



A COMPARATIVE REFLECTION ON THE PRODUCT LIABILITY LAWS IN INDIA WITH THE RISE OF AUTONOMOUS VEHICLES

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Introduction

Product Liability (Hereinafter “PL”) pertains to the manufacturer’s liability towards the ultimate consumer due to an injury caused by a defective product in the absence of an explicit contract. The jurisprudence behind imposing strict liability is to ensure that the injured person does not bear the costs of injuries arising due to a product that the manufacturer placed on the market.¹ Autonomous vehicle technology (Hereinafter “AV”) connects the car to a computer technology that automates the car to varying degrees.² While radars, sensors, onboard cameras, LIDARs and other new softwares promise to reduce the scope for human error on roads, the rise of autonomous vehicles and the subsequent shift to *caveat venditor* has introduced a trail of PL issues. Conventionally, the liability attached to

accidents caused by vehicles was of the driver, but due to the automated nature of AVs, the liability is attached to the vehicle (product) itself.³ While India is deliberating on the preventive aspects, including technical, empirical, and practical challenges for successfully introducing self-driving cars to Indian roads in the future,⁴ it becomes equally interesting to analyze it from a consumer’s lens and check if Indian law is equipped to handle liability attached to AV. Chapter VI under the Consumer Protection Act 2019 (Hereinafter “CPA”) lays down PL laws in India.⁵ With the rise in technology and subsequent rise in disputes arising out of multilocal claims under PL, it becomes imperative to check if these recently incorporated laws on PL are sufficient to deal with AVs that are highly mobile by their very nature. Using AV law in Germany, this paper conducts a comparative analysis of the substantive law under PL, with references to the law in the US, UK, and a few other jurisdictions.

This paper relies on Professor Khanderia’s work on applicable law under cross-border PL claims in India⁶ and agrees with the sentiment that the Indian forum has been avoided for adjudicating international law disputes due to uncodified laws and the subsequent confusion in its procedural laws.

¹ *Greenman v. Yuba Power Products, Inc.* (1963) 59 Cal.2d 57 [13 A.L.R.3d 1049].

² Miranda Hing, 'Driving into Trouble? Civil Liability and Privacy Issues with Autonomous Vehicles in New Zealand' (2019) 25 Auckland U L Rev 199; Andreas Herrmann, Walter Brenner, and Ruper Stadler, *Autonomous Driving: How the Driverless Revolution Will Change the World* (Emerald Publishing Bingley UK 2018) 8.

³ 'Self-Driving Cars Run Into Product Liability Issues' (LexisNexis, 23 September 2020) <[https://www.lexisnexis.com/community/insights/legal/b/thought-leadership/posts/self-driving-cars-run-](https://www.lexisnexis.com/community/insights/legal/b/thought-leadership/posts/self-driving-cars-run-into-product-liability-issues)

[into-product-liability-issues](https://www.lexisnexis.com/community/insights/legal/b/thought-leadership/posts/self-driving-cars-run-into-product-liability-issues)> accessed 30 April 2022.

⁴ Ria Pahuja, 'What does it take to launch driverless cars in India?' (ETCIO, 21 March 2022) <<https://cio.economicstimes.indiatimes.com/news/next-gen-technologies/what-does-it-take-to-launch-driverless-cars-in-india/90344151>> accessed 30 April 2022.

⁵ The Consumer Protection Act 2019, Chapter VI ('CPA').

⁶ Saloni Khanderia, 'The Question of the Applicable Law in Cross-Border Claims on Product Liability: Reflections from India' (2021) *Global Jurist* 1 ('Khanderia').



Flowing from this, it attempts to discuss potential changes to not let the same extend to substantial law. In doing so, the aim is to make the law more uniform and aligned with the global system so that Indian law is more accessible to parties, especially Indian consumers or manufacturers, when they enter into cross-border claims. A uniform and more sophisticated law is preferred as it will make the Indian forum attractive to other jurisdictions and allow for easy recognition in other jurisdictions. While this paper takes the example of autonomous vehicles for comparative purposes, this can be extended to other recent technologies requiring a similar amount of deliberation under CPA. Furthermore, this paper does not discuss criminal liability arising from AVs and the requisite amendment of laws (like the Motor Vehicles act, 1988) required for the legal functioning of AVs in India. Rather it is restricted to evaluating the PL laws as they stand today and whether they suffice to provide an adequate remedy under AVs.

This paper is divided into the following parts: First, the current outlook of the driver's liability in India is analyzed. The next section compares the Indian PL laws with the global trends of more sophisticated laws in place, specifically German law, to check the scope of the manufacturer's liability attached to driverless vehicles in India. It makes some suggestions and concludes that PL laws in line with the EU will be beneficial for adjudicating PL disputes arising out of AVs.

While this paper engages primarily with the present laws under the CPA and Motor Vehicles Act (Hereinafter "MVA"), a separate legislation for PL laws for AVs is advocated.

Current Outlook of the Driver's Liability

With the introduction of AVs in India, there will be a necessary requirement to shift the liability from the driver to the manufacturer or provider in the event of a product defect.⁷ Conventionally, the liability is attributed to the driver for disputes arising out of accidents from motor vehicles.⁸ In the case of *Kaushnuma Begum*,⁹ the court places reliance on the ratio of *Rylands v Fletcher*¹⁰ to impose strict liability on the driver for an accident caused by the bursting of the wheel of the driver's jeep. Professor Khanderia cites the principle laid down in *Kaushnuma Begum* and uses it to interpret the driver's liability to be absolute in the cases of autonomous vehicles also.¹¹

Following the rationale of *Rylands v Fletcher*, the current view is that a road accident caused by an autonomous vehicle will attribute the liability to the driver, with the only defence being the fault of the plaintiff or an act of god.¹² With the introduction of PL in India, if an accident occurs due to a defect in the product, the liability should likely be that of the tortfeasor.¹³ However, it becomes much more difficult in AVs to detect the precise cause of

⁷ Thomas Kadner Graziano, 'Cross-Border Traffic Accidents in the EU—the Potential Impact of Driverless Cars' (2016) European Parliament, Directorate-General for Internal Policies, Policy Department C: Citizens' Rights and Constitutional Affairs, PE 571.362, 37
<[https://www.europarl.europa.eu/RegData/etudes/STUD/2016/571362/IPOL_STU\(2016\)571362_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2016/571362/IPOL_STU(2016)571362_EN.pdf).

> accessed 30 April 2022.

⁸ *Khanderia*, (see n6) [21].

⁹ *Kaushnuma Begum and Ors v The New India Assurance Co. Ltd.*, AIR 2001 SC 485.

¹⁰ *Rylands v Fletcher*, (1868) LR 3 HL 330.

¹¹ *Khanderia* (see n6) [22].

¹² *Rylands* (see n10).

¹³ CPA § 39(1) (e).



technical dysfunction and trace it back to the driver.¹⁴ Therefore, the laws will have to clearly distinguish between the manufacturer's fault and the user's. The global trend is also shifting towards the manufacturer's liability in AVs. With the intent to shift the focus from the liability of the driver to the manufacturer for an accident stemming from a technical defect, the Law Commission of England and Wales and the Scottish Law Commission provide for both *ex-ante* and *ex-post* recommendations to be incorporated into law to safeguard the use of AVs on roads. They also introduce double staged laws for approval and authorization to further ensure safety.¹⁵ In the US, the Federal Motor Vehicle Safety Standards¹⁶ substantially covers aspects of existing vehicles and holds manufacturers to a certain level of safety standards.¹⁷ The next section analyses how Indian laws around the manufacturer's liability in AVs can be strengthened.

A Comparison with German PL Law

In the German Act Amending the Road Traffic Act and the Compulsory Insurance Act 2021¹⁸ (Hereinafter "GAV Act"), a clear demarcation is made regarding what constitutes a vehicle control and what cannot

be controlled by the software. For example, wearing a seat belt is the responsibility of humans.¹⁹ It also imposes the technical requirements that an AV needs to ensure, including, *inter alia*, notifying the technical supervisor of any functional impairment, allowing the technical supervisor to deactivate the technical system anytime, having an accident-avoidance system, independence compliance with traffic regulations.²⁰ This makes the user aware of the extent of their responsibility in a number of situations that could potentially lead to an accident and the subsequent liability. So, if the accident occurs due to a lack of notification in case of an impairment in the functionality of the AV, due to delayed notification or the AV software did not allow the user to deactivate the system, it will be a clear case of the manufacturer's liability.

(i) Constructive Measures

Due to the considerably higher risk posed by AVs, the German Product Liability Act²¹ (Hereinafter "GPLA") gives precedence to constructive measures over warnings and instructions to the user, with an exemption of constructive equipment being economically

¹⁴ Martin Ebers, 'Civil liability for autonomous vehicles in Germany' (2022) SSRN <<https://ssrn.com/abstract=4027594>> accessed 30 April 2022 ('Ebers').

¹⁵ Law Commission, *Automated Vehicles* <<https://www.lawcom.gov.uk/project/automated-vehicles/>> accessed 30 April 2022.

¹⁶ National Highway Traffic Safety Administration 1970, Chapter V, Title 49 Federal Motor Vehicle Safety Standards.

¹⁷ Dani Alexis Ryskamp, 'Product Liability Law for Self-Driving Cars' (*Expert Institute*, 27 August 2021) <<https://www.expertinstitute.com/resources/insights/product-liability-law-for-self-driving-cars/>> accessed

30 April 2022.

¹⁸ Act Amending the Road Traffic Act and the Compulsory Insurance Act (Autonomous Driving Act) 2021. ('GAV'); 'Road Traffic Act Amendment Allows Driverless Vehicles on Public Roads' (*Library of Congress*),

<<https://www.loc.gov/item/global-legal-monitor/2021-08-09/germany-road-traffic-act-amendment-allows-driverless-vehicles-on-public-roads/>> accessed 30 April 2022.

¹⁹ *Ibid*, § 1f, para. 1.

²⁰ *Ibid*, § 1(e), paragraph 2.

²¹ Product Liability Act of 15 December 1989 (Federal Law Gazette I, p. 2198) ('GPLA').



unreasonable or non-feasible.²² Section 84(1) of the CPA imposes a liability on the manufacturer in the absence of requisite warnings and instructions given to the user.²³ Conversely, under CPA, Section 82(2) lays down circumstances to absolve the manufacturer's liability if a warning or instruction is not given. Constructive Measures are required in that a manufacturer's liability cannot be absolved for a design defect simply because warnings are attached along with the product. The laws need to be tighter in terms of technical design and user instructions under Indian PL laws, and section 84(1) should add room for constructive measures to be given by the manufacturer in the case of AVs. By way of the GAV, the German Legislator added the requirement of an operating manual²⁴ and mandated the manufacturer to provide technical training to anyone involved in the vehicle's operation, particularly relating to the driving functions.²⁵ In an Indian example, given the underdeveloped structure of Indian roads and the unlikely availability of 5G in various areas in the near future, the sensors of the systems should be able to detect the same and warn the user accordingly to enable them to deactivate the system and take control of the vehicle. In a similar fashion, dangerous things that are likely to be misused by the drivers should be removed, and it must be incorporated in the law to make the information accessible to the driver along

with abridged versions of them on the vehicle itself.

(ii) Monitoring Obligations and Recall Provisions

Section 3(1) of the GPLA provides for any defect to be informed to the producer only up to the time of putting it into production, hence not mandating any monitoring obligations.²⁶ Therefore, damages for a defect post the product being placed on the market can only be claimed under section 823(1) of the German Civil Code, where liability is fault-based.²⁷ The definition of "defect" under CPA does not explicitly require defects arising only up to the time of circulation, so unlike the GPLA,²⁸ a defect arising after the product is circulated is not an excuse for the manufacturer's liability under Indian PL. This becomes important as AV technology is subject to evolve. Even though GPLA does not include such a provision, the German Product Liability Guide²⁹ requires active and not passive product monitoring, requiring manufacturers to record and evaluate warnings and potential future defects of their own initiative. This can be adopted in India.

Relevant authorities under the CPA³⁰ and MVA³¹ can pass recall orders in case of a defect in the product. To further strengthen PL laws around AV monitoring, a provision should be included to impose an obligation

²² Michael Malterer, 'The Driverless Commute: Product liability law in Germany for Level-3 (high automation) AVs' (*Dentons*, 25 September 2019) <<https://www.thedriverlesscommute.com/product-liability-law-in-germany-for-level-3-avs/>> accessed 30 April 2022 ('Malterer').

²³ CPA § 84(1).

²⁴ GAV amending Road Traffic Act 2017, 1f(3) No. 4; *Ebers*, (see n14) [20].

²⁵ GAV amending Road Traffic Act, 1f(3) No. 5;

Ibid.

²⁶ GPLA § s3(1); *Ebers*, (see n14) [15].

²⁷ German Civil Code 1896, § 823(1).

²⁸ CPA § 87; GPLA § 1 para 2.

²⁹ Foerste and Graf von Westphalen (eds.), *Produkthaftungshandbuch*, (3rd ed., 2012) § 24 para. 376.

³⁰ CPA § 20.

³¹ Motor Vehicles Act 1998, § 110(a).



on manufacturers to *suo moto* monitor for any new dangers in AVs. Monitoring should not only extend to their product, but to similar products of other companies in the industry and on finding any existing or potential hazard provisions should exist to halt the production or recall products and issue further warnings.³² The Federal Court of Justice (BGH) ruled that though warnings are generally sufficient for a defect arising after the product has been put on the market, far-reaching safety obligations can be considered, particularly if the warning is rendered insufficient in that producers disregarding it (even deliberately), would endanger third parties.³³ It can, therefore, be inferred that in the case of AVs, where third-party accidents are highly likely, an obligation to recall such products should be present. The Fast-Track Recall Program in the US for quick and efficient recall to withdraw potentially dangerous products from the consumer market³⁴ can also be adopted.

(iii) Liability under PL: Extent and Scope

Manufacturer's liability under GPLA is much broader, allowing for anyone who "imports or takes into the area of application...a product for sale, hire, leasing, or any form of

distribution with an economic purpose in the course of his business."³⁵ Whereas under CPA, such a person has to *make the product* to fit under the above criterion.³⁶ Additionally, the liability is attributed to the seller if the identity of the producer/manufacturer is not known under CPA, GPLA, and the EU Directive on PL.³⁷ While the seller's liability is very liberally incorporated under Indian PL, the CJEU has defined the primary principle of PL being that to a manufacturer and only in certain cases does it extend it to the seller.³⁸ Another interesting feature of the GPLA is that of "self-participation", which requires the injured party to pay a sum of 500 Euros in the event of damage to property.³⁹ This balances out the provisions for both the buyer and seller and signals that the suit filed by the injured party (or driver) is serious in nature. In GPLA, the person's name, trademark, or any other distinguishing factor that presents him as a producer is a producer.⁴⁰ The term "mark" under 2(36)(iii) needs to be more fleshed out in a similar fashion.⁴¹

The MVA, in the form of strict liability, incapsulated even economic loss within its ambit, which is excluded from the definition of "harm" in relation to PL in the CPA.⁴² In *Sarla Verma*,⁴³ the court determined

³² *Malterer*, (see n22).

³³ BGH v. June 16, 2009 - VI ZR 107/08, <https://lorenz.userweb.mwn.de/urteile/vizr107_08.htm> accessed 30 April 2022.

³⁴ Consumer Product Safety Commission, Conditions Under Which the Staff Will Refrain From Making Preliminary Hazard Determinations, Federal Register / Vol. 62, No. 142 / Thursday, July 24, 1997 <<https://www.govinfo.gov/content/pkg/FR-1997-07-24/pdf/97-19554.pdf>> accessed 30 April 2022.

³⁵ GPLA § 4 para 2.

³⁶ CPA § 36(iv).

³⁷ GPLA § 4 para 3; CPA § 86(d); Council Directive (EEC) 85/374/EEC on the approximation of the laws,

regulations and administrative provisions of the Member States concerning liability for defective products [1985], art 3 para 3 ('EUD').

³⁸ CJEU 10 January 2006, case C-402/03, [29]; CJEU 21 December 2011, case C-495/10, [25].

³⁹ GPLA § 11.

⁴⁰ *Ibid* § 4, para 1.

⁴¹ CPA § 2(36)(iii).

⁴² The Motor Vehicles Act 1998, § 140 (omitted vide § 50 of The Motor Vehicles (Amendment) Act, 2019).

⁴³ *Sarla Verma (Smt.) v. Delhi Transport Corporation*, 2009 (6) SCC 121.



formulas for calculating injury in terms of loss of income, consortium, mental agony, and loss of life. Even in the US, PL is not attracted when only an economic loss is suffered.⁴⁴ However, if the product in question is an AV, the same should be extended to the manufacturer for, say, long term loss of employment under CPA because of the gravity of an injury incurred by road accidents.

(iv) Burden of Proof

The GPLA and the EU Directive on Product Liability require the injured person to prove: the damage, the defect, and the causal relationship between the defect and the damage.⁴⁵ If damage is shown to be caused by a defect in the product, then the court will have a rebuttable presumption against the manufacturer of committing a breach.⁴⁶ This is problematic under AVs because it will be challenging for the user to bring in proof that traces the defect to the manufacturer. The cause of a traffic accident in an AV need not necessarily arise from a design defect. In the event of transmission of erroneous data from other vehicles, by external software attacks, the traffic infrastructure, weather conditions, or decisions made by AV systems through experience (which were not pre-programmed by the manufacturer), the injured party will most likely be unable to show that the damage caused by the AV occurred due to the manufacturer's fault. Conversely, there is no

such explicit onus of proof on the injured party to show that the damage originated from the manufacturer under CPA; showing "harm" suffices.

However, one issue with the definition of "harm" is that commercial courts can reject applications if the damage caused is a result of a conditional warranty that the injured party has breached.⁴⁷ As indicated above, a *prima facie* evaluation of the nexus between the breach of a condition and the subsequent damage might not be enough under AV technology. For example, if the owner of a Tesla does not hold the wheel while the AV is in autopilot mode, but the resultant damage is caused due to a software error in the system,⁴⁸ the consumer courts may err in tracing the cause of the accident to the software and reject an application, absolving the manufacturer of his liability. A system like the black box can be adopted. The data collected by the black box can be used as determinative evidence in court regarding who was in control (the human or software) at the time of the accident.⁴⁹ Such data can be collected in accordance with the data protection laws in India.⁵⁰

(v) Determining a Defective AV system in light of AI

With the rise in technology associated with products, especially with AVs, a provision for AI needs to be incorporated into the

⁴⁴ *Jim Walter Homes, Inc. v. Reed* 711 S.W.2d 617, 618 (Tex.1986); *Indelco Inc. v. Hanson Industries* 14-97-00236-CV; *Seely v. White Motor Co.* (1965) 63 C2d 9, 18.

⁴⁵ EUD art 4; GPLA § 1 para 4.

⁴⁶ BGH, NJW 1969, 269 [274]; *Ebers*, (see n14) [22].

⁴⁷ CPA, 2(22)(iv).

⁴⁸ Jim Sams, 'Lawsuit Alleges Tesla Aware That Its Vehicles Crash Into Emergency Vehicles' (*Claims*

Journal, 11 February 2022)

<<https://www.claimsjournal.com/news/national/2022/02/11/308631.htm>> accessed 30 April 2022.

⁴⁹ Sharathkumar Nair, 'Self-driving cars to become a major challenge for legal systems' (*AIM* 1 February 2022) <<https://analyticsindiamag.com/self-driving-cars-to-become-a-major-challenge-for-legal-systems%EF%BF%BC/>> accessed 30 April 2022.

⁵⁰ Data Protection Bill 2021.



Indian PL laws. This is because, under the machine learning system of AVs, the algorithm goes through “reinforcement learning” in its operating environment and hence calls for repeated testing by the manufacturers.⁵¹ To elucidate, in the absence of clear AI laws mandating an acceptable threshold over which an algorithm cannot err, manufacturers can, in a suit of *design defect*,⁵² take the defence of the trial-and-error nature of AI, which, in the absence of adequate testing, cannot be predicted *ex-ante*. Under CPA, without a clear demarcation of who altered or how the alteration of a product took place, the alteration of the AI system (which is bound to happen) will excuse the producer’s liability.⁵³ Another important demarcation must be made wherein the *reasonable* standard of care is not against human care but rather against AI itself. The reasonability standard of human care will not be of any use⁵⁴ because the precise reason for AVs being introduced on the roads is that they are predicted to substantially reduce human errors.⁵⁵ However, the standard will have to be well thought out, in that if the AV of one company gives considerably lesser errors than other companies, that should not become the standard of care as *all* other AVs will be held defective.

In the absence of comprehensive rules, the supreme court can also lay down guidelines under Article 141 of the constitution, specifically on the technical standards⁵⁶ that

will be used as *prima facie* evidence in determining the liability before the court. Courts should also ensure that the manufacturer’s responsibility is beyond these established technical standards, as these standards can be quickly outdated given the fast-paced evolution of technology.⁵⁷

Concluding with Implications from a Cross-Border Perspective

With precise demarcations and more fleshed out provisions, PL law in India can be better adept at tackling AV disputes in the near future. Indian PL law should be in line with the EU’s to make the Indian forum more attractive and allow for easy recognition. Incorporating the above, along with professor Khanderia’s suggestion for a codification akin to the Rome II for the applicable law for PL, will create a sophisticated system of PL laws in India, both from a procedural and substantive perspective. The introduction of AVs will result in a stricter liability for the manufacturer. Still, keeping in mind the nature of the product, the Indian road landscape, and the gravity of the injury, it becomes pertinent to ensure absolute safety from the get-go. At present, German and US laws are considering AV PL laws to be tightened *de lege ferenda* in the direction of stricter liability.⁵⁸ This paper conducts only an anticipatory analysis, and Indian PL law will be tested again upon the largescale arrival of AVs in India.

⁵¹ Ebers, (see n14).

⁵² CPA § 84(1)(b).

⁵³ CPA § 87(1).

⁵⁴ Sebastian Lohsse, Reiner Schulze, and Dirk Staudenmayer, *Liability for Artificial Intelligence and the Internet of Things* (Bloomsbury Publishing 2019) 63.

⁵⁵ Khanderia, (see n6) [5]; Ebers, (see n14) [19].

⁵⁶ Ebers, (see n14) [18].

⁵⁷ Anderson et al, ‘Autonomous Vehicle Technology’ (2016) RAND 139, 143

<https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR443-2/RAND_RR443-2.pdf> accessed 30 April 2022.

⁵⁸ Ebers, (see n14) [23]; Jeffrey Gurney, ‘Sue My Car Not Me: Products Liability and Accidents Involving Autonomous Vehicles’ [2013] *Journal of Law, Technology & Policy* 247, 271.