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"State-Wise Implementation of Vehicle Scrappage Policy in India: A Comparative Analysis"

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ABSTRACT

This vehicle scrappage policy of India has been majorly focused on reducing vehicle pollution and fuel efficiency enhancement, ultimately modernizing the vehicle fleet of the country. While at the center level, the policy has an overarching structure, its state-wise implementation varies due to different priorities, development in infrastructure, and stakeholder engagement. Thus, the paper is comparative in nature about the state-wise implementation of the VSP, bringing in the strategies adopted, challenges, and outcomes achieved in different regions. This analysis has revealed the influence of factors, like economic diversity, urbanization, and industrial capacity, on the execution of the policy. It also outlines the involvement or role of different state governments in building a case for public-private partnership, giving incentives for compliance, and ensuring environmental and economic sustainability. This research would identify best practices and learning points to feed into a broader enhancement of policy benefits nation-wide.

Keywords:-Vehicle Scrappage Policy, State-Wise Analysis, India, Comparative Study, Policy Implementation, Regional Challenges, Environmental Sustainability, Public-Private Partnerships.

INTRODUCTION

The automotive industry appeared in Europe in the 1800s and spread across all over the world, from artisan production style passing through “Henry Ford” mass production to the “state-of-the-art” technologies used in present times. Throughout this development process, automakers have been forming alliances with other automakers and suppliers. However, current alliances seem to distinguish in some points to conventional ones suchas mergers, acquisitions and joint ventures.

For automotive suppliers, corporate acquisitions are an effective means to become larger and more competitive. Given the changing trends in the global automotive industry, suppliers are under tremendous pressure to carve out M&A deals. Compared to other industries, M&A transactions among automotive suppliers have a much higher success rate. The fact is that many of these transactions involve companies of similar business models. In fact, the mere announcement of M&A activity results in above-average jump in

share prices for automotive suppliers. Stock markets react just as positively to international and transcontinental mergers and acquisitions as they do to domestic M&A. To ensure the success of M&A deal, it is of crucial importance to select the targetcompany with immense wisdom, and have in place some clear-cut post-merger policies. Acquisitions can help companies generate growth, increase their efficiency and competitiveness, and boost shareholder value. Many automotive suppliers have realized this in the recent years and stepped up their M&A activities. M&A brings lots of advantages to the business such as extra value generation, taxgains, cost efficiency, increased scale of production, new market share and reduces the cost of capital which is generally high to run for a single company. Besides, better availability of finance, rich corporate and high opportunities of growth may be enlisted as the chief causes behind increased M&A opportunities in India. Besides, it is getting clear that such activities will intensify in the future. History of the automobile industry dates from the 17th century and its evolution took place across the world. The journey from the military tractor & steam-powered tricycle to sedan and hatchback took almost 2 and half centuries, and it has been possible because of radical transformation in technology from steam engine to gas-powered engine and fuel to electric engine. In the 19th century, automobile carried the label of rich man's toy because its manufacturing was exorbitant and unaffordable for a bourgeois community. The USA monopolized the automotive industry for many years tocome; however, come the end of the Second World War around 1945, and nations like Japan and Germany began to emerge as potential competitors. By the early 1980s, automobiles of Japanese or German make began to flood the USA markets. Currently, automotive industry in the developed nations seems to be experiencing stagnation owing to the poor state in which the automobile market is. In stark contrast is the automotive industry of developing nations like India and Brazil where the sales are burgeoning by each passing year. The contribution of the automotive industry to R&D, innovation, commerce and government revenues is no mean one - €430 billion in twenty-six countries is the volumeof taxes and revenues while €85 billion has been invested in R&D. Several manufacturers are among the global Top 10, too. Globalization is pushing auto majors to come together, diversify their product base, improve technology, hit other markets and, most importantly, economize. They have resorted to common platforms, modular assemblies and systems integration of component suppliers and e-commerce. The component industry is undergoing vertical integration, resulting into the emergence of 'systems and assembly suppliers' rather thanindividual component suppliers. Thus, while most component suppliers are integrating into tier 2 and tier 3 suppliers, larger manufacturers and multinational corporations (MNCs) are being transformed into tier 1 companies. Automobile companies are, thus, trying to balance competing priorities while ensuring that they continue to add value. The global recession has reset the automobile industry landscape. According to experts, the automotive industry is expected to witness multiple M&A deals in the next few years. This will primarily be in the commercial vehicle and two- wheeler sectors. The automobile companies are expected to make large acquisitions to access markets and gain technical knowledgebase. Rising customer expectations for new technology are putting tremendous pressure on manufacturers to maintain a steady flow of innovative upgradations. Changing demographics and continuing urbanization are altering the mobility needs of the customers. Convergence can help in the development of new and innovative products and services, and thus, with fulfilling the consistently high expectations from the automobile sector.

REVIEW OF LITERATURE

Berthelemy and Demurger, (2000) discuss and confirm the fundamental role played by FDI in economic growth, and stress the importance of the potential for future growth in foreign investment. Shleifer and Vishny, (2003) concluded that acquisitions (especially those made with equity) may reveal to the market that acquirers are overvalued, and part of the announcement (and long run) return may reflect a negative reaction to perceived overvaluation rather than fundamental value destruction. Hence, the development of stock markets is of high importance. Bild, Guest and Runsten, (2005) investigated whether an acquisition leads to financial benefits for the acquiring company. A cost-benefit analysis taking into consideration the immediate pay-out value is critical. Several other studies have targeted this aspect, majorly adopting two methodologies – 'Profitability studies' and 'Share return event studies.' In 'Profitability studies' there is a straight forward comparison between post- acquisition and pre-acquisition performance of the acquiring firm. In the case of 'Share return event studies' there is a study of the impact of the takeover on the share price of the acquired and acquiring company. The Profitability studies are conducted as per – a) comparing the performance of the acquirer and acquired companies before the takeover bid (combined or weighted average) and after the takeover bid (when the acquired company also becomes a part of the acquirer) b) this difference is then compared with a benchmark value, which is in turnbased on control firms as per industry and volume. For the UK, it appears that the periodof time determined whether the takeover bid was financially profitable. The majority of takeover event studies or share return studies examine share returns to the acquirer and acquiree over a short run period surrounding the announcement. Since these studies measure returns over very short time periods, compared to profitability studies they have the advantage of being less subject to problems of noise and benchmark error. The results show significant gains for target shareholders, zero to negative returns for acquiring shareholders, and significant gains overall.

Yartey, (2008) argues that macroeconomic factors such as the income level, gross domestic investment, banking sector development, private capital flows, and stock market liquidity are important determinants of the degree of stock market development in emerging market countries.

Liu et al. (2009) supported the line of thinkingof Berthelemy and Demurger who observe a two-way causal relationship between trade, inward FDI, inward M&A, and economic growth for most of the economies. It is evident that the presence of economic growth and business trade is a necessary condition for an M&A market to develop. The development of domestic capital markets is a key driver of M&A activity since investment requires capital and itis easier and more cost effective to source capital from the local market.Proportion of shareholdings in the board also plays key role in the takeover.

State-wise policies

In Delhi, in line with the Supreme Court and National Green Tribunal (NGT) rulings, the National Capital Territory government introduced Delhi Scrappage Policy in 2018, the first among states and union territories to introduce a scrappage policy (Table 1). With other NGT rulings and the air pollution control action plan, few cities in India have implemented the provisions of scrappage.

Table 1: Scrappage policies and air pollution action plans in the Indian cities/states

Timeline	State	Aim	Measures taken
August 2018	Delhi8	Scrap 10-year-old diesel vehicles and 15-year-old petrol vehicles	Up to 25% rebate on road tax with vehicle scrapping certificate
December 2018	Kolkata, West Bengal9	Air pollution control	Phasing out/scrapping of >15 years old commercial vehicles based on the Eastern Bench of NGT Only 4-Stroke LPG 3-wheelers allowed
February 2019	Kohima, Nagaland10	Air quality monitoring	Phasing out 15-year-old commercial diesel vehicles
September 2019	Mumbai, Maharashtra11	Action Plan for Control of Air Pollution	BS–II and BS–III bus scrapping policy developed Restrict age of taxies to 20 years and 16 years for auto- rickshaws
2021	Madhya Pradesh	Vehicle Scrappage Policy	Incentives on new vehicle purchase Waiver of pending dues / liabilities
July 2022	Assam	Vehicle Scrappage Policy of Assam, 2022	Incentivize voluntary scrappage of old and unfit vehicles Support to RVSF
December 2022	Odisha12	Improve air quality, regularize informal facilities, and promote circular economy	Vehicles >15-year-old banned in low emission zones Incentives to customers Land incentives, capital investment subsidy, SGST reimbursement to RVSFs

Source: TERI's compilation

Global practices on vehicle scrappage

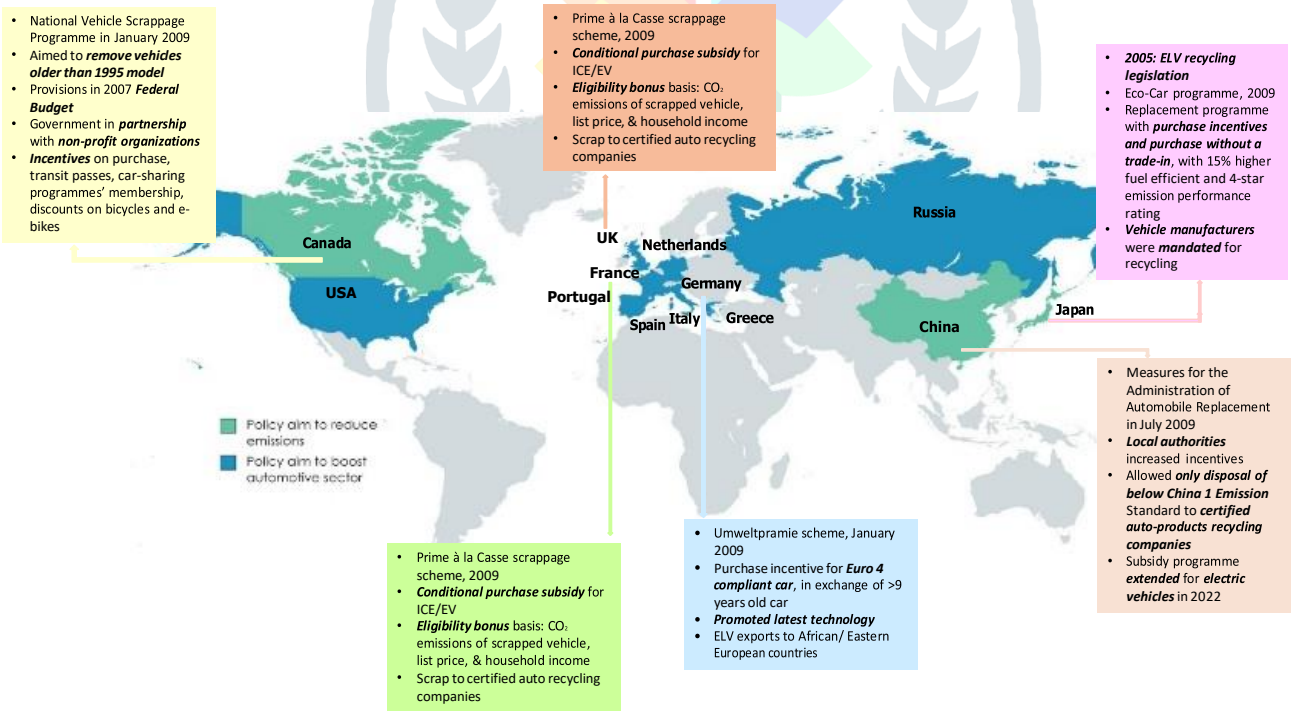
In the 1990s, increasing fleet age and higher emissions forced the authorities to regulate and implement new mandates, such as the Clean Air Act Amendments. Additionally, civil society and non-government organisations advocated a market-based approach to control air pollution (Dill, 2004). These factors accelerated a voluntary vehicle retirement programme with fiscal incentives for scrapping the vehicles and the overall aim of air pollution reduction—by removal of older and polluting vehicles earlier than normal.

In 2000, European Union issued the EU-Directive 2000/53/EC13 on ELVs, which stated that by 2015 EU members should attain a reuse or recovery rate of 95% and reuse or recycling rates of 85%. The Directive covered ELVs, including components, materials, and spare and replacement parts.

Some of the other salient features of the Directive were:

- Continuous improvement in recycling of all plastics from ELVs
- Dismantling, reusing, and recycling requirements of ELVs integrated into design and manufacturing of new vehicles
- Encouragement for development of markets for recycled materials
- Setting up appropriate collection systems for discarded ELVs without degrading the environment

Most vehicle scrappage policies introduced around the world in 2009 provided support to automotive industry for a limited period and were designed as cash for replacement of an ELV, which provided a conditional bonus on a new and more fuel-efficient model.



Global policies in select countries (2009)

Source: TERI Analysis based on global policies

The vehicle scrappage policy was introduced to create an ecosystem for phasing out of unfit and polluting vehicles; however, currently in India, most vehicle scrapping units are informal, which raises numerous environmental concerns. Current infrastructure facilities and financial mechanisms for vehicle scrappage not adequate for large-scale scrappage of ELVs

There are inadequate numbers of registered vehicle scrapping facilities and no automated testing station is functional as per the Central Motor Vehicle Rules, 2021.The question of providing incentives to owners for ELV scrappage has been left to the discretion of the state governments and OEMs.There is lack of awareness and clarity among the citizens on procedures to avail incentives, if any, provided in a few states.On-road inspections of vehicular emissions are part of efficient inspection and maintenance (I/M) testing. Currently, vehicles are intercepted on-road which is time-consuming and inconvenient to citizens and there is no availability of automated devices for inspection.Economic endowment effect comes into play when owners value their possessions, i.e., the owners consider their ELV at a higher level than the residual value. Therefore, to convince private owners to scrap, a greater compensation than its second-hand value is required.The monitoring of the testing certification is limited due to the lack of a centralized database linking vehicle registration with the testing facilities.Viability for original equipment manufacturers (OEMs) to set up ELV scrappage units

The business viability for setting up a dismantling unit can be justified only with large volumes of ELVs coming for scrappage.

The entire chain from fitness testing centres to vehicle collection centres, as well dismantling to recycling units, should be designed for maximum economic benefits and minimum environmental degradation.There is a prevalence of non-original equipment parts of vehicles from the replacement market, as there is no existing regulation controlling the after-market parts.Extended producers' responsibility (EPR) for OEMs to handle the ELVs is absent.Dismantling and disposal of hazardous materials in vehiclesThe dominance of informal sector which works without modern equipment prevails in the vehicle scrappage industry, leading to environmental contamination and human health hazards.If refrigerants such as Freon (R-22) and tetrafluoroethane (R-134a) are allowed to escape from air conditioning units, as is the case in informal sector, it damages the ozone layer.Currently, the Freon gas is getting accumulated at the depollution stage at RVSFs and there is a requirement for an authorized vendor for collection.The circular economy framework to integrate the usage of recycled materials and secondary components is missing.The most challenging stage in plastic recycling is segregation. Plastic is usually difficult to differentiate solely based on the type of product, but is identified by unique codes. Different grades of plastics mixed in the recycling process can result in total breakdown, or different properties of the new product. To reduce the on-road emissions, the policies are focused on upgrading the tail-pipe emissions regulations for new vehicles and promotion of electric vehicles (EV) which require high capital investments. However, removal and scrappage of ELVs is more cost-effective to reduce the GHG emissions from the total stock of vehicles on road. Therefore, a stringent regulatory framework which explains the role of each stakeholder and will overcome the challenges associated with the current ELV management is required.

Role of central government

Regulatory environmentThe government should indicate clear targets and activities in the policy for extended producers' responsibility (EPR) that need to be undertaken by OEMs to ensure better recovery and recycling of the ELVs. Currently, few manufacturers have set up ELV facilities for dismantling and recycling, however, the government should bring all manufacturers under the purview. For manufacturers to meet the design standards of vehicles, Automotive Industry Standard–129 should be mandated immediately.A list of the vehicle parts that are non-critical that can be reused, such as wiper motor, should be clearly mentioned. Standards for secondary parts should be developed to ensure market acceptance.

Phased Implementation

Immediate announcement and implementation of guidelines provided by MoRTH should be carried out by all states. However, the states with the highest vehicle population should be in focus for infrastructure creation of RVSFs, namely Maharashtra, Uttar Pradesh, Tamil Nadu, Gujarat, and Karnataka.The Centre's support can be channelized in coordination with these state governments to set up the infrastructure. For manufacturers to meet the design standards of vehicles, Automotive Industry Standard–129 should be mandated immediately.A list of the vehicle parts that are non-critical that can be reused, such as wiper motor, should be clearly mentioned. Standards for secondary parts should be developed to ensure market acceptance.

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Role of state governments

Inspection and Maintenance (I&M)To implement an I&M system, state governments should provide adequate land for setting up automated test stations (ATS) that allows for frequent upgradation. The government can explore public-private partnerships for setting up ATS.

To ensure compliance with the fitness tests, a centralized database of vehicles needs to be updated regularly. Notices must be sent to the registered owners for fitness tests and non-compliance should attract a penalty.

Improve customer awareness

Public awareness is one of the main factors in determining the success of the vehicle scrappage policy (Shao et al, 2016), which should be tailored towards potential participants at a regional level by the state governments.

A conditional purchase incentive for electric/hybrid/ fuel-efficient vehicles for buyers with a vehicle scrapping certificate can push their adoption among users while promoting scrapping.

To ensure participation of the customers in the recycling process, a refundable advance recycling fee can be levied at the time of purchase.

Support to RVSOne of the major investments for RVSF is land acquisition. The state governments should assist in the establishment of RVSFs because of the resource- intensive natur The recycling industry/RVSFs should be eligible for incentives and benefits given to industries.Dispute resolution of ELVsDispute resolution in accident vehicles takes a long time and leads to the deterioration of vehicle parts. Faster resolution and deregistration, with the help of the local police, can fast-track the scrapping of vehicles.Inclusion of informal sector

ELV depollution centres can be promoted within proximity to major informal ELV markets with essential procedural requirements and regular audits to ensure adherence to guidelines with penalties for any irregularit The skill level of dismantlers in the informal sector can be adopted with capacity building for effective dismantling.**Role of OEMs**Extended Producers' Responsibility (EPR)EPR activities for ELVs should include reverse logistics for take back, recycling, recovery, and disposal of ELVs by OEMs, besides feedback into design and choice of materials for new vehicles. To calculate the recyclability/recoverability rates, OEMs should provide detailed information regarding the nature and mass of all materials used in manufacturing of the vehicles.3Rs— recycle, reuse, reduce—from the design stage for new vehicles

OEMs should create vehicles beginning from the design phase that can easily be recycled. To achieve recoverability and recyclability levels at par with EU standard (EU 2000/53), vehicles manufactured should be reusable and/or recyclable to a minimum of 85% by mass and reusable and/or recoverable to a minimum of 95% by mass.Recycling of gases: Collection of refrigerant gases is mandatory; however, no recycling rate has been determined for these gases. There is requirement of an authorized vendor for the collection of Freon gas accumulated at depollution stage. A replacement gas with a global warming potential of less than 150 (EU 2006/40) can be a safer alternative.Recycling plastics: To facilitate identification of plastic components vehicle manufacturers should use components and material coding standards with a clear indication of the type.Management of electric ELVs: The end-of-life of electric vehicles and batteries must not be an afterthought, but must be built into the electric vehicle policies from the beginning.

Role of RVSFs

The RVSFs should create environmental and safety standard compliant infrastructure. They must ensure that an indicative scrap value of an ELV should be based on the weight of the vehicle and the market value of the materials that are obtained by the customers.A residue fee should be levied on RVSFs based on the volume of waste not recovered and sent to the landfill, to encourage appropriate dismantling and reduction in waste.Scrappage offtake to skid on limited incentive and poor cost economics for trucks, lack of addressable volumes for other segmentsThe Centre's scrappage policy is unlikely to have freight transporters queuing up to replace old vehicles with new ones. The scrappage volume of buses, passenger vehicles (PVs) and two-wheelers will be limited as well, a CRISIL Research analysis shows.To be sure, the scrappage policy is much required as older vehicles are 10-12 times more polluting than newer ones. As things stand, India is home to six of the top 10 polluting cities globally, and is among the top five polluting countries. With vehicular pollution contributing nearly 15-30% (PM2.5 and PM10 level) especially in cities such as Delhi, the government is putting greater emphasis on weeding out old polluting vehicles (older vehicles are estimated to be 10-12 times more polluting than newer ones) through the scrappage policy.

The process kicked off in May 2016, with the Ministry of Road Transport and Highways (MoRTH) issuing a concept paper outlining the Voluntary Vehicle Fleet Modernisation Programme to encourage scrapping of vehicles manufactured before March 31, 2005. And in March 2021, MoRTH announced guidelines for the policy.

REFERENCES

- https://shaktifoundation.in/wp-content/uploads/2017/06/Improving-inspection-and-maintenance-program-for-in-use-vehicles.pdf
- https://gomechanic.in/blog/electric-vehicle-or-a-bs6-car-2020/
- https://auto.economictimes.indiatimes.com/news/industry/after-a-5-year-growth-run-electric-vehicle-sales-decline-20-in-fy2021/82195676
- IEA (2020), India 2020, IEA, Paris https://www.iea.org/reports/india-2020
- IEA (2020), India 2020, IEA, Paris https://www.iea.org/reports/india-2020
- https://www.bajajfinservmarkets.in/discover/journals/blogs/insurance/does-a-bs6-engine-have-a-higher-fuel-economy/
- https://www.ceew.in/sites/default/files/CEEW-India's-EV-Transition-Post-COVID-19-22Dec20.pdf

- Road Transport Yearbook (2016-17); Ministry of Road Transport & Highways, Government of India
- Road Transport Yearbook (2016-17); Ministry of Road Transport & Highways, Government of India
- https://india.mongabay.com/2021/03/stakeholders-raise-concerns-on-the-new-vehicle-scrapping-policy/
- .https://morth.gov.in/sites/default/files/Road_User_Taxes_in_IndiaIssues_in_Tax_Policy_and_Governance.pdf
- https://www.teriin.org/sites/default/files/2022-12/NTDC%20Discussion%20Paper%20on%20Vehicle%20Scrappage.pdf
- https://www.crisil.com/content/dam/crisil/our-analysis/reports/Research/documents/2021/04/little-traction-in-scrappage-policy.pdf
- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4779890
- https://ieomsociety.org/proceedings/2022india/262.pdf
- https://www.cppr.in/wp-content/uploads/2021/06/Is-Indias-Vehicle-Scrapping-Policy-3.pdf