ENVIRONMENTAL REPORTS

Original Research Article
ISSN: 3041-556X
Journal homepage: https://er.researchfloor.org/

Scenario of Vetiver Production and Marketing of Its Value added Products

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Citation: Ashwini Choudhary (2024). Scenario of Vetiver Production and Marketing of Its Value added Products. *Environmental Reports; an International Journal*. **DOI: https://doi.org/10.51470/ER.2024.6.2.31**

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Received 12 September 2024 | Revised 25 October 2024 | Accepted 27 November 2024 | Available Online December 09 2024

ABSTRACT

Vetiver (Chrysopogon zizanioides), commonly known as khus, is a perennial aromatic grass with significant agronomic, ecological, and economic potential. Native to India, vetiver is cultivated for its deep fibrous roots, which are used in essential oil production, soil and water conservation, handicrafts, and other value-added products. The global vetiver oil market is projected to exceed USD 800 million by 2025, driven by rising demand in perfumery, aromatherapy, personal care, and wellness sectors. Asia-Pacific accounts for nearly 40–45% of global production, with India, Indonesia, and Haiti as leading suppliers. Despite this strong global demand, India's domestic production of vetiver oil is limited—estimated at around 20–25 tons annually against a global output of approximately 250 tons, leaving a substantial import gap and market opportunity. The increasing interest in sustainable and natural products has further expanded the scope for vetiver market growth, with value-added products such as hydrosols, handicrafts, herbal cosmetics, and eco-friendly building materials emerging as promising revenue streams. This paper reviews the current scenario of vetiver production, challenges in its value chain, economic prospects for farmers, and marketing dynamics for its diverse products, offering insights for stakeholders to enhance agribusiness and rural livelihoods.

Keywords: *Vetiver, aromatic crops, essential oil, value addition, marketing, rural livelihoods.*

Introduction

Vetiver (*Chrysopogon zizanioides*), often referred to as khus in India, is a perennial bunchgrass belonging to the family Poaceae, noted for its deep root system and aromatic properties. The species is widely distributed across tropical and subtropical regions and is cultivated for multiple purposes, including environmental conservation and commercial exploitation. The name "vetiver" is derived from the Tamil word *veṭṭivēr*, meaning "root that is dug up," reflecting its traditional importance in Indian culture [1]. Vetiver's extensive root network, which can grow several meters deep, makes it exceptionally effective for soil erosion control, water filtration, and land rehabilitation—attributes that have led to its adoption in sustainable land management practices globally. In agricultural landscapes, vetiver hedges significantly reduce surface runoff, enhance soil moisture retention, and improve organic matter content, offering both ecological and agronomic benefits. Despite the ecological advantages, the commercial value of vetiver lies predominantly in its essential oil and derivative products. Vetiver oil, extracted through steam distillation of roots, is prized for its woody, earthy fragrance and fixative properties in the perfumery and cosmetic industries. The global vetiver oil market is estimated to be valued at USD 815.6 million in 2025, with forecasts indicating steady growth driven by wellness trends and sustainable product demand. Asia-Pacific's contribution to global vetiver production is significant, accounting for roughly 40–45% of output, with India positioned as a key yet under-exploited supplier [2]. India's domestic production of vetiver oil stands significantly lower compared to global demand—about 20–25 tons annually versus a worldwide output of around 250 tons. This disparity not only highlights the untapped production potential of India's agro-climatic zones but also underscores opportunities for scaling exports and enhancing rural incomes [3].

Beyond essential oil, vetiver supports a wide array of value-added products, including hydrosols, powders for cosmetics, handicrafts, decor items, eco-friendly mats, and incense sticks—products that are increasingly gaining consumer interest in niche lifestyle and sustainable markets. In regions such as coastal Tamil Nadu and Konkan, farmers and local artisans have leveraged vetiver resources to develop diversified product portfolios, with some reports suggesting potential net incomes of up to ₹3 lakhs per acre through value addition and direct marketing initiatives. However, the marketing of vetiver and its products remains constrained by challenges such as limited processing infrastructure, price volatility, lack of standardized quality assurance, and weak linkages with organized markets—issues that need to be addressed through policy support, collective action, and value chain interventions [4].

Objectives of the Study

The specific objectives of the study are:

1. To examine the current status and trends in vetiver production.
2. To analyse the processing and value addition practices in vetiver-based products.
3. To study the marketing channels and trade scenario of vetiver and its value-added products.
4. To identify constraints faced by producers and processors.
5. To suggest policy and institutional measures for strengthening the vetiver sector.

Research Methodology

The present study adopts a descriptive and analytical research design to examine the production, processing, and marketing scenario of vetiver and its value-added products. Both primary and secondary data sources were utilized to achieve the stated objectives.

Study Area and Sampling Design

The study was conducted in selected vetiver-growing regions of India, where cultivation, processing, and marketing activities are prominent. States such as Tamil Nadu, Uttar Pradesh, Rajasthan, and Karnataka were purposively selected due to their agro-climatic suitability and concentration of vetiver cultivation and processing units.

A multi-stage sampling technique was employed:

- In the first stage, major vetiver-producing districts were selected purposively.
- In the second stage, villages cultivating vetiver were identified.
- In the final stage, vetiver growers, processors, traders, and institutional stakeholders were selected using random and purposive sampling, depending on their involvement in value addition and marketing.

Sources of Data

Primary data were collected through:

- Structured and semi-structured questionnaires
- Personal interviews with vetiver farmers, processors, traders, and entrepreneurs
- Focus group discussions (FGDs) with producer groups, SHGs, and cooperatives
- Key informant interviews with officials from agriculture, horticulture, MSME departments, and research institutions.

Secondary Data

Secondary data were collected from:

- Government publications (Ministry of Agriculture, NHB, MSME, APEDA)
- Research journals, reports, and theses
- Data from ICAR institutes, KVKs, and Vetiver Network organizations
- Market reports and export statistics
- Published literature from national and international sources

Period of Study

The study was based on data collected for the agricultural year(s) relevant to the survey period, while secondary data covered a period of 10–15 years to capture long-term trends in production and trade.

Analytical Framework and Tools

Descriptive statistics such as means, percentages, and growth rates was used. Trend analysis using time-series data on area, production, and productivity, and Compound Annual Growth Rate (CAGR) to assess production trends. Mapping of the vetiver value chain from production to final products was done. Identification and mapping of existing marketing channels. The Garrett ranking technique / Likert scale analysis was used to rank major constraints based on respondents' perceptions.

Results and Discussion

Status and Trends in Vetiver Production

The results reveal that vetiver cultivation in India remains regionally concentrated and limited in scale, despite its high economic and ecological potential. Major producing states include Tamil Nadu, Uttar Pradesh, Rajasthan, Karnataka, and parts of Andhra Pradesh, where vetiver is cultivated both for essential oil extraction and soil conservation purposes. Analysis of secondary data over the last decade indicates that the area under vetiver cultivation has shown a marginal but positive growth trend, while productivity has remained relatively stagnant. Average yields of vetiver roots ranged between 10–15 tonnes per hectare, depending on agro-climatic conditions and management practices [5]. Farmers adopting improved planting material and scientific harvesting practices recorded relatively higher yields. The Compound Annual Growth Rate (CAGR) analysis showed:

- The area under vetiver showed low positive growth.
- Production showed moderate growth due to expansion in select regions.
- Productivity was largely stagnant, indicating scope for technological intervention.

The slow expansion of vetiver cultivation is attributed to limited awareness, long gestation period (18–24 months), and absence of assured markets, making farmers hesitant to allocate land to the crop [6]. Although India is recognized as one of the centers of origin of vetiver, its contribution to global production remains low. The findings suggest that vetiver is still treated as a subsidiary or niche crop, rather than a commercial aromatic crop, unlike lemongrass or palmarosa. Enhancing productivity through improved varieties and agronomic practices can significantly improve farmer returns.

Processing and Value Addition Practices in Vetiver-Based Products

The study identified essential oil extraction as the primary processing activity, followed by limited diversification into value-added products. Steam distillation was the most commonly used extraction method, largely operated at small-scale or cottage-level units.

The major value-added products identified include:

- Vetiver essential oil
- Vetiver hydrosol (khus water)
- Handicrafts (mats, fans, decorative items)
- Incense sticks and agarbatti
- Herbal cosmetics and perfumes

Cost–return analysis revealed that value addition substantially enhances income. Farmers selling raw roots received relatively low prices, whereas those involved in oil extraction or handicraft production realized 2–4 times higher returns. However, only a small proportion of producers were engaged in processing due to high initial investment, lack of technical know-how, and inadequate access to distillation units. The results highlight that vetiver's true economic potential lies in value addition rather than primary production. The dominance of traditional processing methods and limited product diversification indicates an underdeveloped value chain [7]. Strengthening rural processing infrastructure and promoting small-scale entrepreneurship can significantly enhance income and employment opportunities.

Marketing Channels and Trade Scenario

The marketing analysis identified multiple channels for vetiver and its products, varying by region and product type. The commonly observed marketing channels were:

- Producer → Local trader → Processor → Wholesaler → Consumer
- Producer → Processor → Exporter
- Producer/Artisan → Retailer → Consumer
- Producer → Cooperative/SHG → Institutional buyer

Price spread analysis showed that producers' share in the consumer's rupee was lowest in longer marketing chains, especially for essential oil and handicrafts. Intermediaries captured a significant share due to their control over market information and access to buyers.

Trade data analysis indicated that India exports a limited quantity of vetiver oil compared to global demand. Export destinations mainly include Europe, the USA, and West Asian countries, where vetiver oil is used in perfumery and aromatherapy industries [8]. The marketing system for vetiver products is fragmented and inefficient, characterized by weak producer–market linkages and lack of organized markets. The absence of branding, quality certification, and market intelligence reduces competitiveness in both domestic and international markets. Strengthening producer collectives and promoting direct marketing can enhance farmers' market participation.

Constraints Faced by Producers and Processors

The constraint analysis revealed multiple bottlenecks across the vetiver value chain. Based on Garrett ranking / Likert scale analysis, the major constraints identified were:

Table: Garrett Ranking of Constraints in Vetiver Production, Processing and Marketing

S.No.	Constraints	Mean Garrett Score	Rank
	A. Production Constraints		
1	Non-availability of quality planting material	78.45	I
2	Long crop duration and delayed returns	72.30	II
3	Limited technical knowledge and extension support	68.75	III
4	Low productivity and yield variability	63.10	IV
5	High initial cost of establishment	58.40	V
	B. Processing Constraints		
6	High cost of distillation and processing units	81.20	I
7	Low oil recovery and lack of standardization	74.85	II
8	Lack of skilled manpower and technical training	69.60	III
9	Inadequate access to processing infrastructure	65.25	IV
	C. Marketing Constraints		
10	Price fluctuations and absence of assured markets	83.90	I
11	Dependence on middlemen	77.35	II
12	Lack of market information and branding	71.80	III
13	Limited export facilitation and quality certification	66.45	IV
	D. Institutional and Financial Constraints		
14	Limited access to institutional credit	75.60	I
15	Absence of subsidy and insurance support	70.25	II
16	Weak role of cooperatives/FPOs	64.70	III
17	Inadequate policy focus on vetiver crop	60.15	IV

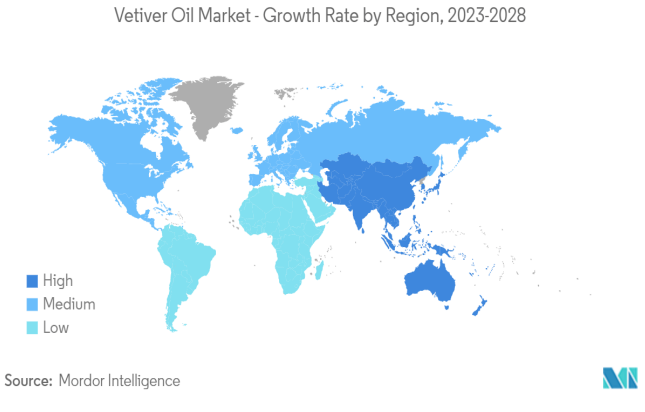
The Garrett ranking analysis revealed that price fluctuations and lack of assured markets emerged as the most severe constraint, followed by high cost of distillation units and non-availability of quality planting material. Processing-related constraints received relatively higher Garrett scores compared to production constraints, indicating that value addition is the weakest link in the vetiver value chain [9]. Marketing inefficiencies and institutional gaps further restrict farmers' ability to realize remunerative prices. These findings emphasize the need for policy interventions focusing on processing infrastructure, market stabilization, and institutional strengthening.

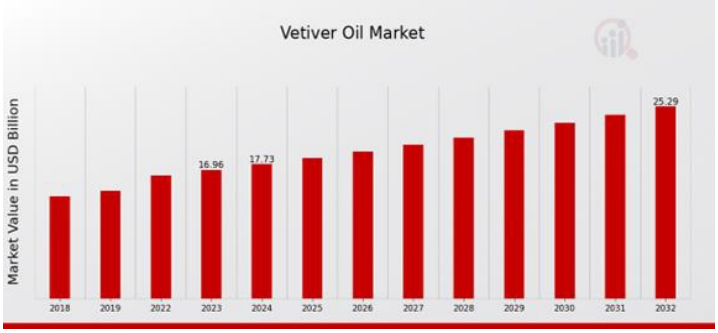
Policy and Institutional Implications

Based on the findings, several policy-relevant insights emerge. These are discussed below:

Vetiver should be recognized as a commercial aromatic crop under national horticulture and medicinal plant missions. Establishment of community-level distillation units can reduce processing costs. Promotion of FPOs, SHGs, and cooperatives can strengthen collective marketing and bargaining power. Export facilitation through quality standards, certification, and branding can enhance global competitiveness [10]. The results underline the need for a value chain–based policy approach rather than a production-centric one. Integrating vetiver into MSME, rural entrepreneurship, and natural farming programs can significantly enhance livelihood outcomes while supporting sustainability goals. The study demonstrates that vetiver has high untapped potential as a multi-purpose crop offering economic, environmental, and social benefits.

However, its development is constrained by fragmented production systems, limited processing infrastructure, and weak market integration. A coordinated strategy involving technology dissemination, institutional strengthening, and market development is essential to transform vetiver from a niche crop into a viable agribusiness enterprise. The study demonstrates that vetiver has high untapped potential as a multi-purpose crop offering economic, environmental, and social benefits. However, its development is constrained by fragmented production systems, limited processing infrastructure, and weak market integration. A coordinated strategy involving technology dissemination, institutional strengthening, and market development is essential to transform vetiver from a niche crop into a viable agribusiness enterprise.





Source: *https://www.marketresearchfuture.com/reports/vetiver-oil-market-26246*

Conclusion

The present study examined the scenario of vetiver production and marketing of its value-added products with a focus on production trends, processing practices, marketing channels, constraints, and policy implications. The findings reveal that although vetiver possesses substantial economic, ecological, and industrial potential, its cultivation and commercialization in India remain limited and under-organized. Vetiver production is regionally concentrated, with slow expansion in area and largely stagnant productivity, mainly due to limited awareness, long crop duration, and inadequate extension support. The study clearly establishes that value addition is the key driver of profitability in the vetiver sector. Processing vetiver into essential oil, hydrosol, handicrafts, and other products significantly enhances income compared to the sale of raw roots. However, the adoption of value-added practices is constrained by high processing costs, lack of technical expertise, and limited access to distillation infrastructure. The marketing system is characterized by fragmented channels, dominance of intermediaries, price volatility, and weak producer–market linkages, resulting in a low producer's share in the consumer's rupee. The Garrett ranking analysis further highlighted that marketing and processing constraints are more severe than production-related constraints, underscoring the need for a value chain–oriented development approach. Institutional and financial bottlenecks, such as limited credit access, absence of targeted subsidies, and weak involvement of FPOs and cooperatives, also impede the growth of the sector, the study concludes that vetiver can emerge as a viable aromatic and rural enterprise crop if supported by integrated interventions. Strengthening processing infrastructure, promoting collective action through FPOs and SHGs, improving market access and price assurance mechanisms, and providing policy recognition to vetiver under horticulture and medicinal plant programs are crucial for unlocking its full potential. Such measures would not only enhance farm income and rural employment but also contribute to sustainable agriculture and environmentally resilient production systems.

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