



Harnessing Sustainable Coir Toy Exports in India: Market Prospects and Global Trends

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Abstract: This research explores the export potential of Indian coir toys against the background of the international trend of green alternatives. As the sense of plastic waste and health security grows, demand for green toys made from naturally biodegradable materials such as wood, bamboo, and coir is growing at a rapid pace, projected to surpass USD 3.8 billion by 2034. India, which is the largest producer of coir in the world, enjoys strategic advantages of rich availability of raw materials, traditional knowledge, and institutional strengths. Nonetheless, coir toy exports are minimal, plagued by poor innovation, absence of certification, and poor global branding.

The study examines global market trends, highlighting strong growth in North America, Europe, and Asia Pacific—especially India. The study examines government support through schemes like Coir Udyami Yojana and identifies barriers in the form of dispersed manufacturing units, certification barriers, and unavailability to markets. Strategic interventions are proposed: product innovation, global distributor partnerships, digital outreach, and supply chain upgradation. Skill building and policy reforms are the tools to unlock value-added exports. By embracing sustainability narratives and aligning with global consumer values, Indian coir toys can emerge as competitive exports. The study proposes further research in consumer insight, material innovation, and socio-economic analysis to expand the industry's global footprint.

Keywords - Coir toys, green toy market, export potential, biodegradable products, eco-friendly toys, India, global markets, supply chain innovation.

I. INTRODUCTION

The growing global concern for environmental problems and plastic pollution issues has brought about a significant shift in consumer demand towards green and environmentally friendly products [3]. Of the many industries, the toy industry too is transforming, and there is a large demand for toys made from natural, biodegradable materials that are safe for children and the environment as well. The shift is not just in terms of the use of less plastic but also part of a broader transition to sustainability and ethical practices [4]. To this end, green toys made from renewable sources such as wood, bamboo, cotton, and coir are in growing demand in the developed and emerging economies [8].

Coir, as a natural fibre derived from coconut husk, is among the materials that are rich with promise for use in green toy manufacture. India, being a world leader in coir manufacturing, boasts a solid foundation of coir manufacture based on indigenous knowledge, an abundance of raw material, and a well-established SME base [1][6]. This places India well to upscale and enhance its market share in the global green toy market through the propagation of coir toys [10].

Despite this promise, Indian coir export as toys is yet in the infancy stage. The industry has yet to pick up momentum abroad due to several reasons like low global awareness, lack of well-defined market strategies, inadequate product innovation, and lack of policy and infrastructural support. While coir is exported on a large scale for uses like mats, brushes, and geotextiles, development for toy production is yet unexploited. Indian coir toy producers are confronted with issues of quality standardization, certification, market access, and global branding issues critical to success in competitive foreign markets [5][9].

The focus of this study is global trends in demand for green toys, namely coir toys, and evaluate key global markets of interest in green toys. The study also aims at evaluating Indian coir toys' exportability, analysing government and industry support schemes, challenges as well as opportunities facing Indian manufacturers in a dynamic world green economy. From the analysis of these factors, the study aims at providing useful information and strategic guidance that can enhance India's share in the green toy market and achieve environmental and economic goals in equal measure. Additionally, greater scrutiny by NGOs, the media, and regulatory bodies has placed greater pressure on firms to adhere to environmentally sustainable production and sourcing practices. Eco-friendly toys, particularly those certified organic or meeting international environmental standards, are becoming increasingly popular among socially conscious consumers concerned with child safety and corporate social responsibility. Greater eco-labelling and third-party certification have informed buyers, spurring the green revolution in the toy market. With the shifting paradigm, leveraging India's

ancient knowledge and resource abundance to give coir toys premium, ethical, and culturally differentiated status could unlock high value, both domestically and externally, making India a hub in sustainable innovation.

II. OBJECTIVES

1. To study global trends in demand for environmental toys, specifically coir products.
2. To determine major international markets that are interested in sustainable and biodegradable toys.
3. To examine the export potential of Indian coir toys using secondary data sources.
4. To ascertain the role of government and institutional support towards increasing coir toy exports.
5. To determine the challenges and opportunities faced by Indian coir toy producers in international green markets.

III. STATEMENT OF THE PROBLEM

The global market for plastic free green toys has opened up new business opportunities for natural fibre- based goods like coir toys. However, despite having a strong coir industry and traditional crafts sector in India, coir toy exports remain untapped and under explored. There is no comprehensive market research, awareness and policy direction towards the growth of these value-added coir products in green conscious international markets. Without information-based knowledge and strategic direction, Indian coir toy industries can miss new global opportunities for the green toy market.

The global trends in demand for eco-friendly toys

Global demand trends for eco-friendly toys have strong and increasing momentum, backed by increasing concern for sustainability, parents' willingness to buy safer toys, and embracement of stricter plastics and chemicals regulations. In 2024, the global market for green toys was around USD 1.2 billion, with expectations of steady double-digit growth—CAGR ranges from around 7.4% to 13%—to drive the market to well over USD 3.8 billion by 2034. The prime drivers are the calls for non-toxic, biodegradable, and ethically produced toys; a trend fueled by rising disposable incomes, urbanization, and greater availability of eco-friendly toys through online platforms [4][7]. Big players are investing in sustainable product lines, and the market is moving away from petroleum and plastic-based materials towards wood, bamboo, recyclable content, paper, and certified organic fabrics [12].

International markets for sustainable and biodegradable toys

International biodegradable and sustainable toy markets show dramatic regional variation, depending on economic conditions, consumer sentiment, and regulatory environments. Europe and North America are currently dominant, with high market shares. The United States holds nearly 76% of the North American market, with high environmental consciousness, regulatory support, and high demand for education and STEM toys. Europe follows, with a strong market share of more than 29% in 2024; number-one is Germany, with strong plastic reduction regulation and active promotion of green manufacturing. The Asia Pacific area is noted for rapid growth, especially in India (the fastest-growing, with a CAGR of 14.2% from 2024-2032), China, and Japan. These markets are fueled by increasing environmental consciousness, consumer value shifts, government anti-plastic pollution campaigns, and the emergence of regional eco-friendly toy players [2].

Social and regulatory pressures also promote green toy use, including government incentives, tax credits, and the utilization of eco-labeling measures [5][12]. The market remains fragmented with a mix of mature global brands (e.g., Lego, Mattel, Hasbro) and numerous new entrant brands pushing sustainability innovation. Consumer demand is growing around sustainable toys that are durable, modular, and made from certified sustainable material like FSC wood, recycled plastic, or organic cotton.

Table : 1 Regional Overview of Global Eco-Friendly Toys Market

Region	2024 Market Share/Value	CAGR (2025–2034)	Key Drivers	Notable Countries
North America	USD 300 million (US: 76% share)	12.7%	High awareness, STEM focus, regulation	US, Canada
Europe	\$348 million (29% global share)	12.4%	Stringent plastic laws, sustainability culture	Germany, UK, Nordics
Asia Pacific	Fastest growing region	13.1% (India: 14.2%)	Urbanization, gov't campaigns, eco trends, rising income	India, China, Japan
Global Total	\$1.2 bn (2024), \$22.7 bn	12.5%, 13.2%	Sustainability, parent concerns, material innovations	—

Source: Based on aggregated data from major industry reports (2024)

Overall, from Table 1, the Global ecofriendly toy market is propelled by increasing environmental concerns, accelerating growth in emerging economies most notably Asia Pacific and supported by policy and innovation. North America and Europe dominate through regulation and consumerism, but the fastest growth is in Asia Pacific most notably India which presents new prospects for green toy makers globally.

Export Potential of Coir Toys from India

India has immense export potential for coir-based toys since it is the world's largest producer and exporter of coir products. Though export has hitherto been dominated by coir pith, mats, and ropes, increased potential exists to diversify into higher value-added commodities like toys. Overall export performance of the coir sector has witnessed robust growth; for example, India exported over 1.16 million tonnes of coir articles with a value of almost ₹3,780 crores during 2020-21, a record value above national targets in the face of global economic turmoil [1]. The United States, China, the Netherlands, and some of the European nations are the key export destinations for Indian coir. There is increasing global demand for ecologically friendly, sustainable, and biodegradable products that coir-based toys are well-placed to take advantage of due to their natural, non-toxic character. Such problems as increasing input costs, the absence of international branding, and competition from inexpensive substitutes continue to exist, however. Securing a share of the increasingly large global market for sustainable toys will require a concerted effort, including the development of a brand and the achievement of rigorous quality certifications [6][11].

Government and Institutional Support

Government and institutional support are at the core of the development of Indian coir toy export potential. The MSME Ministry oversees a range of schemes by the Coir Board, a statutory organization under the Coir Industry Act, 1953 [10]. The most significant schemes are the Coir Udyami Yojana (CUY) and the Coir Vikas Yojana providing credit-linked subsidy, infrastructure development assistance, and technology upgradation support to new and old coir units. The schemes are for production modernization, quality upgradation, manufacturing innovative products, and addition of value. The training schemes sponsored by the government are aimed at skill development, especially empowering rural women under the Mahila Coir Yojana [2]. Export market development is also accorded definite emphasis, with the Coir Board facilitating overseas market access through international trade fair participation, adherence to international standards, and facilitating research into new applications of coir products, including toys. Recent policy thought has been on amendments to allied acts, focused financial assistance, and infrastructural development to facilitate coir exporters, especially small and artisanal producers, to compete profitably in overseas markets [9]. Overall, these initiatives are for making India a world center for value-added, eco-friendly coir products, including toys, in order to achieve national green economy and export targets.

Challenges Faced by Indian Coir Toy Producers

Indian coir toy manufacturers are confronted with an interconnected set of limitations that hinder their capacity to compete best in the global market for green toys. The most important of these limitations is weak international market sensing, with Indian coir toys having low-quality brand names and promotion in the global market, leading to low customer demand. The sector is characterized by small, fragmented units using traditional, input-based methods, which impact growth and quality [9][11]. Manufacturers cannot meet stringent international quality and safety certification due to the resulting high cost and technical know-how required, thus limiting access to high-value markets in Europe and North America as well. They also face stiff competition from other materials such as plastic, bamboo, and wood, which are more fashionable, versatile, and, in some cases, produced cheaper by established companies [3]. Innovation is also limited, which means that product variety is limited and does not always keep up with current consumer needs or educational requirements. Misinformation regarding the availability of quality raw materials, fluctuating input prices, and export logistics complexities such as freight rates and customs also dishearten them [8]. Government and institutional efforts in India are aimed at general coir products, not toy producers, in the areas of policy, finance, and human skills acquisition. All these limitations necessitate strategic interventions in market promotion, product innovation, certification facilitation, and supply chain management in order to achieve the full export potential of Indian coir toys.

Opportunities for Growth in Global Green Markets

Indian coir toy producers have vast growth opportunities in international green markets through aggressive product diversification and innovation, strategic entry, and successful branding in accordance with trends in sustainability. Through investments in R&D, producers can launch innovative coir toy designs for varied age groups, with built-in educational content, and with appeal to contemporary tastes, thus diversifying their products and attractiveness in international markets [7][8]. Tie-ups with foreign distributors, eco-retailers, and global design collaborators can provide valuable entry points in established markets while also ensuring access to market information and new consumer segments. Strategic alliances with NGOs, sustainability certification agencies, and online platforms can further solidify market entry, tap niche consumer segments, and ensure compliance with international standards [2][12]. By also tapping into the nascent trend of ethical consumption, Indian producers can position their coir toys as natural, authentic, and green-friendly alternatives, through storytelling, eco-labels, and clean supply chains, and achieve brand assurance and premium pricing. Successful digital marketing campaigns and international green expos participation can further enhance their visibility, enabling coir toys to emerge as icons of India's craftsmanship and commitment to a greener world. All these steps together enable Indian coir toy producers to realize their full potential in the rapidly growing and increasingly competitive international market for green toys.

CONCLUSION AND RECOMMENDATIONS

International opportunity analysis of Indian coir toys and world trends indicates tremendous potential and serious challenges for this new green industry. The research concludes that world demand for green and biodegradable toys is observing a sharp increase due to increasing consumer awareness, regulatory pressure for green products, and perceived shift in buying behaviour toward safe, non-toxic toys. India, as the world's largest producer of coir, has a unique advantage in exploiting this trend by providing not only green but culturally richer toys. Yet, the current Indian coir toy contribution to the world sustainable toy market is zero due to primarily the lack of international market presence, insufficient brand building, unorganized production setup, and innovation and certification issues. Government schemes and institutional interventions are slowly filling up these gaps, but more focused efforts are necessary to make Indian coir toys competitive in the world market.

To realize the full export potential of coir toys, strategic suggestions are made to value chain players. Product innovation should be the focus for producers through the diversification of their portfolio with innovative and educational toy designs meeting international quality and safety standards. Strategic alliances with international distributors, green brands, and certification bodies will ease market access, access new consumer markets, and meet changing international norms. Upgradation of technology, skill development, and R&D collaboration can improve scalability and quality of products. Take advantage of good digital marketing practices and international green expo participation to raise international reach and brand value. Government and institutional bodies must scale up sector-specific policy support, ease access to finance and certification, and introduce customized training programs for coir toy manufacturers. Supply chain bottlenecks must be overcome, value-added product export incentives popularized, and innovation and capacity building hubs developed.

In the forthcoming years, research needs to focus on developing robust market intelligence on coir toys in specific export markets, including consumer behavior, price and competitive strategy, and competition profiles. Research can also explore sustainable design innovation, new material blends, and life-cycle studies to further extend the environmental appeal of coir toys. Studies analyzing the long-term social and economic impacts of the coir toy sector on rural livelihoods, women empowerment, and environmental sustainability would be of utmost significance for policymaking. Last but not least, through the combination of strategic stakeholder engagement and evidence-based policy, Indian coir toys can become a significant force in the global sustainable toys market, promoting green entrepreneurship and the country's overall export ambitions.

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