



Title: "Kewda Oil Processing in Ganjam District: Unveiling the Aromatic Essence of *Pandanus odorifer* for Economic Growth and Sustainable Livelihoods"

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Introduction:

One plant stands out as a mysterious treasure in a world full of natural marvels: Kevada. Beyond its botanical beginnings, its significance has captivated cultures, businesses, and economies throughout. In this article, we set out on a delightful trip to elucidate the various uses of Kevada oil, investigate its historical and cultural significance, learn about the art of oil processing, assess its economic significance, and ascertain the equilibrium between sustainable cultivation and conservation.

Odisha's Ganjam district, which is renowned for its rich cultural legacy and traditional ways of doing things, is also embracing the appeal of contemporary oil processing. This article delves deeply into the fascinating world of Kevada oil production from the *Pandanus odorifer* plant, revealing the incredible advantages that await this charming region and the union of tradition and modernity.

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Fig 1 : Showing kewda flower

Preserving Traditions, Embracing Modernity:

The skill of Kevada oil extraction is experiencing a renaissance as Ganjam pays honor to its rich cultural heritage by fusing conventional methods with age-old wisdom. The process is given new life by the harmonious blending of traditional and modern methods, which improves productivity, efficiency, and the exquisite quality of the oils produced.

The Modern Method: Unveiling the Elegance of Steam Distillation:

The discovery of steam distillation, a clever technique that manages the extraction of Kevada's fragrant essence, is at the core of this revolution. This contemporary method preserves and retains the alluring scent of the Kevada blossoms using massive, painstakingly made vessels called as stills or distillation units.

1. Flower Gathering:

Pandanus odorifer flowers, which are prized for their potent smell, are collected first in order to start the procedure. The best time to collect the blooms is early in the morning when their smell is at its strongest. On visiting the locals who are involved in this work for their daily bread told us that they get up early in the morning at around 4 AM and go to the fields to collect flowers.



Fig 2: Locals collected kewda flowers for selling

2. **Vessel Setup:** Steam distillation is carried out in sizable stills or distillation units made of stainless steel or copper. These containers have a base area called the boiling chamber and a top piece called the flower chamber where the blooms are placed.

3. **Flower Loading:** The vessel's flower chamber is filled with the gathered Kewda flowers. In order to ensure optimum distribution and maximum contact with steam, the blooms are distributed equally.



Fig 3 : Deg containing kewda flowers and

Fig 4: Sealed Deg

sealing of Deg

4. **Boiling** : Water is poured into the vessel's boiling chamber to begin the boiling process. After that, the vessel is sealed to create an atmosphere that is airtight. The boiling chamber is heated, which causes steam to be produced and rise through the flower chamber.

5. **Steam Distillation**: The steam interacts with the Kevda flowers as it moves through the flower chamber, drawing off the aromatic compounds and essential oils. The steam rises and enters a condensing system after having been enhanced with the oil.



Fig 5: Arrangement of Chonga showing traditional Distillation system



Fig 6 : Boiling

6. **Condensation:** The steam is cooled in the condensation system, which causes it to condense and change into a mixture of water and oil. The essential oil layer is created when the oil, which is lighter than water, floats to the surface.

7. **Separation:** The condensed water and essential oil are carefully collected and separated. A separator or separator funnel is typically used to perform this separation. After that, the extracted oil is kept in the proper containers for future usage.

Summarizing the process :

| PRE- DISTILLATION | |
|-------------------|-------------------------------------|
| 1. | Plucking of flowers |
| 2. | Collection and transport to factory |
| 3. | Counting of flowers |
| 4. | Grading and sorting |

| DISTILLATION | |
|---------------------|---|
| 1. | Pour water into Deg |
| 2. | Prepare furnace |
| 3. | Put flowers into Deg |
| 4. | Seal Deg |
| 5. | Fix lid, chonga and Bhabka |
| 6. | Seal properly everything using multani mitti |
| 7. | Fire Deg |
| 8. | Monitor it |
| 9. | Cool Deg |
| 10. | Detach Bhabka |
| 11. | Open lid seal |
| 12. | Unload spent flowers |
| 13. | Disposal of spent flowers |

| POST- DISTILLATION | |
|---------------------------|---|
| 1. | After Cooling Bhapka |
| 2. | Pour all Bhapka's content into one Deg |
| 3. | Leave final distillate to settle overnight |
| 4. | Separation of oil and water in separating funnel |

Enhancing the Aromatic Legacy of Ganjam:

The communities of the Ganjam district now have a wide range of options because of the adoption of contemporary oil processing methods. The area will be able to satisfy the rising demand for Kevada oil thanks to increased production and efficiency. A large market is charmed by its alluring smell, authenticity, and cultural relevance of discerning consumers looking for artisanal and organic items.



Fig 7: Pouring the remains

Economic Opportunities and Market Potential:

Traditional and organic goods, such as Kevada oil, have seen an increase in popularity in recent years. The villages in the Ganjam district now have economic prospects because of this rise in demand. Numerous locals support small-scale oil production and have begun promoting Kevada oil outside of the neighborhood. They get paid for selling each flower. Each flower costs around ₹12 - 12.5. Customers who love traditional and natural products are drawn to the oil because of its purity, cultural legacy, and organic makeup. The production capacity and market accessibility of Kevada oil can be improved with the right interventions, such as upgraded processing methods, mechanization, and quality control procedures.

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Fig 8: Kewda oil processing factory

Uses of kewda oil:

Kewda oil (*Pandanus odorifer*) is prized for both its distinctive scent and possible therapeutic benefits. It has uses in many different professions and sectors. Kewada oil is used in fragrances, colognes, and scented goods and is highly sought-after in the perfume industry for its alluring aroma. Because of its relaxing and mood-lifting properties, it is frequently used in aromatherapy. To hydrate and nurture the skin and hair, kewda oil is used in cosmetics and hair care products. It is employed in rites and ceremonies and has cultural and religious importance. The oil is also used in the creation of fragrant candles, soaps, and organic insect repellents. It has therapeutic advantages according to conventional medicine. When contemplating therapeutic uses, it's critical to utilize essential oils carefully and to consult a professional.

Sustainable Cultivation: Balancing Demand and Conservation

The sustainable cultivation of Kevada (*Pandanus odorifer*) in Ganjam district is essential to balance the increasing demand for Kevada products with environmental conservation. Efforts are underway to implement responsible harvesting practices, reforestation programs, and organic farming methods. Harvesting guidelines ensure the long-term health of Kevada plants, while reforestation initiatives restore natural habitats and support biodiversity. Organic farming practices protect the environment and meet consumer preferences for sustainable products. Collaboration between communities, governments, and environmental organizations is crucial for successful implementation. These sustainable cultivation practices aim to preserve biodiversity, mitigate climate change, and ensure the long-term viability of Kevada cultivation in Ganjam district.



Fig 9: Lushy green kewda land



Fig 10 : Aerial roots of Kewda

Conclusion:

Ganjam district gives the fascinating world of Kevada oil fresh life by balancing ancient traditions with modern innovation. Ganjam protects its cultural legacy while embracing the present. It also gives its residents the tools they need to succeed in the future. Kevada oil's all-pervading perfume, which will leave a fragrant legacy for future generations, is a monument to the magical union of age-old wisdom with cutting-edge creativity.

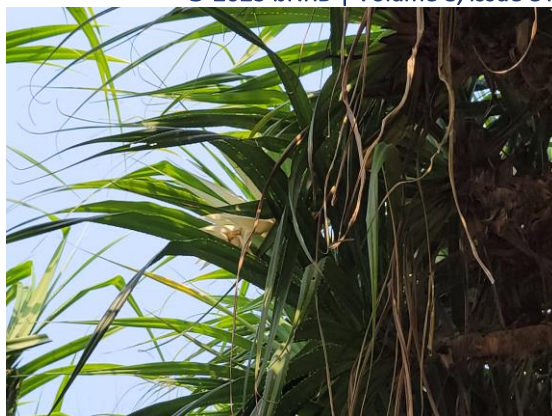


Fig 11: Flower between kewda leaves.

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