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The Regulatory Tapestry of India's Circular Economy

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Abstract: *This study examines the intricate landscape of the circular economy (CE) in India, focusing on the legal frameworks, policies, schemes, and various plans that align with CE principles. Despite the absence of explicit circular economy initiatives, early-stage regulations like the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, Forest Conservation Act, 1980, and Environment Protection Act, 1986, have implicitly supported CE through their focus on environmental protection and waste management. In the progressive development stage, sector-specific regulations have emerged, including the Corporate Social Responsibility (CSR) Policy Rules, India Smart Cities Mission, Biomedical Waste Management Rules, 2016, E-Waste Management Rules, Construction & Demolition Waste Management Rules, Solid Waste Management Rules, 2016, Steel Scrap Recycling Policy, 2019, and others. These policies, although not originally crafted with CE in mind, contribute significantly to promoting sustainable management practices in India. This review consolidates these frameworks, providing a comprehensive resource for researchers to easily access and understand the existing policies related to the circular economy in India. This compilation aims to facilitate further research and policy development in advancing India's transition to a circular economy.*

Keywords*: Circular Economy, Linear Economy, Sustainable Development, Policy Frameworks, Waste Management, Resource Efficiency, Environmental Protection*

INTRODUCTION

India is a country with 1.3 billion people, or 18% of the world's population, living on 2.4% of its land area. As such, India faces resource constraints (Nagdeve, D. A. 2002). Rapid population expansion is one of the main factors contributing to environmental deterioration in a nation as it has a negative impact on the environment and natural resources. The problem of sustainable development is posed by the growing population and the deteriorating environment. The socioeconomic development process can be accelerated or slowed down by the presence or lack of favourable natural resources (Ray, S., & Ray, I. A. 2011). India needs to address the issue of resource scarcity and adopt a constructive, inclusive, and ecologically sustainable strategy of development if it is to achieve the intended economic growth along with this expanding population. India needs to consider the circular economy's prospects in order to restructure its economy and become a low-carbon, resource-efficient nation (Ibef, 2023). According to Ghosh (2020), India's transition to a circular economy is a story of creative adaptability and strategic development. In response to the current issues of resource depletion and environmental deterioration, the idea has gained traction (Korra, C. 2022). A gradual transition from conventional linear economic models to more sustainable practices that prioritise resource efficiency, waste reduction, and recycling characterises the development of the circular economy in India. Over the years, a number of laws, regulations, and development projects have helped to facilitate this shift, even if it was not originally referred to as the "circular economy" (Ghosh, S. K. 2020). India's circular economy began with a number of grassroots initiatives and the progressive enactment of laws that support sustainable development objectives (Modak, P. 2021). India has seen a paradigm change in recent years as businesses and decision-makers have come to see the circular economy as a means of achieving equitable growth and sustained prosperity (Fiksel, J. et al., 2021). The circular economy, as a new paradigm for economic growth, offers major worldwide advantages in terms of the environment, economy, and society. By reducing, reusing, and recycling goods and materials throughout the processes of production, distribution, and

consumption, the circular economy concept emphasises the idea of replacing the "end-of-life" in existing production and consumption practices (Berg, A. et al., 2018). According to Stahel, W. R. (2016), the circular economy (CE) is a new way of looking at our products and materials that would conserve energy and resources while also generating jobs locally. This work is a conceptual addition to the advancement of the CE idea; it is neither an empirical investigation of models already in use or a test of the application of current CE conceptualizations (Schröder, P. et al., 2020). The purpose of this study is to offer a thorough knowledge of India's attempts to embrace circular economy principles by mapping the country's present regulatory and policy framework. The results underscore the possible advantages of a more comprehensive and clear policy framework for the circular economy, which might simplify current programmes and improve their efficiency in advancing sustainable development. Researchers, decision-makers, and interested parties in the circular economy would find this study to be a useful resource since it provides information on India's accomplishments and points out areas for further development.

RESEARCH LANDSCAPE

The field of circular economy has garnered significant attention in recent years, leading to a proliferation of research that examines its various dimensions. This section provides a comprehensive overview of prior studies that have explored the regulatory frameworks, implementation strategies, and overall impact of the circular economy. De Römph, T. J., and Cramer, J. M. (2020) examine ways to enhance the current EU legal framework to better support the transition to a circular economy. They propose the following improvements: Life-cycle thinking should be explicitly acknowledged as an environmental principle in EU legislation to promote the circular economy. The establishment of "EU materials law" as a subset of EU environmental law could advance the legal transition towards a circular economy. Implementing product passports and an online product registration database could facilitate the transition by enhancing information collection and dissemination. Backes, C., & Boeve, M. (2022) emphasize the urgent need to transition to a circular economy due to the overexploitation of the Earth's resources. They highlight the following points: Effective legal instruments are essential for promoting this transition. While the EU is leading in the development of legal instruments, improvements are needed, such as setting specific quantifiable targets and introducing legal principles for sustainable product design. Globally, there is a critical need to develop a legal framework to support the shift towards a more circular economy. Fric, U. (2019) discusses how the EU's proactive environmental policies and financial support have facilitated the transition to a circular economy, enabling social actors to appreciate its ecological, economic, and social benefits. More than 50 initiatives under the EU's Circular Economy Action Plan, launched in 2015, have been completed or are in progress. However, additional efforts are required at the EU level to fully scale up the circular economy and close the loop, thereby providing a competitive edge to the EU economy. Bonet Fernandez, D., & Levillain, A. (2014) state that establishing a circular economy necessitates a regulatory framework that includes all economic sectors, public institutions, businesses, and citizens. In France, the regulatory framework for the circular economy is still being developed, in contrast to some other leading countries. Backes, C. (2020) explains that the initial goal of EU waste law was to prevent environmental and health hazards caused by uncontrolled waste disposal. Recently, however, the focus has shifted towards promoting a circular economy and efficient resource utilization. Waste law has the potential to both support and impede the transition to a circular economy, necessitating an integrated approach across chemicals, products, and waste legislation. The EU Court of Justice has significantly influenced waste law through its "semi-legislative activism," addressing gaps left by the EU legislature. Wysokiń´ska, Z. (2020) examines international regulations on environmental protection and the circular economy proposed by global organizations. The European Union's new growth strategy, the European Green Deal, aims to reduce emissions, create jobs, and enhance well-being through a green and inclusive transition. Major challenges in adopting the circular economy model include eco-design, manufacturers' responsibility for products post-use, and reducing reliance on primary raw materials.

METHODOLOGY

This work employs an exploratory research approach with the objective of compiling and analysing Indian policies, actions, and programmes that are consistent with the circular economy's tenets. Our goal is to give scholars and policymakers a consolidated reference by giving a thorough overview of various sector-specific initiatives and regulatory frameworks. A comprehensive analysis of government publications, policy briefs, legal documents, and pertinent literature on circular economy activities in India was part of the study. Scholarly literature, legal databases, and official government websites were among the sources. The regulatory frameworks and sector-specific policies were identified and categorised based on their applicability to the circular economy through a qualitative analysis of the data.

The analysis focused on: Finding Common Themes: Throughout the policies and acts, themes including resource efficiency, waste management, and sustainable development were found. Next, division into phases: There were two primary phases to the policies:Early Stages: Waste Management and Environmental Protection: Laws and regulations that offer extensive regulatory supervision and safeguard the environment. Stage of Progressive Development: Programmes and initiatives that target certain industries and encourage sustainability and resource efficiency. The results were combined to provide a cohesive picture of India's circular economy practices, showing how these many laws support the goals of the circular economy as a whole. The results are displayed in a detailed manner, emphasising the development throughout time and the present state of policies connected to the circular economy in India. The paper describes how these regulations indirectly encourage sustainable management practices even if they were not initially created with circular economy ideas in mind.

Towards the circular economy

A linear economic model based on the take-make-consume-and-dispose (four macro domains) concept (Reichel, A. et al., 2016). The link between input and output does not account for the amount of material that may be reused or how it has been used. It is solely an economic tie. The foundation of the linear economy (LE) is the notion that raw materials can only be utilised once (Marino, A., & Pariso, P. 2016). In this scenario, the raw material would be sourced, processed into a finished good, and then sold to the final customer on the market. When a product approaches the end of its lifespan, the consumer would abandon it, resulting waste (Ghisellini, P. et al., 2018; Patwa, N. et al., 2021).The aforementioned is predicated on the idea that there are an infinite number of resources available to produce the product and that resource depletion is not a problem (Goyal, S. et al., 2018). Peacock, K. W. (2008) deaffirms this above statement that nature has infinite resources, according to him Earth's natural resources are limited and subject to depletion. Fresh water, minerals, and fossil fuels are examples of finite resources that might run out if they are not handled properly. The earth's life-support systems are coming under more and more threat from environmental issues such biodiversity loss, pollution of the water, air, and soil, resource depletion, and excessive land usage (Rockström, J. et al., 2009; Jackson, T. 2009; Meadows, D., & Randers, J. 2012; Geissdoerfer, M. et al., 2017).The current economic system's traditional linear extract-produce-use-dump model of material and energy flow is not sustainable (Frosch, R. A., & Gallopoulos, N. E. 1989). The notion of the circular economy (CE) has garnered worldwide interest as an sustainable alternative for the traditional linear economy, which functions according to the 'take-make-dispose' paradigm (Upadhayay, S., & Alqassimi, O. 2018). Although not entirely new, the idea of the "circular economy" has lately acquired prominence on policymakers' minds as a means of addressing these and other sustainability challenges (Brennan, G. et al., 2015; Geissdoerfer, M. et al., 2017). Circular economy (CE) suggests a shift from the "extraction-production-disposal" paradigm of linear economy (LE) by using the natural cycle model to make human activity more robust (MacArthur, E. 2013) to the guiding concepts of remanufacturing, refurbishing/repairing, recycling, reducing, and reusing (Morseletto, P. 2020). The goals of CE are to maximise the use of goods and materials, minimise or completely eradicate waste and pollution, and encourage the regeneration of natural systems (Franco-García, et al., 2019). According to Jonker et al. (2017), CE is predicated on the redesign of production systems at different levels, with an emphasis on value preservation in closed loops throughout the lifecycle of raw materials and commodities. The key differences between the linear and circular economies are depicted in Figure 1.1, which also successfully highlights the divergent strategies for resource use and waste management.

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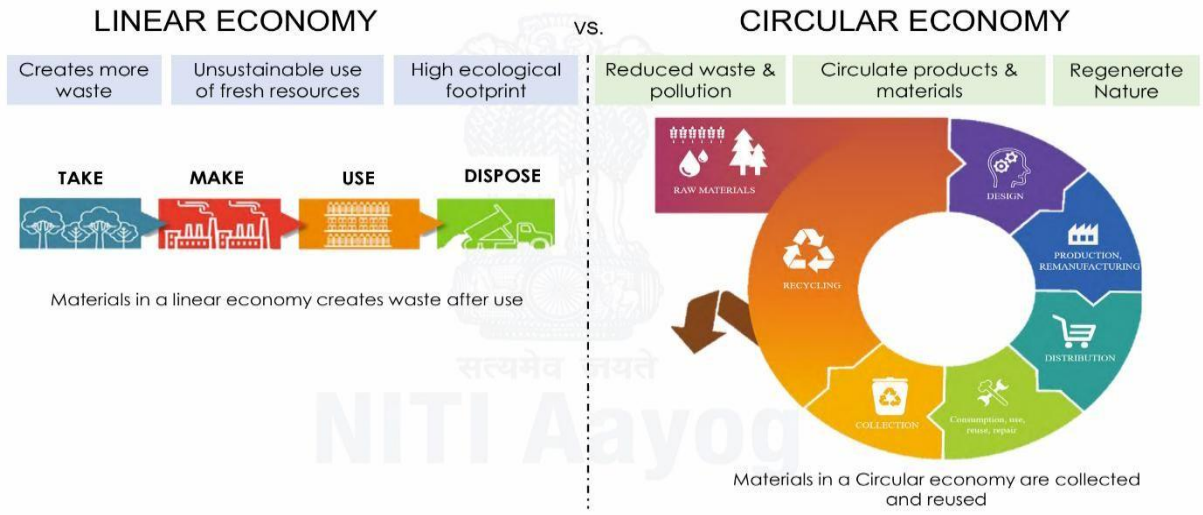

Figure: 1.1 From Linear to Circular Economy model
Retrived from: NITI AYOG, 2023

Is there any frameworks to regulate CE?

India has implemented a multi-pronged policy framework to support the circular economy, comprising legislative measures, awareness campaigns, and capacity training (Sarma, S. P. et al., 2023). The Indian government has long backed the circular economy through laws and regulations. Although there is not a specific circular economy legislation in India, there are several rules and regulations that incorporate the idea and the prerequisites for CE execution (Ghosh, S. K. (Ed.). 2020). Among India's most important environmental laws, which attempt to prevent and regulate environmental contamination, are the Water (Prevention and regulate of contamination) Act, 1974; Forest Conservation; Environmental Protection; and National Environmental Policy. Although it was not created with the circular economy framework in mind at first, its goals and rules implicitly support sustainable (environment, economy, and society) management practices. This is especially true when it comes to the promotion of sustainable practices. To promote growth in the areas of resource efficiency and circular economy, India has implemented several sector-specific programmes, policies, and laws (Fig. 1.2). There are sector-specific resource efficiency legislation and programmes, as well as early stage national policy frameworks, in the progressive development stage:

A. Early Stages: Environemntal Protection and Waste Management

1. *Water (Prevention and Control of Pollution) Act, 1974*

The Water (Prevention and Control of Pollution) Act 1974 In order to promote the cleanliness of streams and wells in various parts of the states, this Act paved the way for the setting up of the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs). In order to achieve the aforementioned goals, this Act aims to prevent and control water pollution as well as maintain or restore the wholesomeness of the water. It also establishes Boards for the prevention and control of water pollution and grants them relevant powers and responsibilities, as well as dealing with related matters (Singh, 2021).

2. *Air (Prevention and Control of Pollution) Act, 1981*

This Act was created by the government in 1981 in an effort to protect the environment by limiting air pollution, as well as to improve air quality. The responsibility for carrying out the Act's provisions rests with the CPCB and the SPCBs established under the Water Act of 1974. The main causes of air pollution in India are new car emissions, smoking, and other pollutants. Diseases including lung cancer, asthma, bronchitis, and TB are linked to air pollution, which is a very harmful pollutant that worsens when combined with smoke. It impacts not just the health of people but other things like plants and materials. The respiratory system is the area of the body most impacted by pollution (AIR: Prevention and Control of Pollution, Act 1981, n.d.).

3. *The Forest Conservation Act, 1980*

This Act prevents the destruction of forests, which leads to ecological imbalances and degradation of the ecosystem. Even state governments and other authorities are forbidden under the Act from de-reserving a forest that has already been set aside. The central government must give prior clearance before using forestland for purposes other than forest management (Dash, T., & Kothari, A. 2013).

4. *Environment Protection Act (EPA), 1986*

A law to address issues related to environmental preservation, enhancement, and management. The water (prevention and control) act of 1974 and the air (prevention and control) act of 1981 establish a framework for the coordination of federal and state authorities. The central government is authorised to take the necessary steps to safeguard and enhance the environment's quality by regulating the location of industries, managing hazardous wastes, and ensuring public health and welfare (Saheb, S. U. et al., 2012).

5. *National Environmental Policy (NEP), 2006*

An important framework for tackling environmental issues and advancing sustainable development is the National Environment Policy of 2006. Its goals include: ensuring equitable access to environmental resources for all societal segments, particularly the impoverished who rely on them for their livelihoods; protecting and conserving vital ecological systems, natural resources, and cultural heritage, all of which are essential for livelihoods and well-being (Mandelker, D. R. 2010).

6. National Resource Efficiency Policy (NREP)

The National Resource Efficiency Policy is one of the most crucial laws to accomplish the objective of a circular economy (NREP). In order to improve resource efficiency, encourage sustainable patterns of production and consumption, and lessen the negative effects of economic activity on the environment, the NREP was introduced in 2019. The policy encourages the use of recycled materials and incorporates steps to support the development of circular business models, including leasing, sharing, and product-as-a-service (Singhal, R. 2021).

B. Progressive Development: Resource Efficiency and Sector-Specific Regulations

1. Corporate Social Responsibility (CSR) Policy Rules

"The obligation of business man to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen, H. R. 2013) is one of the earliest definitions of corporate social responsibility (CSR) provided by Bowen in 1953. A corporate strategy that emphasises a commitment to make a beneficial impact on society and the environment by incorporating self-regulatory techniques into operations and decision-making processes (Stahel, W. R. 2016). Businesses in India are expected to accept accountability for their effects on the environment and society. According to the Companies Act of 2013, businesses that satisfy specific requirements must invest in corporate social responsibility (CSR) initiatives at least 2% of their average net profit for the previous three years. Initiatives in the fields of education, healthcare, poverty alleviation, and environmental sustainability might be included in these efforts. The purpose of this legislative framework is to guarantee that businesses support the nation's socioeconomic growth and environmental preservation (Bhaduri, S. N. et al., 2016).

2. India Smart Cities Mission

The primary industries that provide prospects for circularity include wastewater, organic waste, and plastic recycling; rainwater collection; energy conservation; electronic waste disposal; urban healthcare; repurposing destroyed or damaged building materials for new construction; and circular procurement. In order to bring about the circular economy in cities, it is imperative that stakeholders, policy makers, businesspeople, and non-governmental organisations (NGOs) work together and raise awareness of circular economy issues (Iyer-Raniga, U. (Ed.). 2021). The mission's primary goal is to support communities that use "smart solutions" to offer basic infrastructure, a clean and sustainable environment, and a respectable standard of living for its residents. By focusing on the social, economic, institutional, and physical pillars of the city, the Mission seeks to enhance quality of life and stimulate economic growth. The goal is to create repeatable models that serve as role models for other aspirational cities in order to promote sustainable and equitable development (Smith, R. M. et al., 2019).

3. Biomedical Waste Management Rules (BMWM Rules, 2016)

Any waste generated during the diagnosis, treatment, or vaccination of human or animal subjects involved in related research, or during the creation or testing of biological products in health camps, is referred to as biomedical waste (BMW). According to Datta, P. et al. (2018), it uses the cradle to grave method, which involves characterising, quantifying, separating, storing, transporting, and treating BMW. The former Ministry of Environment and Forests of the Government of India announced the first BMW regulations in July 1998 (CENTRAL POLLUTION CONTROL BOARD, 1998). The following years saw modifications to the BMW 1998 rules: 2000, 2003, and 2011 (Sharma, A. K. 1998). In order to reduce environmental pollution and guarantee the safety of the employees, patients, and public, the current BMWM 2016 regulations offer improvements over previous regulations in terms of better segregation, transportation, and disposal techniques. Furthermore, it is advisable to promote the use of non-PVC medical equipment and the creation of innovative, eco-friendly techniques for the disposal of BMW. A cleaner and greener environment should be a vow made by every BMWM member (Datta, P. et al., 2018).

4. E-Waste Management Rules

In India, the e-waste (management) Rule 2016 went into effect on October 1st. All parties engaged in the production, sale, transfer, purchase, collection, storage, and processing of e-waste or electrical and electronic equipment listed in two categories—Category I: Information technology and telecommunication equipment—as well as collection centres, dealers, e-retailers, refurbishers, dismantlers, and recyclers are subject to this rule. Category II: Consumer electronics and electrical devices, including the parts, consumables, repairs, and spares that are necessary to keep the device working (EWM-Rules-2016).

5. Construction & Demolition Waste Management Rules

In order to enable ULBs nationwide to implement appropriate C&D waste management and recycled products find appropriate and adequate utilisation, construction and demolition (C&D) waste is defined as any waste consisting of building materials, debris and rubble resulting from the construction, repair, remodelling and demolition of civil structures such as homes, bridges, roads, dams, large building structures and other infrastructure (CPCB, 2016). The main goals of the C&D Waste Management Rules 2016 that were put into effect in India were to manage C&D waste by following the reuse and recycling principles and to make sure that the garbage was processed and disposed of in a planned manner (Faruqi, M. H. Z., & Siddiqui, F. Z. 2020).

6. Solid Waste Management Rules 2016

In India, where urbanisation, industrialization, and economic growth have led to a rise in the creation of municipal solid waste (MSW) per person, solid waste management (SWM) is a significant issue for many urban local bodies (ULBs) (Kumar, A., & Agrawal, A. 2020). Under the Ministry of Environment, Forests and Climate Change's number G.S.R. 451 (E) notification, dated June 3, 2015, the Government of India published the draft of the Solid Waste Management Rules, 2015 in the Indian Gazette (MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, 2016). The process of gathering, handling, and getting rid of solid waste that has been abandoned because it has reached its useful life or is no longer needed. Inadequate management of municipal solid waste can result in unhygienic conditions, which can then cause environmental contamination and vector-borne disease outbreaks—diseases carried by rodents and insects. Solid-waste management activities include intricate technical difficulties. Additionally, they present a wide range of management and solution-related administrative, economic, and social issues (Nathanson, 2024).

7. Steel Scrap Recycling Policy 2019

In order to conserve resources and save energy, the Steel Scrap Recycling Policy seeks to: 1. Promote a circular economy in the steel industry; 2. Encourage formal, scientific collection, dismantling, and processing activities for end-of-life products that are sources of recyclable (ferrous, nonferrous, and other non-metallic) scraps; 3. Establish an environmentally sound management system for handling ferrous scrap; 4. Process and recycle products in an orderly, safe, and environmentally friendly manner.

8. Battery Waste Management Rules 2022

The guidelines are based on the idea of Extended Producer Responsibility (EPR), which assigns responsibility for collecting used batteries, recycling or refurbishing them, and using recovered materials

to make new batteries to producers of batteries (including importers) (Battery Waste Management Rules, 2022).

9. Vehicle Scrap Policy

On August 13, 2021, the Vehicle Scrappage Policy was introduced as a government-funded initiative to replace outdated cars on Indian roads with brand-new, contemporary cars. It is anticipated that the legislation will increase demand for new cars, reduce pollution, and provide job opportunities. To support their national automotive sectors and reduce car pollution, a number of nations, including the US, Germany, Canada, and China, have implemented vehicle scrappage laws (Ibef, 2021).

10. Mission LiFE initiative 2022 (Phase I, II and III)

The "Lifestyle for the Environment (LiFE) Movement" was started by Prime Minister Shri Narendra Modi to encourage people to adopt environmentally conscious lifestyles.
India's emphasis on changing individual behaviour in response to climate change has been praised by world leaders. It is necessary to promote environmentally conscious, sustainable lifestyles (LiFE LiFEStyle for Environment, n.d.).

11. MSME Sustainable (ZED) Certification Scheme

The Ministry of Micro, Small, and Medium Enterprises launched the MSME Sustainable (ZED) Certification Scheme, a comprehensive initiative to educate MSMEs about Zero Defect Zero Effect (ZED) practices, encourage and motivate them to become MSME Champions, and provide ZED certification (MSME Sustainable (ZED) Certification Scheme, n.d.).

12. EPR e-Waste Regulations 2022-23

The concept of Extended Producer Responsibility (EPR) was initially introduced in Germany's 1992 packaging legislation. It was later incorporated into the European Union's Waste Directive in 2008 and subsequently into South Korea's Act on Resource Recycling of Electrical and Electronic Equipment and Vehicles in the same year (Lindhqvist, T., & Lidgren, K. 1990). On November 2, 2022, the Ministry published the E-Waste (Management) Rules, 2022. E-waste (Management) Rules, 2016 will be replaced by these regulations. A new Extended Producer Responsibility (EPR) system for recycling e-waste will be implemented as a result of these regulations (Re-cycling of E-waste, n.d.). With the strengthened Extended Producer Responsibility (EPR) regime for e-waste recycling, these new regulations aim to handle e-waste in an environmentally sound manner. All manufacturers, producers, refurbishers, and recyclers must register on the CPCB-developed portal. The proposed regulations would guarantee that e-waste is recycled in an ecologically responsible way and channel the informal sector into the formal sector for business purposes. Additionally, provisions for environmental compensation as well as verification and audit have been included. Through the EPR system and scientific e-waste recycling/disposal, these regulations also support the circular economy (E-Waste (Management) Rules, 2022).

13. Swachh Bharat Mission (SBM)

A couple of the CE concepts have been prominently included into the Swachh Bharat Mission and the Smart Cities Mission (SCM) of India in order to facilitate a circular transition (Siddiqui, A., & Pandit, R. K. 2021). In terms of recycling and garbage segregation, this is yet another crucial governmental action. The goal of the 2014 Swachh Bharat Mission was to promote waste management, hygiene, and cleanliness. The purpose is to make India a "zero-waste" nation by implementing programmes that support recycling, composting, and waste segregation. A circular economy's primary objective is to reduce the amount of trash produced (Ghosh, S. K. 2016).

14. Atal Innovation Mission

The Atal Innovation Mission was founded in 2016 with the goal of promoting innovation and entrepreneurship in India (Malhotra, D., & Raina, R. 2017). The objective includes initiatives to support the development of circular business models and encourage the adoption of sustainable technologies (Sarma, S. P. et al., 2023).

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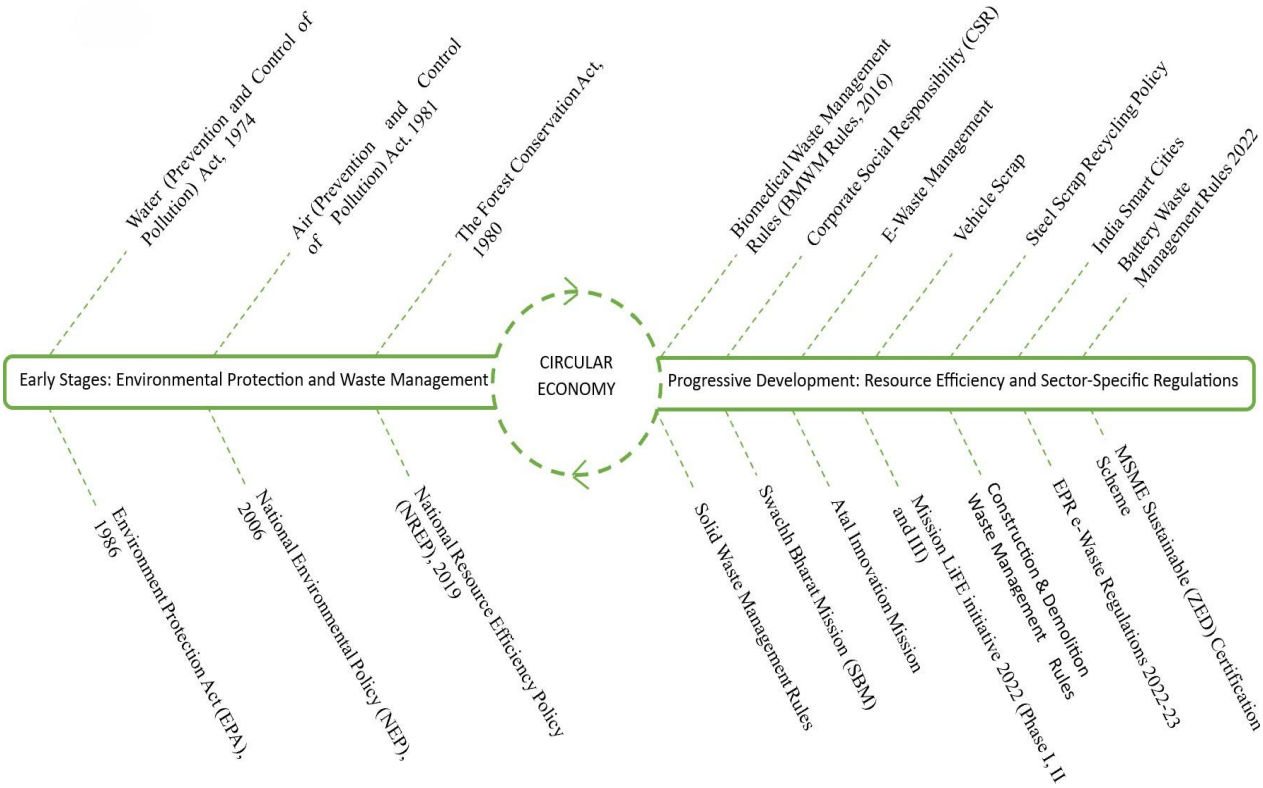

Figure 1.2: Landscape Policy of India
Source: Author

FINDINGS

As part of the shift to a circular economy model, businesses in developing nations like India are creating and putting into practice business models based on the reduce, reuse, and recycle paradigms (Goyal, S. et al., 2018). Different stages of policy and regulatory development, including both general environmental protection acts and sector-specific socio-economic programmes, characterise India's shift towards a circular economy (CE) framework (Ibef, 2023). The full landscape of CE-related laws, policies, and programmes in India is explored in this paper, with an emphasis on how closely these frameworks adhere to CE principles even if they may not be explicitly labeled as such. The exploration demonstrates a strong and thorough attention to sustainability. India is improving waste management and resource efficiency by enacting strict environmental protection laws and encouraging sector-specific development strategies. The nation's commitment to moving towards a circular economy is demonstrated by the way national policies are in line with socioeconomic strategies. It is clear by looking at legislative frameworks, regulations, projects, and other strategies that India has not yet created specific efforts devoted just to the circular economy. Rather, a variety of national policy frameworks and strategies for socioeconomic growth support sustainable management techniques and indirectly encourage the circular economy. The early stages of national policy frameworks offer a regulatory basis for resource efficiency and environmental protection. Although these laws aren't specifically called circular economy efforts, they still advance the goals of the movement by upholding laws that reduce pollution, protect the environment, and encourage sustainable lifestyles. Although the early-stage acts in India have diverse goals, formation years, sectors of application, and career patterns, they are all in line with the circular economy principles. These laws share the general objectives of environmental preservation and sustainable resource management, even if they were not initially created with the circular economy in mind. By minimising waste, reducing environmental effects, and maximising resource utilisation, this emphasis on sustainability promotes a more robust and cyclical system. Particular laws in the progressive development sector support the circular economy by emphasising recycling, resource efficiency, waste management, and sustainable urban

development. The Construction & Demolition Waste Management Rules and the E-Waste Management Rules, for example, encourage recycling and the appropriate disposal of waste products.
In a similar vein, programmes such as India's Smart Cities Mission have the potential to incorporate the ideas of the circular economy in order to advance sustainable cities and accomplish the Sustainable Development Goals. To achieve the SCM goals, Indian towns have been combining circularity with smart practices including trash management, e-governance, and smart mobility (Siddiqui, A., & Pandit, R. K. 2021). According to Mandpe, A. and colleagues (2023), the circular economy (CE) strategy has promise for enhancing sustainability and unlocking substantial economic value, making it a viable option for solid waste management (SWM) in India.

CONCLUSION

The comprehensive review of India's legal frameworks, policies, schemes, and plans reveals a fragmented yet implicitly supportive landscape for the circular economy. The shift from comprehensive environmental protection laws to more specialised socioeconomic development plans highlights the increasing awareness of the necessity of sustainable management techniques.The existing socio-economic development plans and national policy frameworks collectively contribute to the promotion of sustainable management practices, aligning with the circular economy's principles of resource efficiency, waste reduction, and recycling. By consolidating these initiatives under a unified framework, researchers and policymakers can better understand and enhance the implementation of circular economy practices in India. This study provides a foundational overview, offering a consolidated reference for further research and policy development in the domain of circular economy. In order to bring these legal frameworks into complete compliance with the principles of the circular economy, legislators may want to expressly incorporate circular methods. The primary source of data for this study is secondary, thus it could not include the most recent policy changes or implementation difficulties seen in practice. Empirical data may be included into future studies to offer a more comprehensive understanding of these programmes' efficacy.

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