not important at all could be given with 0 score.

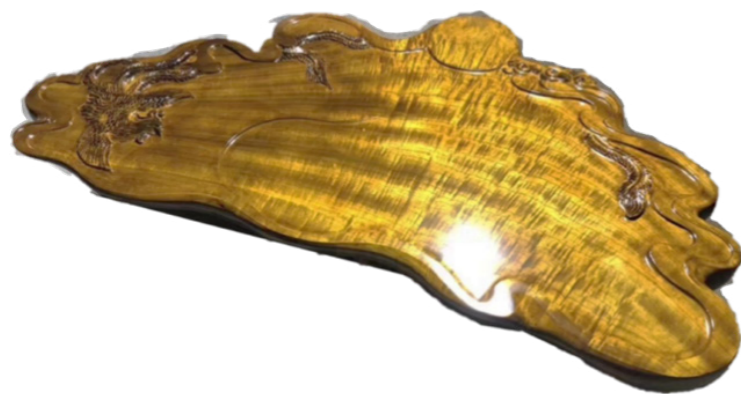
[Q3 code "rosewood" or Q28 code 1 or 2]

price	
species	
Darkness of the color	
patterns	
region of growing	
Year of harvest	
hardness	
density	
oiliness	
dryness (dehydration)	
style	
style/design, crafts	
brand	
Producer/manufacture	
other	

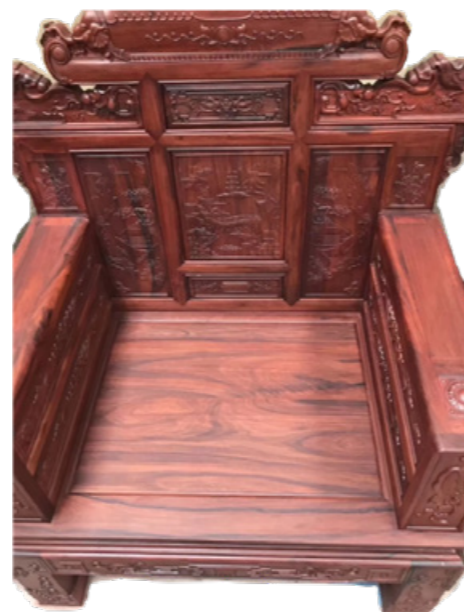
Q31-Q32. To those who states they "know" rosewood. Please identify the material of following products [SA] [Q3 code "rosewood" or Q 28 code 1 or 2]

1. softwood
2. rosewood
3. hardwood but not rosewood
4. I don't know

Q31



Q32



SECTION III. BASIC INFORMATION

Q33. Which of the following best describes your current marital status? [SA]

1. Single, no partner, never married
2. With a partner, not married
3. Married
4. Divorced, separated
5. Widowed

Q34. Which of the following best describes your current employment situation? [SA]

1. Full-time employment (40 hours a week or more)
2. Part-time employment (less than 40 hours a week)
3. Freelancer / Self-employed (not the owner of the business)
4. Business owner
5. Full-time student
6. Unemployed
7. Retired

Q35. Do you or anyone else in your household work in any of the following industries? Please select all that apply. [MA] [screen out when select "yes"]

	YES	NO
Environment/conservation related NGOs		
Advertising / Public Relations		
Marketing Research		
NGOs in fields other than environment or conservation		
Media (TV / Newspaper / Magazine / Radio Station)		

Q36. What is your occupation (options consistent with Chinese Demographics, to those who are working, don't show)? [SA] [Q44 code 1-4]

1. Forestry/fishery/agriculture/graziery
2. Mining
3. Manufacture
4. Electricity, heating, and drinking water production/supply
5. Construction
6. Wholesale and retail
7. Transportation, warehousing and courier
8. Accommodation and catering
9. Information, software, and information technology
10. Financial, banking
11. Real estate
12. Leasing and business service
13. Scientific research and technical service industry
14. Water conservancy, environment and public facilities services
15. Residential services, repairs and other services
16. Education in public sector
17. Health and social service
18. Culture, education, end entertainment industry
19. Public administration/governance, social security, and organizations

Q37. Could you please indicate your age? [SA]

1. Under 20 [Screen out]
2. 21-30
3. 31-40
4. 41-50
5. 51-60
6. 61 and older

Q38. What is your gender? [SA]

1. Female
2. Male

Q39. Please indicate your Monthly Personal Income (before taxes)? [SA]

1. Under RMB 2,000
2. RMB 2,000 to RMB 4,999
3. RMB 5,000 to RMB 7,999
4. RMB 8,000 to RMB 9,999
5. RMB 10,000 to RMB 14,999
6. RMB 15,000 to RMB 19,999
7. RMB 20,000 to RMB 29,999
8. RMB 30,000 to RMB 39,999
9. RMB 40,000 to RMB 49,999
10. RMB 50,000 and above

Q40. Do you or your family own any real estate property?[SA]

1. Yes, I (and my wife & kid/kids) am (are) currently living in the property belongs to me (us)
2. Yes, but I'm not accommodate in the property I own.
3. No, but my parents do. I don't live with my parents.
4. No, but my parents do. I live with them.
5. Neither I nor my family member owns a real-estate property.
6. Other [please specify]

**Q41. What is the area of the largest property belonging to you &/or your family? [SA]
[Q40 code 1-4]**

1. Under 50 meter squares
2. 50-100 meter squares
3. 101-150 meter squares
4. 151-200 meter squares
5. 201-250 meter squares
6. 251-300 meter squares
7. 300 meter squares and larger

Q42. What is the highest level of education that you have completed? [SA]

1. No formal education
2. Some elementary/primary school
3. Some high school/secondary school
4. Completed high school/ secondary school
5. Completed technical or vocational school/training
6. College or University graduate
7. Completed Post Graduate Degree

Q43. Living rosewood trees are at risk due to the huge demand of consumers, and the consequent deforestation has affected the environment and livelihood of the sourcing countries. Knowing this circumstance, will you still purchase rosewood &/or rosewood product? [SA]

1. Very likely
2. Likely
3. Consideration needed
4. Unlikely
5. Very unlikely

Q44. What would you do if consumers bought rosewood/rosewood products made from illegally sourced timber were also deemed guilty of smuggling?

1. I will not buy rosewood products anymore
2. I will require supply chain information before make purchase
3. I will by products that are verified/certified from a legal source with a higher price
4. The enforcement will never trace to general consumers

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