

Indian Beef Exports and the Beef Market: Notes on Political Economy

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Abstract

This paper presents an overview of the political economy of Indian beef with a focus on its export market. India as a growing market for low-cost meat and as one of the top exporters of beef is also home to the origins of the narrative of the 'holy cow' which bestows the characteristic of holiness or sacredness on to the animal by citing its significance in the Hindu faith. Yet one finds that a privately owned industry for meat production and packaging is flourishing in the country and contributing to a rise in production of beef. The paper unfurls itself in the backdrop of this very narrative which explains how beef-eating becomes a cultural practice and why beef cannot be seen as a mere commodity from a social scientific lens. There is an attempt to address the discrepancy between the growth in production of beef and the taboo associated with beef-eating practices in India. There is an attempt to argue that despite the presence of strong cultural narrative that dissociates beef-eating from an essentialised Hindu identity, India continues to assume a prominent position on the global scale.

Key Words: Beef, Cow, Export, Market, Political Economy

Introduction

Entry Point to Research

This paper is located in the backdrop of visible increase in cow-vigilante violence in India alongside the growth of beef exports from India. India became the top exporter of beef in the year 2016 globally accounting for 23.5 per cent of the global beef exports that came to 2.4 million tonnes in the previous year (Raghavan). There remains a strong presence of a narrative about the cow being sacred or holy to the Hindu faith that is accounted vis-à-vis development in cow protectionist movement in India. This narrative, which also referred to, as the 'holy cow' narrative, has been associated with Hinduism and also with in popular parlance despite the fact that beef-eating and the faith haven't always been mutually exclusive.² While the significance of cultural narratives can only be traced in a non-tangible manner, one cannot turn a blind eye to increasing incidents of cow-vigilante violence that have been on the rise in the last decade (Abraham and Rao). A web portal called Muslim Lives Matter in India (Muslim Lives Matter in India, 2017) published a list of lynching of Muslims post 2015 which includes 14 incidents, 9 of which are to do with violence around alleged cow slaughter and/or involvement in cow trade . While one would be tempted to draw oversimplified causal linkages between the rise of a political party and communal violence around the cow, it wouldn't be substantial for the purpose of seeing the politics around the cow in its entirety. Instead we propose to explore the simultaneous growth in instances of cow vigilantism and in beef exports as instances where the 'holy cow' narrative is seen operating and found missing respectively.

The paper will present a comprehensive picture of beef-eating practices across the country followed by discussing crucial statistics on beef exports from India. The paper bases itself upon a quantitatively oriented analysis of this data conducted by the researcher. We draw upon both statistical references mostly from USDA and Government of India statistics and supplement this analysis with cases that provide a micro-level understanding of the beef market; the latter have been chosen from journalistic and investigative works that came forth after the proposal of a beef ban in the state of Maharashtra in 2015.³ Both kinds of data would be analysed for the purpose of examining how the growth in beef exports fits into a context with a pre-existing narrative constructed around the holiness of the cow. The paper is largely descriptive yet analytical in terms of assessing what the data we study tells us about India as a growing competitor in the global beef market. The following section discusses the prevalence of beef-eating across the country and engages with the terminology and its cultural meaning.

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Beef and Beef-eating in India

These terms, viz beef and beef-eating, invoke interest social scientific interest precisely due to what is associated with them common parlance. 'Beef' for instance would include meat of all bovines, however it is also used commonly to refer to the meat from the cow only in Indian context. A term like 'buff' which refers to beef from the buffalo isn't used widely in other countries. For the purpose of this paper, we would stick to the terms 'beef' while referring to all kinds of beef, 'carabeef' while referring to beef other than meat from the cow and mention when required if reference is made to beef from cows only.

In order to delve deeper into the cultural politics around beef, one needs to acknowledge that several scriptural references established the cow to be a creature of ritual significance. Peter van der Veer has explained the centrality the cow occupies within Hindu religion which on account of four factors: It acts as the symbol of nutrition, the kamadhenu that nourishes and fulfils every wish; It is sacred as it gives milk, ghee and cow dung which has ritualistic importance; the bhakti sect celebrates cow to be the wish-fulfilling mother of Krishna and lastly it acts as a symbol of family and community (Veer 86). Apart from the much obvious utility of the cow for the milk it provides, other factors are derived from scholarship that was created in a context of freedom struggle. Hindu nationalism or Hindutva started off with the aim of creating the identity of a Hindu for the anticipated free India.

This forces one to examine how widespread and common beef-eating is among Indians and what socio-cultural groups are seen to be beef-eaters. According to the 68th round of NSSO 70 per cent of the beef eating population in the country (which is 7.53 per cent) belongs to Scheduled Castes and Scheduled Tribes (Kishore and Anand). There are variations according to states as well. 80.74 per cent of Meghalaya consumes beef; other states that show high consumption are Lakshadweep, Nagaland, Sikkim, Jammu and Kashmir. The lowest consumption is in the Dadra and Nagar Haveli at 0 per cent with others such as Chandigarh, Punjab, Himachal Pradesh, Chhattisgarh, Rajasthan, Orissa and Madhya Pradesh, all under 1 per cent (Kishore and Anand). One can clearly observe that states in the north-east region of have a higher amount of beef consumed while most states in the north region, also those belonging to the cow belt have lower consumption. The cow slaughter laws in these particular states also reflect the culture of beef consumption, whether it's prominent or not. This does not however imply that the states with lower levels of beef consumption (such as Tamil Nadu at 5.8 per cent or Maharashtra at 5.5 per cent) don't have beef as a part of dietary tradition.

On the subject of cow slaughter, one is forced to acknowledge that in order to achieve stable and significant growth in beef exports, there ought to be an industry that is involved in slaughtering of cows for production purpose. One must note that cow slaughter, in India, is legal in 7 states viz Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Arunachal Pradesh and Kerala (animals above 10 years) whereas it is permitted with slaughter certificates in Tamil Nadu, Assam and West Bengal.⁴ In rest 18 states it is fully banned. Despite cow slaughter ban in most of the country, India's increase in production of beef (from cow) has increased by a growth rate of 3.8 per cent from 1985 to 2000. Apart from that, the booming carabeef production has made India the highest exporter of beef in the whole world. The following section would present a detailed account of beef exports from India.

An Overview of Beef Exports from India

The term 'pink revolution' came to the centre-stage of politics after Narendra Modi's (prime ministerial candidate, elected after) remarks during his election campaign for BJP in 2014, where he stated that slaughter houses are booming with business owing to the subsidies and tax exemptions they receive. Unlike Green Revolution or White Revolution what economists refer to as 'pink revolution' is not a result of state-invested scientific development, policy and uniform mass level growth in meat production throughout India. What draws interest here are the growth trends that may have been unnoticed, at least to the public eye, before the cow gained political mileage as a piece of propaganda. Irrespective of whether these advancements in the meat industry qualify as a 'revolution' or not, 'pink revolution' in beef exports has been the apple of the eye for those who are exploring causal linkages between the rise of a political force in India and its position in beef exports.

One could start off by examining the growth of beef exports over the years. India became the top most exporters of beef in 2016 by exporting 2.4 million tonnes in the previous year, which accounted for 23.5 per cent of global beef exports of that year. Table 1 shows the quantity of beef exported from India from 2009 to

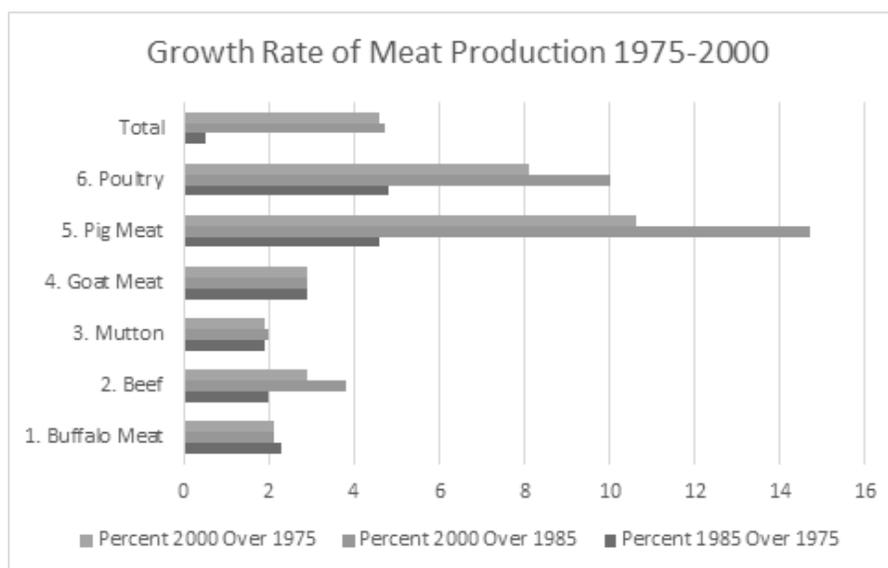
2015. The carabeef exports from India have been growing at a rate of 14 per cent since 2011. This is only a small part of the body of data on beef in India, yet it creates the need for a deeper and more complex analysis than assuming a relationship between governments and the nature of the state, more yet the presence of a strong culturalist narrative around the 'holy cow' and its relationship with the market; the constant growth that has been recorded since decades has taken place in a stable environment that has apparently been conducive to development of the export industry of beef if not its domestic consumption or changes in food culture of a majority that associates with Hindutva.

Table 1- India's Exports of Buffalo Meat 2009-2016

| Year | Quantity (In Lac Tonnes) | Value (In \$ million) |
|---------|-----------------------------|--------------------------|
| 2009-10 | 4.90 | 1163.54 |
| 2010-11 | 7.27 | 1895.07 |
| 2011-12 | 9.85 | 2842.83 |
| 2012-13 | 10.76 | 3201.14 |
| 2013-14 | 14.50 | 4350.38 |
| 2014-15 | 14.76 | 4781.16 |

(Published in The Indian Express, 14th July 2016, Based on Ministry of Commerce GOI Data Last retrieved www.indianexpress.com/article/business/business-others/beef-ban-india-bjp-beef-export-domestic-milk-availability-bovine-meat-2912417/)

Figure 1 Annual Growth Rate of Meat Production in India: 1975-2000



Source: Ranjhan, S.K., 2002. Text Book on Hygienic and Safe Meat Production, 2002, 2nd Edn.

Figure 1 presents an increase in percentage through comparison annual growth rates of various kinds of meat. Apart from the much obvious growth in buffalo meat/carabeef, which only supplements the narrative of India's emergence as a leading exporter, it is interesting to observe that even regular beef derived from cow has had annual increase. India's contribution to global beef (from the cow) trade is not as significant as other countries like Australia; however, this table indicates that there has been a rise in the meat production within the country. One might consider this insignificant, as the data has not been updated after 2000. However, the least of inferences one can derive is that cow protectionism failed to reduce, let alone end, beef production from the cow in India. In addition, the growth rate of beef (cow) production has been higher than carabeef as one can see throughout the comparative growth rate in 1985-1975, 2000-1975, and 2000-1985.

Maurice Landes, Alex Melton, and Seanicaa Edwards, in their paper, 'From Where the Buffalo Roam: India's Beef Exports' have attributed India's rapid growth in beef exports to mainly three reasons, the rise in demand for low-cost meat from developing countries, India's water-buffaloes as an untapped source for meat production and the emergence of an export oriented private sector to meet the demands from developing countries (Landes, et al). In order to examine these factors, one can take a look at data on the nature of beef exports from India. These three factors would require one to have a wider overview about the nature of global markets. The localised meaning of beef and Indian laws of beef ban and ban on cow slaughter at a glance would seem irrelevant of one were to make inferences from the data alone. However, and it would be premature to declare that cultural meaning of beef does not play a part in growing exports and that it will not have any adverse effect on the market in coming years. We would discuss two of these factors in detail.

India as a Market for Low-cost Meat

The factors responsible for growth in carabeef exports one needs to note that there is huge demand from parts of Asia and from the Middle east for cheaper beef as compared to higher quality beef exported by developed nations like the USA. As Indian beef is mostly not derived from cows and comes from low quality animals it does not meet certain standards of sanitation that are required of the industry, which are present in developed economies. The export of carabeef being a result of low domestic demand for the same is the most interesting factor- although there is a ban on cow slaughter in 18 states and carabeef is legally available in most, the choice of meat of this domestic market is very low. Beef of many kinds of consumed as food in various states. This implies that despite consumption of beef (which would be varying in most states) there remain large numbers of water buffaloes that are fit for slaughter and consumption.

Table 2 shows the overall growth in carabeef exports from India to countries of the Middle East and others to make this point. There has been a growth by 72.17 per cent (1999 to 2000-2001) and by 45.36 per cent (1999 to 2001-2002). Table 3 presents statistics from 2013-2015 with increase in quantity of beef exported as well as the value incurred. The growth is not uniform in countries like Vietnam, Malaysia, Egypt, Russia, Turkmenistan and Kuwait there has been a moderate to significant increase in export of carabeef. However, in countries like Angola, Oman, Jordan, Thailand, UAE, Algeria, Philippines, Iraq and Saudi Arabia, there has been a significant decline in beef exports. Since the statistics are derived from different points in time and not all data is available on the country-wise distribution of carabeef exports in between 2002 and 2013, it would make sense to compare the available data to make inferences at least on the question of whether there has been a growth or decline or both and whether it's consistent. The obvious answer to this is that there has been both an increase and decrease in beef exports to specific countries. Take the case of UAE- the tonnes of beef exported from India is 41557, 41516, 19988, 42794, and 40876 tons. The significant decline in 2001-2002 has not occurred for every single country. In forthcoming, this would be discussed in more details.

Table 2- Export of buffalo meat from India to different countries in Metric Tonnes

| Countries 1997 1998 | 1999 | 2000-01 | 2001-02 |
|----------------------|--------|---------|---------|
| Malaysia 53440 40054 | 53,192 | 77,153 | 67,251 |
| U.A.E. 41875 37648 | 41,557 | 41,516 | 19,988 |

Indian Beef Exports and the Beef Market: Notes on Political Economy

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|-----------------------------|---------------|---------------|---------------|
| Jordan 5381 6576 | 5,877 | 12,442 | 15,327 |
| Yemen 2389 2864 | 2,760 | 3,733 | 3,938 |
| Oman 3979 1296 | 3,690 | - | - |
| Kuwait 4562 4544 | 4,150 | 4,596 | 3,726 |
| Mauritius 4012 3394 | 2,968 | 3,192 | 3,004 |
| South Africa 239 90 | | 52 | 154 |
| Bahrain 2318 1624 | | 2217 | 2391 |
| Philippines 32151 26383 | 27,640 | 47,447 | 50,356 |
| Iran 11035 13524 | 8,022 | 12,576 | 10,741 |
| Qatar 1007 811 | 564 | 617 | 852 |
| Egypt 25 2457 | 2,457 | 48,716 | 17,808 |
| Others - | 1,627 | 1,500 | 500 |
| Total 176328 1 53956 | 167291 | 288027 | 243356 |

Source: APEDA-2002, New Delhi, India

Table 3- Increase in India's Exports from 2013-2015

| Country | 2013-2014 | | 2014-2015 | |
|--------------|-------------------------|----------------------|-------------------------|----------------------|
| | Quantity (in tonnes) | Value (in crores) | Quantity (in tonnes) | Value (in crores) |
| Vietnam | 524371 | 10975 | 633800 | 13205 |
| Malaysia | 121741 | 2356 | 130877 | 2586 |
| Egypt | 107826 | 2033 | 128082 | 2574 |
| Saudi Arabia | 74599 | 1494 | 73821 | 1585 |
| Iraq | 29992 | 527 | 23603 | 406 |
| Philippines | 45328 | 723 | 42892 | 708 |
| Algeria | 48840 | 850 | 42673 | 760 |
| UAE | 42794 | 785 | 40876 | 801 |
| Thailand | 174077 | 1790 | 115765 | 2425 |
| Kuwait | 20646 | 375 | 32863 | 576 |
| Jordan | 51181 | 911 | 20835 | 398 |
| Oman | 13579 | 262 | 11909 | 235 |
| Angola | 35601 | 606 | 34156 | 578 |
| Turkmenistan | 7383 | 113 | 19160 | 302 |
| Russia | 0 | 0 | 1128 | 24 |

[Rounded up by 0.5]

(Source: Indian Express on 12th April 2017 Last retrieved

<https://indianexpress.com/article/explained/where-indian-buffalo-meat-exports-go-4609512/>)

A Qualitative Engagement with the private sector in beef production

An observation of incidents of cow vigilante violence since 2014 (Abraham, Rao) indicates that arrests and mob violence occurs at the mere speculation of presence of beef, cattle transportation, or association with it. The proponents of cow-vigilantism do not explicitly admit or propose that carabeef consumption is permissible and cannot be opposed at least with their ideology. An interpretative understanding of these silences is not the central argument of this research, yet certain pieces of the puzzle compels the observer to juxtapose the two.

For instance, the case of Sangeet Som, as expressed in a report in the Hindu dated 10th October 2015, is crucial in this regard (Joseph and Ali). He is a BJP MLA who has been an active anti-cow slaughter 'activist' who has also found Al- Dua Food Processing Private Limited along with some partners. There are official documents that explain his link to the company and establish that he has sanctioned loans to his partners at Al-Dua. This company happens to export halal meat (including buffalo, sheep, lamb, and animal hide) to Arab countries. Som has repeatedly denied any association with it and states that he wasn't the director of Al-Dua any time after 2008. In an interview with The Hindu he stated, 'There was nothing about meat. I am pure Hindu and would do nothing to hurt the Hindu sentiment. You would be surprised to know that despite being a Thakur I don't even eat an egg and start my day with havan (Joseph and Ali).' The case of Sangeet Som clearly indicates that not only is Hindutva politics not opposed to beef export (and that of other meats) but also its proponents have vested interests in this industry. The industry has built itself due to many factors one of which is a low domestic demand of beef which can be related to the ideology of Hindutva that imposes a taboo on it.

The last factor behind rising beef exports has to do with development of a private sector that facilitates transportation of animals and is instrumental in setting up of meat manufacturing plants which is impossible without an active investment in the same. Despite the increase in arrests of allegedly illegal cow traders, the state and its organs seem to be allowing the rest of the components of the industry to function smoothly.

For furthering the above argument, we bring in Zeeshan Shaikh's analysis and case study which is based in the context of Maharashtra and brings in perspective from livestock traders and owners of meat packaging plants. He puts forth the apprehensions of a local trader regarding the proposed beef ban in Maharashtra in 2015; since regular beef (from cow) was being replaced with a domestic demand of carabeef (mostly water buffalo) the milk-meat trade-off would not be at play anymore in determining the production and export; instead the payoff would be between domestic demand and export demand of beef. Shaikh has analysed this argument further. He argues that buffaloes sold in livestock markets in Maharashtra are priced at Rs.13k-14k per 100 kg which is a significant increase from its previous pricing at Rs.10k-11k per 100 kg. The ban on slaughter of bulls and male calves along with the previous ban on cow slaughter is the reason for the same. The rate of milch cows however has declined from Rs.65k per animal to Rs.50k. Due to this decline in prices of milch animals; its market is shrinking and the market of animals for slaughtering is disappearing at the same time.

He has also taken into account the observations of other individuals in the trade who have differing opinions on the subject. Shariq Khan who owns Al-Karim exports, Mumbai also doesn't believe in the milk-meat tradeoff since India doesn't have a system of livestock and cattle breeding that follows a clear segregation of milch animals and animals for slaughter. Another unnamed director of a beef-exporting firm expresses a similar opinion; he states that the pink revolution in India happened without any government assistance or initiatives. Unlike the livestock trader from Nashik, he argues that the privately grown industry is self-sufficient and would continue to grow.

While an engagement with these observations, which may be deemed off as speculations, would provide only a micro-level understanding of how the beef market operates, it is important data. The 'pink revolution' has come from a privately owned industry that hasn't always been visible to the public eye. India did not grow to be a leading exporter of beef in a vacuum. Most quantitatively grounded arguments, as presented previously, create the need to examine how an export industry grows in socio-political atmosphere where cow-vigilante violence occurs commonly around the consumption or even the transport of beef. The following section will address the issue of how beef export industry and beef production is connected with other sectors of the market involving the cow. The absence of an active investment in development of these industries and whether that is connected with the cultural narratives around the cow would be examined.

Factors Influencing Beef Production and the Cattle Industry in India

If one could draw definitive conclusions from the data discussed previously, one can observe that there is a decline of quality bovines due to absence of investment in livestock breeding. However, this doesn't leave the milch animals unaffected, the market of bovines is reducing due to beef-bans (in place of blanket bans on cow slaughter) which will continue having a negative effect on the rate of milch animals and quality of milk produced. The mediocre quality of cattle becomes an important factor in growth of exports of beef (especially buffalo meat) from India.

The arguments posed by those who call for a ban on cow-slaughter and advocate cow protection have mostly worked around a binary of the economic and the religious; while economic reasons for not killing a cow explained its importance in everyday activities, the religious argument cited it as a 'sacred' or a 'holy' animal. Several scholars have made a case against this duality and pointed out that the importance of a cow in the economy in Vedic ages was on account of its ritual importance; its association with religious rituals was what primarily made a case for it to be sacred. While tackling with the vast amount of data discussed previously, one needs to be explored the milk-meat trade-off in more detail and also needs to question why does the Indian cow render only low-quality meat. Here one can bring in Marvin Harriss' distinction between a 'religious ideology; and an 'environmental base' that is responsible for the 'weaknesses of Indian cattle. His arguments rests upon the distinction between the doctrine of ahimsa that is responsible for anti-slaughter politics and the other political factors operating within ecologies that govern the demand of cattle in purely economic ways.

Currently one has access to immense amount of data that describes how the exports have increased throughout last 4 decades, yet a pan-Indian study of other factors that may be involved is not available. One can observe the market adjusting itself to any changes (legislations in specific reasons) that take place throughout this time. The possible relations between the time period of this growth (refer Table 2) with specific instances of politics around the cow spread across the country remain ambiguous in the lack of such studies. The conclusions that can be drawn from the available body of quantitative data thus remain very limited and descriptive in nature.

Ashok Desai's argument on how the taboo on beef will negatively affect the milk industry in India can be considered here. To begin with one must note that India has the largest bovine population in the world-76 per cent of cattle at 236 million and 24 per cent buffaloes at 57.4 million. Most of these bovine animals are of a low quality in comparison with bovine stocks in other places, they are only fit for beef. Yet due to the Hindu majoritarian sentiments that have occupied important political lobbies and are translating into legislations, the use of cows, buffaloes, and bullocks for beef is also limited. Before discussing Desai's position, one needs to get an overview of what measure has the Indian state taken to improve the low quality of Indian cattle. Key Village Schemes were introduced in the first five-year plan, followed by Intensive Cattle Development Projects in consequent years- the focus was aim at higher milk production, which was achieved through animal husbandry programmes and cross-breeding. What these programmes lacked were measures to tackle problems of subsistence farming that were primarily responsible for creating fodder shortage which was responsible for the inferior quality of milk. There was a positive correlation between milk production per milch bovine and allocation of higher amount of land for fodder development.

Desai's argument is based on this very analysis. According to him, contrary to popular understanding India consumes less than average meat not because of the dominant Hindu sentiments. This is attributed to lack of programmes that produce better quality cattle. He argues that India's consumption of beef is not less due to the taboo. Contrary to attempts of the Indian government to try to enhance the quality of cattle, Desai argues that there is limited scope for increasing fodder supplies and decreasing use of bovines in draft requirements in India. If fodder is to be increased, it can only be achieved through mechanization of agriculture which will render the draft animals useless. Thus, non-milch bovines, male calves and low-quality milk producing cows are all that amount to the burden on the agrarian economy. At this point, the taboo on beef becomes pertinent, as dry cows cannot be sold to milk industry nor can slaughtering these useless bovines happen openly and legitimately on a large scale everywhere. Thus, the economic argument against cow slaughter ends up in utilizing the 'religious' motives behind the same and can only end up in death of cattle.

These arguments are very much relevant in the contemporary India. To begin with, Maharashtra suffers from 61 per cent of shortage in fodder. Where the farmers' suicides going as high as 270,940, the recent

ban on beef will be a burden to farmers with dry cows. India has 300 million cattle that do not belong to any farms and wander off the street with no food source, an estimated increase of 200,000 in Maharashtra after this ban may make this situation worsen. Not to mention, as discussed early many people who are involved in the industry will lose their livelihood- Qureshis who are involved in beef business in Maharashtra are contesting this legislation. There have been reports of suicide attempts due to this sudden loss of work.

Discussion

Based on the data analysis and insights from several scholars on the issue at hand viz India's beef exports and the beef market, several inferences can be drawn with respect to patterns of growth of the beef market. However more emphasis needs to be laid upon how does beef production flourish in the presence of vociferous cow-protectionist and their aggressive agendas.

The most interesting fact about India's rise as a top exporter of beef lies in a pattern of growth has been constant. However more observations can be made from the plethora of information we have at hand. If one sees the high beef export as a result of low consumption within India, it would not however explain the increase in exports of other meats.⁶ If bans on cow slaughter across various states had indeed brought a negative impact on cow beef trade (as opposed to carabeef), one cannot still attribute the increase in exports to these factors. This means that there are multiple factors at play which could explain the development of meat industry in India that haven't been explained here and may not be related to the data we have analyzed.

It is interesting to note that the last decade has been an interesting period for mainly two reasons; it marks the year (2016) India became the highest exporter of beef in the world and it witnessed considerable amount of cow vigilantism in instances of lynching of people in cattle business by gaurakshaks/ cow vigilantes (Abraham, Rao). This forces one to draw linkages between the dominant ideology of Hindutva that upholds cow to be a holy animal and beef production.

To begin with, it would be incorrect to limit these landmark events in growth of the beef market to this period alone. For instance, the position of a top exporter of beef is the achievement of an industry that has established itself mostly privately for decades before. The meat packaging plants and slaughterhouses were not established after 2010 (let alone 2014). E.g. The increase of almost \$700 million worth from beef exports from 2010 to 2011 cannot be explained by the rise of BJP government in 2014 and consequent rise of cow vigilantism.⁷

Secondly, despite contradictory hunches about the future of a beef industry, several members believe that the slaughterhouses and packaging business would find ways of continuing and thriving like it did before. As it is clear from various cases of cow vigilante violence, the transporters of beef and in some cases the shop owners are the first targets of cow vigilantes. This highlights the complex ways in which economies would function when a variable like an ideology of Hindutva would coexist with a market of a commodity it politicizes. One can see how a dominant narrative around the 'holy cow' can make a people turn a blind eye to the industry that thrives on slaughter of the same animal.

Limitations of the Research and Further Possibilities

This paper does not work with data on beef markets in specific places throughout India. Not much has been discussed about states where there is no ban on cattle slaughter, whether they make the highest producers of export beef. At the same time the recent instances of cow vigilantism and their impact on the local beef market of that place, consequently any changes in the beef trade of that state have not been explored. A pan-Indian picture that would describe all these details would give rise to more factors that can be explored in the future to obtain a better understanding of the beef market of India.

Hindutva nationalism has been studied in close conjunction with organizations that openly espouse the ideology, yet as one can see in various cases, the secular forces have not opposed, if not always supported cow-protectionism. The policy level and legislative endeavour of such state and central governments and the impact of such decisions is an important factor left out of the study. Whether a move to scuttle beef trade can always be traced back to the narrative formed during the colonial times is the important question to be dealt with.

While the export and production data come with a distinction among carabeef and cow-beef, the data on consumption does not reveal if there is a population that consumes carabeef only. Again, the lack of state-wise distribution, of various factors in the beef industry is the reason why this angle has not been explored

further in this area of research. In conclusion, one can say that more can be done in the project of 'applying mathematical methods to the study of politics and economies.'⁸

End Notes

- 2 B R Ambedkar in his essay 'Did Hindus Never Eat Beef?' has drawn scriptural reference to establish that beef-eating was very much a part of the food habits of Hindus; it as much occupied an important place in ritual sacrifice. (Ambedkar 325)
- 3 See <https://www.bbc.com/news/world-asia-india-31712369>
- 4 See https://en.wikipedia.org/wiki/Cattle_slaughter_in_India
- 5 In terms of variation in prices and how the fluctuations in prices of either affects the other.
- 6 See Table 1
- 7 See Table 1
- 8 In terms of exploring the political economy of beef markets further

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