



Ylang-Ylang Report

Dec 2024





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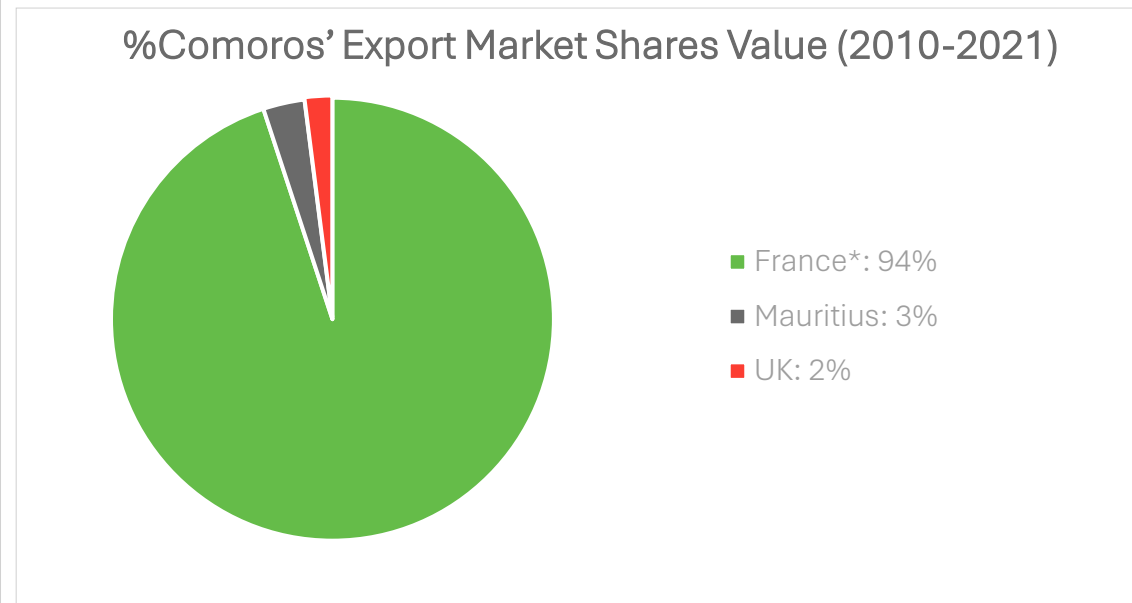
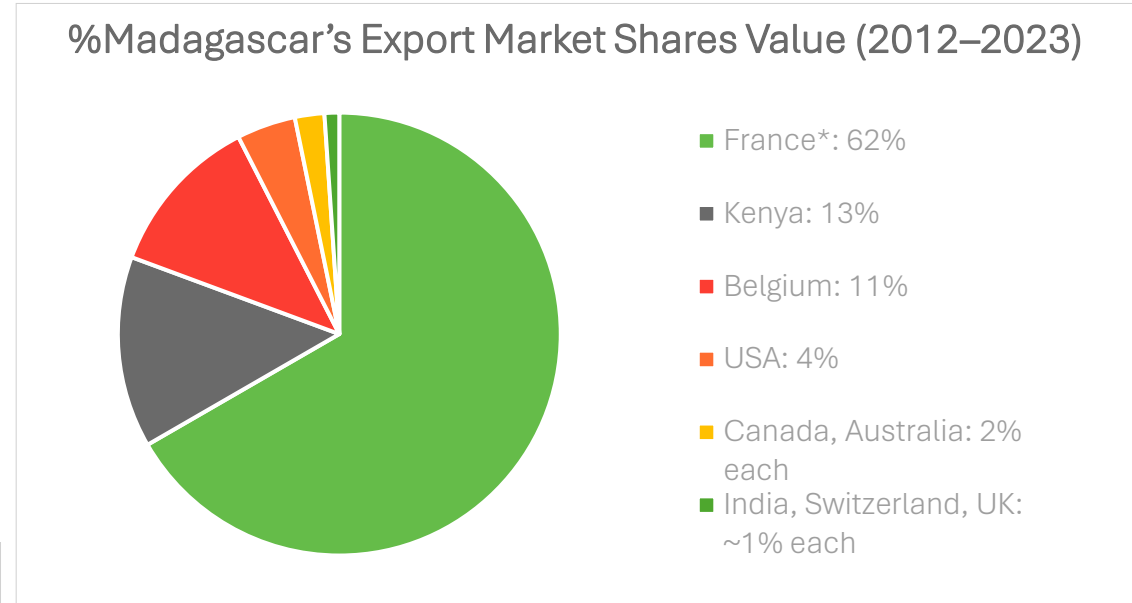
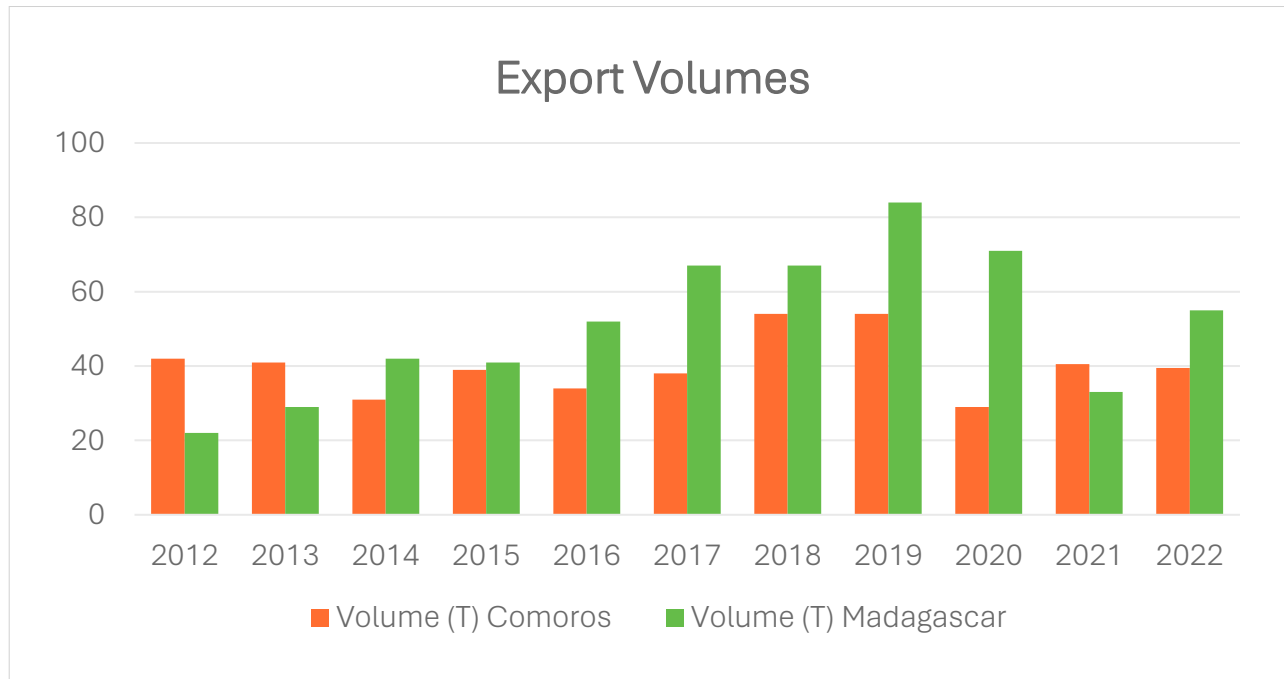


Market Dynamics



Context

- Estimated Global demand of **90T/year**
- The global ylang-ylang market is mainly **supplied by Madagascar and Comoros**. If Comoros had a virtual monopoly of the market for decades, nowadays Madagascar has significantly caught up with the Comoros in terms of ylang-ylang essential oil exports.
- While **France remains the primary buyer** for both countries, Madagascar has successfully diversified its markets.



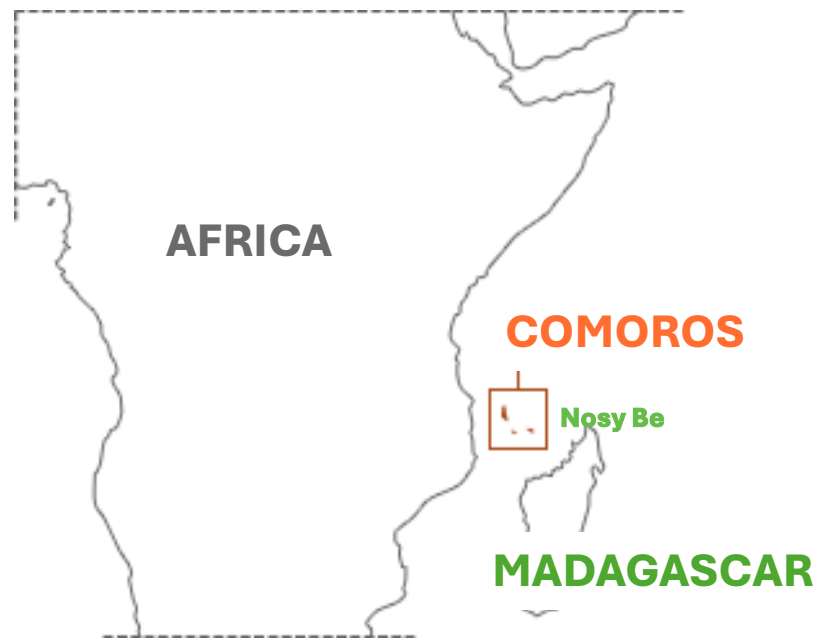
Sources: SalvaTerra, GHEM

* France re-exports a portion of the essential oils it imports.

Segmentation of the Ylang-Ylang Supply

Segmentation by Origin

- **Madagascar:** An emerging leader, increasingly recognized for its high-quality and traceable production. Production concentrated in Nosy-Be and the Sambirano region
- **Comoros (including Mayotte):** Traditional producers with a long-established presence in the market.



Segmentation by Distillation Fractions

Ylang-ylang essential oil is classified into five fractions, based on the distillation process: **Extra Supérieure (ES) Extra (E) Mainly produced in Comoros** **Première (I) Deuxième (II) Troisième (III) Comoros & Madagascar**

Characteristics of High-Quality Fractions

The "high" fractions (ES, E, and I) are considered superior in quality and are distinguished by their physicochemical properties:

High Density: Reflecting the concentration of essential oil.

Low Refractive Index: Indicating purity and clarity.

Low Optical Rotation: A measure of the oil's light interaction, correlating with composition.

High Ester Index: Suggesting a greater presence of aromatic compounds critical for fragrance.

Quality Standards

The ISO 3063 standard defines the acceptable ranges for these physicochemical parameters, ensuring consistency and quality in the international market. This segmentation allows buyers and producers to align product characteristics with specific market needs, enhancing the value proposition of ylang-ylang essential oil.

Segmentation of the Demand

Type of Use	ES	E	I	II	III	Explanation	Associated Brands
Fine Perfumery	✓	✓				Prefers high fractions rich in esters	Chanel, Hermès, Dior, YSL...
Cosmetics	✓	✓	✓			Depending on the product, more or less high-quality fractions are used	Sephora, Body Shop, Ushuaïa...
Fragrances					✓	Used in detergents, soaps, etc.	Omo, Esteban, Febreze...
Aromatherapy	✓	✓	✓	✓	✓	Uses complete formulas to preserve all properties	Pranarom, doTerra, Puresentiel...

Stricter Regulations

Regulatory Developments



- **Corporate Sustainability Reporting Directive (CSRD)** Adopted in 2022, implementation from 2024 to 2026. Mandatory ESG reporting for large companies using EU standards.
- **Corporate Sustainability Due Diligence Directive (CSDD)** Effective from 2024. Requires companies to monitor and manage human rights and environmental risks across their value chain. Increases legal responsibility for executives.
- **Global Adoption:** Similar regulations and Frameworks Driving Compliance and Reporting emerging in the USA, Switzerland, the UK, and other key markets.



Implications for the Market

- **Traceability:** Supply chain transparency down to the flower level is mandatory. EU-Aligned
- **Standards:** Compliance with harmonized regulations is non-negotiable.
- **Effective Oversight:** Robust verification systems and evidence-based control mechanisms are essential.

Tools for Buyers

- **Vertical Integration:** Taking control of production and establishing internal processes.
- **Third-Party Certification:** Delegating compliance and control to private entities.





Madagascar's Context



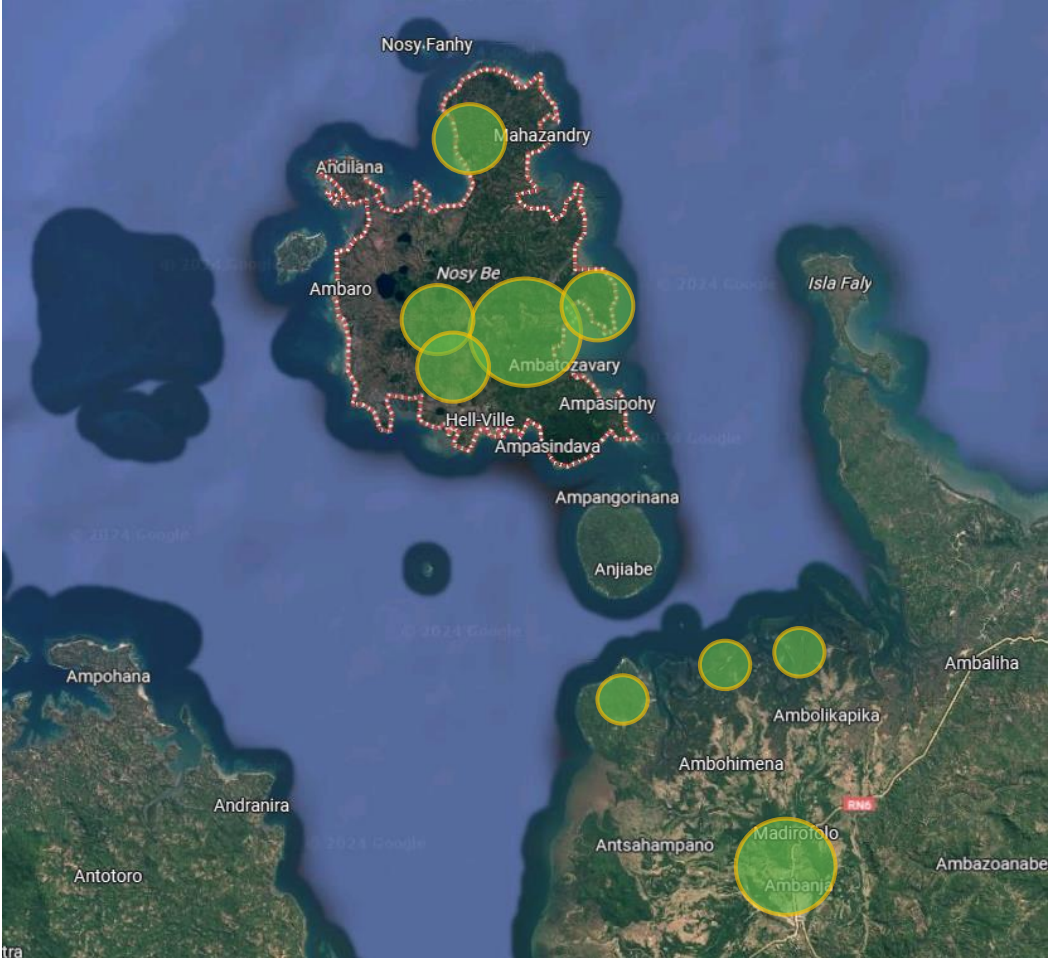
Value Chain



	Producers	Distillers	Exporters	Importers & Processors	Assemblers	Distributors
Role	<ul style="list-style-type: none"> Cultivate and harvest ylang-ylang flowers. Majority are isolated smallholder farmers 	<ul style="list-style-type: none"> Transform flowers into essential oils through fractional distillation (ES, E, I, II, III grades). 80% of the production comes from small artisanal distilleries 	<ul style="list-style-type: none"> Package and export essential oils to international markets. 	<ul style="list-style-type: none"> Purchase and refine essential oils for use in final products (e.g., perfumes, cosmetics). 	<ul style="list-style-type: none"> Combine ylang-ylang essential oil with other components to produce consumer products (e.g., perfumes, aromatherapy blends). 	<ul style="list-style-type: none"> Market and distribute finished products to end consumers through retail or online channels.
Challenges	<ul style="list-style-type: none"> Dependence on weather conditions and natural cycles. Low margins and income volatility due to market price fluctuations. Limited access to training. 	<ul style="list-style-type: none"> High energy costs and resource-intensive processes. Need for expertise to ensure quality standards (e.g., ester content). 	<ul style="list-style-type: none"> Complying with evolving regulatory requirements (e.g., CSRD, CSDD). Managing competition, particularly in the face of unsustainable pricing, 	<ul style="list-style-type: none"> Ensuring supply chain transparency and traceability. Managing price volatility and stock levels. 	<ul style="list-style-type: none"> Aligning product formulations with consumer trends (e.g., sustainability, natural ingredients). Meeting high quality and regulatory standards. 	<ul style="list-style-type: none"> Managing logistics and inventory across diverse markets. Responding to shifting consumer preferences (e.g., transparency, ethical sourcing).
Opportunities	<ul style="list-style-type: none"> Adoption of sustainable practices to enhance yields and quality. Cooperative models to strengthen bargaining power. 	<ul style="list-style-type: none"> Investment in modern, efficient distillation technologies. Certification for environmental and quality standards (ISO, organic). 	<ul style="list-style-type: none"> Diversification of markets beyond traditional buyers (e.g., France). Strategic partnerships with importers and brands for traceability initiatives. 	<ul style="list-style-type: none"> Developing direct sourcing relationships with producers/distillers. Adding value through blending and customizing oils for specific applications. 	<ul style="list-style-type: none"> Innovation in product formulations (e.g., sustainable packaging, clean beauty). Leveraging brand stories highlighting the origins of ingredients. 	<ul style="list-style-type: none"> Strengthening consumer trust with certifications (Fair Trade, organic). Utilizing digital platforms to expand reach and visibility.

Main Production Areas

Nosy-Be Island and the Ambanja District



Nosy-Be Island Panoramic View



Ylang Plantation





Production

- Ylang-ylang trees can take **3 years to mature** before they start producing flowers, which can continue for over 30 years.
- A single tree can **yield around 5 kilograms of flowers** per year, with essential oil extraction requiring approximately **40 kilograms of fresh flowers for just one kilogram of oil.**
- Ylang-ylang flowers are **harvested throughout the year**, with **peak production occurring during and just after the rainy season, typically from April to June.** During this period, flowers are handpicked early in the morning when their fragrance is at its strongest.



Distillation



The number of small distilleries has increased in recent years due to the growing demand for ylang-ylang oil. Today, these artisanal distilleries account for about 80% of the total ylang-ylang oil production.

However, they face several challenges:

- **Lack of formal training:** Many distillers lack the necessary technical knowledge to optimize production processes.
- **Health and safety concerns:** The absence of proper safety standards puts workers at risk.
- **Resource-intensive processes:** Artisanal distilleries rely heavily on manual labor and outdated methods.
- **High operational costs:** Upgrading equipment is expensive, and access to sustainable fuel sources remains limited.
- **Quality and yield issues:** Without knowledge of best practices, many distillers struggle to maximize both the yield and quality of the oil.
- **Environmental impact:** Artisanal distilleries typically use firewood to fuel the distillation process, contributing to deforestation and environmental degradation.
- **Waste management:** The improper disposal of distillation byproducts, such as used plant material, can result in environmental pollution.
- **Lack of research** to understand better how to optimize yield and oil quality

Assessing the cost of a decent life for farmers and employees

Jacarandas has developed a proprietary model to assess the cost of a decent life for farmers and employees. The model calculates essential monthly expenses to ensure a fair and sustainable livelihood.

- By understanding these costs, **Jacarandas can design policies to ensure fair compensation.**
- The model identifies a **decent salary of 635,357 MGA (145\$)** as the minimum required to maintain a dignified standard of living. **Or about 2.4 times more than the legal minimum wage 262,680 MGA (55\$) in Madagascar.**
- The model has established a minimum price of 2,000 MGA (0.42 USD) per kilogram of fresh flowers, which will contribute to a sustainable income for the producers.
- **Impact-Driven Strategy:** This data reinforces Jacarandas' mission to support farmers and employees with sustainable and equitable practices.

Example Employee Supporting a family of 4 in the urban area Anosy

Item	Monthly Costs (MGA)	Percentage (%)
Food	669,859	59%
Housing	200,000	17%
Education	36,597	3%
Clothing	38,711	3%
Transport	29,240	3%
Water	-	0%
Energy	106,320	9%
Healthcare	20,695	2%
Communication	32,220	3%
Savings	10,000	1%
Cost of a Decent Life	1,143,642	100%

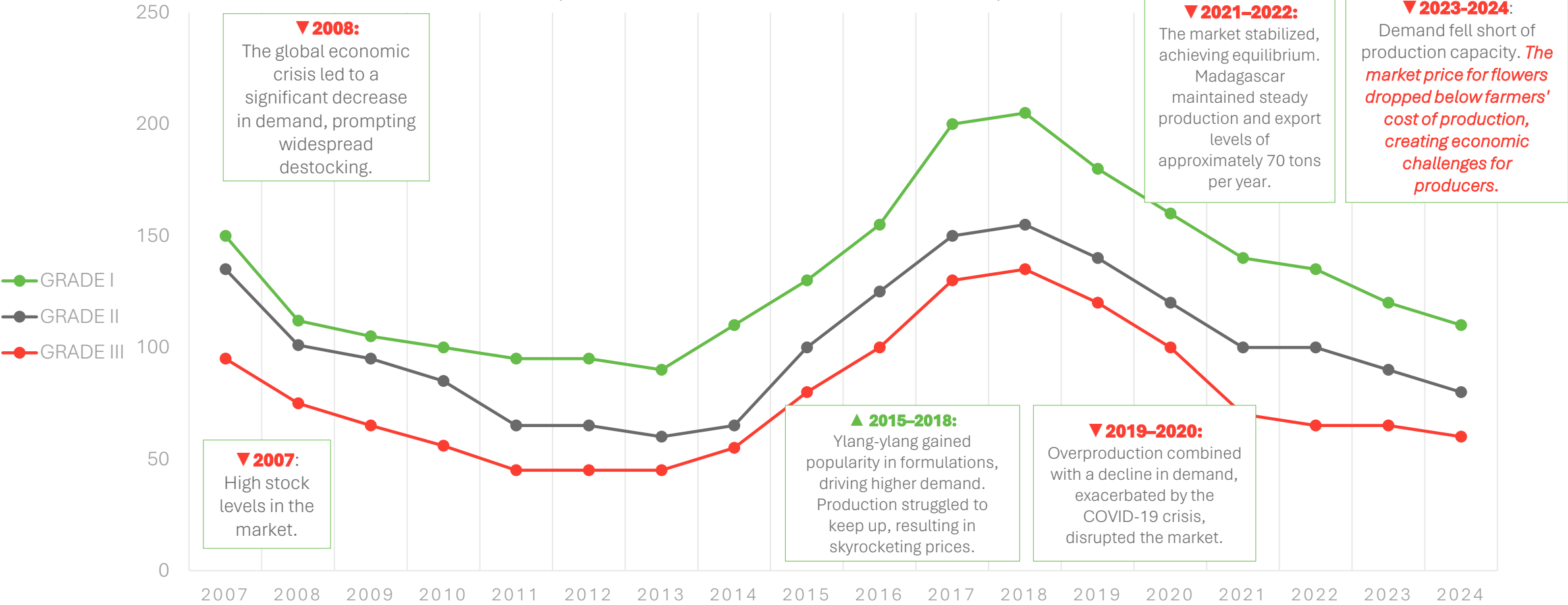
Example Ylang Producer Supporting a family of 5 in the rural area Diana

Item	Monthly Costs (MGA)	Percentage (%)
Food	602,118	67%
Housing	35,791	4%
Education	54,896	6%
Clothing	22,302	2%
Transport	77,344	9%
Water	5,465	1%
Energy	7,808	1%
Healthcare	34,432	4%
Communication	10,000	1%
Savings	42,508	5%
Cost of a Decent Life	892,663	

Export Price Evolution

YLANG HISTORIC PRICES

(FOB PRICE PER KG OF ESSENTIAL OIL IN €)











Implication of Sustainable Pricing



Price Constitution (at a glance)

	Conventional Market practices (unsustainable)	Jacarandas' practices	
 Raw Materials	500–700 MGA/kg	1,000 MGA/kg	 2,000 MGA/kg
 Processing	<ul style="list-style-type: none"> - Use of cheap, illegal wood (4x cheaper) - Minimal investment in processing facilities, with no focus on QHSE (Quality, Health, Safety, and Environment) - Lack of waste management - 30x more water required 	<ul style="list-style-type: none"> - Investments in QHSE - Integrated sustainable wood production (100ha) - HACCP Compliant facilities - Water & Waste Management 	 Additional investments in process optimisation
 Labour & Human Rights	<ul style="list-style-type: none"> - Human rights violations - Lack of Personal Protection Equipment - No training 	<ul style="list-style-type: none"> - Compliance with local laws and regulations - Third party audits (FFL, Ecocert, UEBT) - Continuous trainings - QHSE monitoring & compliance 	 Increasing employee's income 2.5x legal min wage to match the costs of decent living



Purchasing Flowers: A Commitment to Farmers

Conventional Market

Isolated farmers, who form the majority of the producer network, sell their flowers at extremely low prices (**currently 500–700 MGA/kg**), often not covering production costs, leading them to abandon the cultivation of ylang-ylang.



JACARANDAS

Jacarandas purchases flowers at **1,000 MGA/kg** from our farmer cooperatives. Despite this, we are still needing to increase the price to **2,000 MGA/kg*** in order to provide fair income for the farmers.



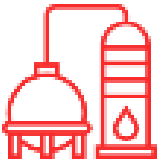
Our Commitment:

We guarantee a stable minimum price and long-term partnerships, enabling farmers to plan for the future and maintain their plantations.



2,000
MGA/KG
Targeted
price *

* According to Jacaranda's proprietary model to assess the cost of a decent life for farmers and employees



Sustainable Management of Firewood

Conventional Market

Firewood is often sourced cheaply from illegal markets, severely impacting local forests. The prices are **four times cheaper** than Jacarandas' sustainably managed supply.



JACARANDAS

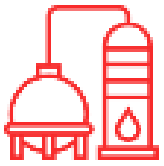
Jacarandas sustainably manages over 100 hectares of acacia mangium plantations to supply firewood responsibly and combat deforestation in Nosy Be, a critical environmental issue.



Our Commitment:

Jacarandas ensures sustainable firewood sourcing through in-house plantations in Nosy Be.





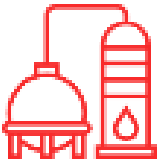
Deforestation in Nosy Be



Nosy Be, faces significant challenges from deforestation.

The loss of forest cover has had severe consequences, including soil erosion, reduced biodiversity, and a decline in critical habitats for endemic species.

Deforestation Nosy-be / Remaining Native Forest



Eco-Facilities and Workplace Safety

Conventional Market

- Most bush distilleries operate with outdated, open-loop systems, consuming **30 times more water than Jacarandas' operations.**
- Workers typically **lack safety equipment and protection.**
- Facilities are **unstandardized and often use obsolete equipment.**
- No emphasis on **energy efficiency or safety standards.**
- Heavy reliance on **unsustainable and excessive resource consumption.**



JACARANDAS

Our Nosy Be facilities operate on solar and gravity-based energy without reliance on fossil fuels. We also use a closed-loop system to reduce water impact. All Jacarandas operators are trained and equipped with PPE for daily work.



Our Commitment:

We are committed to 0 accidents. No workplace accidents have occurred in the Nosy Be distillery since its creation three years ago.





Fair Wages and Training: Investing in People

Conventional Market

Wages are often half the legal minimum, and workers lack access to training or protective equipment.



JACARANDAS

Jacarandas complies with wage laws and ensuring a living income for our workers. Additionally, employees receive regular training throughout the year.



Our Commitment:

In 2023, Jacarandas provided an average of 38 hours of training per employee.



Respect for Human Rights and Audits

Conventional Market

Many industry players do not follow ethical practices, leading to violations of human rights.



Our supply chain has already been rigorously audited by FFL – Ecocert and an independent firm, which confirmed compliance with worker rights, including fair wages, safe working conditions, and the absence of child labor.



Our Commitment:

Ensuring ethical and sustainable practices throughout Jacarandas' supply chain. We are welcoming additional assessments, such as the upcoming UEBT evaluation





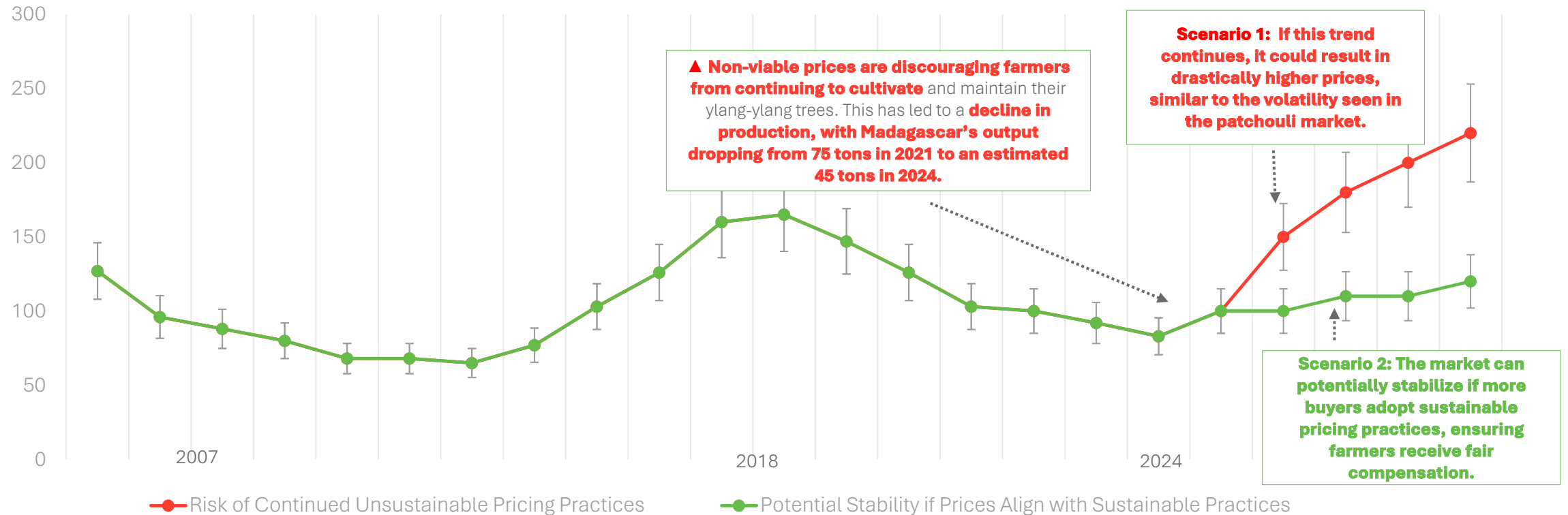
Outlook



Shaping the Future Through Today's Choices

The ylang-ylang production industry is at a critical juncture, where the decisions made today will determine its sustainability and growth in the coming years.

Projection Price per kg of essential oil in €



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