

# White Paper on Aquilaria RWA Project: Singapore-Hainan Cross-border Biological Asset Tokenization Protocol

— A Global Digital Token Agreement for Agarwood Assets Based on the 3-Dimensional Asset Anchoring Model

## I. Main body

**Issuer:** Aquilaria RWA Group PTE.LTD. (Singapore)

**Exchange:** JuCoin, Coinbase and Binance Exchange (compliant licensed platforms)

**Underlying Asset Provider:** Oriental Aquilaria Group (Hainan, China)

## II. Core Project Architecture: The 3-Dimensional Asset Anchoring Model

### 1. Tree Ownership

5,000 Reke No. 2 aquilaria trees, verified and registered through the Hainan Aquilaria Tree Traceability Platform, serve as the foundational asset anchor for AQRWA. As of December 31, 2025, part of these trees will have reached 8 years of age, each capable of producing high-quality aquilaria with a minimum yield of 800 grams per tree.

### 2. Future Appreciation Rights

The assets will be managed and cultivated over a 30-year period. At 30 years of age, each Reke No. 2 Aquilaria tree can produce up to 3,000 grams of sinking-grade agarwood, valued at over \$500 per gram. Each AQRWA token is pegged to 1.8 grams of sinking-grade Qi Nan agarwood. Due to agarwood's exacting growth conditions and expanding global demand, the price of high-end sinking-grade agarwood continues to rise annually.

### 3. Derivative Yield Rights

The mother tree generates seedling revenue and carbon sequestration benefits (with an estimated annual carbon fixation of 6,000 tons).

## III. Token Economic Model

Parameter	Value	Anchoring Logic Explanation
Total Token Supply	8.4 million	Set cap by smart contract
Token Issue Price	\$25 per token	Private placement
Agarwood Quantity per Token	1.8g sinking-grade agarwood	Total agarwood volume ÷ total tokens
Future Value Support Ratio	36	Underlying Anchored Asset Forward Value-Based Calculation

## IV. Technical Implementation: Dynamic Valuation and Cross-chain Compliance

### 1. Dual Verification: Blockchain + IoT

- 1) Utilizes the JuChain public blockchain along with an IoT-based traceability platform for Hainan aquilaria trees to collect real-time growth data (e.g., survival rate, pest & disease index), automatically calculate current valuation, and record it on-chain.
- 2) Integrates with Chainlink oracles to pull in the Singapore XDI Agarwood Price Index, enabling dynamic adjustment of the token's Net Asset Value (NAV).

## 2. Dual Compliance Framework: Singapore – Hainan

- 1) **Legal Entity:** Aquilaria RWA Group, as a foreign (Singapore-based) company, complies with relevant legal requirements as the issuer.
- 2) **Trading Compliance:** Tokens are issued on the compliant exchanges, with restrictions limiting purchases to qualified investors only.
- 3) **Cross-border Asset Ownership:** The property rights of Oriental Aquilaria Group are certified by the Hainan International Arbitration Court and mapped to NFT credentials on-chain.

## V. Risk Hedging and Yield Enhancement Mechanisms

### 1. Risk Mitigation Matrix

Risk Type	Mitigation Measures
Biological Cultivation Risk	Insured by qualified insurance providers + third-party forestry supervision monthly reports
Fund Misappropriation Risk	Yearly cultivation budget supervised by the Bank
Technology Obsolescence Risk	Joint research center with the Chinese Academy of Tropical Agricultural Sciences; tree varieties upgraded every 5 years for disease resistance and resin yield efficiency

### 2. Structured Yield Design

- A 「Acquire Tokens」 → B 「Yield Options」
- B 「Yield Options」 → C 「Trade / Deliver / Hold」
- C 「Trade」 → D 「Redeem for Cash」
- C 「Deliver」 → E 「Receive Physical Agarwood」
- C 「Hold」 → E 「Long-term Value Appreciation」

### 3. Market Exit Strategies

- 1) Trading Exit: Sell tokens on the compliant exchanges.
- 2) Physical Exit: After holding for 3 years, tokens can be redeemed for Qi Nan agarwood (21g per token based on current harvest), agarwood goods, or agarwood art pieces.

## VI. Compliance Disclosure and Asset Auditing

### 1. Valuation Methodology

- 1) Current Assets: Valued using the Market Comparison Approach, referencing the 2025 average spot price of 200/gram from the Hainan International Commodity Exchange and the Singapore Agarwood Futures Index (500/gram).

2) Future Assets: Valued using the DCF (Discounted Cash Flow) Model, with a discount rate of 12% (including 6% biological risk premium + 6% cost of capital).

## **2. Audit & Transparency**

- 1) Quarterly Audits: Verify the authenticity of off-chain assets and the proper use of cultivation funds.
- 2) Daily On-chain Disclosure: Real-time asset reserve status disclosed via Zero-Knowledge Proofs (ZK) on the blockchain.

## **VII. Social Benefits: Empowering Rural Revitalization**

The project allocates 40% of token-derived revenue to the providers of the underlying assets (tree owners), shortening the agarwood industry's revenue cycle from 5 years to 1 year. This contributes to the economic development and revitalization of rural communities in Hainan.

## **VIII. Global Consensus**

1. The tokenization of Real World Assets (RWA) to empower the real economy has become a global consensus.
2. High-quality agarwood materials and artifacts have been sought-after as rare investment assets by global investors for millennia.
3. All five major world religions regard agarwood as a sacred substance, giving it broad cultural recognition worldwide.

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## **IX. Conclusion**

Through the anchoring model of "Tree Ownership + Future Appreciation Rights + Derivative Yield Rights + Carbon Sink Rights" this project achieves, for the first time, the integration of long-cycle biological assets with on-chain liquidity, as well as the combination of fixed and variable returns. This model ensures investor asset security, enhances return potential, and provides high liquidity. Backed by Singapore's RWA regulatory framework and the scarcity value of Hainan's agarwood industry, it offers global investors a resilient asset allocation option that can weather economic cycles.

Additionally, AQRWA significantly lowers the entry barrier to the agarwood market (minimum investment: \$100), addressing traditional challenges such as illiquidity and difficult valuation. It facilitates the global release of China's scarce biological resource value, uniting global agarwood enthusiasts and investors to jointly partake in the opportunities within the agarwood industry.

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## **Appendix**

**Technical Certification:** Certified as a "Qualified Tree Variety" by the Hainan Forestry Variety Approval Committee (Certificate No.: Qiong R-ETS-AS-003-2017)

*This white paper is jointly released by AQRWA Group and Oriental Aquilaria Group. All terms shall be subject to the finally signed legal agreement.*