

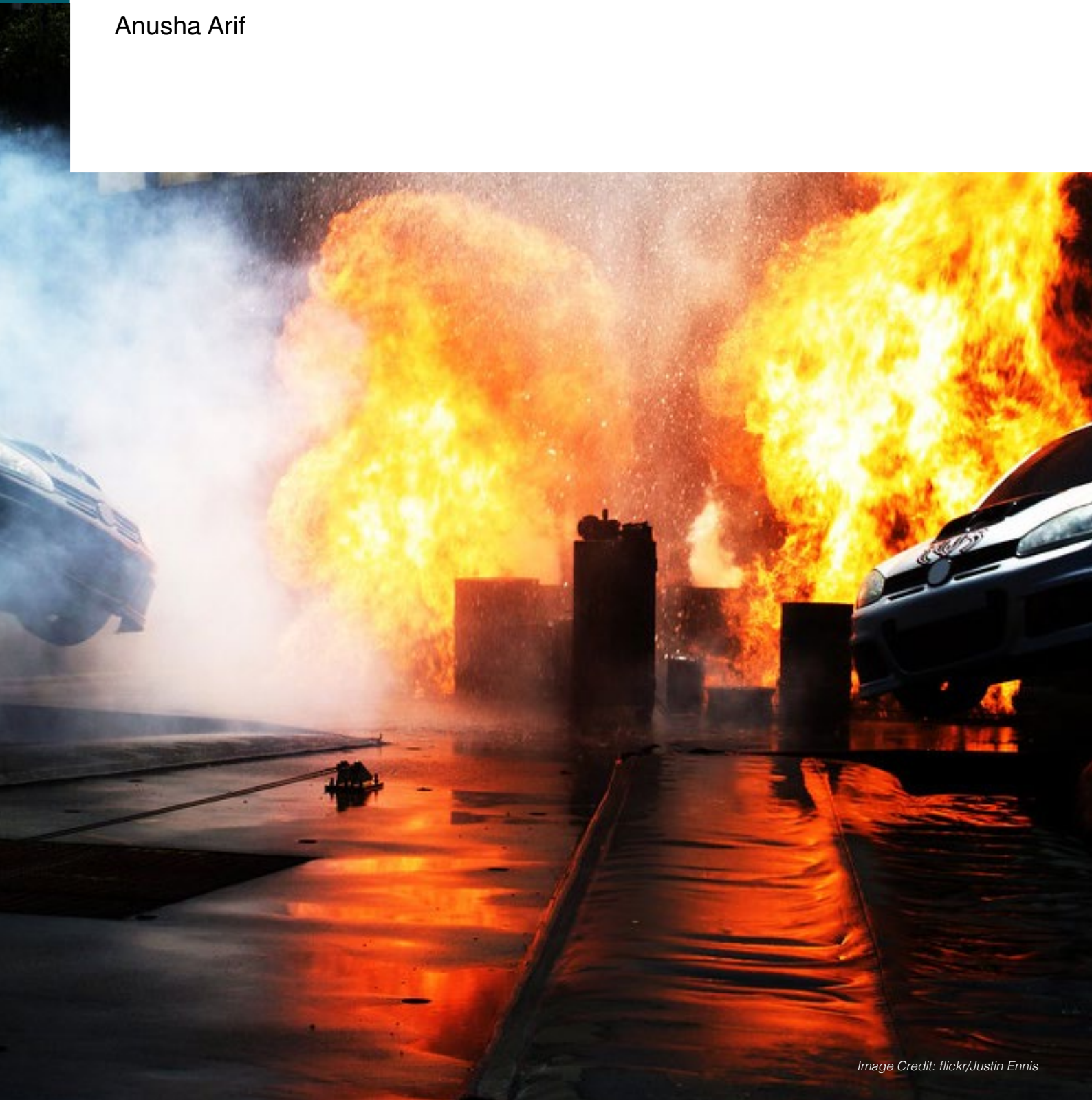


# Lights, Camera, Carbon! Film Industry & Sustainability

---

07  
25

Anusha Arif



# TABLE OF CONTENTS

---

1. INTRODUCTION	4
2. PRODUCING A FILM: THE BOLLYWOOD STORY	4
3. BARRIERS TO SUSTAINABLE PRACTICES AND PUBLIC POLICY GAP	6
4. INTERNATIONAL PRACTICES	7
5. CONCLUSION & RECOMMENDATIONS	7
6. REFERENCES	9

*If you have any suggestions, or would like to contribute, please write to us at [contact@sprf.in](mailto:contact@sprf.in)*

© Social Policy Research Foundation™

JULY 2025



Issue Brief

# Lights, Camera, Carbon!

## Film Industry & Sustainability

## II INTRODUCTION

The Indian film industry is vibrant, globally celebrated for its elaborate song-and-dance sequences, dazzling costumes, and colors. Think of the ever-familiar scene: a car exploding in a fiery burst as the hero (or the villain) walks in slow motion towards the camera, unscathed and unbothered. These high-octane sequences that thrill the audience symbolize the grandeur that Bollywood is known for. But rarely does one ask: how much carbon emission did that burning car release into the air? How unbothered can we truly afford to remain, given the environmental cost of entertainment? As the world shifts towards a climate-conscious future, these questions begin to take a bigger space in the public conscience.

The Hindi film industry, or Bollywood, as it is better known, is one of the largest film industries in the world by volume. According to UNESCO, the film industry released some 1,724 films in 2013, making it the Guinness World Record holder for the same (Guinness World Record, 2013). While the socio-cultural impact of Bollywood has been widely examined along with its role in shaping public opinion, reinforcing or challenging social norms, and even serving as a soft power tool for India's global influence, environmental concerns associated with the industry remain surprisingly sparse even in environmental discourse, let alone the public sphere.

Across the world, the challenges of climate change have invited public scrutiny of celebrity travel based on their carbon dioxide emissions from their private jets. American singer Taylor Swift's use of private jets for professional and private travel has been scrutinized, highlighting the "great disparity" between wealthy and lower-income people when it comes to per capita emissions (Associated Press, 2024). However, she is hardly the only person to do so; most celebrities, including many big Bollywood stars, frequently travel on their private planes. The Bollywood extravagance is also explored through global shooting destinations involving extensive travel. The global face of Bollywood, Shah Rukh Khan's recent film *Pathaan*, for instance, was filmed across a range of locations across India, Afghanistan, Spain, UAE, Turkey, Italy, France, and the UNESCO World Heritage site, Lake Baikal, where the extensive action sequence takes place (Kumar, 2023). But what the film does not acknowledge is that the large freshwater lake in the world is facing extreme pollution due to the flow of toxic substances and mass tourism (AFS, n.d.). This reflects the broader trend of overlooking the environmental implications of treating cinema as an instrument of awareness without holding it accountable as a potential polluter.

For the purpose of this paper's argument, the term 'film' is used to encompass the production of television shows, web series and OTT content, which share similar production practices and environmental footprints.

## II PRODUCING A FILM: THE BOLLYWOOD STORY

The carbon-intensive nature of film production in the Indian film industry has been subject to very little scrutiny to date. Even the narratives of most mainstream and 'commercial' Hindi films rarely address the very real challenges of the climate crisis in a changing world with the urgency or depth it demands, with an odd film once in a while like *Kedarnath*, which highlights the impacts of unchecked development on ecologically sensitive zones and depict real-life tragedies. This lack of inquiry reflects the broader gap in climate discourse in India, where it remains limited to the boardrooms of large emission-intensive companies and sectors, without considering the impact that other big players have in intensifying climate threats or unpacking the environmental costs of the most powerful

soft-power vehicle, the media. Moreover, it displays blatant ignorance of the environmental cost of entertainment.

The production of movies can emit an average of 391 metric tons for a small film and up to 3,370 metric tons of CO<sub>2</sub> equivalent for large, tentpole productions (Sax, 2024). Studies have shown that film productions can generate more carbon emissions per project than some traditional industrial processes, even exceeding the emissions produced during the manufacturing of an average car (BAFTA, 2020). Tentpole productions are considered big-budget films with budgets over INR 80 crore; on the other hand, the budgets for Bollywood films have reached massive numbers, such as INR 300 crore for movies like *Jawan*. On the other hand, one tentpole film generates 2840 tonnes of CO<sub>2</sub>e and utilizes 30% energy, equal to 450 tonnes of coal burned. Other films, including *Brahmastra*, have crossed this threshold with a budget of INR 410 crore (Mathur, 2022). The latter, a film which came with big promises, was not well received by Indian audiences. It did, however, feature impressive visual storytelling utilizing Computer-Generated Imagery (CGI) and visual effects (VFX), which in itself is an energy-intensive exercise. India has become a hub for CGI and VFX, with even big TV shows like *Game of Thrones* featuring Indian animation (AVGC Promotion Task Force, 2022). However, India's burgeoning animation and VFX industry can significantly increase energy consumption and associated carbon emissions. A 2016 BAFTA report highlighted that the average animation production could produce approximately 5.5 tons of CO<sub>2</sub> emissions per hour, primarily due to the energy-intensive process, including rendering (Webb, 2024). However, this is not the extent of the damage that can be done.

A significant share of a film's carbon footprint comes from travel, including cast, crew, and equipment shuttled across domestic and international locations. Take big-budget *Brahmastra*, for instance: the film was shot across Varanasi, Manali, Bulgaria, London, Edinburgh, and New York (Ghosh, 2022). Even a rough estimate suggests that this multi-city, multi-country travel could generate over 5.5 tonnes of CO<sub>2</sub> per person from just air travel alone. Multiply that by the size of a standard production crew, and the emissions skyrocket for a single film. Moreover, the elaborate film sets used for temporary filming are often dismantled, generating massive amounts of waste. The 2002 Hindi film, *Devdas*, which at the time of its release was considered to be the most expensive in the industry, had an elaborate INR 20 crore set in the Film City in Mumbai (Arora, 2018), which was later dismantled. The extensive use of electricity for the set has also never been viewed from the point of view of environmental concern. For the film, cinematographer Binod Pradhan used 30 lakh watts of power supplied by 42 generators to light the set (Raval & Chopra, 2002).

Another potential impact of movies has been the overexposure of fragile locations. In 2009, the comedy-drama movie featuring Aamir Khan, *3 Idiots*, was shot in some of the most picturesque landscapes in Ladakh. This led to an increase in tourists, especially to locations such as the Pangong Lake. However, Ladakh had no capacity to support the increased footfall, increase in activities, and related waste management (Leatham, 2024). This has led to considerable environmental loss in the region, which has also been exposed to the cultural homogenisation of the Ladakhi tribal population.

Despite the massive scale and influence of the industry, the environmental consequences of its production practices have long remained overlooked. The spectacle of cinema often masks the immense resource use behind the scenes and the visual allure misses out on any accountability of the unintended ecological consequences.

## II BARRIERS TO SUSTAINABLE PRACTICES AND PUBLIC POLICY GAP

Despite being one of the biggest business industries in the country, the film industry remains fairly cut off from the conversations on social and environmental responsibility. While in the last couple of years, some Indian media houses have made concerted efforts to align their activities with CSR (Corporate Social Responsibility) initiatives, including contributing to sustainable practices, promoting the protection of fauna and flora (Geetali, 2023); on a larger scale, the industry has made little progress in addressing the urgency of climate change through storytelling or practice.

While a handful of mainstream films like *Sherni* (2021) have attempted to engage with environmental themes, exploring issues such as human-wildlife conflict and bureaucratic apathy, these remain exceptions rather than the norm. Even in such cases, the narrative often centers on the human drama, leaving the deeper ecological questions unexplored. In contrast, India's non-commercial and regional cinema has made more deliberate attempts to engage with climate issues. Films like *Kadvi Hawa* (2017) and *Jal* (2013), set on the premise of lived realities in rural India and on challenges of farmers whose livelihoods are impacted by climate change and drought-stricken areas, provide compelling storylines but attract little attention. The lack of visual allure, marketing, and overall sellability makes these films critically acclaimed but not popular. Yet, addressing the issue through storytelling remains merely one facet of this issue.

The more pressing concern lies in the inherently carbon-intensive nature of filmmaking. However, there are noteworthy exceptions within the industry itself that offer glimpses of more sustainable practices. One decade ago, in 2015, *Aisa Yeh Jahaan* (2015) became India's first carbon-neutral film by offsetting its emissions through the planting of nearly 500 saplings (TNM, 2015). The real concern, however, does not lie just in the carbon footprint of a single film, but in the glaring absence of a regulatory or policy framework that compels the industry to align with national environmental objectives. The Ministry of Corporate Affairs mandates that the top 1000 listed companies by market capitalization must submit Business Responsibility and Sustainability Reports (BRSR) (Dubey, 2024); there is no equivalent requirement for the film industry despite its scale and resource use. Bollywood remains largely exempt from environmental scrutiny, operating outside the ambit of sustainability reporting, carbon auditing, or green certifications. In 2020, the Ministry of Environment, Forest, and Climate Change (MoEFCC) drafted environmental guidelines for film shoots in protected areas, restricting the use of aircraft and prohibiting shooting between sunset and sunrise; however, these guidelines remain non-binding (MoEF, 2020).

The industry as a whole comprises various processes, the classification of which is challenging in terms of the total pollution it produces. However, photographic film/ chemicals, airports and commercial air strips, pulp & paper, dye and dye-intermediates, paints, varnishes, pigments, fibre glass production, e-waste recyclers, which are all involved industries, have all been categorized as 'red' under the 'Range of Pollution Index' by the government (MoEFCC, 2016).

Moreover, this regulatory vacuum provides a loophole through which significant investments can be routed without accountability to environmental standards and can become a vehicle for industries to invest in non-green projects. The industry's informal financing structure further blurs the lines of responsibility and regulation through its engagement in real estate, tourism, and event management (Ganti, 2012).

## II INTERNATIONAL PRACTICES

In contrast to India's regulatory vacuum, several countries have begun institutionalizing environmental standards within their film industries by implementing regulations and incentives to encourage filmmakers to reduce their carbon footprint. Germany, for instance, has aimed to reduce the massive environmental impact of the industry by reaching an agreement between the federal state film funding agencies and the German Federal Film Board in Berlin to set uniform minimum ecological standards for film, TV, and video-on-demand productions. These ecological standards include a mandatory requirement for green consultants to calculate and analyze aspects of filming, including energy use, personnel and material transport, accommodation and catering, as well as preparatory and subsequent carbon footprinting (ESGC, 2024). In the United Kingdom, too, "green" regulations for filmmaking have aimed to reduce the environmental impact of productions through initiatives like carbon footprint reduction, sustainable sourcing, and responsible waste management; however, these provisions are voluntary (GLA, 2009). The initial step in establishing this climate-active approach involved assessing the total carbon footprint in London, which is the third largest production centre in the world, and has a carbon footprint of approximately 125,000 tonnes a year (GLA, 2009).

This action plan outlines a series of targeted steps and recommendations that could serve as a valuable blueprint for other countries, including India. It highlights the first few crucial steps involved in a carbon footprint survey, recording carbon energy consumption for big companies, which are crucial steps that media production in India must also consider. Furthermore, in various parts of the world, climate-conscious storytelling has emerged as a powerful tool to shape public understanding and mobilize action. In India, too, the impacts of climate change are felt not only in agrarian societies but also in big cities, which continue to face multiple challenges of heatwaves, urban floods, and others. Yet, very few media portrayals encounter these challenges.

Hollywood portrayal of the media's recognition of the looming threat of climate change has been captured in recent movies, including Leonardo DiCaprio & Jennifer Lawrence starring in *Don't Look Up* (2021), or the animated movie, *Ice Age: The Meltdown* that presents the very real threat of extinction of species. Weaving these narratives in popular cinema and media not only raises awareness, but also provides an opportunity to share lived experiences of climate change, challenging dominant narratives, and offering grounded visions of resilience and adaptation.

## II CONCLUSION & RECOMMENDATIONS

While many actors and celebrities in India have actively advocated for environmental causes, there is often limited awareness or accountability regarding the carbon footprint generated by their work, be it through frequent air travel, large-scale productions, or promotional campaigns. Some ways in which these changes can be brought into effect are:

- 1. Climate-Conscious Filmmaking:** To move toward climate-conscious filmmaking, the industry can begin by adopting greener production practices, such as reducing travel emissions, minimizing waste generated on sets and during production, and utilizing renewable energy sources.
- 2. Carbon Tracking Tool:** The government must develop and promote a national framework for sustainable film production, including a mechanism for carbon tracking tools for production.
- 3. Financial Incentives:** The government can also offer tax breaks, grants, or subsidies for film production that meet specific environmental standards, including a carbon-neutral certification, use of renewable energy sources, green supply chains, etc.
- 4. Promoting green infrastructure:** The stakeholders, including the government and industry leaders, can support the development of eco-friendly studios and post-production facilities that use clean energy, recycle water, and minimize waste.
- 5. Green storytelling:** To promote and support cinema that focuses on building climate narratives, presenting challenges, and highlighting stories of resilience across India.

Despite its many dimensions, it remains true that cinema is not just a reflection of society, but also a tool to shape it, which can be harnessed responsibly to meet a collective challenge. India faced an escalating climate crisis, and while the film and media industry has considerable soft power, there is very little it does to address this escalating challenge comprehensively. Moreover, the industry operates in a minimal environmental regulation driven by high emission productions to unchecked waste-heavy sets and promotions.

It is often argued that the film industry's sole purpose is to entertain, absolving it of broader responsibilities. Yet, as a prominent industry it must be pushed to clean and green its operations like other film making industries across the globe. For increased environmental consciousness, a film must also be evaluated not just by its artistic or commercial value. Without conscious introspection and policy intervention, this powerful medium risks undermining the very cause it seeks to champion, of telling 'real' stories. For the film industry to truly support climate action, it must once again first turn the camera inward, recognizing the role not just as a narrator of change but as an active participant in building a sustainable future. In a world facing severe climate challenges, film production cannot remain outside the fold of ecological accountability.

## REFERENCES

- albert. (2020). Screen New Deal: A route map to sustainable film production. <https://wearealbert.org/2020/07/22/screen-new-deal/>
- American Fisheries Society (n.d.). Lake Baikal: The deepest lake in the world is heading towards deep trouble. <https://units.fisheries.org/habitat/lake-baikal-the-deepest-lake-in-the-world-heading-towards-deep-trouble/>
- Arora, R. (2018, May 16). Most expensive sets of Bollywood movies. Filmfare. <https://www.filmfare.com/features/most-expensive-sets-of-bollywood-movies-28265.html>
- Associated Press (2024, February 04). Everything you need to know about the controversy over Taylor Swift's private jet use. Fast Company. <https://www.fastcompany.com/91023312/everything-you-need-to-know-about-the-controversy-over-taylor-swifts-private-jet-use>
- AVGC Promotion Task Force (2022). Realising AVGC-XR Sector Potential in India. Ministry of Information and Broadcasting. [https://indiacinehub.gov.in/sites/default/files/2023-12/69fc1be277962b21f3f6954db475c09b\\_0.pdf](https://indiacinehub.gov.in/sites/default/files/2023-12/69fc1be277962b21f3f6954db475c09b_0.pdf)
- Dubey, P. (2024, March 28). Business Responsibility and Sustainability Reporting (BRSR). CEEW. <https://www.ceew.in/gfc/quick-reads/explains/brsr>
- Ganti, T. (2012). Producing Bollywood. Duke University Press.
- Geetali, T. (2023, April). CSR and Indian Media Companies. The Online Journal of Distance Education and e-Learning. <https://www.tojned.net/journals/tojdel/articles/v11i02b/v11i02b-38.pdf>
- Greater London Authority. (2009, April). Green Screen. Film London.
- "Green Shooting" Workgroup, Federal Government Commissioner for Culture and the Media, German Federal Film Board, & Film Funding Institutions of the Federal states. (2024, April). Ecological Standards for German Cinema, TV, and Online/VoD Productions. <https://www.ffa.de/files/ffa/ffg-regelungen/verordnungen-abkommen-vereinbarungen/Ecological%20Standards%20for%20German%20Cinema%2C%20TV%2C%20Online%20and%20VoD%20Productions.pdf>
- [https://www.london.gov.uk/sites/default/files/green\\_screen.pdf](https://www.london.gov.uk/sites/default/files/green_screen.pdf)
- Guinness World Records (2013). Largest producer of movies (country). <https://www.guinnessworldrecords.com/world-records/429497-most-prolific-producer-of-movies-country>
- Mathur, A. (2022, September 20). Is Brahmastra hit or flop? Explaining the economics of box office collections, budgets, and recovery. Hindustan Times. <https://www.hindustantimes.com/entertainment/bollywood/is-brahmastra-hit-or-flop-explaining-the-economics-of-box-office-collections-101663658911091.html>
- Kumar, S. (2023, January 24). The frozen lake where Pathaan was shot is all thrills and chills. Conde Nast Traveller. <https://www.cntraveller.in/story/the-frozen-lake-where-pathaan-was-shot-is-all-thrills-and-chills-lake-baikal-siberia-pathaan/#:~:text=Pathaan's%20shooting%20locations,Lake%20Baikal%20grows%20ever%20deeper.>
- Leathem, T. (2024, April 1). How one of Bollywood's best movies destroyed a region of India. Far Out. <https://faroutmagazine.co.uk/bollywood-best-movie-destroyed-region-india/>
- Ministry of Environment & Forest (2020). Terms and Conditions for Filming. [https://indiacinehub.gov.in/sites/default/files/2024-05/ministry-of-environment-forests-terms-conditions-for-filming\\_0.pdf](https://indiacinehub.gov.in/sites/default/files/2024-05/ministry-of-environment-forests-terms-conditions-for-filming_0.pdf)
- MoEFCC (2016, March 05). Re-categorisation of Industries: a landmark decision, a new category of white industries will not require environmental clearance': Javadekar. PIB. <https://www.pib.gov.in/newsite/printrelease.aspx?relid=137373>
- Raval, S. & Chopra, A. (2002, May 20). Sanjay Leela Bhansali takes a huge risk by making most expensive Hindi film ever, 'Devdas'. India Today. <https://www.indiatoday.in/magazine/cover-story/story/20020520-sanjay-leela-bhansali-bollywood-take-a-huge-risk-by-with-devdas-795250-2002-05-19>

- Sax, S. (2024, March 07). Film and TV's Carbon Footprint is too Big to Ignore. TimeCO2 Futures. <https://time.com/6767943/sustainable-film-and-tv-production/>
- The News Minute. (2015). This filmmaker planted 500 saplings to ensure the first carbon-neutral Indian film. <https://www.thenewsminute.com/features/film-maker-planted-500-saplings-ensure-first-carbon-neutral-indian-film-27029>
- Webb, O. (2024, April 15). VFX and sustainability: Reducing carbon footprint, its importance, and more. VFXV. <https://www.vfxvoice.com/vfx-and-sustainability-reducing-carbon-footprint-its-importance-and-more>



[WWW.SPRF.IN](http://WWW.SPRF.IN)

*If you have any suggestions, or would like to contribute, please write to us at [contact@sprf.in](mailto:contact@sprf.in)*

© Social Policy Research Foundation™