



# **JOURNAL OF INDIAN RESEARCH**



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*Knowledge to Wisdom*

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# **Journal of Indian Research**

## **A Quarterly Journal of Multidisciplinary Research**

**Volume 6 || Number 4 || October-December, 2018 || ISSN : 2321-4155**

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### ***Abstracts and Indexing***

<https://nkrc.niscair.res.in>, [www.drji.org](http://www.drji.org), [www.worldcat.org](http://www.worldcat.org)

[www.isid.org](http://www.isid.org), [www.scholar.google.com](http://www.scholar.google.com)

**Cover Design** : Manishankar

**Publisher** : Mewar University, Gangrar, Chittorgarh, Rajasthan

**Printer** : M.K. Printers, 5459, New Chandrawal, Kamla Nagar, Delhi-110007

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## CHAIRPERSON'S MESSAGE


In the past few decades India has taken major strides in science and technology since its independence and is today recognized for its achievements in many fields ranging from space technology, defence technologies, nuclear technology, agriculture, textiles, health-care, and pharmaceuticals to info-tech. However, when one compares India's techno-economic performance with some of the advanced countries or even other fast growing developing countries, one finds that there is much to be desired. However, forces of globalization and technology diffusion demand that governments gradually become facilitators rather than controllers of technology in the future. This has brought in a paradigm shift in the ways of technology development and exchanges, thus calling for a serious review of S&T policies and practices for a role of non-government agencies.

Despite this impressive economic growth, scientific research continues to lag behind the country's possibilities. India spends less than 1% of its GDP on research and development, while China spends 2%, the US 2.8%, Japan 3.4% and Korea 4%. This value must increase if the country is serious about closing the gaps with leading nations. Insufficient scientific research in India's private sector seems to be part of the problem. The large pharmaceutical sector, for example, remains dominated by the fabrication of generic products rather than original formulations.

There are serious challenges that we have to meet through innovative approaches and forward-looking policies. We not only have to achieve the right mix of traditional and modern S&T knowledge for the rural India, but we also have to fine-tune the technology policies and implementation methods to optimize our existing technology strengths as well as create new core strengths in critical and enabling technologies.

In the last few years India made history in space. The success of the indigenous moon mission, Mars mission, creating their own Desi GPS and now mission SHAKTI, ISRO creates history. India has successfully launched 29 satellites in a single mission. It is a sign that India is emerging as a major player in the multi-billion dollar space market.

Innovation & Science in India still has significant potential for further development. Although scientists from the subcontinent excel at international level, the huge potential offered by the country's young population is far from being fully leveraged. Yet, India has a long and proud tradition of scientific excellence. As economic development advances and a broader section of society benefits from high-quality education, science in India will be able to fully capitalize on this unique heritage. For any developing country, the future depends on its ability to innovate new solutions for old problems and for Indian perspective, only innovation can solve India's lots of problems.



**Dr. Ashok Kumar Gadiya**

## EDITORIAL

In the current issue, Rajeev Ranjan Kumar, Hefang Yao *et al.* from South China Normal University, Guangzhou, China have contributed a valuable review essay on “One Belt, One Road” Initiative of China. The authors conclude that the strategy of “One Belt and One Road” should be based on economic cooperation and supported by people-to-people exchanges and it ought to include the ideology of openness and containment. In carrying out this strategy to make culture go out, government should consider deeply on the macro level. Traditional cultural resources should be excavated fully.

The OBOR comprises of reviving two ancient trade routes: the Silk Route and the Spice Route. While the Silk Route is the “One Belt” that runs across the land route linking China with Europe through Central Asia; the Spice Route is the “One Road” and known as the Maritime Silk Route. The latter is a sea route linking India with Southeast Asia in the east and connecting West Asia and the coast of East Africa in the west. Two routes are meant to facilitate trade and investment in Eurasia. Authors have discussed the domestic compulsion of excess production, need for diversification of investment, geopolitical dilemmas and several other challenges that China faces which led Chinese leadership to pursue this goal of building OBOR.

India too has launched two initiatives of Project Mausam and Spice Route to revive ancient trading routes. Project Mausam initiated in 2014 is executed by the Indira Gandhi National Centre for the Arts (IGNCA) as the nodal agency, with the support of the Archaeological Survey of India (ASI) and the National Museum as associate bodies. The term ‘Mausam’ finds its roots in the Arabic word ‘Mawsim’ which refers to the season when ships could sail safely. This wind pattern referred to as monsoon winds follows a regular pattern, which facilitated the movement of people, goods and ideas across the Indian Ocean that helped in dissemination, amalgamation and synthesis of cultures, ethnicities and religions. India and Oman launched a joint Sail Voyage from November 24 to December 3, 2015, under this Project Mausam. India has identified 39 countries, including China and Pakistan, under Project Mausam, and working to obtain nomination for World Heritage.

Nine countries have agreed to join the Spice Route project of Kerala Tourism to share knowledge, information and know-how to conserve the shared heritage of countries connected through Spices trade that existed between ancient Kerala and more than 30 countries of the world. The first phase of the Spice Route is to rebuild the Muziris, the city in Kerala which was the node of this ancient route. The Muziris project will be ready by 2020.

History of these routes is yet to be fully understood. It was the silk, lapis lazuli and jade that was the principal commodity traded along the land route. Spices like pepper, cardamom, mace, nutmeg, and clove were the most traded goods along the maritime route. The route carried the rare spices from the islands around Java, Sri Lanka and southern region of India to the Arab and European markets. Across the route, not only fragrant spices were exchanged, but also the aromatic goods like musk, camphor, agarwood, incense and amber were exchanged. Musk was highly prized in the Middle East where Muslims believed that Prophet Mohammad’s body

exuded fragrance of musk. Sometimes mosques were painted with such aromatic substances. Amber is the fragrant substance vomited by the whales in the Bay of Bengal, more particularly around Nicobar Islands. Traders believed that this was the excreta of huge mythical birds, Bherunda, that floated in the high sea.

Along these routes cultural and religious ideas spread across the region. While Islam got foothold in the Arakan coast during late 8<sup>th</sup> century through sea route, Sufism entered India through Central Asia when their persecution started after the fall of Baghdad Caliphate. The Turkish, Arabic and Persian languages, art and architecture reached Indian subcontinent and as late as during British conquest of India, nobility in Mughal court was divided on the ground of Turkish or Persian descent (Iranian vs. Turanian). Hinduism and Buddhism travelled from India to Central and East Asia via the Silk and Spice Route. In the Southeast Asia and Southwest Asia, Indian cities were imaginatively translocated. While Kamboja was in north Bengal, Cambodia had Kamboja. Campa in India also translocated onto Campa Kingdom in Vietnam. Gandhara of Northwest India was translocated as Hetuo, the capital of Dali Kingdom in Yunnan province. Mahakala worship spread across the land route into the landlocked places while the worship of Tara, spread first across the maritime route, thereafter she emerged as truly pan-Asian Goddess.

### **How did our ancient mariners travel so far and so often?**

Marco Polo started his return voyage from China to Venice in 1291 A.D. through the Indian Ocean. He was forced to spend five months in Sumatra where he waited for the monsoon winds to change direction so he could sail to Ceylon and India. He is reported to have seen the use of sea-charts by Indian seamen. Similarly, during the last decade of 15<sup>th</sup> century when Portuguese traveler Vasco da Gama was seeking sea route to India, he waited for his further travel from East African shores to the Indian coast for monsoon winds to change pattern. He made use of a Gujarati seaman, and said to have seen map of “the whole coast of India” that the Gujarati seaman was carrying. Finally, Vasco de Gama landed in India in 1498 A.D.

One thing is certain that much before European sea farers appeared in the Indian Ocean; Indian, Chinese and Arab travellers were using the sea-charts as an aid to practical navigation and had knowledge of the Monsoon wind patterns.

The use of sky map for travel and navigation through the Silk Road is quite old in recorded history. In 1907, archaeologist Marc Aurel Stein took Dunhuang sky chart and more than 7,000 other cave manuscripts to the British Museum in London. The chart has now been dated to between 649 and 684 AD, and it is the oldest extant graphical star atlas in the world. Bonnet-Bidaud *et al.* (2009) who have studied the accuracy of the chart mentions that the star positions are drawn as observed from a latitude of 34° N, possibly from the Imperial Observatory in Chang'an (present-day Xi'an) or another site in Luoyang. The atlas shows 1,339 stars arranged in 257 groups, or asterisms, two of which resemble the constellations of the Big Dipper and Orion. It includes faint stars that are difficult to see with the naked eye, and several in the Southern Hemisphere. This clearly shows that the observers had knowledge of the sky map from present day Indonesia and further south, possibly positions in Africa. Astronomer Jean-Marc Bonnet-Bidaud of the CEA, the French Atomic Energy Commission, says that the positions of the brightest stars are surprisingly accurate to within a few degrees.

Among Arabs, mapping star was a favourite work of the Persian and Arab astronomers at the House of Wisdom in Baghdad. Persian Al-Sufi (+986) showed for the first time individual stars but distributed into separated constellations with no information on their relative positions. Arabs would sail to India using Southeast monsoon winds which blows between month of March and June. For return trip, the navigators would use northeast monsoon winds. This blows from early October to March. Similarly, the direction of wind was used to sail from Java to Kalinga and Java to Ceylon.

But the fettering of direction was done only by observing the stars. Chinese termed star-fettering as *qianxing*. It is likely that the star that helped navigators and travellers got deified as Goddess Tara. Deification of abstract concepts as well as objects was a perennial theme in Nalanda tradition.

The name “Tārā” means star, carrying across, crossing the river bank and saviouress. An image of Tārā, belonging to the 6<sup>th</sup> century has been found in Nālandā. The popularity of Tara worship appear to have picked pace with the advent of grammarian Candragomin (~600-650 AD). Candragomin was born in the Kingdom of Varendra( northern Bengal). He was married to the King’s daughter, Tara. But when he realized that it was improper to have wife with the name of his tutelary deity, he deserted his wife. The King became angry and got him sealed and thrown in the Ganges. Candragomin prayed to Goddess Tara and he was rescued. He landed upon island, which was named as Candradwipa. Candragomin thence visited Singhala( Sri Lanka) and propagated the path of devotion towards Tara. He came through Sri Parvata and Potala in Andhra to Nalanda. Once in Nalanda, his stories of miracles spread far and wide. He was also a great grammarian and composed Candra Vyakaran. Debate between Candragomin and Candrakirti, Nalanda’s Acarya went on for seven years and well documented in Buddhist intellectual history. Xuanzang mentions about Indian Candra in the list of scholars who resided in Nalanda premises. Along with Dharmapala(Hu-fa), he lists Candra( Hu-Yue). *Yue* is the name of bright shining moon in Chinese and *Hu* is a pejorative term used for the barbarians including Indians.

The Chinese monk Xuanzang(602-664 AD), who visited Nalanda after the period of Candras noticed that the worship of Tārā had been widespread at Nālandā and its adjoining area in the first half of 7<sup>th</sup> century. Xuanzang visited India from 630-646 AD. He arrived in Nalanda in 636 AD and stayed for two years and again returned for second time in 642 AD before leaving India in 643 AD. Xuanzang mentions how a tall statue of Tara( Ta-Lo) Bodhisattva was offered perfume and flowers during the festival by the royalty at Nalanda premise ( Book IX). Similarly, in Book VIII, he mentions about a Tara statue alongwith Bodhisattva Avalokiteshvara in Tiladaka monastery ( Telahara), west of Nalanda.

The cult of Tara spread far and wide from the centre of Nalanda across Asia. Newarese carried it to Nepal, and through the sea route, it spread to East Asia. It also spread towards the western coast of India, particularly Konkana and the great paintings of Ajanta, Ellora, Kanheri devoted to Goddess Tara were sanctioned by the believers.

### **Tara of Candradwipa to Tara of Kalasan**

Candradwipa is modern day Sandwip island in Bakarganj in southern Bangladesh. This

is a vast crescent shaped island facing the Chittagong coast. Candragomin is believed to have lived on this island. There was a famous Tara temple on the island which finds mention in the *Sadhnamala* composed during 1165 AD. The method of worshipping the Candradwipa Tara has been described in this compendium of worship of Vajrayana deities. In Taranath's account on origin of Tara worship, Candragomin's devotion has been highly extolled. Candragomin is believed to have composed his hymns for Tara while living here. Candradwipa finds mention in copper plates of Sricandra and the chroniclers write that Tailokyacandra became the King of Candradwipa. Some Chinese chronicles mention about the temple of Tara in the south sea during 1015 AD. The Tara Temple of Candradwipa is no more. But, there are still Vajrayogini temples in the Sandwip islands. There is likelihood that when the island was Islamized, the statue was moved to the adjacent Chatargram(Chittagong) and from where the same was taken by the Candra Kings(Dhanya Manika Candra) to Udaipur in present day Tripura which is now popularly known as the Tripura Sundari temple. The statue is known as the *Magadheswari*, the goddess of Magadha. Tara has been described as the ruler of eastern region in the *Sri Manjushri Mula Kalpa* and Nalanda Mahavihara in Magadha being the centre of dissemination of the cult of Tara.

*Manjushri Mula Kalpa* further mentions about Tara worship in Kalasa. Kalasa is the old Sanskrit name of Kalasan in Central Java. The Tara Temple at Kalasan is a remarkable structure in Yogyakarta Special Region of Central Java. Its height is 34 metre(72 hasta) and has a square base of 45 metre( 96 hasta). Kalasan inscription of 778A.D. (D-147, National Library of Indonesia) mentions about its construction.

The inscription in Sanskrit language mentions how the temple of Tara was ordered to be built by the teachers of the Shailendra King as an ornament of the Shailendra dynasty. The approval for the construction was granted by the Sanjaya King, Pancapana Panamkarna. The Kalasa village was given to the Sangha.

The homage in the inscription describes Tara as one who looks down at the world and is the only guiding star for direction in this world( Naraloka) and the divine realm( Indra loka). She is the Jagad Eka Tara .. single star of the world.

It was at this temple that Dipamkara Srijna Atisha meditated over Goddess Tara during his 12 year sojourn to Java to receive teachings from Dharmapala( Serelingpa in Tibetan accounts).

Tara temple at Candradwipa and Tara temple at Kalsan reveals how closely Tara was associated with the sea farers and how it was known as the Goddess belonging to the oceanic lineage ( samudra-kula) in the *Manjusri- Mula-Kalpa*.

When routes are being revisited, it would be an interesting work to fathom how certain ideas spread across Asia and shaped the history of the region. Study of spread of worship of Goddess Tara, as the pan-Asian Goddess can inject passionate yearning in the academic quest.

Wishing the readers an engrossing read!

**Niraj Kumar**  
Honorary Editor



## “ONE BELT, ONE ROAD” INITIATIVE: A REVIEW

**Rajeev Ranjan Kumar\***

**Hefang Yao\*\***

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**Vivek Mani Tripathi\*\*\*\***

### ABSTRACT

*China's Belt and Road Initiative (also known as One Belt, One Road (OBOR)) is one of President Xi's most ambitious foreign and economic policies. It aims to strengthen Beijing's economic leadership in Asia through a vast program of infrastructure building throughout China's neighboring regions. Many foreign policy analysts view this initiative largely through a geopolitical lens, seeing it as Beijing's attempt to gain political leverage over its neighbors. There is no doubt that it is part of Beijing's strategic calculus. However, this analysis argues that some of the key drivers behind OBOR are largely motivated by China's pressing economic concerns.*

*One of the overriding objectives of OBOR is to address China's deepening regional disparity as the country's economy modernizes. Beijing hopes that its transnational infrastructure building program will spur growth in China's underdeveloped hinterland and rustbelt. The initiative will have a heavy domestic focus. The Chinese Government also wants to use OBOR as a platform to address the country's chronic excess capacity. It is more about migrating surplus factories than dumping excess products. One of the least understood aspects of OBOR is Beijing's desire to use this initiative to export China's technological and engineering standards. Chinese policymakers see it as crucial to upgrading the country's industry.*

**Keywords:** Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), Belt and Road Initiative (BRI), China- Pakistan Economic Corridor (CPEC), liquidity swap alliance, Politburo Standing Committee, Silk Road, Tang Dynasty.

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## INTRODUCTION

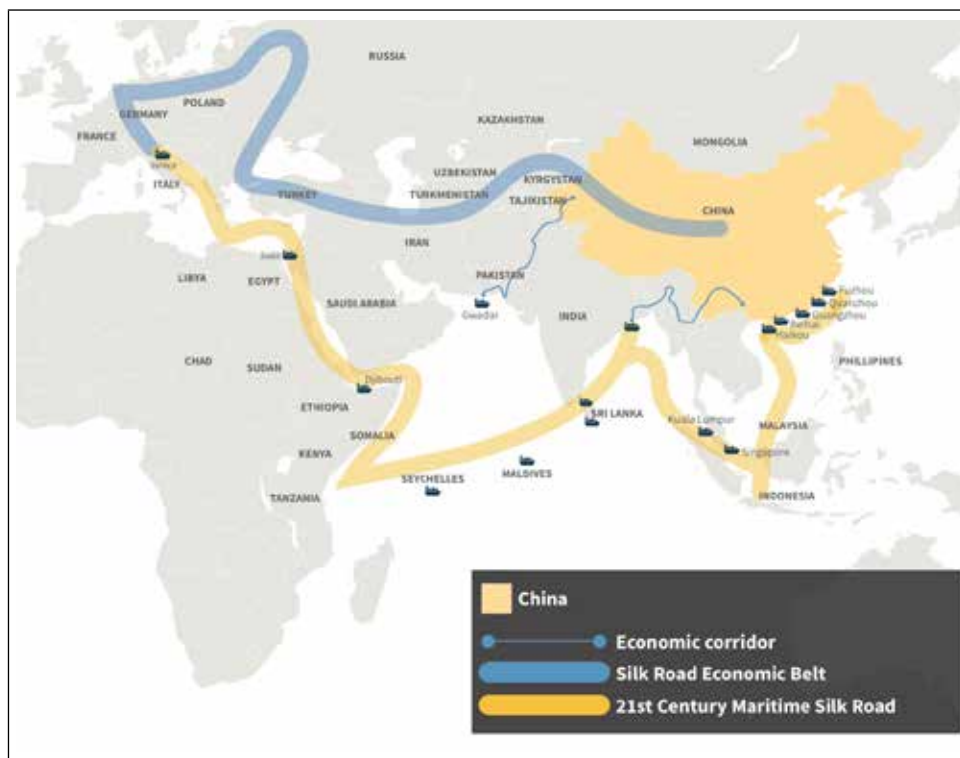
China's "*One Belt One Road*" initiative clearly reads as an audacious vision for transforming the political and economic landscapes of Eurasia and Africa over the coming decades via a network of infrastructure partnerships across the energy, telecommunications, logistics, law, IT, and transportation sectors. While such themes have become the subject of intense debate and expert commentary in the past couple of years, one of the Belt and Road's core "Cooperation Priorities," that of "people-to-people" connections, has passed largely unnoticed outside China[1]. Where it is discussed, it tends to be vaguely accounted for as China's "soft power" strategy, an analytical approach that misses the complex role culture and history play in the initiative. To illustrate this, Chanda [2] and Winter [1] focused on the theme of heritage diplomacy in order to suggest that histories of silk, porcelain, and other material pasts, together with competing ideas about civilizations and world history, that would play a distinct role in shaping trade, infrastructure, and security within and across countries in the coming years.

*One Belt, One Road* has been described as "the most significant and far-reaching initiative that China has ever put forward." Five major goals lie within a broad framework of connectivity and cooperation: policy coordination; facilities connectivity; unimpeded trade; financial integration; and people to people bonds[3]. Although this important goal is broadly recognized as an important mechanism for deepening bilateral and multilateral cooperation, it has received less media and expert attention in large part because its projects do not carry the spectacle of multi-billion dollar infrastructure investments and contracts, or the mega-project outcomes they produce. However, for both China and many of the countries involved, in cultural and historical terms, much is at stake in this project. As Xi Jinping indicated in his speech to the Boao Forum for Asia Annual Conference in 2015[4], the Belt and Road will "promote inter-civilization exchanges to build bridges of friendship for our people, drive human development and safeguard peace of the world[5,6]."

In recent years a growing number of experts have pointed to the role deep history plays in China's conduct of international affairs today. The Chinese government is investing significant resources to connect present society to its past by establishing museums, expos, festivals, and countless intangible heritage initiatives. Perhaps most significant here though are its urban, monumental, and archaeological cultural properties [7], of which some are recognized by UNESCO[8] as being of Outstanding Universal Value and thus worthy of its prestigious World Heritage List[9]. Now in its fifth decade, the list has inadvertently become a marker of not just national, but civilizational standing. States around the world are pursuing world heritage status in order to promote particular forms of cultural nationalism and civic identities at home. At the international level, it has emerged as the Cultural Olympics of history, with much energy going into ensuring the worlds of European, Persian, Arab, Indian, or Chinese pasts are given the recognition they deserve. China ranks second in the global league table of listed properties[10], and the Silk Road will help it eclipse Italy in the prestige stakes of culture and civilization[11].

However, we also need to also look to the ways in which a historical narrative of silk, seafaring, and cultural and religious encounters opens up a space for other countries to draw on their own deep histories in the crafting of contemporary trade and political relations. Iran,

Turkey, and the Arab States of the Persian Gulf are among those looking to the Belt and Road as an expedient platform for not only securing international recognition for their culture and civilizations, but also using that sense of history to create political and economic loyalty in a region characterized by unequal and competing powers[12]. The now conventional idea of soft power focuses on how states and countries secure influence through the export of their own social and cultural goods. But this idea only partially captures what is at stake in *One Belt, One Road*. Reviving the idea of the Silk Roads, on both land and sea, gives vitality to histories of transnational, even transcontinental, trade and people-people encounters as a shared heritage[13]. Crucially, it is a narrative that can be activated for diplomatic purposes. We are now seeing a surge in Silk Road nominations at UNESCO's Annual World Heritage Committee meetings, with the Belt and Road dramatically changing the political impetus for cultural sector cooperation. The first successful Silk Road World Heritage listing in 2014 involved government departments and experts from China, Kazakhstan, and Kyrgyzstan cooperating over 33 separate sites; the governments of Japan, Norway, and South Korea provided financial support[14]. In November 2015, the 14 member countries that currently make up the Silk Roads Coordinating Committee gathered in Almaty, Kazakhstan to plan future nominations and tourism development strategies[15]. Given dozens of Silk Road corridors potentially linking more than 500 sites across the region, the Silk Road is likely to emerge as the most ambitious and expansive international cooperation program for heritage preservation ever undertaken.



**Figure 1:**Proposed One Belt One Road[1]

The Silk Road is a story of connectivity, one that enables countries and cities to strategically respond to the shifting geopolitics of the region and use the past as a means for building competitive advantage in an increasingly networked Sino-centric economy. Culture forms part of the international diplomatic arena now, and with routes, hubs, and corridors serving as the mantra of the Belt and Road, countries will continue to find points of cultural connection though the language of shared heritage in order to gain regional influence and loyalty. In both its land and sea forms, the Belt and Road gives impetus to a network of heritage diplomacy that fosters diplomatically valuable institutional and interpersonal connections. Perhaps more significantly though, this in turn provides the foundation for the more informal people-to-people connections that will lie at the heart of Silk Road tourism [16].

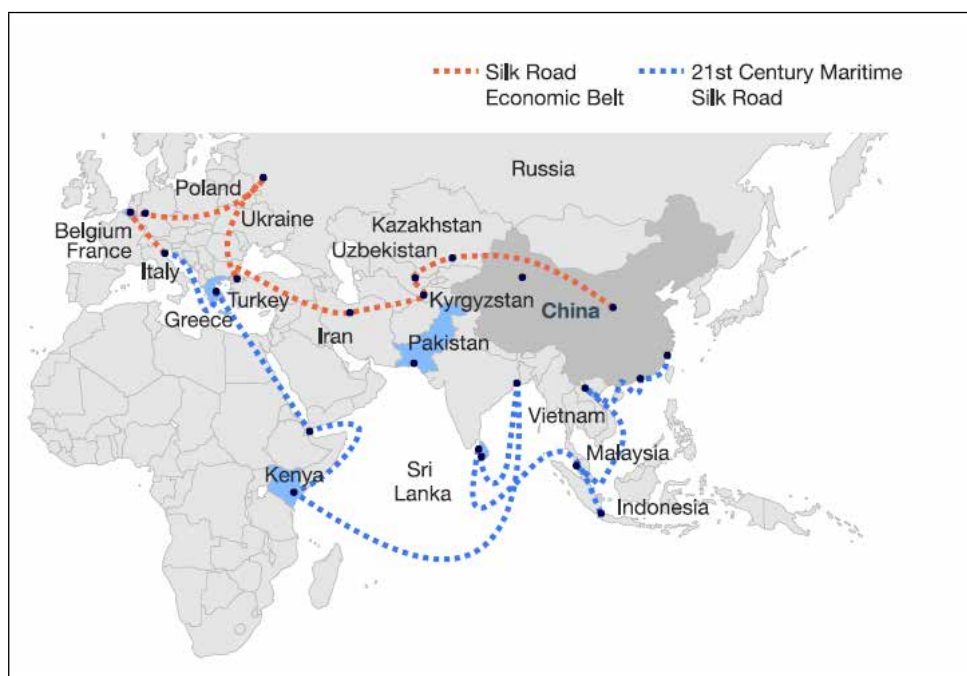
In late 2013, Chinese President Xi Jinping announced a pair of new development and trade initiatives for China and the surrounding region: the “Silk Road Economic Belt” and the “Twenty-First-Century Maritime Silk Road,” together known as *One Belt, One Road* (OBOR). Along with the Asian Infrastructure Investment Bank (AIIB)[17], the OBOR policies represent an ambitious spatial expansion of Chinese state capitalism, driven by an excess of industrial production capacity, as well as by emerging financial capital interests. The Chinese government has publicly stressed the lessons of the 1930s overcapacity crisis in the West that precipitated the Second World War, and promoted these new initiatives in the name of “peaceful development[18].” Nevertheless, the turn to OBOR suggests a regional scenario broadly similar to that in Europe between the end of the nineteenth century and the years before the First World War, when strong nations jostled with one another for industrial and military dominance. The OBOR strategy combines land power and maritime power, bolstering China’s existing oceanic hegemony in East Asia[19].

Historically, at the time of the Tang Dynasty (618—907), China’s expanding trade with the West motivated the Islamic world to exert control over the trading routes of Central and West Asia, forcing Europe—under the pressure of a silver crisis caused by continuing trade deficits—to seek eastern trading routes that would allow it to bypass the Islamic regions. One after another, Spain, the Netherlands, the United Kingdom, and eventually the United States became dominant maritime powers, protecting and expanding their trade interests in East Asia[20].

If the OBOR project were merely “One Road,” it would be little more than a traditional land-power strategy, but OBOR opens up secondary country’s landmass. At the turn of the twentieth century, the English geographer Halford John Mackinder proposed that a strong power integrating the transportation and trading channels of Europe, Asia, and Africa into a single “World-Island” would be ready to dominate the globe. In 1919, he wrote that “who rules East Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the world.” In practice, however, it is still necessary to coordinate control of land routes with maritime transportation along the coast of this World-Island[21].

OBOR depends on a series of delicate geopolitical calculations. Today only three nations can be considered continental powers: China, Russia, and the United States. China cannot simply open a new inland Silk Road, because it would inevitably have to pass through

Russia. Ever since its emergence as an imperial power in the late eighteenth century, Russian geopolitical strategy has been oriented toward Europe, with only secondary attention given to East Asia[22]. This partly explains why, as its economy benefited from a surge in oil prices several years ago, Russia took little notice of China's Silk Road proposal. Likewise, Russia took the lead in negotiating the new Eurasian Economic Union, meant to integrate and link Europe with the former Soviet countries of Central Asia. Putting it bluntly, it was not up to China to integrate Central Asia. However, in the aftermath of the Ukraine crisis, Russia faces hostility from Europe and the United States, and with the global drop in oil prices, the country has no choice but to turn east and seriously consider China's proposal for a trans-continental strategic partnership[23]. Yet if relations with Europe were to improve, Russia would promptly turn back toward Europe. No matter how closely tied their regional interests become; neither Russia nor China can put all their eggs in one basket. That is why China's land power strategy is being presented as OBOR, a distinctly Chinese project.



**Figure 2:** Proposed routes of SilkRoad[18]

Nevertheless, China is aware that the United States would counter the OBOR effort by strengthening its alliance with capital interest blocs within China—both inside and outside the ruling clique—to reassert its and whatever its other aims, the U.S. nuclear agreement with Iran was a strategic adjustment meant to balance China's influence in the region, influence over China's future development policy [24]. Indeed, in this respect the United States has already had much success: the Chinese financial bureaucracy accedes to the unwavering primacy of the United States as the world's central bank, making it unlikely to question, much less undermine,

U.S. leadership in the global order. Nevertheless, there is little doubt the United States will adjust its diplomatic strategy with regard to OBOR. Iran, for example, is an important part of the OBOR proposal, and whatever its other aims, the U.S. nuclear agreement with Iran was a strategic adjustment meant to balance China's influence in the region.

It is in this larger context that the China – Pakistan Economic Corridor (CPEC)[25] has to be examined. Any other country would have been simply excited and thrilled at the prospects of an investment of such large magnitude which, if successfully implemented, can completely change the economic landscape of Pakistan[26]. But our national psyche of cynicism, deep suspicion and negativity has started creating doubts and questions about this program. The success of this program depends very much on the consensus, commitment, continuity and collaboration of the political parties[27], all the tiers of government, public sector organizations, private sector, military, civil society.



**Figure 3:** China's new proposed routes of Silk Road[28]

Strategically, the CPEC would certainly raise some eyebrows among those competing for influence in the region or trying to contain the growing power of China or those keen to see Pakistan on a sliding path of continuous instability. The best response to address these challenges is to implement the National Action Plan (NAP) [29] in true letter and spirit and create conditions that would lead to political stability and economic growth internally. CPEC provides an opportunity to Pakistan to change the course and build a strong, interconnected, integrated nation where all segments of population benefit equally from stability and growth[30].

## **WHY THE “BELT AND ROAD” INITIATIVE?**

Many Chinese sources mention that the plan would eventually involve as many as 65 countries ranging from Asia to Europe. At the same time statements and remarks made by senior Chinese officials also indicate that the focus will be China's neighborhood. The BRI appears to be an unprecedented proposal in the history of contemporary Chinese foreign relations[31]. Although China has tried to downplay the strategic dimensions of the initiative, in private conversations many Chinese scholars would suggest that the plan is indeed partly a response to the strategic realignments that have been taking place in China's neighborhood in the past few years, particularly the US strategic rebalance to Asia. It is a reflection of the “Look West” proposal made by some foreign policy elites in China a few years ago. However the initiative is more than simply a response to US strategic rebalance or the changing strategic environment in the region[32]. It can be argued that the initiative is a reflection of the emerging consensus in the Chinese foreign policy community that Beijing now needs to significantly shift from the “low-profile” international strategy to actively strive for more accomplishments[33]. Chinese foreign policy elites have already started searching for some sort of a grand strategy to further raise China's profile as a major power towards the end of the 2000s. While the security tensions and disputes from 2009 to 2012 interrupted the Chinese search for a vision, they also incentivized the Chinese decision-makers to develop big policy initiatives to deal with the perceived growing negativity in China's neighborhood[34].

### **A New Round of Opening Up?**

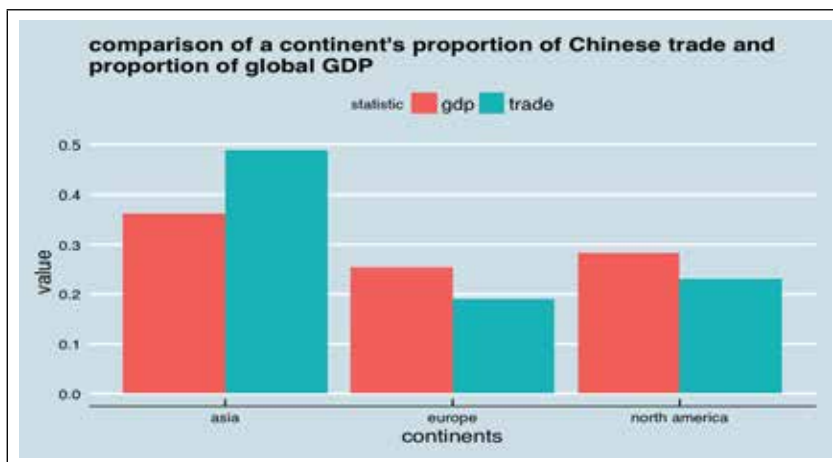
Chinese officials claim that the BRI is also part of the new round of China's opening up. There is certainly a lot of truth in this claim. Firstly, China is facing challenges of overproduction and overcapacity, particularly in the steel and construction materials sectors. This can be addressed by the BRI which will open up foreign markets to many Chinese companies. Secondly, as labor costs rise, China will move its labor-intensive and low value-added manufacturing facilities overseas[35,36]. In these two respects, the BRI will accelerate the pace of China's domestic economic restructuring. Thirdly, for China's interior and western provinces that have lagged far behind in the past decades of the opening up drive; the BRI is likely to stimulate economic growth. Fourthly, China has become a net capital exporter so more Chinese investors will be looking for investment opportunities overseas. Clearly, Beijing is seriously committed to the BRI[37]. But partly because China has not provided sufficient information, the responses from neighboring countries have been ambivalent. Ultimately, they will balance the economic benefits of the “Belt and Road” Initiative with their strategic and national security concerns. No matter what, while regional countries pay attention to the initiative, they should urge China to be more transparent and provide more information on its implementation.

### **China's Development and the U.S. Dollar System**

In recent years, China has taken a leading role in the establishment of a new set of international economic institutions, including the New Development Bank, the BRICS Contingent Reserve Arrangement, the AIIB, and the Silk Road Fund, as well as the Shanghai Cooperation Organization. Together they represent a regional counterweight to Western-led entities like the International Monetary Fund (IMF) and the World Bank and more recently, the

European Central Bank that have dominated the global financial order since the introduction of the Bretton Woods system after the Second World War. China is arguably only the third country in history, after Britain and the United States, with the capacity to shape and lead a global system of finance and trade[38,39]. Of course, in the foreseeable future, China will not replace the U.S. dollar system; it could at most stand on equal footing. After the United States overtook the United Kingdom to lead the world in industrial production capacity in the late nineteenth century, it took another fifty years and two world wars before it could dominate global finance[40]. China recognizes this reality, and has consistently promoted the AIIB and other organizations as complements, not competitors, of the World Bank and Asian Development Bank (ADB).

Over the next decade or so, as long as no major instability unsettles the Chinese economy, it seems inevitable that the renminbi will become one of the important international currencies. Nevertheless, it is far from clear that the renminbi, even in twenty years' time, could challenge the hegemonic status of the U.S. dollar. As a capitalist economy industrializes, the strength of its currency depends on the country's continued productive capacity, supported by the government and civil society. However, in the subsequent phase of financial capitalism, the main source of a currency's credibility is the political and military strength of a country. From this perspective, the impregnable position of the U.S. dollar as the world's credit currency arises foremost from the United States' enormous military strength[41]. The United States accounts for 40 percent of global military spending, more than that of the next ten countries combined. Of course, a continually expanding military hegemony has not been the only source of U.S. financial dominance. Since the Second World War, private firms and government agencies in the United States have led the world in technological innovation, not only in arms manufacturing, but in chemicals, semiconductors, film and television, aviation, computers, finance, communications, and information technology. All of these innovations have facilitated the global expansion of capital's high value-added product. The foundation of the U.S. dollar's value, besides American military and political strength, is thus the United States' monopolistic innovative capacity in raising the value-addition of capital.



**Figure 4:**Chinese Trade and Proportion of Global GDP[42]



In China today, a spirit of utopian capitalism is rampant at all levels of the economy, driven by the belief that as long as State-owned enterprises continually withdraw or dissolve, to be replaced by private firms, then China will be blessed by some miraculous market power with an innovative capacity for high value-added products. But without an enormous investment in systematic research and development, it is unclear how scattered concentrations of private capital in China could make such advances in the near future. Consequently, China's currency is unlikely to challenge the U.S. dollar, or even the Euro. Ironically, the single force that seems most likely to bring down the U.S. dollar is the increasingly virtualized U.S. financial system itself. Blockchain technology-based digital currency would undermine this long entrenched system.

The first European country to join the AIIB was reportedly Switzerland[43]. However, because Swiss officials wanted to keep their negotiations with China secret and postponed announcement of the decision, Britain was the first European country to officially announce its participation. That both Switzerland and Luxemburg, strongholds of financial capital that have previously declined to join most international organizations, have now signed on with the AIIB, suggests that the Bretton Woods alliance faces deep internal fissures. We can call it the Bretton Woods system's Triffin Dilemma: the interests of the United States and those of its longtime allies are beginning to show potentially insuperable contradictions[44].

The institutional coherence of this alliance has been slipping for some time. A primary purpose of the Bretton Woods system was to facilitate exports of excess industrial capacity and capital from the United States. The interests of postwar growth in the United States and recovery in Europe were in line. In 1971, when the Nixon administration unpegged the dollar from gold and the United States began to export liquidity on a large scale, these moves likewise seemed to serve the interests of European financial institutions[45,46]. However, over the last two decades the fundamental needs of the two have come into conflict. Reforms within the IMF have stalled, because the United States does not want to give up its veto power, while other international financial organizations long dominated by the United States have proven unable to accommodate the rapid rise of East Asian economies. The AIIB, led by China, is a clear outcome of these trends.

The liquidity swap alliance formed in October 2013 among six central banks—the Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank, the U.S. Federal Reserve, and the Swiss National Bank is designed to prevent another large-scale liquidity crisis in Europe and North America like the one that precipitated the financial crisis of 2008–09[47]. Yet it is only preventive. The new global paradigm now needs new institutions and proactive propositions. The IMF and the World Bank (and its subsidiary, the ADB), constrained by U.S. interests, are not up to the task. Can China take this opportunity to oversee the development of a new global financial alliance? For a large industrial country just entering the phase of financial capitalism, increasingly riled by domestic disturbances, the challenge is unprecedented and enormous[48].

### **Dealing with Excess Capacity**

During the global financial crisis, the Chinese Government delivered one of the largest stimulus packages in recent economic history. It saved China (and arguably a host of other

countries, including Australia) from recession by sending commodity prices sky-high. Though the stimulus program was effective, one of its lasting side effects was the creation of massive excess capacity in many industrial sectors from steel to cement. In the steel industry, for example, China's annual steel production surged from 512 million tons in 2008 to 803 million tons in 2015. To put that into perspective, the extra 300 million tons is larger than the combined production of the United States and the European Union[49,50].

Dealing with the country's excess capacity has become one of the top economic priorities for the Chinese Government. Beijing has described this issue as the Sword of Damocles hanging over its head. Excess capacity will squeeze corporate profits, increase debt levels, and make the country's financial system more vulnerable. Many State-owned firms in sectors with excess capacity borrowed heavily during the financial crisis. The slowing economy, sluggish international demands, and the supply glut have reduced their profits. Many are struggling to keep their heads above water. These bad loans have put the Chinese banking system under a great deal of stress.

The Chinese Government has announced a number of policy measures to address the issue of excess capacity. This has included laying off 1.8 million workers from the steel and coal mining industries. The authorities are also trying to shut down polluting steel mills and blast furnaces. OBOR is another way for Chinese policymakers to address the excess capacity problem, although not in the way that some observers believe. When Xi Jinping announced OBOR, a number of observers labelled it asian effort by China to export excess industrial products to neighboring countries. *The Financial Times* reported in 2015 that the grand vision for a new Silk Road began its life modestly in the bowels of China's commerce ministry as an export initiative. In terms of addressing the excess capacity problem, OBOR is less about boosting exports of products such as steel and more about moving the excess production capacity out of China. OBOR projects are currently too small to absorb China's vast glut of steel and other products[51]. Instead, Beijing wants to use OBOR to migrate whole production facilities.

Some Chinese researchers and officials are skeptical of how successful this aspect of OBOR is likely to be. It is questionable whether OBOR countries can actually absorb China's vast surplus production line. More importantly, will it be politically palatable for other countries to simply accept China's unwanted industrial capacity? Analysis from Anbang Research has noted that many OBOR countries are not enthusiastic about accepting China's excess capacity. In fact, some countries are hostile to the idea because in several industrial sectors, they are competing directly with China.

"In the foreseeable future, Belt and Road countries are unlikely to experience the same rapid pace of urbanization China had enjoyed in the last decade. The current problem of excess capacity is of a global nature; the Belt and Road Initiative is unlikely to solve it[52]."

One of China's most senior policy advisers, Zheng Xin Li, a former deputy head of the Policy Research Office of the Chinese Communist Party Central Committee, has expressed his concerns about the massive migration of Chinese manufacturing to Southeast Asia and South Asia.

“There are still 240 million farmers (in China) who need to find manufacturing jobs. If most of the country’s labor-intensive industry moves abroad, all these surplus farm labors will be stuck in the countryside[49].”

## IMPLEMENTATION CHALLENGES

Chinese leader Xi Jinping launched OBOR at the end of 2013. Three coordinating government agencies (the National Development and Reform Commission, the Ministry of Foreign Affairs, and Ministry of Commerce) issued the first official blueprint on OBOR, the ‘*Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*’, just two years later in March 2015. However, there has been slow progress in terms of the implementation of projects outside China.

At a recent OBOR work conference chaired by Vice-Premier Zhang Gaoli, a member of the Politburo Standing Committee who is overseeing the initiative, Xi urged for some signature projects to be implemented quickly, showing tangible benefits and early success. He wanted the focus to be on infrastructure projects that improve connectivity, deal with excess capacity, and trade zones. “We need to get some model projects done and show some early signs of success and let these countries feel the positive benefits of our initiative”, he told a large gathering of senior party officials and business people. Xi is not happy with the lack of progress, not least because OBOR is part of his political legacy. But the initiative faces multiple, formidable challenges.

First, there is a significant lack of political trust between China and a number of important OBOR countries. Perhaps the best example of this is India. The country’s Foreign Secretary S. Jaishankar had described OBOR as a unilateral initiative and that India would not commit to buy-in without significant consultation. Sameer Patil, a former Assistant Director at the Indian National Security Council and a researcher at foreign policy think tank Gateway House, points how the China–Pakistan Economic Corridor project is a major obstacle to Indian involvement in the initiative[49].

A second problem is caution on the part of over-leveraged and risk-averse Chinese financiers. After Xi announced OBOR, Chinese state-owned financial institutions followed with a raft of policies that echoed the President’s grand vision[53]. China Development Bank, which is expected to play a key role in financing OBOR, says it is tracking more than 900 projects in 60 countries worth more than US\$890 billion.[55] Bank of China, which has the largest overseas networks, pledged to lend US\$20 billion in 2015 and no less than US\$100 billion between 2016 and 2018.[56] Industrial and Commercial Bank of China (ICBC) has been looking at 130 commercially feasible OBOR-related projects worth about US\$159 billion. It has financed five projects in Pakistan and has established a branch in Lahore.

Yet, despite these public pledges of support, many Chinese bankers and especially those from listed commercial banks such as ICBC are concerned about the feasibility of OBOR projects. They are worried about the many risks associated with overseas loans, including political instability and the economic viability of many projects. As Andrew Collier, Managing Director of Orient Capital Research, has noted: “It is pretty clear that everyone is struggling to find decent projects. They know it’s going to be a waste and don’t want to get involved,

but they have to do something.” Collier gave an example of one Beijing bank that he said had stopped lending to rail projects in risky places such as Baluchistan in Pakistan[54].

There are indications that Chinese financiers are demanding tougher terms to ensure OBOR projects are financially viable over the longer term. Negotiations with the Thai Government over the building of a high-profile rail project were hamstrung by disagreements over interest rates, among other things. Chinese financiers demanded a 2.5 percent return on their concessional loan while the Thai Government wanted 2 per cent, the same rate Beijing offered to Jakarta. When Chinese bankers insisted on 2.5 per cent Bangkok said it would finance the project itself[55]. Xue Li, a senior researcher at the Chinese Academy of Social Sciences and a member of a semi-official OBOR expert panel, says China is likely to lose money on the Indonesian high-speed rail deal, which Beijing is treating as a one-off special case and does not want the generous funding terms to become the norm.

## LEARNING FROM RURAL SOCIETY

Since the end of the Qing Dynasty (1644–1911), as China has undergone a series of struggles for national independence and unity, rural society has been central to the structure of government. Whenever one of the traditional mechanisms of local governance has come under attack, threatening the livelihoods of peasants and villages, serious social conflicts have erupted, sometimes to the point of provoking peasant uprisings. From the collapse of the Qing to the demise of the Republic of China in 1949, violent peasant-led revolts were all too common. But where it was possible to make effective use of the traditional social and economic institutions of rural society, peasant communities were integral to the country's development[38,56]. In particular, during the last few decades of industrialization, the Chinese countryside has become the source of a vast “labor reserve,” allowing the State to rely on *sannong* the so-called “three rurals” of peasants, villages, and agriculture as the foundation of China's turbulent but continuous modernization over the last sixty years.

Chinese rural society has been able to absorb the risks of this modernization because of the strength of its relation to nature, an advantage that has never been adequately acknowledged. Chinese agricultural society has been formed on the basis of common needs, such as irrigation and disaster prevention. This interdependence creates a collective rationality, with community, rather than the individual peasant or family, as the basic unit in the distribution and sharing of social resources[13]. This focus on collective needs runs directly counter to the Western emphasis on individual interests. Over thousands of years, Chinese agricultural society has become organically integrated with the diversity of nature, giving rise to an endogenous religion of polytheism[57]. As it plans and promotes its vision of sustainable development and peaceful trade, China should look inward, to these age-old social structures, as a guide to the future.

## CONCLUSION

OBOR is President Xi's most ambitious foreign and economic policy initiative. Much of the recent discussions have been focused over the geopolitical aspects of the initiative. There is little doubt that the overarching objective of the initiative is helping China to achieve geopolitical goals by economically binding China's neighboring countries more closely to

Beijing. But there are many more concrete and economic objectives behind OBOR that should not be obscured by a focus on strategy.

The most achievable of OBOR's goals will be its contribution to upgrading China's manufacturing capabilities. Given Beijing's ability to finance projects and its leverage over recipients of these loans, Chinese made high-end industrial goods such as high-speed rail, power generation equipment, and telecommunications equipment are likely to be used widely in OBOR countries. More questionable, however, is whether China's neighbors will be willing to absorb its excess industrial capacity. The lack of political trust between China and some OBOR countries, as well as instability and security threats in others, are considerable obstacles. It is necessary to study the customs, national habits, cultural source, aesthetic interest and fashion of each country, consider consumption habits and custom factors under each kind of cultural background and cultural tradition of different audiences. Then, their common interests can be found and launch suitable cultural products and services and formulate cultural brands.

Chinese bankers will likely play a key role in determining the success of OBOR. Though they have expressed their public support for President Xi's grand vision, some have urged caution both publicly and in private. Their appetite to fund projects and ability to handle the complex investment environment beyond China's border will shape the speed and the scale of OBOR. There is a general recognition that this initiative will be a decade-long undertaking and many are treading carefully. In summary, the strategy of "One Belt and One Road" should be based on economic cooperation and supported by people-to-people exchanges and it ought to include the ideology of openness and mutual co-prosperity. In carrying out this strategy to make culture go out, government should consider deeply on the macro level. Traditional cultural resources should be excavated fully.

## DECLARATION

The authors declare no conflicts of interest.

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# ETHNOMUSICOLOGY: MUSIC AS A SOURCE OF QUALITATIVE DATA IN INDIAN SOCIAL SCIENCE RESEARCH

*Michael T Balonek\**

## ABSTRACT

*Researchers in India use observed culture to observe many aspects of cultural data in qualitative research. One aspect that is not often explored within South Asia is music as a source of data. Researchers and academics define this as ethnomusicology. Instead of studying music as an art, ethnomusicologists use music as a looking-glass into the culture, from where one can glean valuable insights that sometimes may not otherwise be observable.*

*In this essay, the writer explores insights that may be learned through studying a cultural group's music, and discusses applied ethnomusicology, where the researcher studies music in order to make a change through direct action. The essay ends with a plea to Indian academics to make known to their students the benefit of studying a culture's music as a means of learning more about the culture itself. The perspective involved combines both insider(emic) and outsider(etic) approach.*

**Keywords:** Bhojpuri, Biraha, Cultural Anthropology, ethnomusicology, Ganga, Kumbh Mela.

## INTRODUCTION

After a busy day at work, commuters in the north Indian city of Prayagraj (formerly Allahabad) look forward to reaching home. Suddenly, they stop their vehicles. Some pull their car, motorcycle, or bicycle to the side of the road, while others stop in the middle of the lane on the uncrowded road. They switch off their engines. With the passage of just a few minutes, the road is now peppered with more stopped vehicles. Why? What has captured their attention so?

To the side of the road is a small stage, set up within the last few hours, with large speakers and a folk ensemble. Specifically, a Bhojpuri folk ensemble is on the stage, performing in

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the *Biraha* genre. The singer stands, while all others sit with their instruments. He sings of the problems that the people in the region might face. Ultimately, this is a political advertisement. Flags and symbols from one of the local political parties are seen on and near the stage, but those stopped and listening are supporters not only of this party; based on the decorations on the parked cars, supporters of multiple different parties are stopped and listening. Yet no one looks frustrated or upset that this party is getting attention right now and getting its message heard - far from it! All seem to be massively enjoying the spontaneous concert, wearing huge, enthusiastic smiles, applauding at the singer's occasional turn-of-phrase.

Such is the power that Bhojpuri music holds in and near its region to capture the attention and emotions of the listener. Remarkably, this narrated, true experience, actually occurred in Allahabad, Uttar Pradesh - just *outside* of the Bhojpuri belt, in a city where people often verbally denounce Bhojpuri as a "village language," inferior to their "more pure" Hindi. Even in this setting, the use of Bhojpuri folk music was effective in drawing in listeners to hear the music patron's message, which in this case was the praises of one particular political party.

Why might this be the case? Why does a particular music catch the attention and interest of so many people? Would one form of music capture the attention in such a way in various cultures, or is taste in a particular music a regionalized phenomenon? How might music be used by political parties, NGOs, and others wanting to create social change? These questions will not all be answered here, but are a sample of the kinds of questions asked in the field of *ethnomusicology*.

## ETHNOMUSICOLOGY

This long word can be broken down to three sections: *ethnos* from the Greek word for *peoples* or *cultures*, *music* which is a term for organized sound to be listened to, and *-ology*, which denotes "*the study of*." Ethnomusicology is the study of the intersection of music and culture. Some refer to it as "anthropology of music" (Merriam 1964) or as "musical anthropology" (Seeger 2004). It can be described as a form of Cultural Anthropology, where music is the source material for qualitative data to be observed, and from which gleanings about the culture of a people can be made. Ethnomusicology is a growing field in some countries, with universities offering Masters' and PhD programs with this focus. Multiple books and journals exist internationally, entirely dedicated to this field. Societies exist for the dissemination of Ethnomusicological research, such as the USA-based "Society for Ethnomusicology" and the "International Council for Traditional Music," founded in London but operated by UNESCO. However, in India, both the term as well as the concept of using music as a venue to study culture is largely unheard of. Ethnomusicological studies are indeed sometimes carried out in India, but very rarely, and usually under the larger umbrella of "Cultural Anthropology," looking at music as one aspect of culture, not often as the primary source of data for the given study as it increasingly is in the West.

Earlier in its history, ethnomusicology was mostly regarded as a study of "music of the others," and most early anthropological musical writing indeed focused exclusively on documenting tribal genres of music from around the world, and comparing it to Western music. While this is still a part of modern ethnomusicology, as can be seen by recent writings focus-

ing on musical ethnographies worldwide and often on a culture other than their own, modern scholars also focus on how very well known genres may affect or interact with their own culture as well. Therefore articles also exist with researchers looking at New Orleans Brass Bands (DeCoste 2017) and modern Irish Republican ballads (Cadhla 2017).

Many topics pertaining to India and its music are published annually in ethnomusicological journals. A recent example is “The Marketplace of Devotional Song: Cultural Economies of Exchange in Bengali *Padāvālī-Kīrtan*” (Graves), published in 2017 in the journal, *Ethnomusicology*. Many topics are explored each year which Indians could easily explore if they were given the opportunity and idea to use music as a source of qualitative data for their social science and anthropological research. When I explain about this type of research to my Indian peers, the Indian research scholars often tell me, “I wish I were allowed to study something like that!” Upon further discussion, no one has actually discouraged them from studying anything like this at all in their anthropological fieldwork, but they did not know that studying culture through music was even an option and never had brought up the topic as a possibility. Therefore they never knew that such a topic was even possibly an option.

Many topics that Indian Social Science Research Scholars touch upon could utilize looking at music as a source for primary and secondary data, yet this topic is rarely thought of as an option. As Anoop Chandola, a Professor of Anthropology at the University of Arizona (USA) has stated at the beginning of one of his books,

“Music has not yet received its due place in the social sciences. It is usually studied and taught as a fine art, while in fact it is important not so much as a practice in aesthetics as in a therapeutic way. In the Himalayan culture, for example, music has auspicious, shamanistic and recreational functions which are overtly or covertly therapeutic in nature. These functions aim at the fulfillment of various kinds of physical, spiritual and psychological needs of the members participating in the culture and society. Because such needs are related to various behavioral patterns, a single discipline cannot encompass them all. In order to understand the complete nature and scope of music, an interdisciplinary approach is needed” (v).

One such use of music in an interdisciplinary study could be analyzing interpersonal relationships in a particular society, in looking at how people relate to each other via song - how differing genders relate, how different family members relate to one another, etc. Power structures may be able to be observed based on the analysis of music. Another clear use may be identifying trends in cultural change via identifying significant musical changes. For example, looking at the increasingly western influence of music that the youth of northern India listen to, one could make a correlation of other westernizing factors that may come alongside these musical changes.

My research into the music of the Bhojpuri-speaking region of northern India for my forthcoming DPhil degree has also identified some interesting trends in cultural change based upon studying the local music and its performance or use. One such trend that I have found through studying Bhojpuri folk music is that through the arrival of modern farm equipment, women are working less in the fields, and therefore singing in the fields have declined compared with what they had been doing even a short time ago. Due to less singing together in the

fields, they have less chances to express the deep emotional hardships which they experience in life, and which they once were able to express in song while meeting together to do work in the fields, such as the unwanted sexual advances of their *devar* (husband's younger brother), or the beatings and beratings that they receive from their *sas* (mother-in-law). I have spoken to people who were unprepared for these situations to occur, who may have otherwise been warned of them through these folk songs just one generation previously. Sometimes showing them lyrics from years past was a surprise and a jolt to them, and they would exclaim things such as, "how do you have a song that exactly describes my situation?? No one goes through this except for me, but here you are showing me my situation in a song! So other people DO face this same problem???" Ethnomusicological research can be seen to bring to the surface some deep and meaningful psychological, anthropological, and social truths that perhaps may be overlooked without studying the music as a source of data.

### **APPLIED ETHNOMUSICOLOGY: MUSIC RESEARCH FOR A CHANGE**

One question that I have found people in India tend to ask Cultural Anthropologists is, "what is the practical benefit of studying this topic?" For many researchers, expanding the base of knowledge about the world and how it works is enough to motivate them to carry on multiple studies, and learn as much as possible about the world and people around them. For many other researchers, though, used to dealing in quantitative research studies, this seems inadequate and leads them to ask such questions - though they would not ask similar questions to researchers purely involved in the arts, such as a student pursuing a PhD in Vocal or Tabla Performance. For some reason, they allow people to focus on music as an art without asking such a question, but get defensive or confused at the thought of music as a source of actual data. When one merely looks at examples of good ethnomusicological research, however, its value in the Social Sciences is clearly seen.

Within ethnomusicological studies, are also calls for *applied ethnomusicology*. This means taking the information gleaned from an ethnomusicological study and taking some kind of practical action with it. Internationally, as well as within India, applied ethnomusicology has been employed to further a number of different causes. The scenario in the opening of this paper is an example of music being specifically used to bring about a change, in this case a political change. It was seen to be quite effective in drawing people in, to hear a particular message, though the author does not know its effectiveness in winning people to the proprietor's cause.

Sherinian (2014) has written a significant study, tracing the music of Rev. James Theophilus Appavoo (1940-2005), and how he took and rewrote Tamil Folk Songs for Dalit Christian usage, singing of the oppression and social inequality that his community faced, both from being a Dalit as well as being from the Christian minority. These songs are intended to encourage others in his community to stand up for their rights and take social action for equality. Similar ventures have happened across India, as communities strive to make their voice heard in ways that make sense in their communities. Narayan (2009) documents pro-Hindutva elements who would travel to villages, learn their folk stories and songs and narratives, change them slightly, and repaint them in such a way to convince the residents of said villages that they themselves are the seat of Hinduism. Not only would ethnomusicology inform such movements as mentioned above, but also ethnomusicologically-minded researchers in India could study move-

ments such as these, and whether or not certain song styles had a significant part in mobilizing a community.

Some Non-Governmental Organizations (NGOs) employ the use of applied ethnomusicology in carrying their messages forward as well. They may teach about hygiene, sanitation, and health using local-styles of song. An Indian example of this is a CD that the Bible Society of India produced about HIV-awareness, using music that fits the sound of music in the Hindi belt of North India, while sharing the important message of the prevention of HIV. Much has been done internationally on the topic of AIDS research and awareness through the arts, and one resource for those interested may be *The Culture of AIDS in Africa: Hope and Healing Through Music and the Arts*, edited by Gregory Barz and Judah Cohen.

Another example of action and education through music can be seen by an NGO by the name "Music For Development (M4D)." They have created a number of songs and videos for promoting good hygiene amongst school children in Uttar Pradesh. Examples of their music which can be heard by clicking the given links include their song about hand washing (<https://youtu.be/p4YsZAbC3NA>) and their song about open defecation ( <https://youtu.be/5yJH0cbC9oQ> ).

At the 2019 Kumbh Mela in Prayagraj (formerly Allahabad) in Uttar Pradesh, India, at least two different musical ensembles were present which were advocating for social change. Both were sponsored by the government of the state of Uttar Pradesh, and both employed the use of the Bhojpuri folk music genre known as *biraha* - indeed, the same genre mentioned above in the introductory example to this paper. The singers told me that this was because (1) with *biraha*-style singing, the vocalist is very loud, and also (2) because "everyone loves listening to *Biraha* music!" Indeed, large crowds gathered each time I saw either of these two groups perform. While there were multiple topics covered, singer Jay Prakash Patel in the first group recorded, sang primarily about the efforts made by the Kumbh Mela authorities to keep the Kumbh Mela grounds at the Prayagraj Gangetic Plains safe, free of trash, and free of open-defecation. He pointed out trash cans and toilets, encouraging his listeners to use them and keep this place of worship clean. An excerpt of their songs can be heard and viewed at <https://youtu.be/IkUC7znchkw> . The second group, led by *Biraha* singer Rajesh Lal Yadav, touched upon a number of topics during their performance, part of which can be seen here: <https://youtu.be/ZEIksSeREIQ>. Yadav sang about topics such as the importance of hand washing, taking only the proper medicine that the doctor prescribes and nothing else, and the value of the girl child. "If every family only has boys," says my own rough translation of one of his powerful lines, "where will the mothers of India whom we revere come from?"

Both of these ensembles conveyed important messages to their listeners. Perhaps more surprisingly, however, is that both of these singers had large crowds listening attentively to their messages. Why? Because of the medium through which their message was conveyed. If they had merely given out papers detailing their points, people likely would have used the paper for lighting fires on these chilly mornings. I observed this happening with other non-religious papers which had been handed out by various groups: the papers were gratefully accepted, and used by people to stay warm. If they had merely stood around preaching/speaking-out their message, most people would have passed right by. I observed this happening as well

during this same festival. But because someone from the Uttar Pradesh government realized that people will listen to a message if presented through the medium of a Bhojपुरi Folk Song, especially *biraha*, both ensembles had large crowds sitting and listening to their messages in which they called for community action and social changes to take place. Using culturally-appropriate song can be a powerful tool to convey a message to people who might otherwise not listen.

Effective Music Therapy is another practical use of ethnomusicological research. Ethnomusicologists strive to learn answers to questions such as, “what kinds of music to these people listen to when they are happy? What kinds of music to these people listen to when they are sad? What kinds of music to these people listen to when they are angry?” etc. If they come to a place of good understanding in these questions, then these researchers or their materials can be used to help patients in various types of therapy - dealing with trauma, abandonment, pain, even heart troubles. One of the basic tenets of ethnomusicological research is that different types of music express different things to different people, based on a number of factors such as culture, age, and gender. For some people, Indian classical music may leave the listener with a soothing, peaceful feeling, thus bringing down a patient’s heart rate and diffusing a possibly dangerous physical situation. But for others for whom peaceful associations with Indian classical music have not been made, it may actually add confusion or tension, as the timbre (sound) is unfamiliar, as are the intervals, tonality, pace, instrumentation, etc. To some people, Hindustani Classical Music is *not* soothing for more than a minute, but merely confusing, twangy, and repetitive. This information may be essential if doctors and/or therapists are attempting to use music to bring down anxiety levels in a pregnant woman, for example. Studies have indeed been done that quantitatively show the benefits of music therapy in maternal and prenatal health (Chang 2008) and (Arya *et al.* 2012), and future research has been suggested in researching what kinds of music are the most beneficial in bringing down stress factors for various regions and various socio-economic and cultural groups within these regions, in order for music to be used in the most effective ways possible. It therefore can also be seen that research which use music as a source of anthropological and sociological data can indeed even be beneficial from a medical point of view.

## **ETHNOMUSICOLOGY RESOURCES WITHIN INDIA**

While there are currently very few people or Universities within India with a focus on ethnomusicology, at least a few do exist, and they should be noted.

The American Institute of Indian Studies in Gurugram, Haryana is one of the few places within India that has a focus on ethnomusicology. It houses a large library with many print resources - books, journals, thesis etc., all focusing on (1) ethnomusicology as a whole, (2) Studies on South Asian music and culture, and (3) Studies on Indian-specific music and culture. They also house a large audio archive, which scholars can access to hear field recordings dating back many years. Their website is available for viewing at: <http://www.indiastudies.org/ethnomusicology/>

Another group utilizing anthropological and ethnomusicological methods such as case studies and ethnographies, in this case to expand knowledge on North India through documen-

tary videos, is known as *Espirito Kashi*. Their website is located at <https://espiritokashi.org/>. They have videos about wedding ceremonies, initiation rites, and death traditions, amongst others, with a large focus on the music used in such events.

## CONCLUSION

Music can be a powerful and useful source of data, not only in the arts, but also in the social sciences. Students of social sciences, cultural anthropology, sociology, and similar disciplines within India may do well to follow what others are suggesting and looking to music as a valuable source of qualitative data. Researchers and academics call this field “ethnomusicology,” and it should be made known within India. Researchers from outside India have been studying and reporting on India in this way for over a century, using the term since the 1950’s, and there seems to be no reason for Indian academics and research scholars not to take the same focus and study music for qualitative data. Perhaps journals and schools of higher education can focus more on the value of viewing music as a source of data for ethnographic and anthropological research, and students would then know that this is a viable option for them.

## GLOSSARY OF TERMS

- Applied Ethnomusicology - Research in Ethnomusicology with the goal of bringing about some kind of practical change to the listener through the music.
- Ethnomusicology - The study of the intersection of music and culture.
- Devar - Husband’s younger brother. In folk culture, and occasionally in modern-day India but to a lesser extent, this relation often tries for a sexual relationship with the newer bride of his big brother.
- DPhil - Doctor of Philosophy also abbreviated PhD.
- Music Therapy - “The skillful use of music and musical elements...to promote, maintain, and restore mental, physical, emotional, and spiritual health” (definition from the Music Therapy Association of Ontario).
- NGOs - “Non-Governmental Organizations” - often charitable organizations, akin to what Americans would call “a non-profit organization.”
- Sas - Mother-in-law (husband’s mother).
- Timbre - The specific sound that something makes (i.e. a sitar and a flute, even if they play the exact same note in the exact same octave sound different, because each has a different timbre).

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# DEVELOPMENT AND VALIDATION OF BIO – ANALYTICAL METHOD FOR THE ESTIMATION OF “VORTIOXETINE” IN HUMAN PLASMA BY USING “LC-MS/MS”

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## ABSTRACT

*Vortioxetine is a new drug against major depressive disorder with high affinity for a range of different serotonergic targets in the central nervous system. Therapeutic drug monitoring is an important tool for the clinical management of patients receiving a pharmacotherapy, particularly in psychiatry. For this reason, determination of drug concentration in biological fluids is important for a rational dosage of drugs. For analysis of Vortioxetine liquid chromatography with mass spectroscopy (LC-Ms/Ms), no procedures for its determination in human plasma have been reported and there are only a few ones for its determination in saliva. A sensitive and selective high- performance liquid chromatography (HPLC – Agilent 1100 SERIES) or mass spectrometer (API 4000) method was developed for the fast quantification of Vortioxetine in human plasma. The determination was performed on a Synergi Polar RP column in isocratic mode under the optimal mobile phase containing 10mM Ammonium Acetate in 0.1% Formic acid : Acetonitrile (15: 85V/V)*

**Keywords:** High performance Liquid Chromatography (HPLC), Liquid Chromatography Mass Spectroscopy (LC – Ms/Ms), Vortioxetine, Vortioxetine D8 (ISTD).

## INTRODUCTION

Vortioxetine is an antidepressant drug used to treat depression. Vortioxetine is given orally once daily, to start with an initial dose of 5 mg or 10 mg and can be extended to a maximum of 20 mg, depending on the situation of the case under the fed condition or fasting conditions [1, 2]. Vortioxetine works as antidepressant and antagonist on serotonin receptors

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via blockade of serotonin reuptake [3-6]. Vortioxetine absorption will take place through gastrointestinal route and reach maximum concentration ( $C_{max}$ ) within 7 to 11 hr ( $T_{max}$ ) after administration [5, 7]. According to the literature, different studies have been reported on bioavailability and bioequivalence of vortioxetine [4, 8-14]. The analytical method applied for drugs quantification should be highly sensitive, quick and reproducible [15, 16]. The methods till reported for determination of vortioxetine in biological samples through UPLC/MS-MS [9, 10], HPLC/MS-MS have some drawbacks [17, 18, 19] like overrange of concentration [20], methods of extraction [9, 11, 14], type of biological sample [11], high run time [4, 12, 13] are not suitable for commercial purposes. Currently, usual chromatographic methods are not utilized by the scientists for bioanalytical applications due to limitations in their rapidity, resolution and sensitivity. So, there is a need to develop new methods without compromising on the sensitivity and efficiency. Presently, LC-MS/MS methods are widely approved in bio-analytical applications due to its specificity and high sensitivity [17, 21].

With the above issues, to overcome the deficits and drawbacks the authors carried out current work to develop the quantification of vortioxetine in human plasma with a lower limit of quantification (LLOQ) 0.05 ng/mL using a high throughput liquid chromatography/electrospray ionization tandem mass spectrometry LC/ESI-MS-MS using Vortioxetine D8 as internal standard (ISTD). The developed method Solid Phase Extraction (SPE) technique found no variability in recoveries of analyte, IS and also free from potential matrix effect a higher sensitivity with a less run time of 1.9 min compared to other earlier reports and is applied to a clinical pharmacokinetic study in healthy male subjects successfully.

## MATERIALS AND METHODS

### Chemicals:

Vortioxetine (99.6%) was from Vimta labs (Hyderabad, India) and Vortioxetine D8 (99.72%) was obtained from TLC PHARMACHEM (Fig.1). Milli Q water purification system procured from Millipore (Bangalore, India) was used as a source of water which is used for the LC-MS/MS analysis. HPLC grade Methanol and Acetonitrile was purchased from J.T. Baker (Phillipsburg, USA). Formic acid was purchased from Merck Ltd (Mumbai, India) analytical grade. The control  $K_2EDTA$  human plasma sample was procured from Deccan's Pathological Lab's (Hyderabad, India).

### LC-MS/MS Instrument and Conditions:

HPLC system (Agilent 1100 SERIES) consisting of a solvent degasser (DGU-20A3), an auto sampler (SIL-HTc) and binary LC-20AD prominence pump with a peerless basic C18 column (100 mm  $\times$  4.6 mm, 5  $\mu$ m; Chromatopeak Analytical Instrumentation, INDIA) was used. An aliquot of 15  $\mu$ L of the processed samples kept at ambient temperature were injected into the column. The separation of the analyte was achieved by applying an isocratic mobile phase consisting of a mixture of Methanol, Acetonitrile and 0.1 % Formic acid (35:35:30, v/v) at flow rate 0.8 mL/min. MS-MS detection in positive ion mode for the analyte and ISTD using an MDS Sciex API-4000 mass spectrometer (Foster City, CA, USA) equipped with a Turboionspray™ and the quantification was achieved with interface at 550°C and 5000V ion spray voltage. The source parameters viz. nebulizer gas (GS1), auxiliary gas (GS2),

curtain gas and collision gas were set at 35, 40, 40, and 6 psi, respectively. The compound parameters viz. the Declustering Potential (DP), Collision Energy (CE), Entrance Potential (EP) and Collision Cell Exit Potential (CXP) were 90, 35, 10, 8 V for Vortioxetine and 90, 35, 10, 8 V for the IS. By carefully observing the transition pairs of  $m/z$  299.2 precursor ion to the  $m/z$  150.1 for Vortioxetine and  $m/z$  307.2 precursor ion to the  $m/z$  153.1 product ion for the IS, the detection of the ions was carried out in the multiple-reaction monitoring mode (MRM) and unit resolution for both the quadruples Q1 and Q3 were set [22, 23, 24]. The analysis data obtained were processed by Analyst Software™ (version 1.4.2).

### **Preparation of Plasma Standards and Quality Controls:**

In Methanol, standard stock solution of Vortioxetine and ISTD (1 mg/mL) were prepared. In methanol and water (60:40, v/v; diluents) working solutions for calibration and controls were prepared by appropriate dilution. By diluting the stock solution with diluents, IS working solution (1000 ng/mL) was prepared. Stock solutions of Vortioxetine and ISTD were found to be stable for 8 days at 2–8°C. To obtain Vortioxetine concentration levels of 0.05, 0.10, 0.51, 2.02, 12.03, 24.05, 36.01, 48.01, 60.01 and 80.01 ng/mL in plasma, 20 times of the above solutions at each concentration level in diluents was prepared and from that 50 µL was spiked into 950 µL of control K<sub>2</sub>EDTA human plasma. Similarly, Quality control (QC) samples were also prepared as a bulk based on an independent weighing of standard drug, at concentrations levels of 0.05 (LLOQ), 0.15 (Low), 12.99 (Middle 1), 40.60 (Middle 2) and 70.01 ng/mL (High). The aliquots of the calibration and control bulk samples were obtained by distributing into micro centrifuge tubes (Tarson, 2 mL) and stored in the Freezer at –70 ± 10°C until analyses.

### **Sample Processing:**

Before starting of the analysis, calibration standards, quality control samples and all frozen subject samples, were thawed and allowed to equilibrate at room temperature. Prior to spiking, the samples were vortexed to mix for 20 s. An aliquot of 300 µL of human plasma sample was mixed with 30 µL of the internal standard working solution (1000 ng/mL of vortioxetine d8). To this, 500 µL of 1% formic acid in HPLC grade water was added and vortexed. The sample mixture will be loaded onto Copure™, 40µm, polymeric sorbent cartridges (30mg/1mL) that were pre-conditioned with 1.0 mL of HPLC grade methanol followed by 1.0 mL Milli Q/HPLC grade water. After applying the maximum pressure the extraction cartridge will be washed with 2mL of Milli Q/HPLC grade water (each time 1mL). Analyte and IS are eluted with 1.0 mL of mobile phase. Aliquot of 15 µL of the extract was injected into the LC–MS/MS system.

### **Bio - Analytical Method Validation:**

A complete and thorough method validation of Vortioxetine in human plasma was carried out as per US FDA guidelines [25]. The method was validated for selectivity, sensitivity, specificity, carryover test, recovery, matrix effect, linearity, precision, accuracy, dilution integrity and stability. Selectivity of the method was assessed by comparing the chromatograms of six different batches of blank plasma obtained from six different sources including one lipemic and hemolyzed plasma. Carryover experiment was performed to verify any carryover of the analyte and IS are present, which may reflect in subsequent runs. The concomitant drugs

such as Acetaminophen, Nicotine, Pantoprazole, Ibuprofen, Caffeine, Diphenhydramine, Pseudoephedrine and Dicyclomine were used to evaluate the potential interference. Sensitivity was determined by analyzing six replicates of plasma samples spiked with the lowest level of the calibration curve concentrations. Investigation of the Matrix effect was done to ensure that the precision, sensitivity and selectivity are not comprised by the matrix. Matrix effect was determined by taking six different lots of K<sub>2</sub> EDTA plasma. Three replicate samples each of LQC and HQC were prepared from different lots of plasma (36 QC samples in total). The linearity of the vortioxetine was determined by analysis of standard plots associated with a ten-point (non-zero standards) standard calibration curve in the range of 0.05-80 ng/mL. In addition, blank plasma samples were also analyzed to confirm the absence of the direct interferences. The acceptance limit of accuracy for each of the back calculated concentration is 15% except LLOQ, where it is 20%. To determine intra-day accuracy and precision, a calibration curve and six replicates of LLOQ QC, LQC, MQC-1, MQC-2, and HQC were analyzed on the same day. Inter-day accuracy and precision were assessed by analyzing three batches of samples on two consecutive days. Recoveries of analyte and ISTD were determined by comparing the peak area of extracted analyte standard with the peak area of non-extracted standard. Recovery of Vortioxetine was determined at a concentration of 0.15 (Low), 40.60 (Middle 2) and 70.01 (High) ng/mL, whereas for ISTD was determined at concentration of 1000 ng/mL. Dilution integrity was performed to extend the upper concentration limit with acceptable precision and accuracy. Six replicates each at a concentration of about 1.75 times and 3.5 times of the uppermost calibration standard were diluted two- and four-fold with blank plasma and their concentrations were calculated by applying the dilution factor 2 and 4. Under various conditions, stability tests were conducted to prove the analyte stability in stock solutions and in plasma samples. The stock solution stability at room temperature and refrigerated conditions (2–8°C) was performed by comparing the area response of the analyte (stability samples) with the response of the sample prepared from fresh stock solution. Bench top stability (14 h), processed samples stability (auto sampler stability for 70 h, wet extract stability for 65 h and reinjection stability for 94 h), freeze-thaw stability (4 cycles), long-term stability (108 days) were performed at LQC and HQC levels using six replicates at each level. Samples were considered to be stable if assay values were within the acceptable limits of accuracy ( $\pm 15\%$  SD) and precision ( $\pm 15\%$  RSD).

## RESULTS AND DISCUSSION

### Mass Spectrometry:

During the process of method development, Multiple Reactions Monitoring mode (MRM) was operated by using a standard analyte concentration of about 100 ng/mL which was injected in both the ionization modes (positive and negative) using Electrospray as the ionization source into the mass spectrometer thereby mass parameters were optimized. The response obtained was superior in positive ionization mode for analyte and ISTD compared to the negative mode. Protonated form of analyte and IS, [M+H]<sup>+</sup> ion was the parent ion in the Q1 spectrum and was used as the precursor ion to obtain Q3 product ion spectra. The most sensitive mass transition was observed from m/z 299.2 to 150.1 for Vortioxetine and from m/z 307.2 to 153.10 for the IS. The well time for each transition was 200 ms (Figs 2a, 2b).

### Method Development:

The method development incorporates selection of a suitable buffers, mobile phase, chromatography column, organic solvent, and to set a flow rate along with the injection volume. All the parameters should be carefully observed in order to produce the resolution required from endogenous components which in turn affect sensitivity and reproducibility of the analytical method by ion suppression. Once the buffers, organic solvent, mobile phase, pH, chromatographic column, auto sampler temperatures all are set then column temperature, flow rate and buffer type and concentration can be changed for better response. Experiments were done by varying volume ratios of organic solvents such as methanol and acetonitrile, buffers like ammonium acetate (2–20 mM), ammonium formate as well as bases like ammonia, acids like formic acid (0.1– 2.0%), phosphoric acid, acetic acid. The separation was achieved by changing the strength on different columns like C18 and C8 of different makes (Grace, Kromasil, Zorbax, Inertsil, X bridge, Develosil, Phenyl, waters acquity, Hypurity advance, Hypersil etc) and also in order to obtain better chromatographic peak shapes, the effect of flow rate was varied from 0.3 to 1.0 mL/min. It was observed that combination of methanol, acetonitrile and 0.1 % formic acid (35:35:30, v/v) as the mobile phase with peerless basic C18 column (100 mm × 4.6 mm, 5 µm; Chromatopeak Analytical Instrumentation, INDIA) column at 0.8 mL/min flow rate was more suitable and appropriate to give better peak shape, recoveries and sensitivity and also no interference and appropriate response even at a very low concentration (0.051 ng/mL) level for the analyte and chromatographic run time of 1.9 min was fixed with the retention time of analyte and the IS being very low enough (1.00 and 1.00 min). By following the formerly reported procedures protein precipitation (PP) [8, 9,10,14] and SPE [9] to extract Vortioxetine from human plasma, saliva and serum and rodents plasma [9,10,14] different sample pre-treatment methods like PP was carried out using different solvents like Acetonitrile, methanol and Ethanol solvents under normal, basic and acidic conditions using Vortioxetine  $d_8$  as IS. The response was varying and inconsistent particularly at the LLOQ level. In maximum cases all these solvents showed considerable ion suppression. Liquid-liquid extraction (LLE) was also tried using different solvents like Hexane, Dichloromethane, Cyclohexane, Ethyl acetate, Diethyl ether and Methyl tert-butyl ether (MTBE), alone and also in combination by varying the compositions under all normal, basic and acidic conditions. LLE with various organic solvents and their combinations resulted in bad recoveries, poor chromatography and inconsistent results of the analyte and also interferences was obtained in blank plasma. But, as the aim was to develop a rapid, simple, selective and sensitive method without matrix effect, fine recoveries and good peak shapes, SPE was tried. There are two methods reported by employing HPLC– MS method using SPE with high run time i.e. about 4 min and 8 min [9,11] and also not sensitive enough because its LLOQ is 0.200 ng/mL which is not suitable for present dosage. Thus, finally SPE was carried out using Copure™, 40µm, polymeric sorbent cartridges (30mg/1mL) in the presence of Formic acid and clean samples were attained which are required for lessening of ion suppression and matrix effect on LC–MS/ MS. Consistent and quantitative recovery (~80%) was obtained at all QC levels for all the analyte. Therefore, a simple SPE technique was used for extraction of analyte and IS, mean recoveries of analyte and IS was superior and reproducible.

## METHOD VALIDATION

### Carryover Effect:

To show that accuracy and precision of the specific method followed are not affected, carryover was performed. There is a clear indication that no carryover of the analyte in subsequent samples was obtained after injection of the highest concentration of analyte (Upper Limit of Quantitation; ULQ) followed by the blank sample (data not shown).

### Selectivity and Chromatography:

The selectivity is approved by checking the blank plasma. From the endogenous substances in drug-free human plasma at the retention time of the analyte and the IS there was no significant interference observed in the blank plasma and this was obtained by analyzing blank human plasma extract (Figure 3a) and an extract spiked only with the ISTD (Figure 3b). As shown in Figure 3a. Likewise, Figure 3b shows the absence of direct interference from the ISTD to the MRM channel of the analyte. Figure 3c shows a representative ion-chromatogram for the LLOQ (STD-A) sample (0.051 ng/mL. A representative chromatograms resulting from the analysis of subject blank plasma sample and 7.00 h subject plasma sample was obtained after the oral administration of the 20 mg single dose of Vortioxetine (Figure 4).

### Matrix Effect:

Matrix effect assessment was done with the aim to check the effect of different lots of plasma on the back calculated value of QC's nominal concentration. The results found were well within the acceptable limits (Table 1). There was no significant matrix effect was observed in all six batches of human plasma for the analyte at low and high quality control concentrations. Also, the extraction method was rugged enough and gave accurate and consistent results when applied to real subject samples.

### Linearity, Precision and Accuracy:

The ten-point calibration curve was found to be linear over the concentration range of 0.05–80.01 ng/mL for the vortioxetine. After calculating, verifying and also comparing the two weighting methods ( $1/x$  and  $1/x^2$ ), a regression equation with a weighting factor of  $1/x^2$  of the drug to the IS concentration are found to be the best fit for the concentration–detector response relationship.

The results obtained clearly indicate that during the method validation, the mean correlation coefficient of the weighted calibration curves was  $\pm 0.99$ . All the results of intra-day and inter day precision deviation values were all within 15% of the relative standard deviation (RSD) at low, middle and high quality control level, whereas within 20% at LLOQ QCs level. Also the intra-day and inter-day accuracy deviation values were all within  $100 \pm 15\%$  of the actual values at low, middle, and high quality control level, whereas within  $100 \pm 20\%$  at LLOQ QCs level. The result indicates good precision and accuracy (Table 2).

### Extraction Efficiency:

For recovery determination, six replicates at low, medium–2 and high quality control

concentration for vortioxetine were prepared. The mean overall recovery of vortioxetine was  $78.52 \pm 20\%$  with the precision range of  $0.36 - 3.25\%$  and the recovery of ISTD was  $76\%$  with the precision range of  $2.04 - 2.13\%$ . The recoveries of analyte and ISTD were good and reproducible at all levels.

### **Stability Studies and Dilution Integrity:**

All the stability experiments were carried out. The results achieved are bench top stability (14 h), auto sampler stability (70 h), wet extract stability (65h), repeated freeze-thaw cycles (4 cycles), reinjection stability (94 h) and long term stability at  $-70^{\circ}\text{C}$  for 108 days. The mean % nominal values of the analyte were found to be within  $\pm 15\%$  of the predicted concentrations for the analyte at their LQC and HQC levels (Table 3). Thus, the results were found to be within the acceptable limits during the entire validation. Stock solutions of Vortioxetine and IS were found to be even stable for 8 days at  $2-8^{\circ}\text{C}$ . The percentage stability (with the precision range) of Vortioxetine and IS was  $104\%$  ( $0.42-3.22\%$ ) and  $103\%$  ( $0.56-3.04\%$ ), respectively. The upper concentration limit of Vortioxetine can be extended to  $248 \text{ ng/mL}$  for 1/2 and 1/4 dilutions with screened human blank plasma. The mean back-calculated concentrations for 1/2 and 1/4 dilution samples were within  $85-115\%$  of their nominal value and the coefficients of variations (% CV) were in the range of  $0.28-1.07\%$ .

### **Incurred Sample Reanalysis**

Incurred sample reanalysis determination and its significance was demonstrated by the FDA at the Crystal City III meeting [27], by using dosed subject samples and it is compulsory to prove assay reproducibility. Incurred sample reanalysis was analyzed by picking up two plasma samples from each subject and re-assayed in a separate run. By applying the present developed method, the results obtained were highly reproducible and this was confirmed because the differences in concentrations between the ISR and the original initial values for all the tested samples results were less than  $20\%$  (Table 5).

### **DILUTION INTEGRITY (DI) (Table5)**

Dilution integrity was performed by using three times of CC8 concentration ( $210.357 \text{ ng/mL}$ ). The samples were diluted in 1:4 ratios and analyzed using dilution factor "5". The % accuracy and CV % were found to be  $101.48\%$  and  $0.93\%$  respectively, which are within the acceptable criteria.

### **Sensitivity (Table 6)**

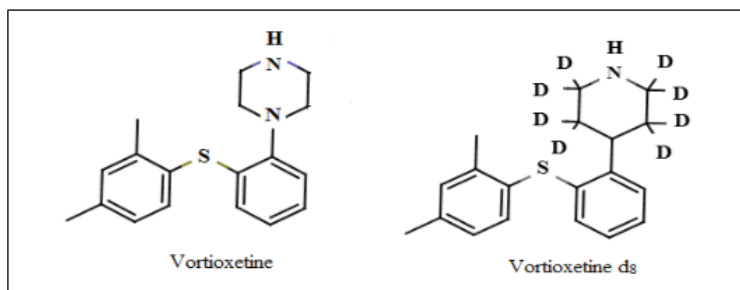
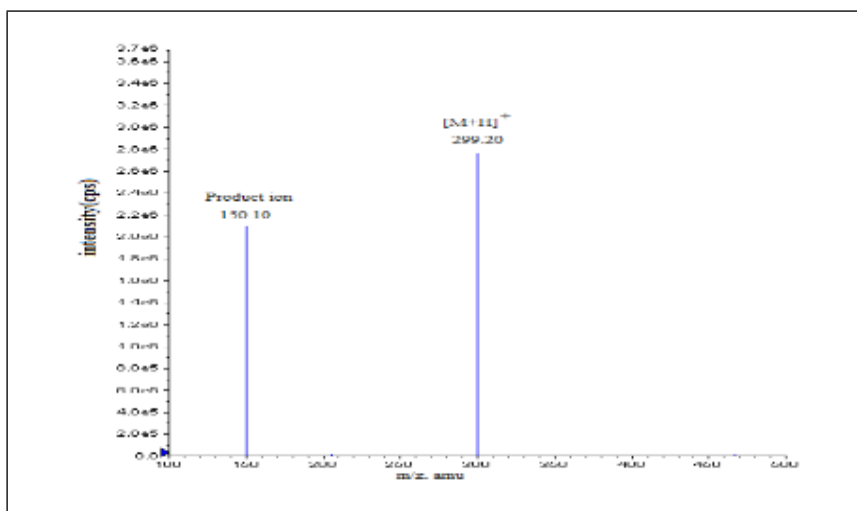
The Lower Limit of Quantification (LLOQ) was found to be  $0.250 \text{ ng/mL}$  for Vortioxetine. The % Accuracy was  $99.20\%$  and CV% was  $8.02\%$ .

**Preparation of Calibration Curve Standards (Table7):** We prepared the following concentration of Vortioxetine ranging from  $0.250 \text{ ng/mL}$  with screened  $\text{K}_2\text{EDTA}$  human plasma using final dilutions from the Table X and labeled them as CC1 to CC8. Then filled the table of preparation of Calibration Curve Standards using matrix in 'Preparation of Calibration Curve Standards Form.'

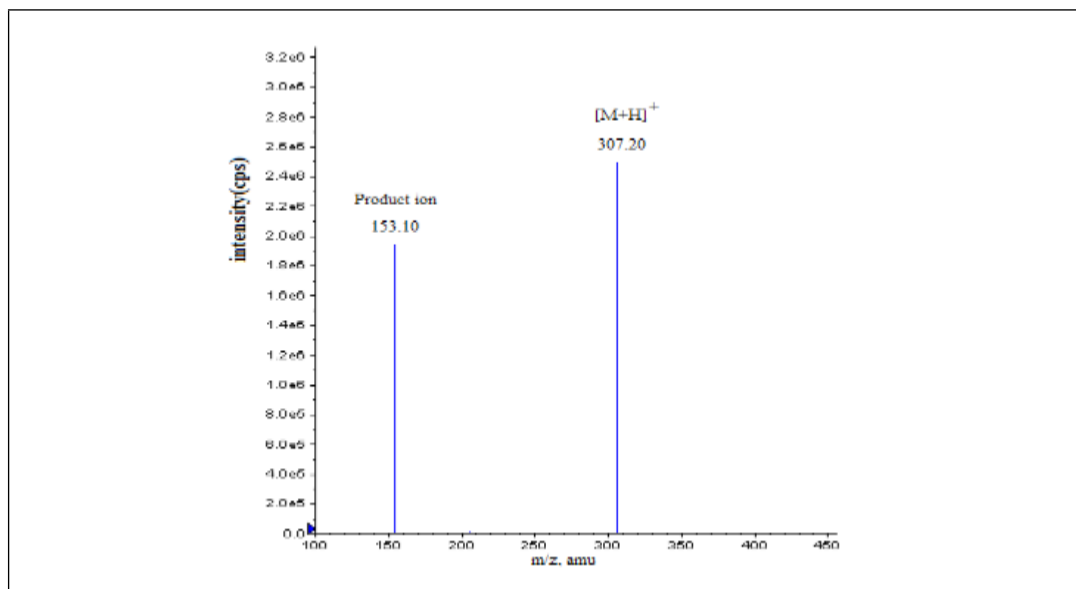
**Table X:** Level of Dilution

Stock Conc (µg/mL)	Volume Stock (mL)	Volume of Diluent (mL)	Final volume (mL)	Final Conc (ng/mL)	Label
1401.260	0.100	1.900	2.000	70.063	CC8
1000.900	0.100	1.900	2.000	50.045	CC7
500.450	0.100	1.900	2.000	25.023	CC6
300.300	0.100	1.900	2.000	15.015	CC5
100.100	0.100	1.900	2.000	5.005	CC4
40.040	0.100	1.900	2.000	2.002	CC3
10.000	0.100	1.900	2.000	0.500	CC2
5.000	0.100	1.900	2.000	0.250	CC1

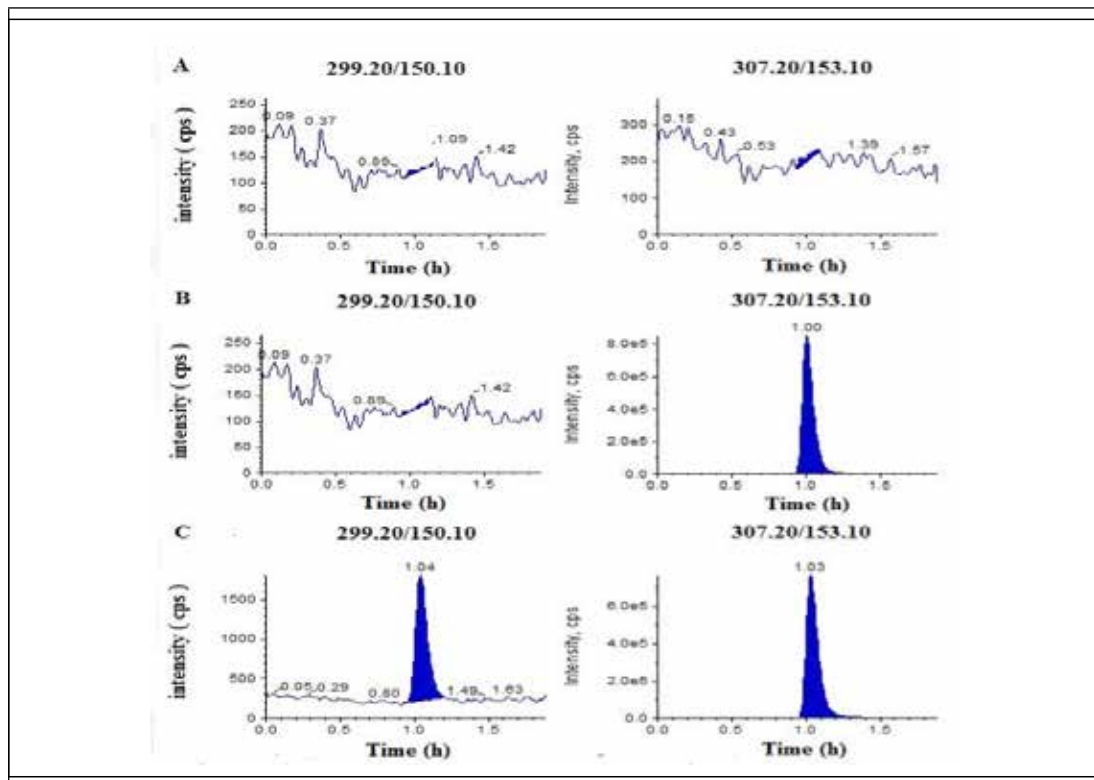
The method was found to be linear between the range 0.250 ng/mL to 70.063 ng/mL for Vortioxetine. A straight line fit was made through the data points by  $1/X^2$  weighing method. The observed correlation coefficient ( $r$ ) was greater than 0.99 in all the cases. Hence the method is linear in the stated range. Figure 6 is representative chromatogram of ULOQ (CC8).

**Figure 1 :** Vortioxetine And vortioxetine d<sub>8</sub>**Figure 2 (a):** Vortioxetine Mass spectrum

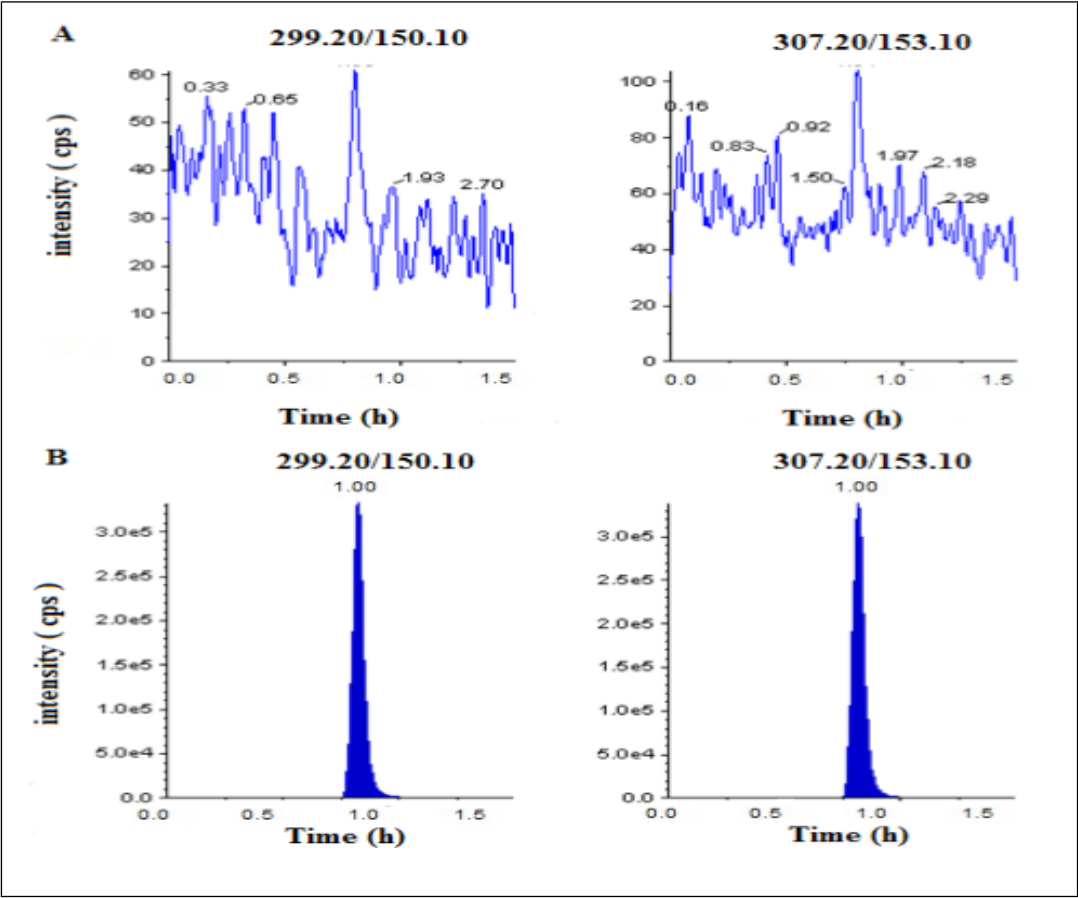




**Figure 2 (b):** Vortioxetine  $d_8$  Mass spectrum



**Figure 3: MRM Conditions** vortioxetine and vortioxetine  $d_8$  (IS) in human plasma (3A), and Spiked with ISTD (3B), LLOQ with ISTD (3C)



**Figure 4:** MRM Conditions analysis of subject blank plasma sample (A) and 7.00 h subject plasma sample (B), after the administration of a 20 mg oral single dose of Vortioxetine tablet.

**Table 1: Matrix effect of Vortioxetine**

Plasma	LQC (0.15ng/mL)		HQC(70.01ng/mL)	
	Conc Mean S.D	% Accuracy	Conc Mean S.D	% Accuracy
1	0.16± 0.00	103	70.60 ± 0.87	70.60 ± 0.87
2	0.15± 0.00	101	70.41 ± 0.60	70.41 ± 0.60
3	0.17± 0.01	110	70.60 ± 0.60	70.60 ± 0.60
4	0.15± 0.01	101	69.64 ± 0.84	69.64 ± 0.84
5	0.16± 0.00	108	69.93 ± 0.05	69.93 ± 0.05
6	0.16± 0.00	104	70.65 ± 0.57	70.65 ± 0.57

**Table 2:** Precision and Accuracy Data for Vortioxetine

Quality control	Run	Concentration found (mean $\pm$ SD; ng/mL)	Precision (%)	Accuracy (%)
Intra-day variations (Six replicates at each concentration)				
LLOQ	1	0.05 $\pm$ 0.00	3.65	92.6
	2	0.05 $\pm$ 0.00	3.22	98.1
	3	0.05 $\pm$ 0.00	5.75	104
	4	0.05 $\pm$ 0.00	5.11	103
	5	0.05 $\pm$ 0.00	4.26	104
LQC	1	0.15 $\pm$ 0.00	0.89	102
	2	0.16 $\pm$ 0.00	1.68	106
	3	0.17 $\pm$ 0.33	1.81	110
	4	0.16 $\pm$ 0.00	2.47	107
	5	0.16 $\pm$ 0.00	1.24	107
MQC1	1	13.3 $\pm$ 0.11	0.79	102
	2	12.3 $\pm$ 0.10	0.84	94.6
	3	13.7 $\pm$ 0.16	1.13	106
	4	13.3 $\pm$ 0.06	0.49	103
	5	13.6 $\pm$ 0.08	0.60	105
MQC2	1	38.0 $\pm$ 0.31	0.80	93.6
	2	39.7 $\pm$ 0.13	0.32	97.8
	3	41.9 $\pm$ 0.14	0.34	103
	4	41.4 $\pm$ 0.30	0.74	102
	5	41.7 $\pm$ 0.23	0.55	103
HQC	1	70.1 $\pm$ 0.49	0.70	100
	2	74.1 $\pm$ 0.46	0.62	106
	3	73.7 $\pm$ 2.96	4.01	105
	4	67.1 $\pm$ 0.61	0.91	95.8
	5	66.4 $\pm$ 0.62	0.93	94.8
Inter-day variations (Thirty replicates at each concentration)				
LLOQ		0.05 $\pm$ 0.00	6.14	100
LQC		0.16 $\pm$ 0.00	3.03	106
MQC1		13.3 $\pm$ 0.53	4.00	102
MQC2		40.5 $\pm$ 1.52	3.74	99.8
HQC		70.3 $\pm$ 3.52	5.01	100

Spiked concentrations of LLOQ, LQC, MQC1, MQC2 and HQC are 0.05, 0.15, 13.0, 40.6 and 70.0 ng/mL, respectively.

**Table 3:** Stability data for Vortioxetine in plasma (n=6)

Stability test	QC(spiked Conc (ng/mL))	Mean $\pm$ SD (ng/mL)	Precision (%)	ACC / Stability %
Process <sup>a</sup>	0.15	0.16 $\pm$ 0.00	2.02	106
Wet extract <sup>b</sup>	70.0	67.3 $\pm$ 0.15	0.23	96.1
Bench top <sup>c</sup>	0.15	0.16 $\pm$ 0.00	1.96	104
FT <sup>d</sup>	70.0	67.5 $\pm$ 0.19	0.28	96.4
Reinjection <sup>e</sup>	0.15	0.16 $\pm$ 0.00	1.20	105
Long-term <sup>f</sup>	70.0	67.5 $\pm$ 0.52	0.77	96.4

- a after 70 h in auto sampler at 10°C;
- b after 65 h at room temperature;
- c after 14 h at room temperature;
- d after 4 freeze and thaw cycles;
- e after 94 h of Reinjection;
- f at -70°C for 108 days

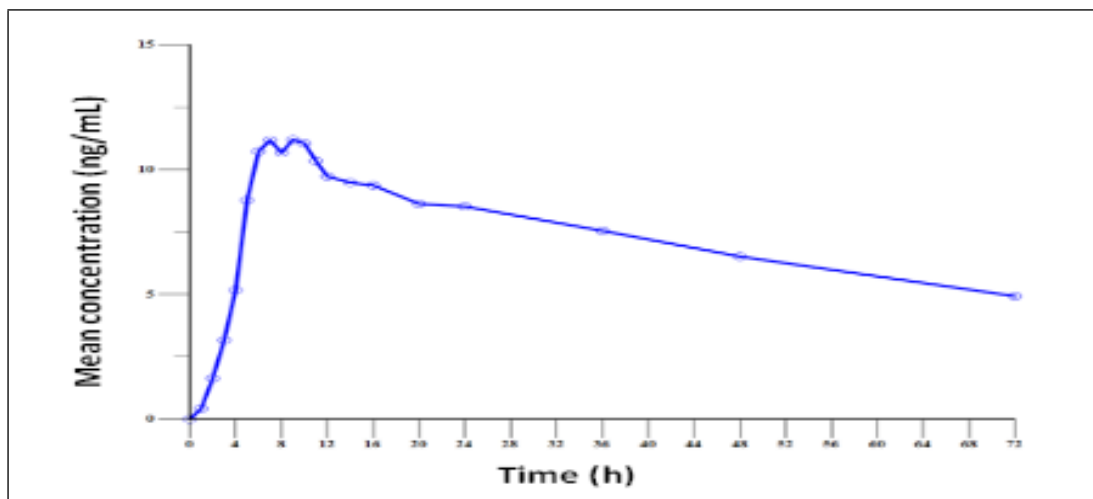
**Table 4:** Incurred Samples Re-analysis Data of Vortioxetine

20 mg			
Sample	Initial conc. (ng/mL)	Re-assay conc (ng/mL)	Difference (%)
1	6.185	6.221	0.58
2	3.679	3.790	2.97
3	6.278	6.311	0.52
4	4.334	4.488	3.49
5	12.309	12.436	1.03
6	5.732	5.819	1.51
7	4.040	4.091	1.25

**Table 5:** Dilution Integrity (DI)

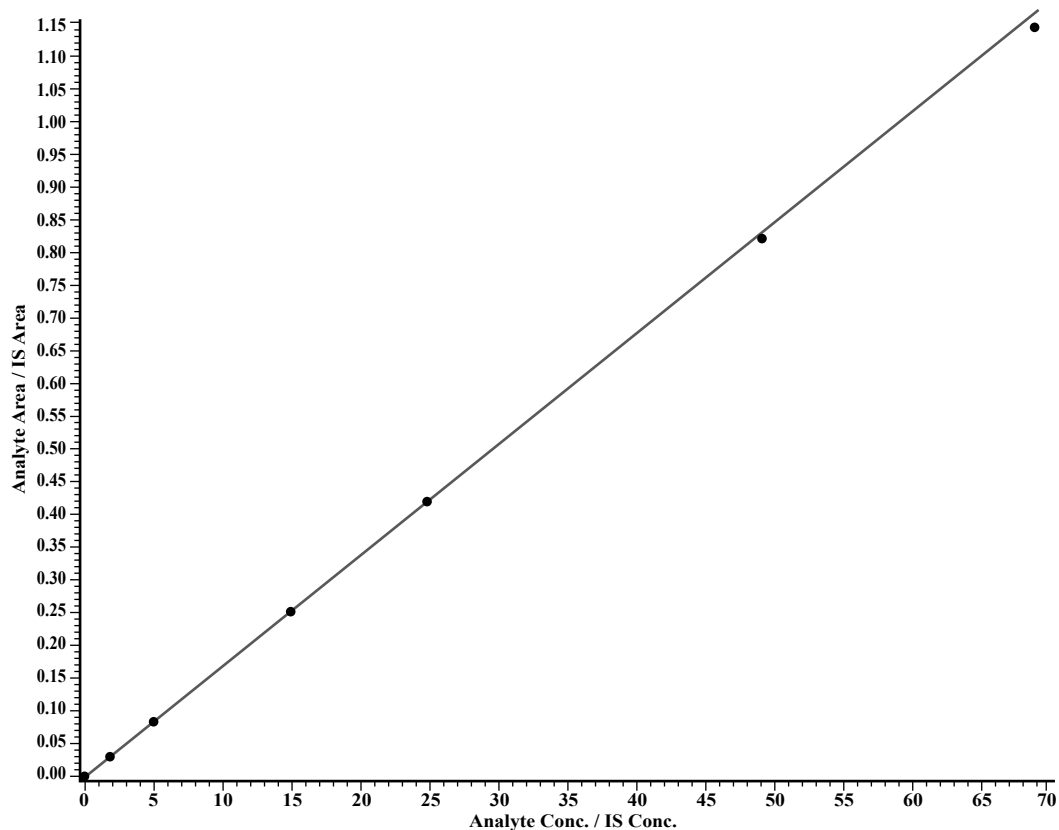
1 : 4 Dilution				
ID	D.F	Dilution Medium	Obtained conc (ng/mL)	% Accuracy
DIQC -01	5	Screened K <sub>2</sub> EDTA Human Plasma	211.916	100.74
DIQC -02	5		214.535	101.99
DIQC -03	5		213.784	101.63
DIQC -04	5		216.561	102.95
DIQC -05	5		210.970	100.29
DIQC -06	5		213.059	101.28
Mean			213.471	
SD (±)			1.9810	
CV%			0.93	
% Accuracy			101.48	
Nominal Conc (ng/mL)			210.357	

DI samples were diluted in 1:4 ratio using Screened K<sub>2</sub>EDTA Human Plasma



**Figure 5:** Plasma conc. Time of Vortioxetine in Human Plasma

■P&A Batch-III.rdb (Vortioxetine): "Linear" Regression (" $1/(x*x)$ ") weighting):  $Y=0.0167x+0.000738$  ( $r=0.9993$ )



**Figure 6:** Calibration Curve

**Table 6:** Inter-Batch Precision and Accuracy (Global Statistics for four P&A Batches)

P&A	QC No	LLOQ (ng/mL)	LQC (ng/mL)	MQC (ng/mL)	HQC (ng/mL)
II	07	0.281	0.744	30.887	59.212
	08	0.238	0.778	31.197	59.175
	09	0.258	0.787	31.249	58.896
	10	0.276	0.738	30.488	56.517
	11	0.238	0.752	31.279	58.555
	12	0.302	0.765	30.910	59.807
III	13	0.266	0.755	30.105	59.063
	14	0.246	0.774	31.390	58.917
	15	0.250	0.753	31.131	59.179
	16	0.246	0.762	30.795	61.576
	17	0.252	0.767	31.111	56.870
	18	0.239	0.759	31.370	59.026
IV	19	0.233	0.773	30.156	59.307
	20	0.219	0.716	29.770	65.654
	21	0.231	0.768	30.633	59.812
	22	0.216	0.771	30.176	61.137
	23	0.238	0.760	30.606	61.673
	24	0.221	0.734	30.766	62.581
V	25	0.252	0.718	27.236	57.271
	26	0.238	0.704	27.136	58.130
	27	0.262	0.737	26.649	58.919
	28	0.245	0.713	26.907	59.040
	29	0.241	0.736	27.381	56.682
	30	0.252	0.707	27.049	57.430
<b>Mean</b>		0.248	0.749	29.849	59.364
<b>SD (±)</b>		0.0199	0.0239	1.7013	2.0891
<b>CV%</b>		8.02	3.19	5.70	3.52
<b>% Accuracy</b>		99.20	100.00	99.33	98.77
<b>Nominal Conc. (ng/mL)</b>		<b>0.250</b>	<b>0.749</b>	<b>30.051</b>	<b>60.102</b>

**Table 7:** Calibration Curve

Level	Sp.Conc (ng/mL)	Fresh CC (Set - 01)	% Accuracy
CC1	0.250	0.246	98.37
CC2	0.500	0.520	103.96
CC3	2.002	2.033	101.56
CC4	5.005	4.442	88.75
CC5	15.015	15.104	100.59
CC6	25.023	24.199	96.71
CC7	50.045	50.659	101.23
CC8	69.813	75.982	108.84

	Fresh CC (Set- 01)
Intercept	0.00046
Slope	0.0185
r	0.9979

r = Correlation coefficient

Fre = Fresh

Sp. Conc = Spiked concentration

## CONCLUSIONS

This work has followed the present acceptable FDA guidelines. The results indicate the successful development and validation. During method validation, System suitability was performed & the results obtained were within acceptance criteria ( $CV\% \leq 3$  for area ratio &  $CV\% \leq 2$  for RT). Based on the results of validation, it can be concluded that the present method is suitable for the estimation of vortioxetine in  $K_2EDTA$  human plasma over concentration range of 0.250ng /mL to 70.063ng/mL. The precision and accuracy are very much within the prescribed limits in this concentration range. The drug was found to be very stable after five freezes - thaw cycles, upto 33.00 hrs of Bench-top stability, upto 39.00 hours of In-Injector stability, and upto 34.00 hours of Wet extract stability. This method is found to be rugged with changes in column and analyst. The method presented is highly sensitive (0.051 ng/mL) and usage of low plasma volume (300  $\mu$ L) for analysis and interference in blank samples is nullified compared to other procedures and also additional points can be included since volume of the sample to be collected per time point is reduced from each subject during the study. Additionally, the total run time for the analysis is very low. Thus, a favorable outcome can be obtained by this method and relatively large number of samples can be analyzed in very short time. The simple SPE procedure simplifies the sample preparation procedure, reduces the chances of errors and saves much time.

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# DEMOGRAPHICS AND THEIR INFLUENCE ON ATTITUDE OF FEMALE CONSUMERS TOWARDS ONLINE APPAREL PURCHASE IN DELHI & NCR

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## ABSTRACT

*The main objective of this paper is to determine the impact of various demographic factors in formation of females' attitude towards online shopping. Convenience sampling was used in this study and the statistical population include 554 respondents in Delhi and NCR. Data was collected through self-administered questionnaire. One-way ANOVA findings revealed that there is significant difference in attitude towards online shopping of apparels among different age group but there is no significant difference in attitude towards online shopping among income group, occupation group and educational background group. Chi Square Test findings revealed that there is a significant relationship between the demographic factors and expenditure pattern towards online shopping of apparels among Indian Females.*

**Keywords:** Apparels, Demographics, Female Attitude, Online Shopping.

## INTRODUCTION

Digitalization has changed the life of human being and has brought the things to their door step. This has generated the comfort in day-to-day life in various aspects. Technology has enabled them. Every task can be completed through internet most of the time, which in turn gives the opportunity to save time. Since females are also working nowadays and they manage multiple tasks simultaneously, online shopping has provided the platform to complete these tasks easily. E-shopping is nothing but the shopping of goods and services from online merchants through internet. Online merchants sell the goods and services over the internet. Shoppers can visit the online vendors 24x7 from their homes through their laptops, mobile etc.

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Online shopping is defined as the process through which a customer purchases a service or product over the internet. In other words, a consumer buys the product by looking out the leisure & comfort from their houses at any time from an online vendor. According to ASSOCHAM the commerce market jumped by nearly 65% in 2018. Further, it has been revealed that 61% of Delhi's population prefers to purchase the daily routine items through online medium. The study also claimed that online buyers starting with a base age of 18 years onwards are more involved in E-shopping. In 2016, a huge amount was spent on popular categories like apparel by 85% through online shopping. In 2017, the frequency of purchase was also higher for categories like apparels & accessories (54%) and the respondents belong to metro cities like Delhi. Reports suggested that India is rising swiftly and considered as the second largest market. But the participation of males is higher (71%) as compared to the females (29%) in India. This insufficiency generated the need to find out the impact of demographic factors and their impact on attitude of female and expenditure pattern in India towards online purchase of apparels.

## DEMOGRAPHIC FACTORS

Personal characteristics of buyers such as age, occupation, economic situation, lifestyle, personality and self concept influence the buyers' decision process (Kotler, 2001). Hanna and Wozniak (2001) defined demographics as the most common basis for segmenting consumer markets. An individual's demand for products is dependant on occupation and financial situation, as well as the stage in the life (Armstrong *et al.*, 2005). Every human being is unique with different personality and characteristics (Blachwell *et al.*, 2001). The product like food, clothes and furniture are age-related and consumer's choice varies over the time. Even a person's economic situation has considerable impact on purchase behaviour. Bellman (1999) investigated various predictors for whether an individual will purchase online. These authors concluded that demographic variables such as income, education and age have a modest impact on the decision of whether to buy online whereas the most important determinant of online shopping was previous behavior such as earlier online purchases. (Harrison and Rainer, 1992; Hubona and Kennick, 1996) explained the importance of age in analysis of human behaviour. Czara *et al.*(1989) and Hubona & Kennick (1996) revealed that younger generations are quick learner of computer skills as compared to the older counterparts. Al-Somali *et al* (2009) revealed that age was not correlated with attitude and did not significantly influence their behaviour. Finally, McCloskey (2006) concluded that age influences the decision about online purchase and do not influence the subsequent behaviour of E-shoppers, such as the number of transactions or the amount spent. "Consumers of different age groups obviously have very different needs and wants" (Solomon, 1999). Schiffman and Kanuk (2000) mentioned that product needs often vary with consumer age. Hubona and Kennick, (1996), Chau and Hu, 2002) suggested that income is the reflection of professional status of individual thus may affect attitude. Schiffman and Kanuk (2000) stated that income has long been an important variable for distinguishing market segment. Hubona and Kennick(1996); Lu *et al.*(2003) demonstrated how people with high income perceive less risk but ones the person get experience, their technological behaviour does not affect by income. Therefore income does not have a significant effect upon the perceptions, attitude and behaviour of experienced

users of an IT (Al-Somali *et al.*, 2009). The present study shares this notion, and thus it has established that all experienced E-shoppers display similar online purchasing behaviour, independently of their incomes. Kotler (2000) mentioned that a person's occupation influences consumer's consumption pattern. Hawkins, Best and Coney (2001) explained that education is relatively simple to measure. Educational level is correlated with both occupation and income. In addition, it influences the lifestyle and therefore consumption patterns of individuals in a direct manner.

## ATTITUDE

Attitude can be defined as a phenomenon of individuals in general assessment of an insight (Peter *et al.*, 1999). Attitudes influence the behavior. Attitude towards buying on internet are defined as a consumer's positive or negative feelings about performing the purchasing behavior on the internet (Chiu *et al.*, 2005; Schlosser 2003). Khare & Rakesh(2011) stated that male students have more positive attitude towards online shopping compared to female students. Consumers have attitudes towards various products, brands, models, stores and people. Consumers also have attitudes towards imaginary objects such as concepts and ideas (Peter *et al.*, 1999). Attitude formation helps consumers to make decisions by evaluation of alternatives based on the attributes and benefits of each product. This paper focuses on the impact of various demographic factors on attitude of Indian female towards apparels purchasing online, as attitude have significant influence on consumer intention to buy, so it becomes important to understand attitude.

## RESEARCH METHODOLOGY

### Research Objectives

1. To investigate the affect of socio-demographic factors such as (age, income, occupation and education) on attitude of Indian females towards online shopping of apparels.
2. To examine the relationship between demographic factors such as (age, income, occupation and education) and expenditure pattern of Indian females towards online shopping of apparels.

**Research Scope:** This study will help the online marketers in product positioning and proper segmentation. It will help the online vendors to recognize the surroundings and strategies required to involve female customer in the process of online purchase of apparels.

## RESEARCH DESIGN

This study is specific to Indian females belonging to different background like corporate professionals /academicians/students/housewife. Females between the age group 18 to 50 yrs were selected for the study. They were working as well as non working females with at least has had an experience of online purchasing before. 650 questionnaires were distributed among the females from which 554 analyzable questionnaires were obtained eventually. Questionnaire was taken as the collection tool. Delhi was divided into 5 zones (East, West, North, South and Central) and 100 samples from each zone were captured.

## DATA ANALYSIS

**Descriptive Statistics:** Out of 650 responses 554 valid responses were generated which secure 85.23% response rate. About 71% of the population belonged to the age group of 20-30 years and average qualification was post-graduate . 86% respondents were working and 33% had an income of more than Rs.5 Lakh per year. 9% respondents were non-working. 4% respondents belong to the households. Approx 55% of the female population spent between Rs.5000 to Rs.15000 on apparel shopping online per month. All the respondents were techno-savvy. (see Table 1)

**Table 1: Demographic Profile of Female Respondents**

Variables	Category	Frequency	Percentage
<b>Age</b>	20 years and up to 30 years of age	396	71.50%
	31 years and up to 40 years of age	118	21.30%
	40 years and above	40	7.20%
<b>Educational Background</b>	Students Graduates	230	41.5%
	Professionals	222	40.1%
	Academicians	78	14.1%
	Housewife	24	4.3%
<b>Income</b>	Up to Rs.1 Lakh	128	23.10%
	Rs.1- 5 Lakh	168	30.30%
	Rs.5 - 10 Lakh	188	33.90%
	Rs.10 Lakh and above	70	12.6%
<b>Expenditure Pattern</b>	Rs. 1000 –Rs. 5000	186	33.6%
	Rs. 5000 –Rs.15000	304	54.9%
	Rs.15000 – Rs.30000	64	11.6%
<b>Mode of Payment</b>	Credit Card	95	17.1%
	Debit Card	213	38.4%
	Cash on delivery (COD)	246	44.4%
<b>Occupation</b>	Post-Graduate Students	50	9.02%
	Working students	180	32.5%
	IT professional	222	40.10%
	Academicians	78	14.1%
	Housewife	24	4.3%

(Source: Author's Survey)

The major research questions were to identify the impact of demographic factors on attitude.

### Research Hypothesis Development

*H01a:* There is no significant difference between age and attitude towards online shopping of apparels.

*H01b:* There is no significant difference between income and attitude towards online shopping.

*H01c:* There is no significant difference between occupation and attitude towards online shopping.

*H01d:* there is no significant difference between education group and attitude towards online shopping of apparels.

*H02a:* Is there a relationship between age and expenditure among Indian females?

*H02b:* Is there a relationship between income and expenditure among Indian females?

*H02c:* Is there a relationship between occupation and expenditure among Indian females?

*H02d:* Is there a relationship between educational background and expenditure among Indian females?

### RESEARCH FINDING & DISCUSSION

**1. To investigate the affect of socio-demographic (age, income, occupation and education) on attitude of Indian Females towards online shopping of apparels.**

**H01a: There is no significant difference in attitude towards online shopping among age group.** One-way ANOVA was utilized to examine the differences in attitude towards online shopping among age group. The result of this analysis is summarized in Table 2. The research finding showed that there is a significant difference in attitude towards online shopping among age group ( $F = 1.120$ ,  $p = .327$ ). Hence, H01 was rejected. This showed that the age of the respondents do have an effect on attitude of female consumers towards online purchase of Apparels.

**H01b: There is no significant difference in attitude towards online shopping among income group.** One-way ANOVA was utilized to examine the differences in attitude towards online shopping among income group. The result of this analysis is summarized in Table 2. The research finding showed that there is no significant difference in attitude towards online shopping among income group ( $F = 2.766$ ,  $p = 0.041$ ). Hence, H02 was successfully accepted. This showed that income does not have effect on attitude of female consumers towards apparel purchase online as the females who are not working and belongs to household also go for online shopping and Cash on Delivery mode easily opted for online purchase.

**H01c: There is no significant difference in attitude towards online shopping among occupation group.** One-way ANOVA was utilized to examine the differences in attitude towards online shopping among occupation group. The result of this analysis is summarized in Table 2. The research finding showed that there was no significant difference in attitude towards online shopping among occupation group ( $F = 4.470$ ,  $p = 0.001$ ). Hence, H03 has been rejected. This showed that the occupation of the respondents do not have effect on attitude of

female consumers to make e-commerce purchases of apparels through online shopping as the females are working in different sectors go for online shopping.

**H01d: There is no significant difference in attitude towards online shopping among education group.** One-way ANOVA was utilized to examine the differences in attitude towards online shopping among education group. The result of this analysis is summarized in Table 2. The research finding showed that there was no significant difference in attitude towards online shopping among occupation group ( $F = 5.562$ ,  $p = 0.001$ ). Hence, H04 is accepted. This showed that the educational background of the respondents do not have effect on attitude of female consumers to make online purchase of apparels.

**2. To examine if there a relationship between demographic factors such as (age, income occupation and education) and expenditure pattern of Indian Females towards online shopping of apparels.**

**H02a: There is no relationship between age and expenditure among Indian females.**

A Pearson chi-square test was conducted to examine whether there was a relationship between age and expenditure. The results revealed that there is a significant relationship between the two variables age and expenditure pattern (Chi square value = 50.301,  $df = 4$ ,  $p = .001$ ). The null hypotheses is rejected as the younger generation is more friendly with online shopping which is in accordance with the studies of Czara *et al.*, (1989); Hubona and Kennick (1996).

**H02b: There is no relationship between income and expenditure among Indian females.**

A Pearson chi-square test was conducted to examine whether there was a relationship between income and expenditure. The results revealed that there is a significant relationship between income and expenditure (Chi square value = 330.650,  $DF = 6$ ,  $p = .001$ ). The null hypotheses is rejected as the females with higher income perceive less risk in online shopping (Hubona and Kennick, 1996; Lu *et al.*, 2003).

**H02c: There is no relationship between occupation and expenditure among Indian females.**

A Pearson chi-square test was conducted to examine whether there was a relationship between occupation and expenditure. The results revealed that there is a significant relationship between occupation and expenditure (Chi square value = 107.156,  $DF = 8$ ,  $p = .001$ ). The null hypotheses is rejected as the income would be in accordance with the professions.

**H02d: There is no relationship between educational background and expenditure among Indian females.**

A Pearson chi-square test was conducted to examine whether there was a relationship between educational background and expenditure. The results revealed that there is a significant relationship between educational background and expenditure (Chi square value = 93.226,  $DF = 6$ ,  $p = .000$ ). The null hypotheses is rejected as qualified females would learn the technology easily and would be comfortable using it.

## CONCLUSION

Eventually, from the eight hypotheses that have been formed, five hypotheses were rejected via the statistical analysis. The first specific objective is to investigate the affect of socio-demographic (age, income and occupation, education) on attitude of Indian Females towards online shopping of apparels. From the research, it was found that there is a significant difference in attitude towards online shopping among age group ( $F = 1.020$ ,  $p = .327$ ) as age plays an important role in the perception process and young generation is comfortable in learning new skills which is similar to the studies of McCloskey (2006) & Czara *et al.* (1989); Hubona and Kennick (1996). Hence, the H01a was rejected. However, there was no significant difference in attitude towards online shopping among income group ( $F = 2.766$ ,  $p = .041$ ). Hence, it was successfully accepted as the population selected for study had a prior experience of online shopping and they are comfortable doing so and this is supported by the study of Hubona and Kennick (1996); Lu *et al.* (2003); Al-Somali *et al.* (2009). The result also indicated that there was no significant difference in attitude towards online shopping among occupation group and education ( $F = 4.470$ ,  $p = 0.001$  &  $F = 5.562$ ,  $p = 0.001$  respectively). Hence, it was rejected. On the other hand, to examine the relationship between demographic factors such as (age, income occupation and education) and expenditure pattern of Indian females towards online shopping of apparels we found that demographic factors such as age, income, occupation and educational background do have relationship with expenditure pattern.

**Table 2: Results**

Objective	Hypotheses	Statistical Test	Result	Discussion
To investigate the affect of socio-demographic (age, income occupation and educational background) on attitude of Indian females towards online shopping of apparels.	H01a: There is no significant difference between age and attitude towards online shopping of apparels	One-way ANOVA	$F=1.120$ , $p=.327$	REJECTED
	H01b: There is no significant difference between income and attitude towards online shopping of apparels	One-way ANOVA	$F = 2.766$ , $p= 0.041$	FAILS TO REJECT
	H01c: There is no significant difference between occupation and attitude towards online shopping of apparels	One-way ANOVA	$F = 4.470$ , $p= 0.001$	FAILS TO REJECT
	H01d: There is no significant difference between educational background and attitude towards online shopping of Apparels	One-way ANOVA	$F = 5.562$ , $p= 0.001$	FAILS TO REJECT



To examine the relationship between demographic factors (age, income and occupation) and expenditure pattern of Indian females towards online shopping of apparels.	H02a: There is no relationship between Age and expenditure among Indian females	Chi Square Test	Chi Square value = 50.301, df=4, p = .001	REJECTED
	H02b: There is no relationship between Income and expenditure among Indian females	Chi Square Test	Chi Square value = 330.650, df=6, p = .001	REJECTED
	H02c: There is no relationship between occupation and expenditure among Indian females	Chi Square Test	Chi Square value = 107.156, df=8, p = .001	REJECTED
	H02d: There is no relationship between educational background and expenditure among Indian females	Chi Square Test	Chi Square value = 93.226, df=6, p = .001	REJECTED

(Source: Own Data)

## IMPLICATIONS

It is very important from marketer's perspective to understand the attitude of Indian females towards online shopping as India has secured encouraging position in online shopping. Demographics play an important role in the decision making regarding the apparel purchase online. This study will help the online vendors in positioning and segmentation of the products online. This research can make the consumers aware that e-commerce is becoming a vital fashion in the contemporary environment and in the technology upgraded society.

## LIMITATION AND THE FUTURE RESEARCH

This study has taken important steps to investigate the affect of demographic factors on attitude of Indian females towards online shopping of apparels. Despite the strengths, this study also suffers with certain limitations. Firstly, the research has only examined few demographic factors that influence attitude of female consumer towards online shopping. Secondly, the research was conducted in Delhi and NCR only. Future researches are suggested to determine other factors that influence consumers' attitude towards online shopping beside consumers' socio-demographic, and relation of these factors with expenditure pattern. Therefore, it helps them to understand other factors that may influence the consumers' attitude towards online shopping. Besides, future researchers may further scope to replicate the study in different environment and different geographical locations.

Different environment played a vital factor that affect respondents' attitude towards online shopping. Individuals in the busy environment like capital city of Delhi could behave in a different manner compared with this sample.

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# ANALYZING DISASTER RISK FACTORS OF CYCLONE SURVIVORS IN BANGLADESH

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## ABSTRACT

*Tropical cyclone causes enormous socio-economic, environmental and health burdens to vulnerable people residing in coastal regions in Bangladesh. Recent debates on climatic shifts and old fashioned disaster management models often referred as disaster preparedness and response have created an opportunity for framing concrete decisions to formulae national policy and advance adaptive capacity building in addressing climatic loss and damage. This paper discusses epidemiological, environmental and socio-economic risk factors in the post-cyclone phase in Bangladesh.*

**Keywords:** Cyclone, Cyclone Aila, Hyogo Framework for Action 2015, Morbidity, Mortality, Risk, Sidr, Tropical cyclone.

## INTRODUCTION

Tropical cyclone causes enormous socio-economic, environmental and health burdens to vulnerable people residing in coastal regions in Bangladesh. Recent debates on climatic shifts and old fashioned disaster management models often referred to disaster preparedness and response have created an opportunity for framing concrete decisions to formulae national policy and advance adaptive capacity building in addressing climatic loss and damage. Over the last few decades, climate change acted as a risk factor for developing cyclone related risks in this region. Extreme events have become more frequent or more severe in propagating a huge climate induced vulnerability and environmental health hazard. Bangladesh is one of the top ten nations mostly vulnerable to climate change (*German Watch Global Climate Risk Index [CRI]-2011*).

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Bangladesh has experienced numerous devastating tropical cyclones in recent years that have caused immense prolonged suffering to people and huge losses to property in south west coastal belts. During cyclonic catastrophe, people from coastal area seem to be more vulnerable in managing further disaster risk and crisis. Moreover, most of the climate induced people live in an extremely dynamic and challenging environment. Besides, there are threats of climate change and upstream land and water uses across the country (Mallick *et al*, 2009). These threats affect almost every aspect of life and limit livelihood choices of the climate induced people.

The coastal zone of Bangladesh, an area covering 47,211 km<sup>2</sup> facing the Bay of Bengal or having proximity to the Bay, and the exclusive economic zone in the Bay, is generally perceived to be a zone of multiple vulnerabilities. Records of last 200 years show that at least 70 major cyclones hit the coastal belt of Bangladesh and during the last 35 years nearly 900,000 people died due to catastrophic cyclones (PDO-ICZMP 2004). Disasters cause serious damage to health facilities, water supplies and sewage systems. A variety of public health consequences related with tropical cyclones pose for indicating storm-induced mortality, morbidity, infectious diseases, psycho-social effects, disruption of healthcare services and damage to the health-care infrastructure in disaster prone areas. Threats of pure drinking water and sudden food crisis often reflect huge deficiency in nutritional status of child bearing mother and children in most crisis regions. A serious reduction in jobs and livelihoods tremendously make the cyclone affected people vulnerable to health outcomes and build back better. The unique natural setting of Bangladesh and the characteristics of tropical monsoon climate in South Asian subcontinent are greatly responsible for the cyclone hazards in the country. Of the 508 cyclones that have originated in the Bay of Bengal in the last 100 years, 17 percent have hit Bangladesh, amounting to a severe cyclone almost once every three years (Ahmed *et al.*, 2012). The main purpose of the paper focuses on identifying statistics related with human and property losses of tropical cyclone calamity and strengthening adaptation policies and practices to address people's vulnerability and their adaptive capacity for building Bangladesh resilient. In order to prepare a risk profile based on tropical cyclone, this study attempts to explore socio-economic, environmental and health burdens of cyclone affected people for the last three decades or more (1980-2015) in coastal Bangladesh.

## METHODS

Quantitative data had been used from International Disaster Database EM-DAT for addressing parameters like losses of livestock, damages to property, socio-economic and health impacts that occurred during cyclone in Bangladesh. This study had also employed a content analysis based on reviewing research reports, scientific studies, documentary and comprehensive books written on tropical cyclone based risk management. Content analysis method had been approached for measuring and scaling major variables related with tropical cyclone and its subsequent impact on humans and environmental health experienced in coastal Bangladesh. Analysis of collected data had been accomplished using frequencies, percentages and relevant descriptive statistics.

## RESULTS

### Statistics on Tropical Cyclone: Impacts and Burdens

Bangladesh has been placed as the top most disaster prone country ever reported in the international disaster database. More than 259 extreme natural events hit Bangladesh during the period 1991 to 2009. More than 80% of the disaster deaths occurred in 1991 in Bangladesh. In 1991, a total of 140,000 people had died in Bangladesh.

With regard to focusing on mortality directly, the two deadliest storms like Cyclone Gorky (Bangladesh, 1991; 138,987 deaths) [Table 1] and Cyclone Nargis (Myanmar, 2008; 138,366 deaths) accounted for two-thirds of cyclone deaths between 1980 and 2009. The next order of high mortality events with 15,121 deaths (Table 1) included a cyclone in Bangladesh (1985).

Statistics show that the recorded cyclone in 1993 was 8 while the frequency of cyclone event was reported to be 7 for 2000 and 2005, respectively. Findings of the study reveal that frequencies of cyclone events were not directly connected with increasing mortality in the study. Death rate was seen to be related with the severity of tropical cyclone in the database. Bangladesh is ranked as the top most tropical cyclone affected country both physically and environmentally. Furthermore, cyclone mortality concentrates on infrequent and extreme events across the country.

**Table 1: Storm Triggered Losses to Human [200+ deaths] and Property in Bangladesh**

Year	Events	Deaths	Affected	Injured	Homeless	Total affected
1981	3	1085	2000000	12000	25000	2037000
1983	4	685	5000	350	0	5350
1985	3	15121	1319000	2300	510000	1831300
1988	4	1064	8573860	200	2000000	10574060
1989	2	815	100000	4000	0	104000
1990	4	693	53870	700	4000	58570
1991	2	138987	15000000	139149	300000	15439149
1993	8	452	757500	5520	105000	868020
1995	4	753	2250000	1570	122000	2373570
1996	4	626	82600	36091	0	118691
1997	5	425	2792738	10664	1000000	3803402
1998	5	321	229440	804	0	230244
2001	4	238	26000	2750	0	28750
2004	4	239	1050	3150	14000	18200
2007	2	4275	8923259	55282	225	8978766

Epidemiological, environmental and socio-economic risk factors promote its respective newly introduced risk and health burdens. Multiple risk factors have been approached for addressing specific health, environmental and socio-economic burdens in Bangladesh.

**Table 2: Modelling of Risk Factors and Health Burdens in Cyclone-prone Bangladesh**

<b>Determinants</b>	<b>Risk factors</b>	<b>Health burdens</b>
<b><i>Epidemiological</i></b>  Communicable disease	<ul style="list-style-type: none"> <li>▪ Cyclone related tidal surge</li> <li>▪ Flood</li> <li>▪ Contaminated water</li> <li>▪ Poor hygiene and sanitation</li> <li>▪ Proliferation of rodents</li> </ul>	<ul style="list-style-type: none"> <li>▪ Diarrhoea/Cholera</li> <li>▪ Hepatitis A</li> <li>▪ Hepatitis E</li> <li>▪ Leptospirosis</li> </ul>
<b><i>Epidemiological</i></b>  Vector- borne diseases	<ul style="list-style-type: none"> <li>▪ Flooding</li> <li>▪ Heavy rainfall</li> <li>▪ Humidity</li> <li>▪ Solid waste disposal</li> <li>▪ Weakened health infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>▪ Malaria outbreaks</li> <li>▪ Dengue transmission</li> </ul>
<b><i>Environmental</i></b>	<ul style="list-style-type: none"> <li>▪ Climate change</li> <li>▪ Melting ice</li> <li>▪ Rise of sea levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intrusion of Saline water</li> <li>▪ Drinking water crisis</li> </ul>
<b><i>Socio-economic</i></b>	<ul style="list-style-type: none"> <li>▪ Threats of livelihood</li> <li>▪ Low income generating activity</li> <li>▪ Displacement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Poverty</li> <li>▪ Unemployment</li> <li>▪ Shelter crisis</li> <li>▪ Infrastructure</li> </ul>

### **Exposure to Tropical Cyclone: Environmental Impacts and Vulnerability**

Since 1970, according to a statistics, about 39 million people have been displaced by major natural calamities like flood and cyclone in the country till 2009. There is a warning that about 6 to 8 million more people of Bangladesh could be displaced due to increase in global temperature and sea-level (*The Daily Star* 2011) rise by 2050. Climate change has placed wide-ranging effects on the environment, and on socio-economic and related sectors, including water resources, agriculture and food security, human health, terrestrial ecosystems and biodiversity and coastal zones. Changes in rainfall pattern are likely to lead to severe water shortages and/or flooding. Melting of glaciers can cause flooding and soil erosion.

### **Poverty, Livelihood Threats and Inadequate Economic Resilience**

Poverty is the greatest risk factor for making cyclone affected people unprotected to economic security. Poverty is the single most contributing factor for increasing vulnerabilities in coastal areas in low-lying countries like Bangladesh. In the backdrop of Indian oceanic region, the recurrent yearly tropical cyclone has made people more vulnerable to livelihood strategies and housing conditions over the past several decades. The food security needs,

relief and early recovery, are large and present a significant challenge for the Government of Bangladesh and its partners. According to the latest government official data (21 January 2008), the cyclone severely affected over 7.46 million people in twelve most affected districts. On the basis of UN rapid emergency assessment, 2.6 million people are found to be in need of life-saving assistance, including immediate food assistance (WHO 2006). Increasing disparities in living standards, scarcity of flow of capital and reduction in income generating activities have accentuated extreme poverty around the cyclone affected regions. However, cultural practices in such areas as land use, housing construction and traditional decision making processes affect the ability to prepare and to respond disaster. Disasters can trigger or encourage migration (*The Red Cross and Red Crescent Report*, 2008). Livelihood capacities based on local resources like agriculture, forest and fishing remain challenging for low income generating people and cyclone vulnerable people.

### **Risk Management: Spotlight on Tropical Cyclone**

Modern society has become a risk society in the sense that it is increasingly occupied with debating, preventing and managing risks (Beck, 2006) that it itself has produced. If the climate changes irreversibly, if progress in human genetics makes irreversible interventions in human existence possible, if terrorist groups already have weapons of mass destruction available to them, then it is too late. Francois Ewald argues that the *logic of compensation* breaks down and is replaced by the *principle of precaution* through prevention where this new quality of ‘threats to humanity’ exists. Not only is prevention taking precedence over compensation, we are also trying to anticipate and prevent risks whose existence has not been proven. Rapid changes in climate situation usually aggravate a range of risk factors like intrusion of saline water, rise of sea level, over flooding, riverbed erosion and drought in low-lying country Bangladesh. Each people in coastal area seem to be under risk. They have to face several economic hardships, health hazards and outbreaks in emergency situation in disaster.

## **DISCUSSION**

### **Mortality and Morbidity: Response to Tropical Cyclone**

Over the past several years, frequency of mortality and morbidity for cyclone has experienced a dramatic reduction in Bangladesh. Statistics on human and property losses recorded in the past years have decreased in comparison with those from current years of cyclones like *Aila* and *Sidr*. Advances in disaster risk reduction and risk mitigation based on tropical cyclone data have found preferably the lower rates of mortality and morbidity respectively.

### **Socio-economic Risk Factors and Disaster Risk Mitigation**

Vulnerability, exposure, and hazard are considered as the key indicators attributed to determine disaster risk and efficacy of actions taken to manage the concerned risks. Risk reduction, risk transfer, and disaster management actions appropriately promote risk management initiatives in tropical cyclone affected area. In post cyclone periods, internal displacement makes people forced to look for temporary shelter in cyclone centers and government protected areas. The structure and housing capacity of these cyclone mitigation



shelters do not get priority for ensuring space enough for affected persons. Land management processes in Bangladesh usually encourage poor people to form scattered settlements in hazardous places instead of protected living habitats. Scattered settlements often demonstrate poor housing quality and people's vulnerability to the floods, storm surges and tidal waves based on tropical cyclone in affected areas. Women, children, elderly people, physically challenged persons and Internally Displaced Persons (IDPs) are considered physically and mentally unprotected to economic aspects impacted by cyclone in tropical country landlines. Vulnerability is greater among people in isolated and scattered settlements because of increased exclusion from information aimed at improving preparedness, disrupted traditional social networks and insufficient survival shelters to protect against sea surge.

In the coastal zone of Bangladesh, multiple structural measures like cyclone shelters, killas, coastal embankment, improving housing conditions and the like as well as non-structural measures like coastal afforestation, public awareness, community preparedness, local level contingency planning and social mobilization have been initiated to mitigate cyclonic risk factors and losses to natural disaster. After the devastating cyclone of 1970, GOB and other agencies undertook construction of multi-purpose cyclone shelters. Since then, the number of shelters has increased from 300 to 1275 through new constructions (GOB 2008). For managing and reducing coastal risks, these limited numbers of cyclone shelter and little awareness building program do not carry weight provided that elderly people, women and children remain more vulnerable to hazardous impacts.

### **Health Hazard Management during Tropical Cyclone**

Effective disaster mitigation measures are vital to lifeline for coastal communities and potential affected people in Bangladesh. Natural disasters, particularly meteorological event such as cyclones affects vector-breeding sites and vector borne disease transmission. Initial flooding may wash away existing mosquito-breeding sites, while standing water caused by heavy rainfall or overflow of rivers can create new breeding sites. This situation brings result (with typically some weeks' delay) in an increase of the vector population and potential for disease transmission, depending on the local mosquito vector species and its preferred habitat.

### **CONCLUSION**

Bangladesh is a tropical cyclone country. Targeted and implemented policies and actions towards disaster management in Bangladesh has advanced in a variety of layers of promoting overall development sector, but few improvements have been observed for the climate based cyclone vulnerable people in the coastal zones. Bangladesh is still struggling for making policies, setting priorities and implementing multiple projects in association with international community based on Hyogo Framework for Action 2015. Cyclone-related deaths are overwhelmingly caused by the initial traumatic impact of the event. Vector-borne diseases tremendously dominated in comparison with communicable and non-communicable diseases in post-cyclone periods in Bangladesh coastal belts. Cyclone preparedness plans response systems, appropriately focused on trauma and mass casualty management, should also take into account the health needs of the surviving cyclone affected populations.

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## FAMILIAL DEGENERATION IN VIJAY TENDULKAR'S GIDHADE (THE VULTURES)

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### ABSTRACT

*Vulture is a bird that feeds on corpses and has come to symbolize anyone or anything that benefits from another's sufferings. Vijay Tendulkar has very aptly entitled his play to portray familial degradation and man's savage nature when avarice can lead to tearing one another, breaking even blood ties. Gidhade (The Vultures, 1971) has a singular place among Vijay Tendulkar's (1828-2008) oeuvre of literary output spanning over fifty years. This paper attempts to explore how avarice degrades humans to become like vultures in their excessive craving for wealth and the deployment of this metaphor by Tendulkar in his novel..*

**Keywords:** Avarice, Burning Ghat, poetry, superstition.

### INTRODUCTION

Avarice, derived from Latin *avarus*, is the inordinate **love** for **riches**. Its special malice lies in that it makes the getting and keeping of money, possessions, and the like, a purpose in itself to live for. It does not see that these things are valuable only as instruments for the conduct of a rational and harmonious life, due regard being paid of course to the special social condition in which one is placed. It is called a capital **vice** because it has as its object that for the gaining or holding of which many other **sins** are committed.

Tendulkar has portrayed what he has observed in life and has spoken in plain truth about the consequences of excessive avarice. He has once said, "I have not written about hypothetical pain or created an imaginary world of sorrow. I am from a middle class family and I have seen the brutal ways of life by keeping my eyes open. My work has come from within me, as an outcome of my observation of the world in which I live. If they want to entertain and make merry, fine go ahead, but I can't do it, I have to speak the truth".

In the drama, *Gidhade*, the dramatist symbolically refers to the house of Pappa to the hollow of a tree, nestling place of vultures. The events unfold to prove the characters living

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like vultures prying on each other. The mood is also set with the howling of a fierce wind with the screeching of vultures.

The story surrounds a middle class family where two brothers, Pappa and Sakharam, with dint of hard work, establish a prosperous construction company. In his excessive greed for money, Pappa deceives his brother and takes over the entire property. Pappa divides his wealth between his sons Ramakant and Umakant. The duo in connivance with their sister Manik, plots to squeeze out everything from their father. Meanwhile, Manik has an affair with the Raja of Hondur, who impregnates her. The brothers attempt to blackmail the Raja, but he dies of heart attack. Desperate, they kick out the foetus growing in Manik's womb. Ramakant is unable to have an issue from Rama, after several years of conjugal life, devoid of love. Rama seeks emotional and physical fulfilment from Rajaninath who impregnates her. Knowing of Rama's pregnancy, Manik attempts by superstitious spell to gets the foetus aborted. The play is an epitome of psychological trauma the characters undergoes in their undue Machiavellian pursuit of wealth.

The play opens with a scene in the garage of Pappa's household where his illegitimate son Rajaninath, lives a solitary life, writing poetry. He makes his comment like an omniscient observer, interpreting the misery of Rama who is childless after twenty-two years of marriage in the midst of five ravenous vultures. They live a meaningless life "On the road to hell./ For both, their future/ Is lost, unredeemable,/ And there remains to them/ Only- death" (The Vultures, p. 202). He felt pity for his helpless sister-in-law who came to home which "was not a home, but a hole in a tree/ Where vultures lived/ In the shape of men" (p.204). The central motif of the play is poetically presented by the dramatist in the form of a prologue.

Rajaninath felt compassion for her pathetic situation:

I stood,  
A living corpse, a watchful stone.  
Like a worm, I watched and watched her.  
For twenty-two long years.  
All her hopes, her expectations  
Were scorched, uprooted where they grew.  
But she only knew  
One longing.  
...  
Threw of her chains in her need.  
The need to swell with fruit.  
A soft fulfillment.  
Each womb-bearing woman's right by birth.  
...  
Empty of pain  
And empty of desires.  
And, on the swinging branch  
Of her rotten hopes,  
Five vultures

(pp.205-6)

The secret love relationship blooming between Rama and Rajaninath is given due attention by the dramatist to point out the only element of human sensibility in the play otherwise marred by evil machinations. The scene ends with the screeching of vultures, emphasizing the tone of the play.

Scene II begins with the morning rituals of Rama at the altar basil while the others busy themselves with their mundane preoccupations. Rama, like a typical housewife busies herself serving tea. Pappa talks aloud irritated by his sons who longs for his death, "If I die, I'll become a ghost. I'll sit on your chest! I won't let you enjoy a rupee of it. I earned it all" (p.209). Pappa regretfully tells Ramakant how his wife died leaving such ungrateful wretches. Pappa knows that after he had shared out his property, he has become a burden to them. He recounts the way he had built up the great contracting business with Sakharam, his brother. However, he ditched his brother and took over the entire business. Now, his sons are after him to take possession of everything, driving the old man keep yelling, "Go ruin it, go ahead, both of you! Rub it in the dirt, you pimps, and then repent! Airs like emperors!" (p.214).

The greedy brothers Ramakant and Umakant discuss their sister Manik's affair with the Raja of Hondur. Knowing her pregnancy, they plot to blackmail him to get a huge sum of money. They also plan to stop supplying food and drink to their younger brother Rajaninath, though he never asked a share of the patrimony.

Scene III introduces a late night episode where Pappa, Umakant and Ramakant are with all the paraphernalia of drinks around them. Like the absurd dramatists, Tendulkar introduces the proto-crime Pappa committed fifteen years ago swindling the entire business and pushing his brother Sakharam out. The crime is recalled dramatically introducing the corpse like drunken Sakharam lying on the sofa, and the comments made by the characters.

RAMAKANT: Bosh! (*Tries shaking the body.*) He's had it! Look at this...abs'lute corpse! (*Laughs*) Uncle Sakharam's corpse. (*Laughs*) To bloody death! Damn bore! Drunk t'death! (*Staggers over Uncle's body and stands by it.*) Long live Uncle!...

...

UMAKANT: How'd Uncle... get here, Ramya? Pappa cut his-er-throat! Pushed him out'f business! Ruined'm! Turned'm out of house, Fifteen years ago

(pp.217-18)

The conversation further reveals how Sakharam had planned to take over the business which Pappa found out and swindled in return. Both were equal swindlers and the vulturing continued to be passed on to Pappa's three children.

They are all upset that the uncle has come to stay in the house. Though they plan to kill him, they desist from such cruelty, being their father's brother. They begin to suspect some fishy deal between Pappa and the uncle. As the debate goes on between the three, screeching of vultures can be heard to show the evil designs in the household. They intent to take their father for a ride and extort money by flattery.

In Scene IV, Rama stealthily brings early morning tea to Rajaninath in the garage. The

dramatist portrays their hidden intimacy and relationship in contrast to the five vultures. Their clandestine relationship is the only human element in the play which is one of brutal familial discord and destruction by avarice.

Scene V shifts to drinking bout where the household has come to rejoice after having driven out Sakharam, their common enemy. As they make Pappa drink more liquor, he expresses his joy almost caressing Ramakant: "It was bloody fun today... Sakharam's gone. Gone for good... Ramya my child... you worked wonders... One needs cleverness. Like yours. Bravo!" (p.225). Pappa was overjoyed having sent away his brother empty handed.

His children, like vultures, continue to hover around him, expecting their shares of the remaining wealth of the old man. As they are all drunk, they huddle around Pappa, who in his drunkenness suspects them trying to murder him. He threatens to become a ghost and haunt them day and night. He refuses to give the little money left to them. They keep harassing him to confess in which bank he has his account. Finally he confesses under duress that he has rupees seven thousand. He begs for his life, but refuses to transfer the account. But they keep forcing him to sign a cheque. He bleeds in the ensuing scuffle and keeps calling Rama to save him, "They're killing me, they're killing me! Bahu!" (p.231).

As the scene fades out, to open Scene VI, Rajaninath makes his comment on the development of the story ending Pappa's life in verse like an omniscient observer.

This is the story of the venerable  
Father-vulture's hallowed end.

...

The oldest vulture,  
That stubborn ghost  
With death in his desires.  
Hiding his ugly maw,  
Trailing a wing,  
Departed from the hollow of a tree  
Where he lived  
Drawing tracks of hopelessness  
Upon the dust,  
With the dragging  
Of his corpselike,  
Hideous,  
Dangling limbs

(p.232)

Rajaninath further comments on Pappa's meaningless tears that never dry, unlike human tears. And his vulture-children continue to torment the innocent victim Rama, escalating her sufferings.

Act II brings together the three children further plotting to overthrow each other in the course of their card game. The two brothers plot to blackmail the raja of Hondur for having impregnated Manik. But the sudden death of Raja thwarts their plans. The brothers secure

aborting the foetus in her womb by kicking her in the abdomen. The episode climaxes with Manik screaming and crawling down the stairs, one leg in plaster, as Pappa keeps laughing at the turn of events.

In Act II, scene IV, Rama informs her husband about her pregnancy. A delighted Ramakant advises to take all precautions to nurse the foetus growing within her. Ramkant tells her his difficulties in running the business. However, when Rama suggests him to give it up and take a job instead, he fumes and tells her to keep of from the world of men.

In scene V the two brothers hatch their plot to divide Manik's share between them. But their bargaining leads them to a bitter quarrel. Both want take possession of the house. Umakant strikes discord by revealing the secret love relationship between Rama and their bastard brother. "Call the brat your own, go on! Put him on your head! Lick his piss! Let that smart-arse have fun. You be the bloody father. Bloody fool. Not a paisa's worth of sense. Bloody dupe! ... Bringing shame on all of us!" (p.255). The revelation disrupts the relationship between the couple, and it eats into the psyche of Ramakant, who indulges in more and more drinks.

Meanwhile the story gets a new twist when Pappa visits Rajaninath to cooperate with him to destroy the plans of his other children.

PAPPA: I'm telling you. So you're my true son. You stayed in this garage; rotting away like a beggar...I can't endure this, Rajani. Nor would you. This must be changed...By us... I have made a new will...In this will, I've divided the whole estate between you and Manik. So you file a suit. Say the will's genuine. Say the deed of division of the property was got by threats. I'm there to back you up. I'll say it in the court. Get it all changed! Teach those pimps a lesson...Don't say no... You're my only true son

(pp.259-60)

But Rajaninath shows his disgust towards his father and tells his to get out of his sight.

In the meantime, Rama is heard screaming, since Manik has done some superstitious ritual, casting spell to abort her foetus. She is heard muttering, "I've done it... I've done as I planned... I cut the lemon... I rubbed the ash. Seven times, on my loins and stomach! It's going to abort – sister-in-law's baby's going to abort – Ramya's brat's going to abort – it won't live. It won't live!" (p.260).

Scene VII is a soliloquy of Ramakant in an intoxicated mood cursing his brother determined to take possession of the house. He curses his wife having his step-brother's kiddie. Rifle in hand he threatens to shoot. He moans in anguish: "I'm a useless fellow, brother. Absolutely bloody good-for-nothing. Futile. A bloody bitch. Son of a swine! I – I let my wife ... go... go..." (p.263). He is driven mad and runs around singing and dancing and uttering that he would abort his enemy's bloody son. As he raves in his fury, the rain continues to rage as if in consonance with his wrecked mental condition.

The scene fades out to the screeching of a single vulture as the human vulture in Ramakant has to surrender to his own evil design. The play ends with the final scene with a poetic summing up of the events like an epilogue by Rajaninath: "The tale of the five vultures/ Had

this end./ The story of men accursed” (p.265). He speaks of their lives as utter failures with no hope as they burn in the burning ghat “Where the sinful soul/ Burns off its being” (p.265). They have no escape from their misery like the growing howling wind.

*The Vultures* may be compared to Ben Jonson’s *Volpone* which presents a satire on greed in society, built on Machiavellian principle. It is a disease which is the root of all evils. Jonson has given names of animals and birds to his characters like in *Animal Fables*, to portray certain universal moral truth. *Volpone* in his greed pretends to be dying to attract birds of prey such as Voltore = vulture, Corbaccio = old crow, Corvino = young raven; Mosca = fly. The play is meant to entertain and instruct on the evil of greed and avarice. *Volpone* lives for riches as an end in itself:

...Dear saint,  
Riches, the dumb god that giv’st all men tongues;  
That canst do nought and yet mak’st men do all things;  
The price of souls; even hell, with thee to boot,  
Is made worth heaven. Thou art virtue, fame  
Honour, and all things else. Who can get thee,  
He shall be noble, valiant, honest, wise-

(*Volpone* I:21-7).

Tendulkar has recourse to Realism in the play as he delves into observing facts of life, attempting to describe human behaviour and surroundings as they are. He has also very deftly employed the language of spoken speech in the dialogues on stage, in the footsteps of the masters of realism like Henrik Ibsen. Tendulkar has successfully exposed a menace plaguing contemporary middle class society, bringing about familial degeneration.

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# A COMPARATIVE STUDY OF THE SOCIAL STATUS OF WOMEN IN BAI LU YUAN AND MAILA AANCHAL

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## ABSTRACT

*As influential representatives in literature of China and India respectively, “Bai Lu Yuan (White Deer Plane)” and “Maila Aanchal (The Soiled Border)” provide us with plenty of historical information and research materials. At the same time, by studying these two classical works, we can discover different kinds of problems in process of social development, such as economy, politics, culture and religion etc. it supplies positive and negative experience for the building of future society. And in such dynamics, the social statuses of women have triggered heated discussions.*

*The social status of women not only reflects the level of social development, but also influences the development process of the whole country. This research paper will present a comparative study of these two literary works and will also give a brief account of the status of the women in the two representative novels of Hindi and Chinese language.*

**Keywords:** Chinese Literature, Social Status, Women Status.

## INTRODUCTION

“Bai Lu Yuan” is an epic which depicts decades of change of the social situation in the Weihe plain in northern China, written by a famous Chinese writer Chen Zhongshi who was born in historical and cultural Chinese city, Xian. This excellent book not only describes the profound transformation in the country and rural society vividly, but also discusses the difficulties on the way to develop forward. As the representative writing of Chen Zhongshi, this novel contains more than 500 thousand words, and it took Chen 6 years to finish the book. In 1997, the novel won the Fourth Mao Dun literary prize of China, at the same time; it also was made into film and play by the same name. The novel is a miniature of the White Deer Village of Bai Lu Yuan in Shanxi Guanzhong area. By telling the conflicts between

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Bai family and Lu family, it shows the historical changes from the late Qing Dynasty to the seventies and eighties of the twentieth century.

“*Maila Aanchal*” is an outstanding representative of the Indian “border novel”, and it also is the representative writing of Phanishwarnath Renu, who is the founder of “border novel” in Hindi literature. This novel mainly talks about the social situation of India around the independence. It describes different kinds of problems in Indian society. This way; it reflects the real life of peasants in Indian Society. The center of this novel is not someone or something, but an area, therefore, it creates another style of writing, contributing to the contemporary literature of India. At the same time, it provides rich fodder for the studies of Indian history.

### **Background of Novels**

“*Bai Lu Yuan*” was written in the 1980s. At that time, China was in the period of reform and opening up, Chinese economy begun to develop and national development had shown a great momentum. Therefore, Chen Zhongshi wrote this book which is set in the changes of 50 years in Bailu village of Guanzhong plain to show the real history of that period. And through this book, Chinese people could find the better way to speed up Chinese development. The novel’s time background is the first half of the twentieth century and is based on certain historical events of Guanzhong and Xian to show some real historical scenes to people which depicts peasant movement, revolutionary struggle and the fight between the Nationalist Party and the Communist Party. Thus it can be seen how China have experienced great difficulties in the course of exploring ways of reformation. This novel mainly tells the conflicts of the three generations between Bai family and Lu family in Bai Lu Yuan, so it’s easy to understand the origin of the name “*Bai Lu Yuan*”.

Novelist Renu have said in the preface of “*Maila Aanchal*”: “There are flowers and thrones, powder and dust, sandalwood and filth, beauty and ugliness.....I can’t avoid any of them.” These words also can be applied in his another full-length novel, “*The Story of Barren land*”. These two novels reflect the social reality of the rural areas in northern India for nearly ten years when India had just attained independence during 1950s. The story of “*Maila Aanchal*” happened in about two years before and after the Indian independence. In this period, India faced a lot of historical changes. After a long-term struggle, India finally got rid of the colonial rule and got the independence. But after that, the partition of India and Pakistan happened which triggered conflicts between different religions and mass migration of people. All of these things brought great harm to the nation. Mary village in this novel are though far away from the event center, but also have been depicted as affected. In Mary village, these events made land reform in the country worse. The two parties in India have put forward their own measures and slogans, but the owners of land tried to protect their land by tricks, so that the contradiction in the countryside further sharpened. The novel unfolds under such a historical background.

### **ANALYSIS OF FEMALE CHARACTERS IN “*BAI LU YUAN*”**

“*Bai Lu Yuan*” describes the miserable life of women of different social strata under traditional Chinese society. No matter what their family background and personality is, they

all had the same tragic end. The story revolves around Bai Jiaxuan, the main character of the story who marries seven women in his life. In next section, a brief summary of a few important female characters in this work has been described.

### **Major Female Characters in “*Bai Lu Yuan*”**

#### *Bai Ling*

Bai Ling is the soul of the whole novel. She is Bai Ling who is the rebel of the traditional society. First of all, different from the former female role, she dodged the marriage that his father had arranged for her. She had ideality and belief, she had her own version of right and wrong towards love. When Lu Zhaohai had the difference of political ideas with her, she resolutely held her own position and broke up with Lu Zhaohai. For the interest of organization, she disguise herself as the wife of Lu Zhaopeng, finally after getting along with each other, she fell in love with Lu Zhaopeng. She loved his temperament and thoughts that weren't bound by traditional ideas, just like Bai Ling who defy bigwigs, had her own belief and believed in equality between men and women. Although in the end, Bai Ling was persecuted to death by the Ultra-Leftist line, she still lived a brilliant and valuable life.

#### *Strong-willed Girl Born in a Wealthy Landlord Family*

According to Zhang Juhui's memories, the only surviving relatives of Zhang Jingwen, Zhang Jingwen is a villager of Song JiaZui, located in the Southeast of Lantian County in Bai Lu Yuan. In 1911, at the time the Revolution broke out, Zhang Jingwen was born in a wealthy landlord family. Different from the plot in the novel, Zhang Jingwen was sent to Shaanxi missionary school by his father. Because of her father's love and Zhang family's authorities, from a young age, Zhang Jingwen developed a strong and brave character. When Zhang Jingwen was in the country, she often takes some food for the poor children and the beggar. One year when it comes to spring festival, she took much more steamed stuffed bun for the poor. When father scolded her, she said: “*even if I do not eat, I could not see these people hungry.*” Once a small trader emerged in this village to cheat an innocent woman, when Zhang Jingwen witnessed this situation, she kicked the vendor without demur. People of the village said, this girl would certainly be a big figure in future.

#### *Joining the Party During the White Terror Period*

In 1928, Zhang Jingwen was admitted to the first female normal school in Shaanxi Province, and her thought became more and more advanced. This is a time when the Xi'an revolutionary situation followed a sudden turn for the worse after the failure of the Great Revolution. Jiang Jieshi wielded the knife for the Communist Party and the revolutionary masses, a large number of revolutionaries and Communists were buried and shot alive. This is the period which was described in the “*Bai Lu Yuan*”, when a large number of Communists were put into the dry well.

Under the White Terror of Kuomintang (Nationalist Party) government, a large number of Communist Party members were killed or missing, some were far away from home to escape and out of the party organization. This was the timewhen even if people would talk about the “Kuo” only, they would be scared. Zhang Jingwen was not afraid of the White

Terror and bravely joined the Communist Youth League, and in the same year to the official Chinese Communist party. In July 1931, she risked her life to Lantian provincial Party committee while conveying instructions to establish underground party organization.

### *Organizing Student Movement*

After the "1918" incident, under the leadership of the Communist Party, Patriotic young students in Xian launched the Anti-Japanese national salvation movement. Quickly they established the Anti-Japanese national salvation association. Zhang Jingwen was the person responsible for organizing the women's normal group and students union. In "*Bai Lu Yuan*", it has been mentioned that Bai Ling and Xian's students did beat Tao (Dai Jitao) minister. Zhang Jingwen was one of the backbone of the student revolution.

On April 26, 1932, students from all walks of life in Xian launched the parade, Congress of "Drive Tao", under the leadership of Zhang Jingwen. Female students came to fight with the reactionary police who came to suppress. Zhang Jingwen was at the forefront, and eventually arrested.

The reactionary authorities saw that Zhang Jingwen was only a little girl and decided to imprison her alone, but Zhang Jingwen vowed to stay with the other student friends. Because Zhang Jingwen's father was a famous landlord in Lantian County, his brother was also an official of Lantian County of the National government. Under the family's mediation, the authorities were ready to release Zhang Jingwen first, but it was refused. Finally, under the pressure of the underground Party organizations and the community, finally all the arrested students and Zhang Jingwen were released. After this incident, Zhang Jingwen became known as "the first girl to shot Dai Jitao" and became the student leader in Xian.

### **Taking Family Prestige as a Cover for Underground Activities**

Since then, Zhang Jingwen returned to his hometown, as the primary school teacher in Lantian County so as to continue to engage in underground activities of the party. Under the influence of Zhang Jingwen, many women cut down their hair which symbolized the revolution. Although Zhang Jingwen's father already knew her Communist Party identity, he couldn't stop the stubborn daughter. Zhang Juhui mentioned that when she was a child, he often listened to the men at home talking about politics and current affairs; she and grandma knew what Zhang Jingwen was doing. Once grandmother would not let Zhang Jingwen go, until Zhang Jingwen begged by death.

The family which was comprised of big landlords, the Kuomintang and the Communist Party experienced fierce debates. But the final result is, Zhang family still provided shelter for Zhang Jingwen to take underground activities, Zhang Juhui's father is also responsible for helping Zhang Jingwen to hide confidential documents. Zhang Juhui recalled that there was a box in the attic of his home, and his father had warned that all the things inside were aunt's, she was never allowed to touch. When the underground traffic officer came to visit Zhang Jingwen, she was seldom questioned by the security authorities because of her active social activities in Lantian.

In January 1933, Zhang Jingwen and her husband XuGuolian, Lantian underground

head, Bai Yaoting and Lin Ziping launched another great student movement. Finally all four teachers were arrested. This time, Zhang Jingwen's underground party membership was open, and family power could no longer protect her. After Zhang Jingwen was released, she came to the Shaanxi Gansu revolutionary which was centered in the "Nan Liang", and worked in the red twenty-six army led by Liu Zhidan.

### **Death During Counter-Revolution**

After arriving at the base, Zhang Jingwen received a warm welcome from Liu Zhidan, Xi Zhongxun and so on. In 1934, the Soviet government was established, and Zhang Jingwen served as the chairman of women's Government in the Soviet area. In order to develop the education in the Soviet Area, the Soviet government established the first Red school "Lenin Primary School", and Zhang Jingwen served as the teacher. She led more than 60 students to build platforms. They lived under woods, took a cave as classroom, did self-made teaching materials, took the ground as paper and wrote with tiny woods so that to carry out the Soviet area teaching work. Liu Zhidan and Xi Zhongxun decided to set up a Red propaganda team. Zhang Jingwen led to promote new ideas, new fashion and the new route. The masses and partisans liked her very much, and affectionately called her "relieved", which meant that Zhang Jingwen acted, and everybody was relieved.

In March 1935, Zhang Jingwen's husband died in an encounter, Zhang Jingwen buried hatred and grief in her heart, and continued to struggle in the harsh environment of anti-encirclement and suppression. In the autumn of 1935, the Red Twenty-Five army arrived in Northern Shaanxi. In the guidance of "left" route, a large counter-revolution began. Zhang Jingwen who hated traitor in the whole life was accused as the "spy" of the Kuomintang. She died at the age of twenty-four.

After the liberation, Lantian County held a memorial ceremony for Zhang Jingwen and ratified her as a revolutionary martyr. This is the real historical story that in "*Bai Lu Yuan*," Bai Jiaxuan received the card, and then knew where his daughter Ling Bai was.

### **Wu Xiancao**

Wu Xiancao was Bai Jiaxuan's seventh wife. Wu Xiancao is the daughter of Wu Changgui who is the manager of traditional Chinese medicinal materials purchasing shop. And the reason why Wu Changgui was willing to marry his daughter to Bai Jiaxuan whose six wives died in succession is being well understood and treated. Obviously, Wu Xiancao's marriage was a typical parental arranged marriage in Chinese traditional society at that time. She didn't have any right to choose her marriage, but she didn't fight against this, just was arranged by her parents. After she got married, she indeed carried out the duty of a wife as per Chinese traditional concepts — she stays at home, helps her husband and teaches her children. She had sons to carry on the Bai family line. Wu Xiancao is such a typical Chinese woman. But, to the whole Bai family's mind, she is just a tool to help their family continue. Mother-in-law was nice to her just because she obeyed her without question; Bai Jiaxuan was nice to her just because she was tender and considerate. So she could help carry on the family line. She still lived under the oppression of Bai family and didn't have right to speak for everything.

### **TianXiaoe**

Tian Xiaoe also suffered from the poison of traditional culture. Similarly, her marriage was arranged by parents, but she was married to an old man who was dozens of years elder than her. She struggled without dignity and freedom, until the emergence of Heiwa. She started to have desires for life. But in such a social situation, everybody couldn't accept it. Her father abandoned her, and the family of Heiwa couldn't bear her, even the whole race didn't tolerate them. Even though, the fate didn't pity her, after the failure of the agriculture activity, Heiwa was in crisis. In order to help Heiwa, TianXiaoe sold her own body to Xiaowen. Finally, she became the pawn between Bai and Lu family for their interests.

### **Lu Lengshi**

The third one who suffered from traditional concept of a woman in the novel is Lu Lengshi. She was wife of Lu Zhaopeng. But, Lu Zhaopeng was forced by his father to marry with Lu Lengshi. Lu Zhaopeng was a youth with new ideas, although he had married with Lu Lengshi who is the daughter of Mr. Leng, he resolutely left home because he didn't love her at all. And he adopted a strong attitude to fight against traditional social concept which made Lu Lengshi feel ignored for a long term. But as a woman who rooted for the traditional thought in heart, she still lived a life of heroic virtue. But as a young woman, desire is fundamental and her desire was bound by traditional thoughts. She struggled between desire and norms. Finally, under the suppression of traditional ideas, she denied and reprimanded her desire constantly. But didn't control them broke out. With strong stimulation of these two different thoughts, she became a perverted woman, so this, Lu Lengshi disappeared in the world gradually.

### **ANALYSIS OF FEMALE CHARACTERS IN “MAILA AANCHAL”**

“*Maila Aanchal*” is a border novel of India. The leading character of the novel isn't a person, but a village or an area. There are some important female characters, among those the representative is Kamla who is the daughter of the old village head.

Just like Chinese traditional society, Indian traditional society also had severe feudal ethical codes. In the end of 1946, a hospital was built in Mary Village in Bihar state. Doctor Prashant who just graduated from medical college came here to study the prevention and treatment of infectious diseases. Ordinarily he also obliged villagers. His medical skill was great, so he won the trust and respect of villagers soon. In the course of prescribing Kamla, they fell in love with each other. At the same time, in the village, there was a fight between the tribesmen and the villagers, but he was accused of sedition and was caught. After a few months, he was acquitted of the charge because of the ill founded accusation. He could have left but he loves this village, thus he decided to stay to “*Let the tears soaked land back to life*”.

### **Major female characters in *Maila Aanchal***

#### **Lakshmi**

Lakshmi is the major female character of this critical novel. She is related to the most events and characters. Compelled against her will, she becomes maid and mistress. She is

unfortunate that she loses virginity early in her girlhood. Readers are told that this character would encounter many frustrations in her life. That's why she develops a complicated personality. According to his character, one can say Lakshmi is lotus flower that springs out of the dark mud.

### **Life as an Orphan Girl**

Her childhood is a mournful song of misfortune. Before she is sensible, her mother passed. After that, the only one person she could depend is her dad who works as a servant in monastery. She does not have memory about her mother but does remember their hovel near monastery. Every day she goes to monastery with her father and has meals there. Unfortunately, her father died of cholera later. After that, she becomes orphan. There is nobody to look after her. Abbots of two monasteries are willing to adopt her. In order to gain her custody, there is a lawsuit between Marian monastery abbot and Basmatia's monastery abbot. Finally Sevaadaas wins the case. After the court, his lawyer tells him to bring this girl to maturity and arrange her marriage. Sevaadaas assured the lawyer that he would treat Lakshmi as she was his daughter. However, there was no guarantee on people's promise. As soon as they arrive at the monastery, Sevaadaas turns Lakshmi into his maid. This is the beginning of Lakshmi's misfortune.

### **Corrupted During Girlhood**

It was her misfortune that she had become the victim of Sevaadaas's sexual desire early in her girlhood. Herdsman who worked in monastery says, "Sevaadaas is not baba at all for the reason that he holds mistress. All that glitters is not gold, All is not gold that glitters. I've worked in this monastery for 5 years. No one knows things here better than me. Lakshmi is totally innocent and immature when she is brought to monastery by Sevaadaas. An innocent girl and a fifty year old vulture!" Lakshmi cries all the day. Hearing her weeping, everyone would be heartbroken. Not only Sevaadaas but his pupil takes advantage of young Lakshmi's helplessness. He even impregnates her. There is a time when Sevaadaas goes to Purania for 4 days; we all think that finally Lakshmi could get a 4-day-long good sleep. However, things go contrary to our wishes. She is just out of the frying pan, and into the fire. She is critically ill.

### **Perseverance and Brightness during Youth**

To be honest, her heart thaws when she sees Dr. Prashant while Baldev's simplicity also becomes more and more attractive for her. Nevertheless, there is much perseverance and brightness in her. First of all, she swears that she will not live with people who take advantage of her and distress her. She tries to convince Ramdas in quiet mood at first that he is her Guru-Bhai, but he doesn't accept. He keeps saying that you are my maid, my mistress. Lakshmi shouts at him, slaps him and hits his chest. This is the first reflection of her perseverance.

Her perseverance and brightness are also shown while she is with Baldev. She says to Baldev that does she think that she is a whore? After that, she tries her best to get letters from him with no fear that her saree would be lit.

### **Forgiveness**

She is generous and easily forgives others. Although she could not ignore the mistakes that Ramdas and Baldev make, but she forgives them. After being beaten heavily and disrespected, she forgives Ramdas when he says that he would die for his sins.

### **Persuasiveness**

Lakshmi is very smart and she is able to make her statements irrefutable. She knows clearly that Baldev could not hand over management of store-house to others. Otherwise, it would be harmful for store-house. So she smartly makes representation for the benefit of hospital and store-house in monastery.

She is not only clever but straightforward also, which is the reason that she understands the reason of Sevaadaas's fall. It's not his fault. A part of him corrupts. Without this part he won't distract from the way to be a Guru.

### **Her Attachment to Baldev**

Baldev's attraction results in her attachment to him. For Baldev, Lakshmi is also attractive. He gets a glimpse of Mother-India in her. She is infatuated by his simple personality. The other reason that she is attracted by Baldev is that he is a righteous person from the perspective of Sevaadaas'. Attracted by his integrity, she would like to follow him. After being disrespected by Raamapiyariya, she starts living with Baldev.

### **Kindheartedness**

There is no denying that Lakshmi is kind-hearted. When she knows that Bavandas's quilt is worn-out, she gives quilt to him. Baldev is a real monk who does not pay attention to clothing and life condition, which attracts her.

She gradually develops virtues of monk and slowly becomes devout and merciful as if she were a monk.

"Lakshmi stands up. She approaches Mahantha's seats. She puts one's palms together devoutly and kowtows to the Mahantha. She rubs her eyes and she goes to the well."

"Monk's personality, morals and piety flow in her every blood vessel."

### **Weakness**

Lakshmi also has weakness. She could not accept the truth that Ramdas and Ramapiyariya turn her into a maid. So she has a row with both of them. Baldev is totally different from them. That's why she could not hide and stop her attachment to Baldev for a long time. Even when she lives with Baldev, their relationship is pure.

Generally speaking, even if she has a hard time because of mud like Sevaadaas and Ramdas, she never gives up her efforts to get rid of them. In the pursuit of freedom, she finally regains her purity.

### **Kamla**

Kamla is a noteworthy female character in this novel. Her role is not less important



than Lakshmi. She is lover of Doctor Prashant and the only daughter of the Tehsildar who is the richest person in Mariganj village. Her misfortune is that each time she is going to get married; there are all kinds of disruptions which ruin her marriage. She is known as an inauspicious woman. She suffers from epilepsy. This is the reason that she encounters doctor Prashant and then becomes his lover and wife later. Kamla longs for love that is a girlish, sentimental girl and suffers from psychological gland.

There is such a description about her in the novel. When Doctor Prashant needs soap to wash hand, people say that he can only get soap from Kamla, because she is the only person that uses soap here.

Gradually, they get to know each other and have a good expression towards each other. Kamla cannot control her feelings for Doctor Prashant. She is unhappy if doctor Prashant speaks sweet words to other girls. Because of Kamla's insistence, Doctor Prashant starts drinking tea with her father every night in her home, and sometimes he has dinner there. On pretext of sickness, they start meeting each other openly, which makes them villagers' topic of conversation.

On Holi, Doctor Prashant gets a little bit red powder on her hand; Kamla stops him and says that you are celebrating Holi or applying injection? "Holding this red powder on your hand and standing here, it's like you are going to put vermilion on my head", Kamla quips. After that, Doctor Prashant puts the red powder on her head. And they get closer to each other.

Kamla's mother feels bad about their closer relation, but she does not say anything to her daughter. Once she sees the special emotion on her eyes, she starts worrying. But after thinking over, she persuades herself that Kamla is her daughter "Kamla" and she could do what she wants.

Parvati's mother explains to Kamla that she could not hold such relationship with Doctor Prashant because there will be horrible results. But Kamla ensures Doctor Prashant that no matter what happens, it would not be bad. After Doctor Prashant is sentenced, Kamla's mother knows that her daughter is pregnant. Parents get confused. Kamla asks her mother to shut her away in the storehouse. Someone should get punishment for crime. As her parents' relationship gets worse, she says to his father that do not punish her mother for her mistake. Fortunately, after being discharged from prison, Doctor Prashant accepts her. She holds strong belief that Doctor Prashant would not betray her. And she proves herself right.

Generally speaking, we can say that even though Kamla's father is the richest person in the village, she is unfortunate for she does not meet her Mr. Right. She falls in love with Doctor Prashant and devotes herself to him. Finally her strong belief turns out to be successful.

### **Phulia**

Phulia plays an important role in this novel. She has relationship with Sahadev, Khalaasi and Pat man. She is a widow and lives with her father. Her father works for Sahadev and owes money to him. That's why he turns a blind eye to Sahadev's improper relationship

with his daughter. Khalaasi wants to get married with Phulia, but her father does not notice this.

### **Ramapiyariya**

Ramapiyariya is Raamdas's mistress. She is willing to be mistress and people in monastery have to provide meals for her. Ramazudas's wife supports her and teaches her tactics by which she replaces Lakshmi and becomes mistress of mistress. After going to monastery, she still does not improve her manners. She directly complains that Lakshmi has hidden all the items in storehouse and sold them. After that, Lakshmi is forced to leave monastery.

### **Mangla**

Mangla is a governess of Charkha Center who supports Congress Party. In her girlhood, she has seen many types of men. She is attracted by Kalicharan who lives in Mariganj for the reason that he takes care of her selflessly when she is not well.

### **Ramzudas's Woman**

She is the cheapest among corrupted woman in Mariganj. She knows everything about village's men and women. She is also a procuress. Phulia and Khalaasi often meet in her house. She is also degenerate. She does not care about her reputation, so she brings discredit on men and women.

### **Aabharani**

Aabharani throws herself into the trend of independence movement along with her husband Kishan. Her feet have blisters for the reason that she pays visit to many villages by foot. But she never gives up her determination. She is really kind-hearted. When Baldev gets ill, she takes good care of him as he was her son. Unfortunately, she becomes a widow and lives in Varanasi in the end.

### **Parabati's Mother or Mausi**

Parabati's mother is also known as Mausi in the village. It's thought that she is an unlucky woman. Women in the village ask their children to keep away from her. Only Doctor and Kamla get along with her. In the end, Hiru kills her because he thinks Mausi is a witch.

### **Status of Women in "*Bai Lu Yuan*":**

If we want to know the social marking which this work shows for us, of course, the first step is to know the history and culture background of that time. If we want to deeply know the status of women in China during the period described in this work, the first thing we need to know is the change of women's social status in Chinese history.

In the development of Chinese history, since the time of Confucius, women have no place at all because of Confucian thinking. Beginning with the Tang Dynasty, Chinese people became awake, and the status of women since that time improved gradually. Previously, a woman could only follow "the three obediences and the four virtues" and

adhere to the “women's way”. Till the Tang Dynasty, women had the right to propose divorce with men which could be admitted by the law. After the invasion of the northern Mongols, status of women once again declined. During the Qing Dynasty, status of women in society had plunged to its lowest ebb. One of the most obvious is that women would wrap their feet (foot-binding) from childhood which not only made women spiritually devastated but she suffered from physical torture. During the late Qing Dynasty and the Republic of China period, the status of women in society has significantly improved. The government began to ban women with foot-binding and they also carved a certain position in married life. In education, the country began to pay attention towards women's education, established women's schools and women have been conferred equal rights to education with men. In modern society, women already have equal legal rights with men. The concept of gender equality is now rooted in the heart of Chinese citizenry.

“Bai Lu Yuan” tells the historical changes from the end of Qing Dynasty to the 1970s-1980s in China. This work describes women who deeply suffered from Chinese oppression: Wu Xiancao, Tian Xiaoe and Lu Lengshi, and women who had new ideas: Bai Ling. But in the end of the story, no matter what family backgrounds and what personalities; they all have a painful life as Chinese women only at the mercy of God.

Obviously, to a great extent “Bai Lu Yuan” shows the pedantry of the traditional concept of the feudal China and unfairness to women. It has spurned those traditional views that hurts people, but actually the real reason isn't the oppression of the traditional thoughts, it's because women like Xiancao, Xiaoe and Lengshi who suffered from being persecuted but still maintained these harmful thoughts. For these reasons, the development of China was greatly blocked. Conversely, because of the role of women like Bai Ling who was the new youth with new ideas, China could have the chance to develop forward and could carry out revolutionary activities.

### **Status of Women in “Maila Aanchal”**

In India, where caste systems prevail, degraded status of women seems to be a deeply ingrained phenomena over thousands of years. In traditional Indian society, especially after the renaissance, the status of women in India has declined significantly. They were forced to deprive the right to education.

In 20th century, there were many Indian social reformers who struggled for women's social status and opened a gap at the gate of India. They transferred advanced thoughts into society. Indian women themselves also made great efforts to strive for equal social status. They expressed their religious belief and showed dissatisfaction with society through literary poetry. With the development of the society, women woke up ideologically, prompting them to further struggle and win their rights and status.

During the British period, the British colonial authorities carried out a series of reforms legislation for women in India, including the abolition of child marriage system, the abolition of the widows' outdated customs and the ban to harm baby girl was declared. What's more that the Britishers enhanced the educational opportunities of women. After they got educated greatly, they began to deeply understand the importance to struggle for

their rights and status. With intense desire to fight for freedom, they got rid of traditional concepts and developed the knowledge of freedom, struggle and independence. British colonization had a great influence on the historical events of promoting the status of women in India. Until twentieth Century, the status of women in India was further improved.

But there are still gender inequality in contemporary Indian society. The social status of women in India is still not high, which is inseparable from the traditional feudal ideas for thousands of years. Women in India still have to struggle.

"*Maila Aanchal*" was created in the middle of the twentieth century when women's status was very low, which deeply describes social phenomena of parents-arranged marriage and the patriarchal system. The book brings forth how young doctor, Prashant and Kamla fell in love and privately engaged that almost brought death to them. The writer made them finally succeed in relationship, expressing the novelist's own attitude. That is, denying old ideas, old traditions, and advocating freedom of marriage. The freedom of marriage can be used as a yardstick to measure the degree of social progress. Novelist challenged the traditional concept, which also reveals the author's progressive view about society.

## SUMMARY

### COMPARISON OF SOCIAL STATUS OF WOMEN IN "*BAI LU YUAN*" AND "*MAILA AANCHAL*"

To a certain extent, the status of women in a country actually reflects what attitude the country takes towards women. India and China as two major ancient civilizations whose territories are bordered, there are many similarities in attitudes and mores. The status of women, both in China and India remained problematic. According to the traditional marriage system of two countries, marriages are being arranged by parents without independent rights to the women in selecting life partner. They are also regarded as men's accessories, born to family, for men.

In China, as in all societies today, the question of "the role of women" is debated across different social groups. Rapid economic development has had major implications for China's population. Whereas there are increased opportunities for all, there continues to be a glass-ceiling for many. Today, the role of women in China differs across social boundaries. Although there are, in theory, endless opportunities, only some women can access them. There is no accepted role for women; some women are CEOs and government officials, whilst others opt for completely different lifestyles. The rapid development of China has shifted the issues faced by women, and many are now beginning to scrutinize their role within society, the economy and politics.

According to old Indian society women, the only deity in the world is husband; their only job is to be obedient to their husband, no matter what shortcoming they have. Women are taught to be good wives and good mothers since they are young; the thought is ingrained deep in their mind. Hence if the family has got a boy, the wife will be asked to give birth to babies until a boy is born out. And this results in a bad consequence: during the pregnancy process, 5.4% of mothers are estimated to die, and 6.8% of babies are estimated to die.

Another overriding rule is also a sample of the conventional Indian culture: “Females must not contact other males except for her close relatives; females should wear veils whenever they go out.”

Dating back to the history, economy has always been the most important issue to solve all kinds of the problems, including wars, politics and so on. India and China are not the only two countries which have the discrimination of women. In the past, the countries all over the world were male-dominated as the countries were stuck in feudal age for centuries and females had low social status. Both in Europe and America, discrimination was practiced, but as the economy grew rapidly, their civilization also developed and women's rights were guaranteed. India is a developing country. Now that it has stepped into a great power status, its civilization is further refining.

With the development of society, the status of women in China has greatly improved. The concept of gender equality has been popular among modern men and women. Women also get a lot of respect. In India, although women are facing many social problems but Indian society has changed. Now women are playing a big role in development of India. Of course, Indian women will continue to fight for their rights as also fight for the development of the nation.

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## **BOOK REVIEW**

*Review by Annavajhula J.C. Bose\**

### **LIFE IS AS IS: TEACHINGS FROM THE MAHABHARATA**

**AUTHORS: Kavita A. Sharma and Indu Ramchandani**

**PUBLISHER: Wisdom Tree, 2018, pp.202**

**Price: 345 INR**

**and**

### **THE GITA FOR CHILDREN**

**AUTHOR: Roopa Rai**

**PUBLISHER: Hachette, 2015, pp.264**

**Price: 299 INR**

The abovementioned two books are among the very best that I have read in the last few months. Interestingly, the first one is written by an ex-Principal of the Hindu College in Delhi University and a journalist specializing in Hindu philosophy respectively, and the second book is written by a computer engineer—all women writers *par excellence*. The first one has drawn the attention and admiration of the Indian politician, philosopher and poet Karan Singh, and the second one, that of the NITI Ayog economist Bibek Debroy.

As Karan Singh remarks, “To write a new book on the Mahabharata requires a combination of courage, audacity, ability and perseverance, all of which Prof. Kavita Sharma and her co-author Indu Ramchandani, have displayed in full measure. They have gone to great lengths to present the Mahabharata in five chapters which cover the key philosophical and historical events of the great war, the lessons learnt, as well as the words of wisdom from the great personalities whom we came across, such as Markandeya, Bhishma, Vidur, Sage Vyasa, among others, and of course Sri Krishna himself. I warmly congratulate the authors for having undertaken this task which must have required several years of sustained work. Their book presents this great epic with an interesting perspective to a whole new generation of readers in India and abroad in compact and coherent language.... This epic remains a massive memory in

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our cultural tradition and has impacted not only India but many countries in South and South East Asia. In the Angkor Wat temple in Cambodia for example, the largest religious structure in the world, the stories of Ramayana and the Mahabharata are beautifully engraved on the walls. This immortal epic will always remain a major element in our collective memory, and I commend this work to all those interested in Indian culture in the country and around the world.”

For most of us, the Gita which is part and parcel of the Mahabharata, is the most difficult thing anyone could ever read, but as Debroy has remarked, delightfully written by Roopa, it will trigger interest in readers of every age, and in addition as Roopa herself says, it is to discover the Krishna in each one of us.

How we understand our own culture and the other cultures is very essential to building a “*vasudhaiva kutumbakam*”, or inclusive communities through peaceful mutual co-existence. These two books serve this purpose by strengthening the Indian psyche without losing compassion towards the others, in a world that is now torn apart by so many man-made differences.

*Life Is As Is*, is a comment that we can never live perfect lives. All of us, the best of us, are fallible and have moments of weakness and vulnerability. Then, what is the way out and who are the role models? Kavita and Indu explore the longest epic text without any value judgements or complicated theories and hypotheses. There are two eternal truths—the power of self-control and the play of the human mind, both of which, cannot be easily attained or understood. As they put it so beautifully, “The Mahabharata shows life to be a blend or an elixir of good and evil, virtues and vices; strengths and weaknesses, which are found in all the players in this great drama of life—from the wisest sages to the revered teachers, from the powerful kings to the average common people who are leading seemingly mundane lives and who are recipients of neither name, fame, nor wealth. Sri Krishna himself has to resort to ‘deceit’ in order to deal with the world and handle its complexities—a world, which is shrouded in shades of grey, with all codes of ethics and morality being ambiguous. The Mahabharata also shows that a person may have acquired great knowledge but may still succumb to moments of weakness. It is one thing to teach self-control, and emphasize the need to overcome anger, lust, and greed, but it is quite another thing to overcome the driving basic human passions and instincts and acquire mastery over them. ...It does not portray an ideal world; it is a world of myriad colours, an ever-hanging kaleidoscope in which no one is perfect. Most situations reveal that the ideal is only aspirational but the skein is too knotted to move in a linear progression towards it. Yet the ideal emerges through the valuable lessons learnt by the reader or listener who walks with the myriad characters and learns of not only their pitfalls and follies, but also their courage and heroism in the face of all odds, trying to make sense of what they encounter according to their *svabhava* and *svadharma* (one’s nature and understanding of one’s duty). Perhaps, the most valuable lessons are of *karuna* or compassion, which render us less judgemental and more self-aware of what it is to be human.” Nothing can be said more enlightening as this.

The ISKON website lists out various tangible and intangible benefits of reading the Gita. The Krishna in each one of us, as Roopa conveys, is the inner voice that guides us on how to live our lives in the most honest, best possible way! Every time we are in distress or despair,



every time we are unsure about what the right thing to do is, we have no choice but to read the Gita. To be happy, we just have to stay true to our nature. But how? There is no age bar, or gender bar or any bar at all to be calm and unruffled in every situation, to listen to others' points of view instead of only putting forward one's opinions, to speak gently and little, to be tolerant and compassionate, and to live a disciplined life. That is what is meant by staying true to one's nature. And we have to act wisely. But how can we ensure we are acting wisely? "There is no easy answer to that one. But there are some hints, nudges and recommendations in the Gita, some starter-kit tips, as there are in every wise book, to help you along." Roopa has indeed done a wonderfully reassuring interpretation of the Gita for everyone overpowered by troubled times.

To sum up, both the books are gems that goad us to make efforts to discover for ourselves while not giving any restful definitiveness in doing so.

## **BOOK REVIEW**

*Review By Neeta M Khandpekar\**

### **LUNATIC ASYLUM IN COLONIAL BOMBAY- SHACKLED BODIES, UNCHAINED MINDS**

**AUTHOR: Sarah Ann Pinto**

**PUBLISHER: Palgrave MacMillan Publications, 2018,**

**ISBN 978-3-319-94244-5, pp. 251.**

**Price: \$ 84.99 Hardcover**

The author, an artist herself has chosen for her research a very untouched area and also designed the cover page of the book. The book deals with very relevant issue of mentally ill people. The book uses thematic approach. The chapters are divided into seven parts including Introduction and Conclusion. The other five chapters address different aspects. The book opens with the Introductory chapter beginning with an accident in State of Tamilnadu in India, killing 25 mentally ill people. This accident was widely covered by Indian media and consequently the first mental health policy of India was launched in the year 2014. The author has chosen a macro period with a micro area of the colonial period focused on the Bombay Presidency Lunatic Asylums. As to how the Asylum system remained a failed colonial enterprise is brought out well. The Introductory chapter has very rich literature review covering various aspects about Asylum across the world. It links the genesis to Edward Said's Theory of Orientalism. Wide use of libraries and archives is clearly visible in this chapter. In Chapter Two, Indian Insanity and local colonial context for its treatment traces treatment of mental illness in India from the Ancient times to the Colonial Period. The use of word "Veritable Cinderella" is very appropriately used. Chapter Three discusses the notion of the Asylum as "Middle Ground" and the cause of the failure of Asylum System between 1793-1921 has been assigned to fragmented colonial official hierarchy. The tussle situation between the Hemp Commission and Superintendents of Asylums is well researched giving relevant footnotes. The diet chart for Bombay's Lunatic Asylum and its information is unique. Working in asylums contributed to the upward mobility for *Mahars* and *Madarasi* Communities as covered at p. 85. Chapter Four looks at 'Common Sense' treatment of Indian Insanity. Hybridized methods of treatment by Superintendents of Asylums have been discussed. Caste prejudices in asylum, the attire of

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male and female patients has also been covered. The interesting case of Brahmin 'Devram' (Civil Surgeon versus Magistrate Opinion) has been brought out. Devram was actually fasting and the Magistrate took it for suicidal tendencies which led to the controversy. Beer and wine was given to European, Eurasian and Parsi patients. The Fifth Chapter is creatively titled "Unsound Soundscapes", highlighting the lack of space in most asylums that led to common space sharing with violent or noisy patients with quite patients. Use of chains, bells and clocks with relevant examples and some photographs have been shown.

Chapter Six on public perceptions of the '*Pagal Khana*' evaluates the perception of the asylum. Donations by Cowasji Jehangir, Madhavdas family, R Premji etc have also been covered. On p.163, a paragraph mentioning local newspaper of 1852 is mentioned but the name of the newspaper is missing. News items from relevant nineteenth century newspapers like *Ahmedabad Samachar*, *Indu Prakash*, *Akbari Saudagar*, *Bombay Chabuk*, *Nyaya Sindhi* and *Rast Goftar* have been used.

In the conclusion, the author has covered recent changes introduced after spread in the use of drug in mental hospitals, list of activities for patients, and mental hospitals, currently in Maharashtra. The work covers the lived experiences of patients and local communities as they encountered a foreign medical institution.

While referring the *Arunodaya* Weekly Newspaper (published every Sunday from Thane in Marathi language) in Maharashtra State Archives, Mumbai, an interesting Notice is seen from Superintendent of Colaba Lunatic Asylum Mumbai.

It says "Through this notice it is conveyed to all people that Ramshastri Baba Narayan Thoke, Deshastha Brahmin by caste died on 2<sup>nd</sup> August 1883, at the time of his death Ramshastri had 849 Rupees, 8 Anna, this amount presently is with the Superintendent. Those who claim to be recipient of this amount (any hier), should come with relevant paper proof to the Superintendent before six months from today's date failing which the amount will be deposited in the name of Government through Bombay Accountant General" (p.4, November 3, 1901).

After reading Dr Sara's work, I felt a relevant addition has been made towards medical history which is an upcoming research area in humanities.

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The first sheet should carry details of the author's biodata (a brief resume of about 50 words), institutional affiliation, and the mailing address.

A signed declaration of originality and conformance to research ethics by the scholar should accompany the paper; also, that the paper has not been sent to any other journal for publication. The ongoing PhD scholar must submit a signed declaration from research guide also, on the abovementioned aspect.

All diagrams, charts and graphs should be referred to as Figures and consecutively numbered (Fig.1, Fig.2, and so on). Tables should carry only essential data and should complement the text. They should carry the source at the bottom. Each table must be referenced in the text.

If actual statements or phrases are taken from another paper, the name of the author should be mentioned in the text and the chosen material should be placed within quotation marks with an appropriate reference. Author's acknowledgement(s) may be included at the end of the paper and before References/Endnotes begin.

Write dates by beginning with the date, followed by the month and the year (e.g.: 2 October, 1869).

In the text, write numbers in words till the number nine and then in numerals (e.g.: two, four, nine; then 10, 11, 12 and so on).

Names of books, journals, newspapers and foreign terms in the body of the text should appear in italics.

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The authors are responsible for accuracy of the references.

While referring to book, follow the example below:-

Byrne, James (1885). *General Principles of the Structure of Language* (2 volumes). London: Trübner and Company.

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Driem, George van (2013). East Asian Ethnolinguistic Phylogeography, *Bulletin of Chinese Linguistics*, 7(1):1-55.

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