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CHAIRPERSON'S MESSAGE

The current issue of the Journal of Indian Research has variety of thought-provoking papers to offer. Sandeep Kumar has examined trade relationship between India and Pakistan and has come out with doable suggestions to enhance mutual benefits. On the other hand, June L. Dsouza writes about Pakistan's belligerent Occupation of POK that has been endured for the longest duration of any of the belligerent occupations in human history. She pleads for formulating proper international laws to help people suffering under such occupation. We have two contrasting images coming from Maharashtra. While Anand Sugandhe writes about growing intolerance against SC, particularly neo-Buddhist Mahars in Maharashtra, Khushboo Bharati, an art curator has written about public art in Fort area of Mumbai. We have included a paper on astrology in this issue. We do not vouchsafe for astrology as an empirical and positivist science, but it is an art that has survived for millennia. Astrology like other kind of traditional skill that constitutes handicraft, is a kind of mindcraft of the ancients. It has captured the imagination of sages and the philosophers; royals and the soldiers. Much of the traditional life among the secluded primitive societies revolve around divinations. Astrology as a discipline evolved into textual realm from this very ancient "hardwired" urge to explore the future.

It is a sad affair of the state of things in India that we have desiccated this "hardwired" urge to explore. The best of our talents are moving to the managerial and finance arena. The number of students studying in 'hard' sciences and 'hard' subjects like Philosophy are dwindling. Without replenishing the depleting intellectual capital and accumulating through fresh infusion of thinking, we cannot dream of emerging as a great power. It is only through rigour, exploration and experimentation that intellectual capital can be harnessed. Though, we are able to digitalize much of the wisdom, but wisdom has to be chiselled through reflection, criticism and debates. A myopic approach towards wisdom, both ancient and modern, cannot provide the right atmosphere for blooming of new thoughts.

I am happy to reflect at the short journey of this journal. The journal receives hundreds of papers for each issue from nook and corner of the country. This is the vision with which we established Mewar University – to develop a hub of wisdom. The editorial team deserves our accolades for bringing out another enriching issue. May the New Year infuse the spring of wisdom among students and teachers.



Dr. Ashok Kumar Gadiya

EDITORIAL

While the world is celebrating the Christmas and the New Year, much of the northern part of British island is struggling against vagaries of weather. Six Atlantic storms hit the island nation within a span of four weeks. On Christmas Day, the historic city of York was flooded after two of its river, the Foss and Ouse burst their banks. Lakhs of people are still stranded. The government is facing the fury of people. But, the government is caught mid-way. The governance structure is so much split and categorized that it becomes difficult for different bodies to go beyond its domain and work for redressing the issue in its entirety. Andy Johnston, Chief Operating Officer, Local Government Information Unit admitted in a signed piece in the British newspaper, *Telegraph*: “The governance of flooding in England and Wales is a mess. Different bodies are responsible depending on whether the flooding is from a large river, a small river, a ditch, ground water or heavy rain. To add to the complexity water doesn’t stand still and can flow into several different jurisdictions in one afternoon. So, floodwater may start in a farmer’s field, cross a road which is the responsibility of the Highways Agency, enter a culvert owned by a water company into a main river which is the responsibility of the Environment Agency, then join a flooded city centre caused by heavy rain and therefore the responsibility of the local authority.”

Britishers displayed pride in their efficient public service system. But a prolonged rough weather has exposed the loopholes of the administrative system. When the British administration was taking roots in India and elsewhere, the radicality in governance was epitomized by the apparatus of ‘section’. While going through administrative record of the British India, I could not trace the usage of this term in administrative organization till 1858. But, suddenly the term appears in the Indian Penal Code (IPC) in 1860. IPC comprises of sections. So much was the appeal and efficacy of “*Section*” that it spread across the governance spectrum within next few decades. Section was the ultimate panacea for modern administrative organization. The offices had the basic functional units known as section headed by the Section Officer. In the schools, classes were sub-divided into sections. Similarly, at the smallest level, railway zones were divided into Sections. Section was the organizing unit in army organization, and in police organization.

The term, Section, came in vogue during 1550s, and derived from Latin term, *sectionem* (nominative *sectio*) “a cutting, cutting off, division.” The stem is “*secare*” “to cut,” from root “*sec*”- “cut”. Whenever ‘*Sec*’ stem is used, it denotes the “parting or cutting off”. One can derive the usage from the series of words like secession, separate, sedition, select, segregate. Interestingly, all these terms are also connected with modern government.

Likes of Andy Johnston are only reiterating the practical constraints of the governance structure which British established long back. The British policy makers themselves have realized the incompatibility of ‘section’ as an apparatus to handle the 21st century governance. There is lot of innovative suggestions coming under the rubric of “shared services”. The reverse journey of administrative apparatus from *division* to *sharing* is now the latest buzzword in the UK public service system.

The Britishers have introduced the Next Generation Shared Services (NGSS) in the back office transactional services like HR, Payroll, Finance and Procurement. Since small departments were not cost-effective, it was decided to share some of the services with other departments.

Since India inherits much of the British architecture of governance, it is imperative upon our policy makers to move from the paradigm of “*section*” towards paradigm of “*sharing*” to handle the emergent complexities of 21st century governance. This ought to be replicated in academics where the division and sub-division of domains have led to such an absurd state of affairs that no integrated vision can be propounded.

The Journal of Indian Research, since its inception, is harping upon synthetic tradition of knowledge rather than merely analytic tradition. We hope to continue our endeavour in the future and request academic fraternity to share their wisdom and innovative thoughts on this platform.

– **Niraj Kumar**

BILATERAL TRADE RELATIONS BETWEEN INDIA AND PAKISTAN: RECENT EXPERIENCE AND FUTURE PROSPECTS

*Dr. Sandeep Kumar**

ABSTRACT

India and Pakistan are two most populous and largest economies of the South Asian Region (SAR), however official bilateral trade accounts for only less than one per cent of India's global trade. Their rapprochement has the potential to change the geopolitical dynamics of India. This paper examines bilateral trade relationship in terms of share in global trade, bilateral trade flow, trade intensities, trade reciprocities, revealed comparative advantages, possibility of intra- industry trade along with overall potential of trade between two neighbours for the period 1996-2014. The study highlights weakness in overall bilateral trade relation and recommend multi-pronged strategy encompassing reduction in existing high rates of tariff and non-tariff barriers; lowering of trade costs of at least specific products of interest, reduction in infrastructure and financial bottlenecks, opening up of more trade routes through sea, rail as well as road; expansion of investment and technology transfer in the production and marketing of those products which enjoy high revealed comparative advantage, dilution of multiple rules and regulations, trade diversification and promotion through trade facilitation measures like Make In India, Digital India and Skill India programs, granting MFN status to India as soon as possible to reduce cost and loss of revenue through informal trade and resolving transit rights to improve the existing trade relations.

Keywords: Comparative advantage index, Grubel Lloyd Index, intra- industry index, MFN, trade intensity index, trade potential, trade reciprocity index.

INTRODUCTION

India and Pakistan are contiguous and once were the same country before partition in 1947. Two separate countries were carved at the time of independence on ethno-linguistic and religious lines but both share same stock of inhabitants, common history and continue to

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be plague by identical problems. The relationship between two countries remain estranged and some of the outstanding issues that continue to complicate the normalization are issue of cross-border terrorism, Kashmir dispute, distorted trade, Siachen, Sir Creek, sharing of water, visa, routine cross firing on Line of Control (LOC) etc. Various solutions have been provided at official levels but no solution appears to be working towards right direction. In respect of bilateral relations, sense of déjà vu is overwhelming as the pendulum of relations between the two countries continues to oscillate between two extremes with metronomic regularity.

It is argued by the eminent scholars, experts, academician, policy makers, planners etc. on both sides over the years that if business ties improve between the two, it might lead to people to people contact and issue of Kashmir would become blunted and diluted. They cite Sino-Indian relationship where India pushed its border dispute aside with China and the two concentrated on other aspects of relationships like economic ties, FDI, bilateral trade etc. Today, China has emerged as the largest trading partner of India with trade having surpassed 65859 million US \$ in 2013-14 from 39747 million US\$ in 1996-97 thereby registering a growth rate of 65.69 per cent during this period. India and China continues to have conflicts and tension on the border, but are able to deal with it with maturity. Moreover, trade is also beneficial between neighboring countries due to low transportation costs. Language similarities also reduce communication & transaction barriers; in turn trade improves economic efficiency on account of comparative advantages. Trade nurtures growth through economies of scale, innovation & knowledge spillover and can better aid the broader process of economic, political and social integration.

In fact, just after India and Pakistan had become sovereign states, India's share in Pakistan's global exports and imports accounted for 23.6 per cent and 50.6 per cent respectively in 1948-49 which went down to 1.3 per cent and 0.06 per cent respectively in 1975-76 and then to merely 0.02 per cent and 0.04 per cent in 2012-13 respectively whereas Pakistan's share in India's global exports and imports was 2.2 per cent and 1.1 per cent respectively in 1951-52 which gradually declined to merely 0.006 per cent and 0.0006 respectively in 2012 -13. Several studies [Ghuman(1986), Srinivasan; T.N.(1995), Ministry of Commerce (1996) Pigato(1997), Batra A.(2004), Qamer Abid (2005), IMF(2005), Taneja, Nisha(2008), Iqbal, B. A. (2011), FICCI(2012), Khan, J. A.(2012), PILDAT(2012), Kugelman, M. *et.al* (2013), Chengappa; Raja (2013), Taneja et.al (2013)] have been undertaken to examine the pattern of economic relation, bilateral ties, trade volume; its trend & emerging issues, future strategy to enhance economic relations, and normalization of trade between the two nations. Many of these studies indicated that political trust deficit is the main cause behind the slow growth of trade volume and trade flow is hindered by high tariffs and non-tariff barriers, poor infrastructure, restrictive maritime protocol. Until 2005, poor trade facilitation measures like custom & procedural barriers and difficult visa scheme affected smooth transaction. In order to strengthen the trade relations between the two countries, India has granted Most Favored Nation (MFN) status to Pakistan in 1996, which means, in principle, Pakistan can enjoy lower tariffs and fewer trade barriers in its economic relationship with India whereas the same has not yet been granted by Pakistan to India due to the resistance of dominant military establishment. However, the previous Pakistani government led by the Pakistan People's Party (PPP) actually

announced the MFN to India in November 2012, but was forced to back out by the military establishment.

The present study has been undertaken to examine whether the bilateral trade relationship is weakening (or strengthening) between the two countries over the years? More specifically, the objectives of present study are:

1. To examine the importance of bilateral trade in the economy of India and Pakistan;
2. To work out trade intensities and reciprocities between the two respective economies;
3. To find out revealed comparative advantage and intra- industry trade along with trade potential of India with Pakistan; and
4. To identify the major impediments of bilateral trade and to seek appropriate solution to improve the trade relations between the two neighboring countries.

II. Data Source and Methods

Data related to the problem is quite scattered and compiled from various secondary sources. Data were collected from Export Import Data Bank; Ministry of Commerce, Government of India; IMF, WTO, UN COMTRADE and various issues of Economic Surveys of both economies for the period from 1996 to 2014. The base year 1996 has been chosen due to the fact that India granted MFN clause to Pakistan in the same year. However, there are various methods available in the literature to study the trade relations, but for the limited purpose export intensity, import intensity, trade reciprocity, revealed comparative advantage index, Grubel Lloyd Index have been employed.

III. Results and Discussion

In this section, an attempt has been made to meet out the objectives of present study. Before analyzing trade volume, trade reciprocity, intra industry trade, trade potential etc., it would be appropriate to look at the trade economics of the two countries. An overview of different parameters like population, GDP, per capita income, current account balance, trade to GDP ratio, share in world exports etc. has been summarized in Table 1. India is the second most populous country with 1210 million people (Census of India, 2011) and seventh largest country in terms of area (3,287,263 sq. km) in the world. It is seventh largest economy of the world when measured at nominal GDP and the third largest on measurement by purchasing power parity (PPP) basis. It is the largest growing economy of the South Asia with average annual growth rate of 6.8 & 7.4 per cent during 2013-14 and 2014-15, respectively (*Economic Survey of India*, 2014-15). India is also a co- founder member of General Agreement on Trade and Tariff (GATT) since 1947 and its successor, WTO in January, 1995. According to the WTO Statistics (2013), India accounted for nearly 1.66 per cent of global exports and 2.47 per cent of global merchandise imports ranked at 19th and 12th, respectively. During 2013-14, the major items of exports were software, jewellery, petrochemicals, pharmaceuticals, agricultural products, ores, engineering goods, chemicals, transportation parts etc. Major import commodities included crude oil & related goods, gold & precious stones, engineering

goods, plastics, chemicals, iron, vegetable oils etc.

Despite many achievements on economic front, India continues to face several major challenges in the area of poverty, unemployment, economic inequality, malnutrition, chronic energy deficiency, quality rural education, all- weather roads, institutional co-ordination, low degree of policy implementation etc.

Likewise, Pakistan is also a founder member of GATT (1945) and its successor, WTO (1995). With a population of 182 million (sixth most populous) and area of 796,095 km², Pakistan is a developing economy with per capita income of US \$ 1312 having potential of becoming one of the large economy of the world. During 2013-14, major export commodities included cotton & yarn, rice, non-knit men's suits, refined petroleum and cement. Similarly, the main items on the import side were food, machinery, transport vehicles, textile, fertilizer, chemicals, crude oil etc. Like many other developing economies, Pakistan is also a member of two Regional Trade Blocs (RTB) i.e. SAARC (South Asian Association for Regional Cooperation) and ECO (Economic Cooperation Organisation). SAARC nations have also signed SAFTA (South Asia Free Trade Area) agreement in 2004 in Islamabad to reduce the tariff barriers and shift to free trade after 2016. The Agreement came into force in Jan, 2006. Pakistan is facing problems on current account balance, exchange rate volatility, employment, poverty, quality health & education, malnutrition, inflation, corruption etc.

Table 1: Key Facts and Some Selected Indicators about India and Pakistan

S. No.	Particulars	India	Pakistan
1	Population (thousands, 2013)	1,252,140	182,143
2	GDP (Million Current US \$, 2013)	1,876,797	236,625
3	GDP(Million Current PPP US \$, 2013)	6,774,441	855,868
4	GDP Growth at Factor Cost, 2013-14 (Percentage)	6.8	3.3
5	Per Capita Income, 2014(US \$)	1,626; 141st rank	1342; 148th rank
6	GDP Rank Nominal PPP	7th 3rd	44th 26th
7	Current Account Balance (million US \$, 2008)	(-)30972	(-)15655
8	Trade per Capita (US \$ 2011-13)	820	425
9	Trade to GDP Ratio (%) (2011-13)	54.2	33.8
10	WTO Accession	January 1st, 1995	January 1st, 1995
11	Contribution to WTO Budget (Percentage, 2014)	1.971	0.179

12	Share in World Total Exports		
	i) Merchandise Trade	1.66	0.13
	ii) Commercial Service Trade	3.25	0.07
13	Share in World Total Imports		
	i) Merchandise Trade	2.47	0.7
	ii) Commercial Service Trade	2.84	0.16
14	Rank in World Merchandise Trade (2013)		
	Exports	19	69
	Imports	12	57
15	Patent Grants by Patent Office, 2012	4328	312
16	Ease of doing business (Rank, 2013)	142nd	107th
17	Foreign Exchange Reserves in Billion. (US\$)	343(April 2015)	16 (Feb. 2015)
18	Major Trading Partners (2013)		
	Export Partner	European Union, USA, UAE & China	USA, China and UAE
	Import Partner	China, EU, S. Arabia & UAE	China, UAE & Kuwait

(Source: <http://stat.wto.org> and Economic Surveys of two respective countries)

3.1 Global Trade Profile of India and Pakistan

Trade openness provides opportunities for higher growth through increase in exports and makes available better quality products domestically at globally competitive prices (Economic Survey of India, 2014-15). In recent years, global trade has also increased from US \$10,955 billion in 1996 to US \$ 37,706 billion in 2013 with an increase of more than 3 times. Table 2 exhibits the latest trends of India and Pakistan's share in world merchandise trade. India's share in world exports, imports and total trade has increased from 0.61, 0.68 and 0.64 per cent in 1996 to 1.66, 2.46 and 2.06 per cent in 2013, respectively. Therefore during this period, India's share in global merchandise trade has also increased by more than three times on the pattern of world trade growth. In 2007, India's share in world exports crossed above 1 per cent after the decline to below 1 per cent in 1983. It is pertinent to mention that India's share in global trade was 2.1 per cent in 1951. India's progress in global trade is the outcome of better trade policy mix, association with RTB, enlargement of size of the economy, better growth rate, product diversification, introduction of economic reforms in 1991, increase in FDI, moderate transport cost and favorable WTO measures.

On the other hand, export from Pakistan has declined from 0.17 per cent in 1996 to meager 0.13 per cent in 2013, while imports as well as total trade with some marginal fluctuations are

more or less the same during this period. The main factors behind this decline or stagnancy in the share of Pakistan's global trade during this period are bleak economic performance, poor governance, domestic inflation, high tariff, lack of association with new RTB, poor trade policies etc. The share of these two respective economies in world trade can also be seen from the Figure 1(a) and 1(b). A perusal of the Figure 1(a) clearly depicts that share of India in world exports and imports are on increasing side, however the share of imports in world trade are higher than the exports under the study period whereas, Pakistan's share in world trade has become more or less constant after the shock of world economic slowdown in 2008, {Figure 1(b)}.

Table 2: Share of India and China in World Trade since 1995

(Percentage)

Year	India			China		
	Exports	Imports	Total Trade	Exports	Imports	Total Trade
1995	0.61	0.70	0.66	2.85	2.55	2.72
1996	0.65	0.75	0.70	2.95	2.67	2.81
1997	0.66	0.78	0.72	3.49	2.69	3.09
1998	0.64	0.80	0.72	3.55	2.67	3.11
1999	0.68	0.91	0.79	3.64	3.03	3.33
2000	0.66	0.81	0.73	3.91	3.44	3.67
2001	0.71	0.80	0.76	4.34	3.86	4.10
2002	0.78	0.87	0.83	5.08	4.51	4.79
2003	0.79	0.95	0.87	5.87	5.41	5.64
2004	0.83	1.06	0.95	6.53	6.03	6.28
2005	0.96	1.33	1.15	7.36	6.23	6.79
2006	1.01	1.46	1.23	8.09	6.48	7.28
2007	1.05	1.55	1.31	8.84	6.81	7.82
2008	1.13	1.94	1.54	8.93	6.98	7.95
2009	1.42	2.13	1.78	9.68	8.05	8.86
2010	1.45	2.31	1.88	10.44	9.21	9.83
2011	1.67	2.55	2.11	10.53	9.64	10.08
2012	1.60	2.69	2.15	11.33	10.03	10.68
2013	1.82	2.53	2.17	11.96	10.59	11.28
2014	1.68	2.46	2.07	12.45	10.52	11.49

(Source: Author's own Calculation Based on data given in UNCOMTRADE)



Figure 1(a)



Figure 1(b)

3.2 Bilateral Trade

Keeping in view the global trade profile of both the countries, the bilateral trade flow between the two are below the expected level despite the fact that there is a considerable potential to enhance the trade flow through trade diversification, better policy measures, improving business to business contact, improving trade investment & infrastructure scenario, reducing information gap etc. Table 3 shows the percentage share of India’s merchandise exports to Pakistan. This has substantially decreased from 0.47 in 1996-97 to a low level of 0.25 in 1999-00 due to the incident of Kargil war (May, 1999) and then reached at the peak

level of 1.19 in 2007-08 following a good deal of business communication of previous NDA Government. However, it has further started declining during the subsequent years and reached at the level of 0.72 in 2013-14. However, in respect of merchandise imports, the picture is not satisfactory. During 1996-97 to 2013-14, the share ranged from 0.09 to 0.17 per cent except in 1998-99 when it peaked to 0.50 per cent. The average share of exports and imports has worked out to be 0.60 and 0.12 per cent respectively.

Similarly, it is also clear from Table 3 that the share of Pakistan's exports with India has reached up to a maximum of 2.23 per cent in 1998-99 before the incidence of Kargil War (1999) from a level of 0.43 percent in 1996-97, but after that it has further slipped to a level of below 1.0 per cent during 1999-2000 to 2003-04. During 2004-05, it has further improved and touched the level of 2.0 per cent in 2004-05 and 2006-07 and then again has come down to a range of 1.06 to 1.78 per cent. On import side, the share was at low ebb in 1999-00 (1.23 per cent) and highest in 2012-13 (4.49 per cent). The average share of exports and imports with India has worked out to be 1.23 and 2.74 per cent respectively. Political differences, inadequate transport routes, weak transport infrastructure, cumbersome custom procedures, multiple rules & regulations, diverse array of certifying agencies, financial bottlenecks due to non-functioning of their banks on each other's territories, prolonged & costly trade transaction time, disappointing trade policies of consular officials on both sides regarding cross border trade etc. are the major factors behind the slow growth of bilateral trade flows. A bird's eye view can also be taken from Figure 2 (a) and 2 (b) which clearly indicates the growing gap in exports and imports.

Further, the computed values of average share of exports and imports of Pakistan with India (1.23 & 2.74 percent) are higher than India's average share with Pakistan (0.60 & 0.12 percent). Therefore, it can be stated that India occupies importance in Pakistan's economy with respect to trade, while Pakistan has little importance in the vast- sized economy of India during the period under review.

Table 3: Importance of Bilateral Trade between India and Pakistan

(Percentage)

Year	India's merchandise Exports and Imports with Pakistan		Pakistan's Merchandise Exports and Imports with India	
	Percentage share in Total Exports	Percentage share in Total Imports	Percentage share in Total Exports	Percentage share in Total Imports
1996-97	0.47	0.09	0.43	1.71
1997-98	0.41	0.11	1.04	1.52
1998-99	0.32	0.50	2.23	1.54
1999-00	0.25	0.14	0.62	1.23
2000-01	0.42	0.13	0.60	2.22

2001-02	0.33	0.13	0.53	1.80
2002-03	0.39	0.07	0.63	1.36
2003-04	0.45	0.07	0.76	2.45
2004-05	0.62	0.08	2.00	2.65
2005-06	0.67	0.12	1.78	2.80
2006-07	1.07	0.17	2.02	4.04
2007-08	1.19	0.11	1.32	4.25
2008-09	0.77	0.12	1.75	3.43
2009-10	0.88	0.09	1.39	3.53
2010-11	0.81	0.09	1.06	4.31
2011-12	0.50	0.08	1.43	3.36
2012-13	0.69	0.11	1.33	4.49
2013-14	0.72	0.09	-	-
2014-15 (April-Sep.)	0.57	0.11	-	-
Average Share	0.60	0.12	1.23	2.74

(Source: Author's own Calculation based on data given in Export Import Data Bank, Ministry of Commerce, Government of India, Economic Survey of Pakistan, 2013-14)



Figure 2(a)



Figure 2(b)

3.3 Analysis of India’s Trade Intensity and Reciprocity with Pakistan

Trade Intensity Index (TII) was pioneered by Brown (1949) and developed by Kojhima (1964). These indices indicate relative strength or resistance to bilateral trade flow, which is explained by the nature and importance of various factors like protectionism, transportation costs, imperfect information about foreign markets etc. (Kojhima, 1964; Wadhva & Asher, 1985; Garnaut & Drysdale 1994; and Bano; 2002). TII is very useful in measuring bilateral trade relationship without any bias resulting from the comparative size of trading partners. The examination of trade intensity analysis tells us that exports from economically large country to a smaller one are high (or low) not because of their dominant size but because resistances between them are relatively low (or high). In order to explore the bilateral trade relationship between India and Pakistan, whether it is strengthening or weakening, we have computed export and import intensity indices with the help of following methods:

$$XII_p = \frac{X_p}{X_i} \bigg/ \frac{M_p}{M_w - M_i}$$

For India,

Where XII_{ip} = Export Intensity Index

X_{ip} = Country India’s (I) Exports to Pakistan (P)

- X_i = Country India's (I) Exports to world (w)
- M_p = Pakistan's (P) Imports from the world (w)
- M_w = Total world imports
- M_i = Country India's (I) imports from the world (w)

$$XII_{i p} = \frac{\frac{X_{i p}}{X_i}}{\frac{M_p}{M_w - M_i}}$$

Where

- III_{ip} = Import Intensity Index
- M_{ip} = Country India's (I) imports from Pakistan (P)
- M_i = Country India's (I) imports from the world (w)
- X_p = Pakistan's (P) exports to the world (w)
- X_w = Total world exports
- X_i = Country India's (I) exports to the world (w)

For Pakistan,

$$III_{i p} = \frac{\frac{M_{i p}}{M_i}}{\frac{X_p}{X_w - X_i}}$$

- Where XII_{pi} = Export Intensity Index
- X_{pi} = Country Pakistan's (P) Exports to India (I)
- X_p = Country Pakistan's (P) Exports to world (w)
- M_i = India's (I) Imports from the world (w)
- M_w = Total world imports
- M_p = Country Pakistan's (p) imports from the world (w)

$$III_{p i} = \frac{\frac{M_{p i}}{M_p}}{\frac{X_i}{X_w - X_p}}$$

Where

III_{pi} = import Intensity Index

M_{pi} = Country Pakistan's (P) imports from India (I)

M_p = Country Pakistan's (P) imports from the world (w)

X_i =India's (I) exports to the world (w)

X_w =Total world exports

X_p = Country Pakistan's (P) exports to the world (w)

A trade intensity index greater than one indicates that a country is exporting more to its partner than would be expected by its share in world trade, while a value of trade intensity less than one indicates the opposite. It also indicates that there is higher degree of trade intensity between two countries if the index value is greater than unity. In contrast, if the index takes the value closer to zero, it exhibits lower trade relations.

Similarly, trade reciprocity tells us about mutual changes in trade policy which bring about changes in the volume of each country's imports that are of equal value to changes in the volume of its exports (Bano S., 2014). For the present investigation, trade reciprocity is measured using the following formula developed by Wadhva and Asher (1985) to measure reciprocity in the overall balance of trade between any two trade partner countries:

$$\beta = 1 - \frac{\sum_{p=1}^n \left[\frac{|a_{ip} - a_{pi}|}{(a_{ip} + a_{pi})} \cdot \sum_{i=1}^n a_{ip} \right]}{(n-1) \sum_{i=1}^n \sum_{p=1}^n a_p}$$

Where:

a_{ip} = exports of country i (India) to partner p (Pakistan)

a_{pi} = exports of country p (Pakistan) to partner i (India)

n = total number of countries involved in the context of the bilateral or regional trade

β = the trade reciprocity index (TRI).

The value of this index always lies between 0 and 1. When there is perfectly balanced two-way trade between the trading partners, the value of this index reaches its maximum (unity). However, if there is only one-way flow of trade between the trading partners, the value of the index is at its minimum (zero). In this way the index is very useful to measures the degree of trade reciprocity (Wadhva and Asher 1985). Wadhva and Asher's equation for measuring trade reciprocity can be modified for two countries as follows.

$$\beta = 1 - \frac{\sum_{p=1}^n \left[\frac{|a_{ip} - a_{pi}|}{(a_{ip} - a_{pi})} \cdot \sum_{i=1}^n a_{ip} \right]}{(n-1) \sum_{i=1}^n \sum_{p=1}^n a_{ip}}$$

For two countries (n=2), it can be written as:

$$\beta = 1 - \frac{\sum_{j=1}^2 \left[\frac{|a_{1j} - a_{j1}|}{(a_{1j} - a_{j1})} a_{1j} + \frac{|a_{2j} - a_{j2}|}{(a_{2j} - a_{j2})} a_{2j} \right]}{(2-1) \left[\sum_{i=1}^2 \sum_{j=1}^2 a_{ij} \right]}$$

By further substitution, if 1 is represented by India and 2 is represented by Pakistan then,

$$\beta = 1 - \frac{\left[\frac{|a_{11} - a_{11}|}{(a_{11} - a_{11})} a_{11} + \frac{|a_{12} - a_{21}|}{(a_{12} - a_{21})} a_{12} + \frac{|a_{21} - a_{12}|}{(a_{21} - a_{12})} a_{21} + \frac{|a_{22} - a_{22}|}{(a_{22} - a_{22})} a_{22} \right]}{(2-1)(a_{11} + a_{12} + a_{21} + a_{22})}$$

Since a country cannot export to itself,

$$\beta = 1 - \frac{\left[0 + \frac{|a_{12} - a_{21}|}{(a_{12} - a_{21})} a_{12} + \frac{|a_{21} - a_{12}|}{(a_{21} - a_{12})} a_{21} + 0 \right]}{(2-1) (0 + a_{12} + a_{21} + 0)}$$

This modified method has been used in this study for estimation purposes.

The estimated values of trade intensities and reciprocities along with actual trade flows for the period 1996-97 to 2013-14 between India and Pakistan has been presented in Table 4. India's exports to Pakistan exhibits a relatively smooth and steady upward trend over the period under review except in 1999-00 when it reached to a minimum level of less than \$100 million due to the worsening political relations triggered by Kargil War(May, 1999). The

absolute value of the exports has increased from approximately \$ 157 million to over \$1000 million in 2006-07 and finally to a level of over \$2200 million in 2013-14 thus indicating a fourteen- fold increase during the period. This rapid increase in the exports may be attributed to the export growth story of India as well as to various economic arrangements.¹

Imports remained at a very low level in comparison with exports until 2004-05 (below \$100 million except 1998-99).But after the signing of SAFTA in 2004, it has been almost doubled in the next year and after that it has gained momentum to reach the level of about \$427 million in 2013-14, a twelve-fold jump. The analysis of exports and imports in terms of absolute value, therefore suggests that bilateral trade flow has increased during this period.

India's export and import intensities with Pakistan have been worked out with the help of WTO data and are represented in Table 4 and Figure 3(a), 3(b) and 3(c).It can be seen from the Table 4 that index value of export intensities of India with Pakistan throughout the period under study are greater than one. It is indicative of the fact that India has been over-represented (OR) in Pakistan's economy from export point of view. The index has taken the minimum value of 1.47 in 1999-00 and a maximum value of 4.45 in 2006-07. The results of Export Intensity Index (EII) indicating strong bilateral trade relationship with its neighboring country i.e. Pakistan. In terms of Import Intensity Index (III), India maintained index value to below unity barring 1998-99, 2006-07 & 2008-09 thereby indicating that Pakistan has been under-represented (UR) in India's trade market and trade relation seems to be weak .The index has minimum value of 0.41 in 2002-03, but subsequently, it starts to gain momentum and peaked to 1.30 in 2006-07. Again, it went down below one throughout the whole period ahead (except 2008-09). Overall results of III shows that India is importing relatively less from its trading partner than it ought to import given its importance in world trade. It is indeed surprising that India's imports are quite less from Pakistan, however it has granted MFN to Pakistan in 1996. Taking into account both EII and III, it can be said that export strength of India with Pakistan has increased, but entire trade relations are not satisfactory keeping in view the low value of III. It can also be supplemented with the computation of Trade Reciprocity Index (TRI) between India and Pakistan represented in Figure 3(c). A perusal of the Table shows that TRI is hovering around its minimum value that ranged between 0.23 in 2010-11 to 0.78 in 1997-98 but always very less from unity throughout the whole period under study. However, estimated values of TRI are moderate, avoiding extreme value of zero and one which indicates complete lack of trade reciprocity and perfectly balanced bilateral trade between the two economies.

It can be safely concluded that India is far behind the goal of perfect balanced trade with Pakistan under the review period. However, trade reciprocities and bilateral trade intensities bears positive relationship which signifies that with more economic integration over the period, trade reciprocities would tend to increase overtime and might result in a high degree of mutual gains from trade. But the correlation coefficient between EII and TRI has been found to be negative (0.55) and statistically significant at 0.05 level whereas it is positive (0.35) between TRI and III but non-significant. This entails that if India and Pakistan have to gain more from the bilateral trade, then both countries must be integrated economically in future.

**Table 4: Trade Intensity and Reciprocity of India with Pakistan over time
(1996-97 to 2013-14)**

Year	Exports (Million US \$)	Imports (Million US \$)	Trade Reciprocity	Export Intensity	Import Intensity
1996-97	157.22	36.16	0.38	2.09 (OR)	0.6 (UR)
1997-98	143.15	44.45	0.78	2.41 (OR)	0.73 (UR)
1998-99	106.10	214.45	0.76	1.93 (OR)	3.57 (OR)
1999-00	92.95	68.21	0.74	1.47 (OR)	0.93 (UR)
2000-01	186.83	64.03	0.46	2.62 (OR)	0.92 (UR)
2001-02	144.01	64.76	0.51	2.06 (OR)	0.92 (UR)
2002-03	206.16	44.85	0.51	2.16 (OR)	0.41 (UR)
2003-04	286.94	57.65	0.50	2.25 (OR)	0.43 (UR)
2004-05	521.05	94.97	0.72	2.95 (OR)	0.53 (UR)
2005-06	689.23	179.56	0.60	2.57 (OR)	0.80 (UR)
2006-07	1350.09	323.62	0.41	4.45 (OR)	1.30 (OR)
2007-08	1950.53	287.97	0.24	4.25 (OR)	0.84 (UR)
2008-09	1439.88	370.17	0.36	3.66 (OR)	1.09 (OR)
2009-10	1573.32	275.94	0.30	3.25 (OR)	0.6 (UR)
2010-11	2039.53	332.51	0.23	3.11 (OR)	0.56 (UR)
2011-12	1541.56	397.66	0.37	2.08 (OR)	0.61 (UR)
2012-13	2064.79	541.87	0.28	2.87 (OR)	0.84 (UR)
2013-14	2274.26	426.88	-	3.0 (OR)	0.69 (UR)

(Source: Author's own Calculation based on data given in <http://stat.wto.org>, Export Import Data Bank; Ministry of Commerce, Government of India and Economic Survey of Pakistan; 2012-13 and 2013-14.)



Figure 3(a)

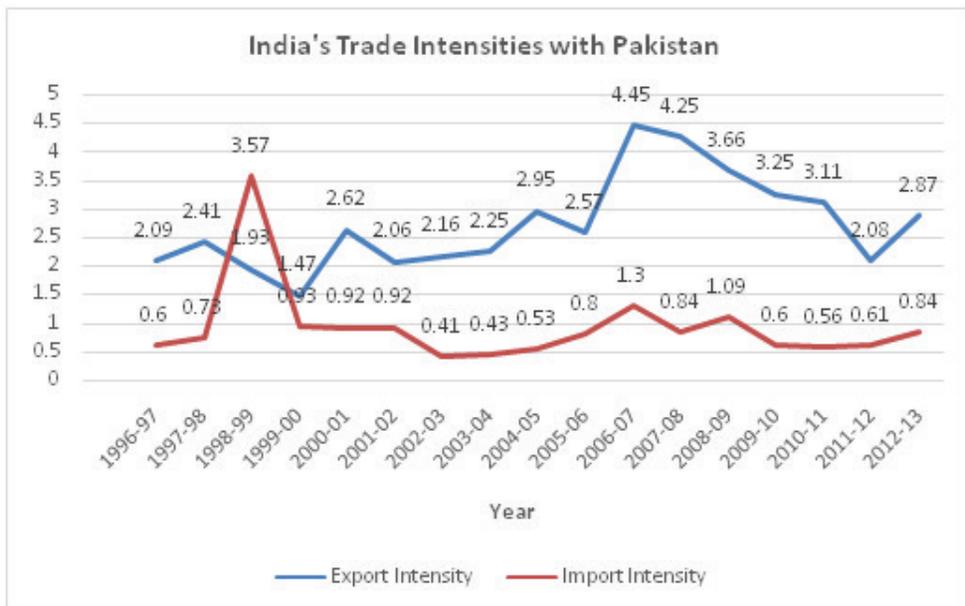


Figure 3 (b)

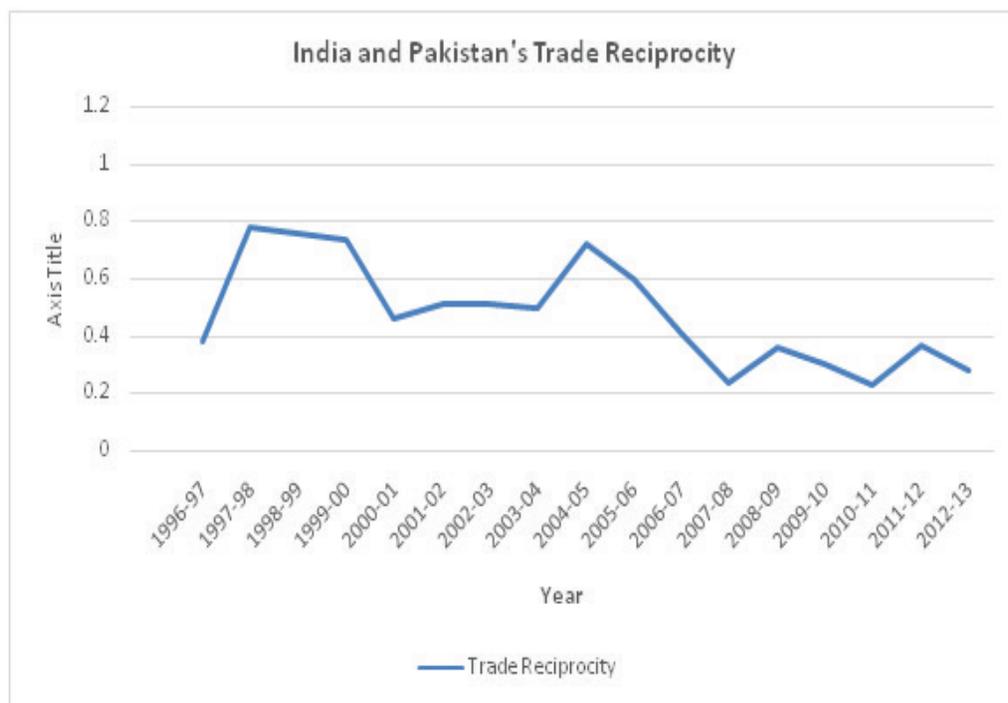


Figure 3(c)

3.4 Analysis of Pakistan’s Trade Intensities and Related Parameters with India

The absolute value of exports, imports, trade reciprocity index, trade intensities of Pakistan with India are shown in Table 5. The value of exports has increased from \$36 million in 1996-97 to over \$100 million in 1998-99 and then again below this \$100 million mark for next five consecutive years. With ups and down, export has increased upto a level of \$ 340 million during the period between 2004 and 2012. Similarly, in terms of imports, the value has increased from \$ 127 million in 1999-00 to \$ 2021 million in 2012-13 indicating nearly sixteen fold increase in imports. There is an upward trend of imports with some minor fluctuations since 2006-07.

The study of export intensity points towards Pakistan’s under representation in Indian market except few years (1997-98, 1998-99, and 2004-05 to 2006-07) whereas index of import intensity indicates strong representation in Indian trade market. The maximum value of EII has been computed at 3.01 in 1998-99 whereas it is found as low as 0.50 in 2012-13. However there is a greater scope for Pakistan to export more to India and enhance its own mutual gain from the trade. After 2006-07, EII are continuously below unity with minor fluctuations. All index values of III are greater than that of the entire period under study indicating that Pakistan is importing more from India. As far as Trade Reciprocity Index is concerned, it is same as in case of India and its implications has been explained above. Figure 4(a) and 4(b) also indicates similar results.

**Table 5: Trade Intensity and Reciprocity of Pakistan with India over time
(1996-97 to 2012-13)**

Year	Exports (Million US \$)	Imports (Million US \$)	Trade Reciprocity	Export Intensity	Import Intensity
1996-97	36.21	204.66	0.38	0.61 (UR)	2.80 (OR)
1997-98	90.57	154.54	0.78	1.44 (OR)	2.45(OR)
1998-99	174.10	143.95	0.76	3.01 (OR)	2.56 (OR)
1999-00	54.34	127.39	0.74	0.73 (UR)	1.92 (OR)
2000-01	55.55	238.37	0.46	0.80 (UR)	3.21 (OR)
2001-02	49.28	186.76	0.51	0.67 (UR)	2.57 (OR)
2002-03	70.47	166.47	0.51	0.69 (UR)	1.67(OR)
2003-04	93.76	382.21	0.50	0.76 (UR)	2.91 (OR)
2004-05	288.55	547.39	0.72	1.72 (OR)	2.94 (OR)
2005-06	293.35	803.20	0.60	1.29 (OR)	2.85 (OR)
2006-07	343.14	1235.98	0.41	1.35 (OR)	3.96 (OR)
2007-08	254.31	1708.85	0.24	0.75 (UR)	3.66 (OR)
2008-09	310.23	1190.86	0.36	0.95 (UR)	3.00 (OR)
2009-10	268.36	1227.58	0.30	0.61 (UR)	2.48 (OR)
2010-11	264.35	1743.23	0.23	0.44 (UR)	2.64 (OR)
2011-12	339.53	1510.68	0.37	0.53 (UR)	2.01 (OR)
2012-13	327.75	2021.29	0.28	0.50 (UR)	2.75 (OR)

(Source: Author's own Calculation based on data given in [http//stat. wto. Org](http://stat.wto.org), Export Import Data Bank; Government of India and Economic Survey of Pakistan for the year 2012-13 & 2013-14.)²



Figure 4 (a)

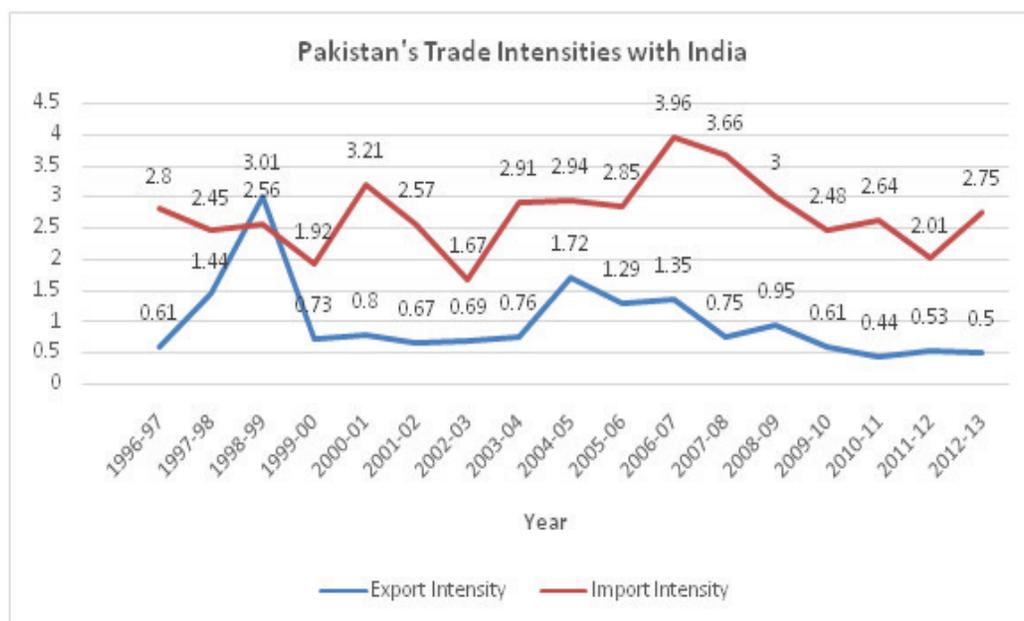


Figure 4 (b)

3.5 India and Revealed Comparative Advantage (RCA)

Generally, countries export those items in which they have comparative advantages and import those commodities in which comparative advantages are relatively low. Balasa (1967) developed the formula for RCA. He states that a country’s comparative advantage in a particular industry or commodity is reflected by its export performance in the world market. It is calculated as under:

$$RCA_{z\ i} = \frac{\frac{X_{z\ i}}{X_{t\ i}}}{\frac{X_{z\ w}}{X_{t\ w}}}$$

Where:

$RCA_{z\ i}$ = Revealed Comparative Advantage of India (i) with respect to z commodity

$X_{z\ i}$ = Value of exports of India with respect to z commodity

$X_{t\ i}$ = value of India’s total exports

$X_{z\ w}$ = value of world’s exports with respect to commodity z

$X_{t\ w}$ = value of world’s total exports

Table 6: Revealed Comparative Advantage (RCA) Index Value of Top Ten Export Commodities for India during 2011-13

S.N.	SITC* Commodity (code)	HS Code	2011	2012	2013
1	Petroleum oils other than crude (334)	2710	3.6	3.6	4.0
2	Diamonds whether or not worked but not mounted or set (667)	7102	11.11	8.75	8.88
3	Articles of Jewelry and parts thereof, of precious metal (897)	7113	6.66	8.57	4.28
4	Medicaments (excluding goods of heading 30.02,30.05 or 30.06 (542)	3004	2.5	3.75	3.33
5	Commodities not specified according to kind (931)	9999	1.33	0.26	-
6	Rice (042)	1006	10	20	20
7	Motor cars and other motor vehicles principally designed for transports (781)	8703	0.33	0.33	0.33
8	Electrical apparatus for the telephony or line telegraphy (764)	8517	0.50	0.33	0.33
9	Cotton, not carded or combed (263)	5201	10	10	10
10	Vegetables , saps & extracts and substances(292)	1302	3.5	10	4

(Source: Author’s own Calculation based on data given in comtrade.un. org)

* SITC stands for Standard International Trade Classification.

If the value of this index comes out greater than unity, it signifies that the country has definite comparative advantage in the production of that particular commodity. At the same time, if it turns out to be less than unity, then it indicates that share of commodity z in a particular country's exports is less than the corresponding share of that product in total world exports which in turn reflects revealed comparative disadvantage in the production of that commodity. We have computed the RCA value of top ten export commodities for India during 2011-13 and the results obtained are presented in the Table 6. India possesses strong RCA in most of the SITC commodities with a value of more than 3 except SITC code 931,781 and 764 where the index value is less than unity. In case of Rice (042) commodity, RCA is very high in 2013 with a maximum value of 20.

3.6 Pakistan and Revealed Comparative Advantage

For Pakistan, the index value of RCA for top ten commodities during 2011-13 has also been worked out and is presented in Table-7. Pakistan has shown stronger Revealed Comparative Advantages (RCA) in most of the commodities with a maximum RCA value of 80 in case of Rice (042) followed by woven fabrics of cotton (652) with RCA value of 70, bed linens (658) with index value of about 37 and cotton yarn (651) having RCA value of 27 during 2013. Pakistan has lower revealed comparative disadvantage only in case of petroleum oils (334) with a value of 0.4 in 2013.

From the aforesaid analysis, it can be safely concluded that export structures of both the countries are diverse and different from each other except Rice (042) which indicates that both nations can gain more from trade if they specialize in their respective areas of production with more economic integration in near future. Exporters of India can also take advantage by examining the RCA of such products which are not yet exported to Pakistan and vice versa.

Table 7: Revealed Comparative Advantage (RCA) Index Value of Top Ten Export Commodities for Pakistan during 2011-13

S.N.	SITC Commodity (code)	HS Code	2011	2012	2013
1	Bed linen, table linen, toilet linen and kitchen linen (658)	6302	55	50	36.66
2	Cotton yarn (other than sewing thread) containing 85 % or more (651)	5205	23.33	26.66	26.66
3	Rice (042)	1006	80	70	80
4	Woven fabrics of cotton, containing 85 % or more by weights of cotton (652)	5208 5209	60	70	70
5	Men's or boy's suit ensembles, Jackets, blazers, trousers etc. (841)	6203	7.5	10	7.5
6	Articles of Jewelry and parts thereof, of precious metal (897)	7113	1.66	8.57	1.42
7	Petroleum oils other than crude (334)	2710	1	0.2	0.4
8	Articles of Apparel and clothing accessories of leather(848)	4203	20	20	20
9	Women's or girls' suits ,ensembles, jackets, blazers, dresses, skirts etc. (842)	6204	5	5	5

(Source: Author's own Calculation based on data given in comtrade.un.org)

RCA of SITC 652 has been determined jointly, however this commodity has been classified under two heads in HS -2007 classification.

3.7 Analysis of Intra Industry Trade between India and Pakistan

In this section, we will examine India's Intra Industry Trade with Pakistan for the year 2014 using UN Standard International Trade Classification (SITC Revision-3) at all 3 –digit level for all industries. Intra Industry Trade (IIT) takes place if there are simultaneous exports and imports of goods within same industry. For the present study, we have used Grubel Lloyd Index to examine the intra industry trade due to its wide acceptance. However it is associated with certain biases created through trade imbalance at multilateral level (Grubel and Lloyd, 1975). The attempts of Helpman, E. (1987) to modify the Grubel Lloyd Index are however, not appropriate because the nature of trade bias is unknown. With the help of Grubel Lloyd Index, bilateral IIT index in commodity z of country India (i) to country Pakistan (p) at a given SITC level can be calculated as:

$$IIT_{ipz} = \frac{\sum (X_{ipz} + M_{ipz}) - \sum |(X_{ipz} - M_{ipz})|}{\sum (X_{ipz} + M_{ipz})} \times 100$$

Where,

IIT_{ipz} = Intra Industry Index of India (i) with Pakistan (p) of commodity z

X_{ipz} = Exports of India (i) to Pakistan (p) of commodity z

M_{ipz} = India's (i) Imports from Pakistan of commodity z

The index takes the value zero when there is complete absence of either of the exports or imports and 100 when exports and imports are equal whatever be the level and flow of the trade. Bilateral trade is treated as unidirectional if index takes low value thereby reflecting trade as either export- oriented or primarily import- focused. If India and Pakistan has to take advantage from trade, then it is the need of the hour to strengthen economic ties both at production and marketing level among the companies of both sides. In order to know the current scenario of entrepreneurial status on both sides, the study of IIT is of paramount importance.

Table 8 depicts the value of Grubel Lloyd Index and its associated parameters at the 3-digit level (SITC Revision 3 in 2014). These IIT values are very important to know the potential for further investment. The companies involved in the production and exports of these commodities may be benefitted by setting up joint ventures (JV_s) with those companies which are the major importers (Pakistan) of the same. There is a greater possibility for Pakistan to set-up joint ventures (JV_s) in Pakistan in the production of those products which occupy more index value. There are 15 products out of total 110 matched products where joint ventures can be set-up due to the high index value of at least 75. These products include: coffee and related products (071), oilseeds(222), inorganic chemical(522), Metals & salt(523), Polycarbonate (574), Fabric woven (654), Textile articles (658), Electro X-Ray (774), Electric Machines (778), Parts of Tractors(784), Lighting (813), Trunk and suitcase(831), women knit clothing(844), clothing non textile(848), Footwear(851). Thus, both countries could set up or forge joint production

& marketing strategy (or vice versa) in those commodities which have the potential of joint ventures. This will enhance India – Pakistan trade.

**Table 8: Intra Industry Trade of India (699) with Pakistan (586)
at the All- 3 digit level, SITC Rev. 3 Commodities (2014)**

SI TC	Commodity	Exports	Imports	Total Trade	Trade Balance	Grubel-Lloyd Index
		(X _i) (000' US\$)	(M _i) (000' US\$)	(X _i + M _i) (000' US\$)	(X _i -M _i) (000' US\$)	(IIT _i)
48	Cereal ...	2,489.7	0.739	2,490.439	2,488.961	0.05
54	Vegetables	196,728.2	4,149.6	200,877.8	192,578.6	4.13
56	Vegetables...	2,519.9	38.2	2,558.1	2,481.7	2.98
57	Fruits, nuts...	37,120.8	109,660.4	146,781.2	(-)72,539.6	50.57
58	Fruits preserved	971.2	35.6	1,006.8	935.6	7.08
61	Sugar, molasses	2,674.1	8.8	2,682.9	2,665.3	0.65
71	Coffee...	19.7	15.4	35.1	4.3	87.74
74	Tea & mate	22,809	5.1	22,814.1	22,803.9	0.04
75	Spices	56,905.9	1,643	58,548.9	55,262.9	5.61
98	Edible product....	3,624.8	180.8	3,805.6	3,444	9.50
0	Total	325,863.3	115,737.64	441,600.94	210,125.66	52.41
1		-	-	-	-	-
222	Oilseeds...	27,256.1	17,455.3	44,711.4	9,800.8	78.07
223	Oilseeds (other)	2,320.6	489.9	2,810.5	1,830.7	34.86
232	Synthetic rubber etc.	10,413.4	3,926	14,339.4	6,487.4	54.75
263	cotton	259,321.8	33,981.1	293,302.9	225,340.7	23.17
267	Other manmade fiber	33,079	10.3	33,089.3	33,068.7	0.06
269	Worn clothing....	529.1	5,016.3	5,545.4	(-) 4,487.2	19.08
273	Stone, sand...	182.8	20,538.4	20,721.2	(-)20,355.6	1.76
274	Sulphur....	17.3	102.4	119.7	(-) 85.1	28.90
278	Other crude	965.3	2,539.7	3,505	(-)1,574.4	55.08
285	Aluminums ore.	95.3	7,698.4	7,793.7	(-)7,603.1	2.44
287	Ore, base metal	1,056	397.6	1,453.6	658.4	54.70
288	Non Ferro's ...	2.8	4,105.2	4,108	(-)4,102.4	11.67

292	Crude veg. material.....	40,059.7	2,642.5	42,702.2	37,417.2	12.37
2	Total	375,299.2	98,903.1	474,202.3	276,396.1	41.71
325	Coke, semi coke	9,257.5	1,326.7	10,584.4	7,930.6	25.07
334	Petroleum prod.	21,948.3	114,598.5	136,548.8	(-)92,650.2	32.14
3	Total	31,205.8	115,925.4	147,131.2	(-)84,719.6	42.41
4		-	-	-	-	-
511	Hydrocarbons	136,185.6	8,445.4	144,631	127,740.2	11.67
512	Alcohols....	8,133.2	2,341.5	10,474.7	5,791.7	44.70
513	Carboxylic acid	10,944.8	425.8	11370.6	10,519	7.48
514	Nitrogen Funct..	12,787	57.1	1,335.8	1,221.6	8.54
516	Other organic chemical	34,228	3.9	34,231.9	34,224.1	0.02
522	Inorganic chemical	6,730	4,065.8	10,795.8	2,664.2	75.32
523	Metals, salt...	9,702.7	9,616.7	19,319.4	86	99.55
524	Other chemical compounds	311.2	2,671.7	2,982.9	(-)2,360.5	20.86
531	Synthetic colours....	85,199.4	270.7	85,470.1	84,928.7	0.63
532	Dyeing.....	7,370.7	10.3	7,381	7,360.4	0.27
533	Pigments.....	2,873.3	4.3	2,877.5	2,868.9	0.29
541	Medicines etc.	38,724.5	6.1	38,730.6	38,718.4	0.03
542	medicaments	24,439.8	0.305	24,440.105	24,439.495	0.24
553	Perfumery.....	14,580	38.8	14,618.5	14,541.2	0.52
554	Shop, cleaners...	12,028.5	11.5	12,040	12017	0.10
572	Polymers.....	497.3	197.6	694.9	299.7	56.87
573	Polymers, vinyl	84	14,461.3	14,545.3	(-)14,377.3	1.15
574	Polycarbonate	1,104	795.1	1,899.1	308.9	83.73
575	Plastic.....	122,893.6	591.8	123,484.4	122,301.8	9.54
581	Plastic tube	161.6	0.032	161.632	161.568	0.03
582	Plastic plate....	844.4	254.5	1098.9	589.9	46.31
592	Starches inulin	1,929.1	6.6	1,935.7	1,922.5	0.68
598	Misc. chemical	38,799.8	157.5	38,957.3	38,642.3	0.80
5	Total	560,552.4	44,434.337	604,986.637	516,118.063	14.68
611	leather	1,547.2	31,779.9	33,347.1	(-)30,252.7	9.27
625	Rubber tyres...	38,560.5	0.357	38,560.857	38,560.15	0.001

629	Articles of rubber.....	1,887.7	0.55	1,888.25	1,887.15	0.005
635	Wood manuf.....	11.8	82.3	94.1	(-)70.5	25.07
641	Paper & paper board	344.8	5.1	349.9	339.7	2.91
642	Paper.....	499.5	8.6	508.1	490.9	3.38
651	Textile yarn...	131,723.6	575.7	132,299.3	131,147.9	0.86
652	Cotton fabrics	5,430	23,227.2	28,657.2	(-)17,797.2	37.89
653	Fabrics.....	124,112.6	968.5	125,081.1	123,144.1	1.54
654	Fabric woven	108.3	130.5	238.8	(-)22.2	90.70
655	Knit, crochet....	11	732.2	743.2	(-)721.2	2.96
656	Tulle, lace.....	5,349	133.8	5,482.8	5,215.2	4.88
657	Special yarn...	3,243.7	273.3	3,517	2,970.4	15.54
658	Textile articles...	666.7	1083	1749.7	(-)416.3	76.20
659	Floor covering...	23.6	278	301.6	(-)254.4	15.64
661	Lime, cement...	7,551	47,151.2	54,702.2	(-)39,600.2	27.60
662	Clay.....	869.6	0.057	869.657	869.55	0.01
663	Minerals.....	1,396.6	670.8	2,067.4	725.8	64.89
664	Glass	643.1	17,554.7	18,197.8	(-)16911.6	7.06
665	Glassware	563.2	2.6	565.8	560.6	0.91
682	copper	3,624.9	0.156	3,625.056	3,624.744	0.86
686	Zinc	10,178.7	103.1	10,281.8	10,075.6	2.0
691	Metallic structure.....	11.4	2.3	13.7	9.1	33.57
692	Containers.....	487.1	1.7	488.8	485.4	0.69
694	Nails, screws....	7.8	0.685	8.485	7.115	16.14
695	Tools	1,610	26.6	1,636.6	1,583.4	3.25
696	cutlery	56.6	167.7	224.3	(-)111.1	50.46
697	Household equipment etc.	288	0.824	288.824	287.176	0.57
699	Base metal....	2,625.5	251.2	2,876.7	2,374.3	17.46
6	Total	343,433.5	125,212.629	468,646.129	218,220.871	53.43
716	Electric plant	2,620.9	0.309	2,621.209	2,620.86	0.023
721	Agri. Machines...	3,007	26.8	3,033.8	2,980.2	1.76
723	Civil engineering Equipment	968.7	316.6	1,285.3	652.1	49.26
724	Textile machine	15,794.4	81.2	15,875.6	15,713.2	1.02

726	Printing	297.8	0.23	298.03	297.57	0.15
742	Pumps...	282.5	53.4	335.9	229.1	31.79
745	Non electric.....	2,881	15.4	2,896.4	2,865.6	1.06
752	Automatic data.	115	10.6	125.6	104.6	16.87
772	Electric switch	816.8	1.8	818.8	815	0.39
774	Electro X-ray...	207.5	8.6	216.1	198.9	79.59
776	Transistor valve	16.3	0.027	16.32	16.28	0.33
778	Electric machine	338.5	224.4	562.9	114.1	79.72
784	Parts tractors...	88.4	78.5	166.9	9.9	94.06
7	Total	27,434.8	817.868	28,252.668	26,616.932	5.78
813	Lighting....	18.4	16.6	35	1.8	94.85
821	Furniture...	50.1	96.5	146.6	(-)46.4	68.34
831	Trunk, suitcase	28.1	37.1	65.2	(-)9	86.19
841	Men clothing	88	954.3	1,042.3	(-)866.3	16.88
842	Women clothing	172.8	520.7	693.5	(-)347.9	49.83
843	Men knit clothing	13.6	248	261.6	(-)234.4	10.39
844	Women knit clothing	97.1	70.6	167.7	26.5	84.19
845	Other textile...	270.6	660.9	931.5	(-)390.3	58.09
846	Clothing ace.....	130.6	861.6	992.2	(-)731	26.32
848	Clothing non textile	232.9	283.6	516.5	(-)50.7	90.18
851	footwear	231.7	151.2	382.9	80.5	78.97
872	Medical instru...	3,071	6,941.6	10,012.6	(-)3870.6	61.34
874	Measure instru..	1,781.1	352.4	2,133.5	1,428.7	33.03
892	Printed matter	5,555.6	267.8	5,823.4	5,287.8	9.19
893	Articles of plastic	2,924.2	634.6	3,558.8	2,289.6	17.83
894	Baby toys....	790.8	1,672.8	2,463.6	(-)882	64.19
896	Antique works	108.1	519.8	627.9	(-)411.7	34.43
897	Gold ,silver etc.	24,725.3	107.3	24,832.6	24,618	0.86
899	Misc. manu.. goods	9,381.1	55.5	9,436.2	9,325.5	0.58
8	Total	49,671.1	14,452.9	64,124	35,218.2	45.07
931	Specific transactions not classified	5,758.4	20.2	5,778.6	5,738.2	0.69
9	Total	5,758.4	20.2	5,778.6	5,738.2	0.69

(Source: Author's own Calculation based on data given in comtrade.un.org/)

3.8 Trade Potential between India and Pakistan

There is no such thing as free trade that can provide maximum mutual benefit for trading countries if there does not exist considerable trade potential between them. It is crucial to examine whether there is any considerable trade potential between India and Pakistan. It can be worked out by matching the export supply of a particular product of a country with the import demand for that product of a trading partner. An estimate can be obtained regarding trade expansion under most competitive conditions after subtracting existing trade (World Bank, 2008). Trade potential of a given product can be calculated as:

$$\text{Trade Potential of a product} = \{ \text{Minimum } X_i \text{ or } M_p \} - EX_{ip}$$

Where:

X_i = India's total world exports of a given product

M_p =Pakistan's total world imports of a given product

EX_{ip} = Existing bilateral exports from India to Pakistan of a given product

Trade potential between India and Pakistan using SITC Rev. 3 to 1-digit level is reported in Table 9 for the year 2014. It can be seen from the Table 9 that there are enough opportunities to enhance bilateral trade given the low volume of trade that currently exists. The biggest opportunity is in the field of Mineral, fuels, lubricants & related Materials (3) with 33.8 per cent followed by machinery & transport (7) having 21.66 per cent share, chemicals & related products (5) having 15.39 per cent share, manufactured goods (6) with 11.84 per cent and crude materials & inedible except food (2) having 7.49 per cent share in total trade potential of \$ 43,755,897,000. India also possess revealed comparative advantage in the production of most of the commodities that lies under SITC 5,6 and 7 making India in a win- win position by enhancing the bilateral trade in respect of these commodities.

Table 9: Trade Potential between India and Pakistan by commodity classification (SITC Revision 3 and 1- Digit level), 2014

(000' US \$)

SITC CODE (I Digit)	SITC Code Classification	India's World Export	Pakistan's world Imports	India's Exports to Pakistan	Trade Potential
0	Food & Live Animals	31,969,384 (10.06)	2,682,385 (5.64)	325,863.3 (18.95)	2,356,521.7 (5.38)
1	Beverages & Tobacco	1,188,777.6 (0.37)	26552.6 (0.05)	-	26,552.6 (0.06)
2	Crude Materials, inedible except fuels	12,772,874.1 (4.02)	3,653,682.1 (7.68)	375,299.2 (21.82)	3,278,382.9 (7.49)
3	Mineral fuels, lubricants & related Materials	62,346,952.8 (19.63)	14,821,664.9 (31.17)	31,205.8 (1.81)	14,790,459.1 (33.80)

4	Animal & vegetable oils, fats and vexes	100,811.4 (0.03)	2,170,579.1 (4.56)	-	100,811.4 (0.23)
5	Chemicals and related products	37,117,701 (11.68)	7,295,086.4 (15.34)	560,552.4 (32.60)	6,734,534 (15.39)
6	Manufactured goods	76,837,464.6 (24.19)	5,525,403.6 (11.62)	343,433.5 (19.97)	5,181,970.1 (11.84)
7	Machinery & Transport equipment	48,578,926.8 (15.29)	9,508,609.2 (19.99)	27,434.8 (1.59)	9,481,174.4 (21.66)
8	Misc. manufactured articles	42,297,283.7 (13.32)	1,826,498.8 (3.84)	49,671.1 (2.88)	1,776,827.7 (4.06)
9	Commodities and transactions not classified elsewhere in the SITC	3,427,175.7 (1.07)	34,426.7 (0.07)	5,758.4 (0.33)	28,668.3 (0.06)
Total	All Commodities	317,544,642.2 (100.0)	47,544,888.9 (100.0)	1,719,218.5 (100.0)	43,755,897.2 (100.0)

(Figures in the parentheses denotes percentages from their respective column total
(Source: Author's own Calculation based on data given in comtrade. un. org)

Surprisingly, In terms of Mineral, fuels, lubricants & related Materials (3), the share of Pakistan in total imports is 31.8 per cent and India has second highest share of these items in export basket after manufactured goods in India's total world exports. India's export to Pakistan is much less at 1.18 per cent in total exports. It may be a golden opportunity for India to improve marketing strategy in respect of this item in Pakistan through negotiations, economic ties, cooperation and treaties. At current level, chemical and related products (5) is the biggest item of exports to Pakistan followed by Crude Materials, inedible except fuels (2), manufactured goods (6) and food & live animals (0).

IV. Conclusion And Policy Implication

India and Pakistan are two most populous and largest economies of the South Asian Region. But official bilateral trade accounts for only less than one per cent of India's global trade. Their rapprochement has the potential to change the geopolitical dynamics of India. Enhanced bilateral relations would ensure cheaper raw material, low transportation and insurance cost which would turn into quality goods at competitive prices for both nations. While businessman will have access to wider market in its neighborhood, consumer would gain through lower prices of the goods, higher purchasing power and greater choice of traded commodities. The government would also gain by bringing informal trade into a formal one thereby ultimately creating a win- win situation for everyone. It is pertinent to analyse the bilateral trade relationship between the two nations to decipher the possible roadmap towards a deeper economic ties.

The present study indicates that India accounts for nearly 1.20 per cent share in global trade while Pakistan's share amounts to just 0.20 per cent. Similarly, the study of importance of bilateral trade in each other's economy exhibits that India has more importance in Pakistan's economy with respect to overall trade and on the other hand, Pakistan has little importance in the vast sized economy of India during the period under review. The results of Export Intensity Index (EII) indicates strong bilateral trade relationship with its neighboring country i.e. Pakistan, however, in terms of Import Intensity Index (III), India maintained index value to below unity for many years thereby indicating that Pakistan has been under-represented (UR) in India's trade market and trade relation seems to be unsatisfactory, thus making overall trade relation very weak. India is far behind the goal of perfect balanced trade with Pakistan under the review period as revealed by the measurement of trade reciprocity index. Similarly, Revealed Comparative Advantage (RCA) analysis shows that both countries are enjoying comparative advantages in their respective exportable items in recent years. Intra Industry Index of many commodities of India also shows a high degree (at least 0.70) at the SITC 3 digit level indicating feasibility of setting up of joint ventures in the production and marketing of these items. The analysis of trade potential highlights that there are enough opportunities to enhance bilateral trade given the low volume of trade that currently exists.

After evaluation of the results of present study, the paper makes certain recommendations to improve the existing bilateral trade relations as optimism is also growing on both sides due to the realization of mutual interdependence and co-existence with a change in political powers. The recent surprise stopover of Indian Prime Minister to Lahore to attend the birthday ceremony of Pak Premier Nawaz Sharif has triggered enhanced expectations for heightened trade relationship. Here is the gist of some of the doable recommendations:

- Despite significant growth in the volume of bilateral trade between India and Pakistan, bilateral trade flows are at a low level compared to world trade profiles of both nations which has also been examined through trade flow and intensity analysis. Many factors like financial bottlenecks on both sides, no transit rights by each other, limited accessibility of trade due to security reason, delay of granting MFN status to India, trade related infrastructural constraints, hard visa regime, Pakistan's dominant military establishment over democratic leadership & civil society, political trust deficit may be held responsible for this low volume of trade flow. Personal bonhomie between the Prime Ministers of two countries is helpful in building political trust. Both the leaders are wise enough and sincere in their efforts to improve relations as well as economies. They must prioritize **"Trade first; disputes later"**, thereby providing access to a market of over 1250 million consumers to Pakistan as well as to India with 182 million people. For both India and Pakistan, it is the time for new beginning and erasure of old sores. Enhanced economic activities through people to people contact will lead not only to greater employment avenue but also higher stakes of the people on both sides may be helpful to keep peaceful relation between the two countries on the lines of European Union and ASEAN which are growing as economic communities through better trade connections. This will provide a foundation for regional peace and tone down rhetoric of enmity and help create institutional mechanisms for dispute resolutions.

- In order to improve bilateral trade relationship, multi-faceted as well as multipronged strategy is urgently required which include reduction in existing high rates of tariff and non-tariff barriers as well as in trade costs of at least one particular product of the interest of both countries, reducing infrastructural and financial bottlenecks, opening up of more trade routes through sea, rail as well as road, expansion of investment and technology transfer in the production and marketing of those products which enjoy high revealed comparative advantage, dilution of multiple rules and regulations, trade diversification and promotion through trade facilitation measures like Make in India and Skill India programs, granting MFN status to India as soon as possible to reduce cost and loss of revenue through informal trade, resolving transit rights, enhancement in the number of tradable commodities etc. Effective implementation of trade facilitation measures will undoubtedly reduce misconceptions, bridge the information gaps and may be helpful in creating peaceful business environment in both countries.
- The analysis of Intra Industry Trade (IIT) and trade potential suggests that there exists the potential of trade in services like IT enabled services, medical, tourism, construction etc. and possibility of setting up of joint ventures in the production and marketing of at least in those areas where IIT have high values. These areas include hydro power, textiles, telecommunications, minerals, fuels, chemicals, pharmaceuticals, tourism, information technology (IT) etc. RCA analysis also advocates that both countries should not compete in many areas of trade in goods because potential benefits can be reaped from specialization resulting through bilateral trade liberalization.

ENDNOTES

1. Until 2011, Pakistan permitted only a positive list of 1946 items to be imported from India. When Pakistan decided to grant MFN status to India in March, 2012 it shifted to a negative list approach which comprises items that are prohibited from being imported by Pakistan from India. At present, there are 1209 items in this list. All other items are permitted to be imported from India. As regards the sensitive list, it consists of items on which no tariff concession is allowed and items under this are 614 on Indian side and 936 on Pakistan's side.
2. The difference in the figures of Exports and Imports of Pakistan with India is due to the fact that Pakistan's financial year starts from July 1st to June 30th. Trade Reciprocity Index will be similar for both countries.

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RISE OF INDIA AND CHINA AMIDST CLIMATE CHANGE: QUEST FOR A NEW DEVELOPMENT PARADIGM

Sachna Arora*

ABSTRACT

Climate change is the biggest challenge before the policy planners today but focusing on it alone could be highly misleading, especially in case of the two Asian giants, China and India, which continue to experience a revolution of rising socio-developmental expectations among more than two billion people. The emerging economies of India and China also need to balance their domestic imperatives of development and poverty alleviation with that of international obligations of cutting down their carbon emissions. India and China are the largest developing countries of the world. Both have the same development needs and both face the same development dilemma of balancing the economic growth with environmental concerns. These similar imperatives can offer them good opportunity to cooperate with each other. But at the same time both need energy resources to sustain their economy and meet their other human development goals which can lead to a kind of resource war between the two. The present paper will focus on the rise of India and China and the impact of climate change on their growth trajectories. It also brings to light the dilemma of development and sustainability and the dependency factor into dynamics of climate change.

Keywords: IPCC, developing nations, geopolitics.

INTRODUCTION

Climate change is one of the most complex and compelling challenge before the states and societies today. The question as to whether we are experiencing widespread 'global' climate change is now beyond doubt ; graphically revealed for example through the dramatic decline in the Arctic Sea ice ,the melting of Himalayan as well as Antarctic glaciers, cloud-bursts in Ladakh, winter flood in England. Much more detailed and country/region specific studies are needed however to understand and approach the impacts and implications of climate change in terms of their varied geographies.

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According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the warming of the earth climate system is unequivocal and well supported by observations of increase in global average air and ocean temperature, widespread melting of snow and ice and rising global average sea level. While highlighting the fact that developing countries are most vulnerable to climate change, the report reveals that climate change will have an adverse impact on availability of food, water and resilience of many ecosystems, industries, settlements, society and health of the citizens of these countries (IPCC Fourth Assessment Report, 2007).

Williams (2005) in his study highlighted an emerging geopolitical development related to climate change. He mentions how the climate change has geopolitical fallout in conceptualization by making relevant the category of ‘developing countries’ as a concept, which in some ways seemed to be losing its significance after the fall of the Berlin wall and the growing focus on globalization. The role and responsibility of developing countries, many of which have much less per capita emissions in comparison to the affluent, industrialized countries of the global north, have started receiving far more attention in the context of the rise of Asia. It is a truism that 21st century is in many ways Asia’s century and the growth stories of countries like India, China, Japan, South Korea, Taiwan and Singapore is causing remarkable shifts in global geopolitical equations (Niraj Kumar, 2015). No doubt Asia is rising and changing at the same time in several ways and at a fast pace. Most populated of all the continents, Asian countries are facing some of the most difficult environmental and socio-economic challenges. Land and ecosystems are already being degraded, threatening to undermine food security. Water and air quality are deteriorating while continued increases in consumption and associated waste have contributed to the exponential growth in the region’s existing environmental problems. Many environmental and developmental problems in Asia are likely to be multiplied due to climate change.

This is more so in the case of large and fast developing countries like India and China. For many analysts both India and China are better understood and approached as economies in transition rather than as developing countries. Although both India and China have achieved tremendous progress in many fields in last few decades, the environmental damage caused by economic growth oriented, fossil-fuels driven model of development continues to undermine the progress made by these countries. It appears neither feasible nor desirable to divorce climate change issues that India and China are likely to face from the long standing histories of environmental unsustainability in these countries. Both face the development dilemma of balancing the much sought after high rates of economic growth with several negative fallouts in terms of environmental sustainability. The strategies that India and China are likely to adopt in order to mitigate climate change while ensuring energy security and high growth rates need attention and critical examination. It also becomes important to understand that how Asia, because of its rising economies, is enjoying a new development paradigm but at the same time this development is creating a new dependency paradigm firstly because of higher vulnerability of developing countries and secondly due to less capability of these countries to deal with the crisis of climate change.

THE RISE OF INDIA AND CHINA AND CLIMATE CHANGE

According to Kishore Mahbubani “*Indo China relationship is the most important bilateral relationship of the 21st century*” (cited in Dipankar Banerjee, 2010). “This is the relationship that will shape the geopolitics of the region” (Arvind, 2008). India China relationship has a long history which has seen both ups and down during the last six decades. But the present era of globalization and resource conflict have resulted in the “speedy emergence and intensification of dilemmas of common interest and aversion” (Yu Hongyuan, 2008, p.16). It is, therefore, expected that both India and China will try to overcome their mutual challenges and climate change issue is such an opportunity for India and China. It is a golden chance for these countries to turn the threat of climate change into an opportunity. Their disputes are many; but both share an interest in avoiding overt conflict and rivalry as there is sufficient space for both of them to grow or develop together. There are many dimensions of Indo-China relationship like the political, economic, strategic and security aspects of their relationship. But the focus should be on their environment- related issues particularly their approach on issue of climate change.

The IPCC report states that Asia is potentially more susceptible to climate change than many other regions of the world. It also concludes that developing countries of Asia are highly vulnerable, and their adaptability is also low. India and China both are the victims of climate change resulting from global warming. Both are having the same development imperatives like poverty alleviation, unemployment and improving the living standards of their people. For all this, they need to consistently maintain their economic growth for which they need energy resources. Their dependence on non-renewable sources of energy increases their carbon emissions level. This will put them under higher pressure to change their energy strategy. The dilemma of sustainable growth has been in global focus for more than two decades.

United National Framework Convention on Climate Change (UNFCCC) was created on 9th May 1992. Before that IPCC was convened by the United Nations in 1988 to provide an authentic summary of our present understanding of the climate change induced by human beings and indicate the ways to mitigate this climate change or adapt to it. Since the adoption of UNFCCC, parties have continued in order to agree on the decisions and conclusions that advance its implementation. India and China’s climate approach can be traced back to the formation of UNFCCC only, because since then environmental issues have got a prominent place in policy discussions of almost all the countries.

Both India and China recognized some environmental problems and began addressing them way back in 1950s. However by the 1980s, increasing damage to their natural environment and adverse environmental impacts on economic development led to greater government concern. New environment laws were instituted in the areas of solid waste, noise, air and water pollution and by the mid 1990s the government was becoming more serious about the environmental issues. The present paper will focus on the climate approach of India and China since 1990s and more specifically since the signing of Kyoto protocol on December 11, 1997. India and China consider UNFCCC as the only platform to discuss environment related issues and they believe that only in the framework of UNFCCC, the deadlock between the developed and developing countries can be resolved.

Predictions are being made that the center of gravity of power is indeed shifting from west towards east especially because of the simultaneous rise of India and China to global prominence.(Niraj Kumar,2015) But the problem is how to sustain this growth especially because of the threat of climate change. The focus is now on the indicators which point toward this rise along with highlighting the impact of climate change upon rise of Asia and vice-versa. Another focus area is the Energy-climate interface taking place in India and China. Climate change and global energy are so strongly related to each other that they can no longer be discussed in isolation. The provision of energy is at the core of the climate change issue. The growing energy needs of the various sectors of India and China and the increase in carbon emissions as a result of this reflect the growing development as well as dependency phenomenon happening at the same time. Their environmental diplomacy has sought to further several goals: protect their sovereignty, acquire foreign aid and technical assistance, and promote economic development.

It is of paramount importance to know what have been their stands on climate change issue during various environmental negotiations and what are their key priorities which they keep in mind while taking any decision on this issue?

The rate of environmental degradation in China and India has aggravated with the rapid rate of economic growth in these countries. The key purpose of the paper is to examine the environmental condition of these countries and the level of environmental pollution and degradation in the world's two largest economies of India and China. The various steps which have been taken or which should be taken for the mitigation of climate change especially focusing on their national action plans on climate change also become an important area of study.

India and China can adopt new clean development strategies to circumvent the crisis caused by the Climate change upon the current model of development. Many other believe that climate change may also lead to resource war between the two neighbours given the limited stock of energy sources and the over-reliance of these countries on energy import. The world is watching with eagerness policies of India and China with respect to their development policies.

DILEMMA OF DEVELOPMENT AND CLIMATE CHANGE

The threat of global warming has become a serious environmental security issue. The study of climate change also becomes important because of its serious impact on every aspect of human life be it economic, cultural, political and social. This problem gets worse because of the deadlock between the developed and developing countries which revolve around the question that who is to be blamed for present crisis of climate change and who should take the responsibility in this regard? No doubt, co-operation of all the countries is needed to resolve the crisis but question arises who should take the initiative as lot of issues such as the sovereignty, ethics, morality, justice, security are involved that makes this whole issue very complex.

This paper raises an important question – Can billions in the East develop the same way millions in the west developed? Climate change resulting from global warming is basically the result of industrialization of developed countries and developing countries are least responsible

for this crisis but according to the IPCC 4th Assessment Report, developing countries are the most vulnerable to its adverse consequences. At the same time they are least capable of dealing with it. All this make their position more vulnerable. Developed countries are shirking from taking the initiative in mitigation of climate change but these countries instead of doing something to bring the situation under control, are demanding that developing countries should also take the concrete responsibilities in this regard. It means developing world will have to compromise with their development needs in order to deal with the adverse effects of climate change. In this way developing countries are being denied the right to develop.

Developing countries believe that limiting their carbon emissions level will limit their economy's growth. Climate change is a matter of grave concern to these countries due to their higher vulnerability and lower adaptability. Few developing countries have the necessary financial, technical and institutional capacities. There are some critical perspectives which call these tactics of developed countries as '*environmental colonialism*' and argue that climate change as post-industrial and post-colonial discourse is likely to result in new kinds of dependencies.

This is being discussed in the latest round of climate change negotiations also. Developing countries argue that difference should be made between the luxury emissions of developed countries and subsistence emissions of developing countries. They are of the opinion that developed countries have already achieved very high levels of development and their emissions are byproduct of their luxuries but for developing countries it is the question of their survival.

The emerging economies of India and China also need to balance their domestic imperatives of development and poverty alleviation with that of international obligations of cutting down their carbon emissions. India and China are the largest developing countries of the world. Both have the same development needs and both face the same development dilemma of balancing the economic growth with environmental concerns. These similar imperatives can offer them good opportunity to cooperate with each other. But at the same time both need energy resources to sustain their economy and meet their other human development goals which can lead to a kind of resource war between the two.

India and China are the largest developing countries of the world. Both are the top five emitters of greenhouse gases. China comes second and India comes last in this group. In terms of population, both countries also belong to top five. Both countries also belong to the top five countries with respect to economic size. When measuring their gross domestic product in term of purchasing power party, China comes first and India comes third (IMF, 20147). On one hand, both countries are relatively vulnerable to adverse impacts of climate change, on the other, with a large population, in pursuing accelerated growth, carbon emissions will inevitably increase in the short and medium term. Both will have to make difficult decisions to keep a balance between climate protection and meeting the needs of economic development and poverty alleviation.

The question is whether India and China will cooperate to give a strong voice to the developing countries bloc as well as to come out with a better negotiating strategy for themselves in all the climate change negotiations or will they lose this opportunity by drifting

apart because of the many unresolved issues between them. A comparative analysis of their approach in all the climate change negotiations can help in resolving this dilemma.

Climate change and energy security are interwoven to such a great extent that both cannot be studied in isolation. Therefore, in the face of rising energy needs, India and China would try to take advantage of all the energy resources in the best way possible. But at the same time they are under pressure to reduce the level of their carbon emissions resulting from fossil fuel consumption. These countries will be called upon to change their energy strategy. Besides this the impact of climate change will force these countries to adopt a sustainable growth model. There is a need to balance their energy security needs with the compulsions of climate change.

THEORETICAL APPROACHES TO ADDRESS THIS DILEMMA

Yu Hongyun writes, “*Like many global issues, such as Global financial crises issues, the risk of nuclear proliferation, the threat of terrorism, environmental degradation within an increasingly interwoven global economy and so forth, climate change is also becoming more and more important for all people. All this resulted in the speedy emergence and intensification of dilemmas of common interest or aversion*” (Yu Hongyuan, 2008, p.16). Every country is required to collaborate on this issue but the saddest part is that they all do not stand together on this issue. The world is divided into developed and developing world on the issue of climate change. As shown by various reports of IPCC, developed countries are principally responsible for changes in climate conditions but these countries by not doing anything are denying their historical responsibility and by asking the developing countries to take concrete responsibility are making them more dependent on them.

For the analytical purpose of this study we intend to draw upon a few critically informed approaches and theoretical arguments. First and foremost is a Critical Geopolitical approach to environmental sustainability issues and climate change (Dalby, 2009, Doyle and Chaturvedi 2010) in order to examine the complex and dynamic political geography of climate change and the nature of its space. A key puzzle here relates to simultaneously happening processes of deterritorialisation and reterritorialisation of climate change. The two seem to be operating in conjunction, and perhaps do not so much question the system of sovereign spaces as they reproduce it. Climate as a geopolitical space, therefore, as pointed out by Doyle and Chaturvedi (2010) “*is constantly moving in and out of physical-material geography and the spaces of climate change are always in the making and intermittently assume territorial or non-territorial forms depending upon the strategic convenience of the actors and their agendas concerned.*”

We are also inclined to use the Dependency Theory. The basic premise of the Dependency Theory is that the rich develop at the cost of the poor nations. Poor nations provide natural resources and cheap labor. They are the export destinations for obsolete technology and markets for the wealthy nations, without which, the latter could not have the standard of living that they enjoy. Poor are at a disadvantage in their market interactions with wealthy nations. For the purpose of the proposed thesis, we take Dependency theory as the rhetorical form of reasoning to explain the stand of powerful developed countries on climate change in all the climate negotiations wherein they justify the exercise of power in the pursuit of so-called *vital*

national security interests.

Climate change is essentially a consequence of the industrialization process of the developed countries at the development cost of developing countries. But it is basically these developing countries only which will be hit hard by the changes taking place in the climatic conditions. They are also least capable of dealing with the climate change crisis which makes them more vulnerable as well as more dependent on developed countries. It can be said that developed countries made progress at the expense of developing countries and today when it is their turn to develop, developed countries by moving away from their responsibility are denying the developing countries the right to develop. Huge technological gap between developed and developing countries also make developing countries heavily dependent on the developed countries for the transfer of technology and finances.

The second main principle of Dependency theory is that wealthy nations actively perpetuate a state of dependence by various means as in the case of climate negotiations. Heavy emphasis has been placed on carbon dioxide production due to deforestation and methane production from rice fields and livestock as compared to carbon dioxide emissions from the use of fossil fuels like oil and coal. Since the developing countries are more responsible for the former, heavy emphasis on deforestation and methane generation tends to overplay their contribution while underplaying that of the developed countries (Navroz K. Dubash, 2012).

Then there is a demand from the side of developed countries that carbon emissions reductions should be legally binding for developing countries also but developing countries believe that by making carbon emissions reduction legally binding for them, they are being denied the right to development and they call all this as 'Environmental Imperialism' or 'Environmental Colonialism' (Navroz K. Dubash, 2012). The main thrust of developing countries has always been on the principle of '*common but differentiated responsibility and respective capabilities*'. Developing countries have always been united in their quest to be able to pursue their economic development without undue constraints. They believe that they should be internally as well as externally sovereign while making decisions in this regard. They also believe that mechanisms like Clean Development Mechanism (CDM), Joint Implementation (JI) etc. are the instruments in the hands of rich nations to further perpetuate the existing inequality. By emphasizing more on adaptation than on mitigation they are denying their historical responsibility in this regard.

The reason to focus on this aspect is the rising emissions of emerging economies of India and China. Pressure is increasing on all the developing countries to cut their carbon emissions level particularly on India and China as these are the largest developing countries of the world.

India is currently one of the fastest growing emitters of Green House Gases and contributes 5% of global emissions. India should be concerned about climate since the phenomenon might have substantial adverse impacts on various aspects of its economy. China is also an important country in the international climate change regime because of two reasons; first, it is the world's second largest emitter of greenhouse gases after the United States. Second, its status and influence in the G-77 of third world give it prominence in climate negotiations.

All this has led to the strong feeling that China and India has no reasonable argument for refusing binding reduction targets for their future emissions but India and China refuse to commit to any legally binding emissions. They argue that they cannot be blamed even for a single kg of carbon dioxide or methane that is accumulating in the earth's atmosphere as the accumulation of these gases is mainly the result of industrialization process of developed countries. No doubt climate change is a pressing problem that needs to be solved but for countries like India and China prime goal is that of development and securing a good standard of living for large number of poor and vulnerable people. Their message is clear – *Development First*.

Of particular importance for us in today's time is the notion of Game theory. Game theory is all about a unit's behavior in a strategic situation. As we see in all the climate negotiations, every country wants to protect its own national interest. But at the same time common threat of climate change force them to co-operate with each other. "On the one hand the pursuit of rational common goods leads to co-operation; on the other hand, the pursuit of rational self-interest or preference among different states often frustrates international cooperation"(Yu Hongyuan, 2008, p.70). The theory of Game has a special attraction for climate change negotiations as it basically deals with how decisions are taken by all the countries especially when objectives (climate change mitigation) and rules are clear and the only problem is to find the most logical strategy for an individual country to pursue.

The context in which the discourse on climate change finds itself situated is of utmost importance to a thorough and accurate discourse analysis (Jorgensen & Phillips, 2002). This is the reason for the extensive structure of this proposal which considers the implications of this discourse well beyond the realm of the discourse itself. As noted earlier, identity provides an important foundation for action. Social relations are also important to the issue of tackling global climate change as those interest groups who attempt to influence policy are forced to interact with one another in their efforts to exert influence, be it to uphold or to change the status quo. Lastly, systems of knowledge and meaning are critical for action on climate change (national or otherwise), because the object of understanding (here, climate change) must be known to have a potential to affect the realities in which the subjects exist. To put it more plainly, climate change will not be addressed if it is not understood as something that seriously threatens the well being of humanity.

Discourse analysis as associated with the methodology of Fairclough (also referred to as *Critical Discourse analysis*) recognizes that "discursive practices contribute to the creation and reproduction of unequal power relations between social groups" (Jorgensen & Phillips, p. 63). Therefore, this method of analysis is useful in revealing "the role of discursive practice in the maintenance of the social world" (Jorgensen & Phillips, p. 63); a social world that is not making headway on climate change quickly enough to ensure the threat of climate change is mitigated for all. This type of discourse analysis is meaningful, even if the solutions to the inequalities uncovered through its application may need to be conceived of outside the boundaries of the analysis. Defining the problem, be it climate change, or stagnant political situations, is a vital first step towards finding solutions. This methodology is therefore not politically neutral, but rather "politically committed to social change." (Jorgensen & Phillips 2002).

CONCLUSION

There is no doubt that climate is changing the world over. But climate is not the only thing that is changing and a number of transitions and transformations (socio-cultural and political-economic) are visible in different parts of the globe including Asia particularly in India and China. Whereas China and India acknowledge that their cumulative emissions are increasing with each passing day, they would point out with all emphasis at their command that their per capita emissions in comparison to Global North are still much lower. The counter-argument on the part of the developed countries is put forward that the developing countries should also be included in the fold of Kyoto Protocol and emissions reductions to some extent should be legally binding for them as well. Developed countries argue that no doubt climate change is the result of their industrial activities but the large developing countries like India and China too are repeating the same mistake. There are some critical perspectives which call these tactics of developed countries as environmental colonialism and argue that climate change as post-industrial and post-colonial discourse is likely to result in new kinds of dependencies.

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MEASURING TECHNICAL, SCALE, COST AND ALLOCATIVE EFFICIENCY IN THE MANUFACTURE OF BASIC METALS IN INDIA USING DATA ENVELOPMENT ANALYSIS

*Dr. M. Manonmani**

ABSTRACT

There are two approaches for estimation of efficiency, viz., the Stochastic Frontier Approach (SFA) and Data Envelopment Approach (DEA). While the SFA (econometric approach) estimates the efficiency of the firms by estimating the production function, the DEA technique involves the use of mathematical programming to estimate the efficiency of the firms / industry. For the period 2002-3 to 2011-12, the calculations on the efficiency of Decision Making Units (DMUs) in the manufacture of basic metals in India have been done. The paper demonstrates that the technical, scale, cost and allocative efficient DMUs were more under Variable Returns to Scale (VRS) production technology in comparison with Constant Returns to Scale (CRS) production technology.

Keywords: Allocative efficiency, BCC MODEL , CCR Model , cost efficiency, Decision Making Units(DMU), scale efficiency, Variable Returns to Scale (VRS).

INTRODUCTION

India's manufacturing sector is vital for its economic progress. The contribution of manufacturing to overall GDP is meager 17.2 per cent (2014-15). The government has realized the importance of this sector to the country's industrial development, and has taken a number of proactive steps to further enhance the industry. Manufacturing Industry in India has gone through various phases of development over the period of time.

Since independence in 1947, the Indian manufacturing sector has traveled from the initial phase of building the industrial foundation in 1950's and early 1960's, to the license-permit Raj during the period of 1965-1980, to a phase of liberalization of 1990's, emerging into the

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current phase of global competitiveness. It has grown at a robust rate over the past ten years and has been one of the best performing manufacturing economy. Studies have estimated that every job created in manufacturing has a multiplier effect, creating 2–3 jobs in the services sector. In a country like India, where employment generation is one of the key policy issues, this makes manufacturing a critical sector to achieve inclusiveness in growth.

The metal sector is a key part of manufacturing. It is highly sensitive to changes in the business cycle. It is considered a capital- (basic metals), labour- (fabricated metal products) and energy-intensive industry, producing a wide range of products e.g. basic metals, tanks, steam generators, cutlery, tools, light metal packaging, wires etc. The metal industry is an important component of the world economy when measured by its share of GDP worldwide. In sub-branches such as metal production, non-electrical machinery, electrical machinery and transport equipment, it employs some 70 million workers worldwide, who account for nearly half of the goods produced in the manufacturing sector and more than half of all merchandise exported worldwide (in terms of value). Consequently, the metal industry is both a driving force of the world economy and is influenced to a large extent by the overall world economic climate.

METHODOLOGY

1. Data Base of the Study

The basic data source of the study on fixed capital, wages, net value added and number of workers was Annual Survey of Industries (ASI) published by the Central Statistical Organisation (CSO), Government of India. All the referred variables were normalised by applying Gross State Domestic Product (GSDP) deflator. The GSDP at current and constant prices were obtained by referring to the Economic Survey, published by the Government of India, Economic Division of the Ministry of Finance, New Delhi. The reference period chosen for the study covers post- liberalization period between 2000-01 and 2011-12. The availability of data is confined only up to this period.

2. Tools of Analysis

DEA Model

There are basically two approaches for estimation of efficiency, viz., the Stochastic Frontier Approach (SFA) and Data Envelopment Approach (DEA). While the Stochastic Frontier Approach (econometric approach) estimates the efficiency of the firms by estimating the production function, the DEA technique involves the use of mathematical programming to estimate the efficiency of the firms / industry. DEA is a non-parametric, deterministic methodology for determining relatively efficient production frontier, based on the empirical data on chosen inputs and outputs of a number of entities called Decision Making Units (DMUs). From the set of available data, DEA identify reference points (relatively efficient DMUs) that define efficient frontier (as the best practice production technology) and evaluate the inefficiency of other interior points (relatively inefficient DMUs) that are below the frontier (Saon Ray, 2004).

The DEA provides a measure of efficiency that allows intra-firm comparison, as the

efficiency measure is a pure number. The main advantage of DEA is that unlike SFA, it does not require a priority assumption about the analytical form of the production function. Instead, it constructs the best practice production solely on the basis of observed data and therefore the possibility of mis-specification of the production technology is minimized. In the case of SFA, the parameter estimates are sensitive to the choice of the probability distribution specified for the disturbance term.

There are two approaches to estimating the efficiency of the firm in the DEA approach viz., the output-oriented efficiency and the input-oriented efficiency. In the output-oriented approach, efficiency is determined by maximum output that can be produced from an input bundle. In the input-based measure, the technical efficiency of the firm is evaluated by the extent to which all inputs could be proportionally reduced without a reduction in the output. Among number of DEA models, the two most frequently used ones (input-oriented) are, CCR model (after Charnes, Cooper, Rhodes, 1978) and BCC model (after Banker, Charnes and Cooper, 1984), both of which are used in the study. The DEA model is used to estimate the technical, scale, cost and allocative efficiency of the industries under study.

I. TECHNICAL EFFICIENCY

(i) CCR Model (based on constant returns to scale)

Charnes, Cooper and Rhodes(1978) introduced a measure of efficiency for each DMU that is obtained as a maximum of ratio of weighted outputs to weighted inputs. The weights for the ratio are determined by a restriction that the similar ratios for every DMU have to be less than or equal to unity, thus reducing multiple inputs and outputs to single “virtual” output without requiring pre-assigned weights.

The efficiency measure is then a function of weights of the “virtual” input-output combination. Formally, the efficiency measure for the DMU can be calculated by solving the following mathematical programming problem:

$$\max h_0(u,v) = \frac{\sum_{r=1}^s u_r Y_{r o}}{\sum_{i=1}^m v_i x_{i o}} \dots\dots\dots(1)$$

Subject to $\frac{\sum_{r=1}^s u_r Y_{r j}}{\sum_{i=1}^m v_i x_{i j}} \leq 1, j = 1, 2, \dots, j_o, \dots, n \dots\dots\dots(2)$

$$u_r \leq 0, r = 1, 2, \dots, s \dots\dots\dots (3)$$

$$v_j \geq 0, j = 1, 2, \dots, m \dots\dots\dots(4)$$

where the observed amount of input of the i^{th} type of the DMU > 0 ,

$i = 1,2,\dots,n, j = 1,2,\dots,n$) and $=$ the observed amount of output of the r^{th} type for the j^{th} DMU ($Y_{rj} > 0, r = 1,2,\dots,s, j = 1,2,\dots,n$).

The variables U_r and V_i are the weights to be determined by the above programming problem. However, this problem has infinite number of solutions since if (u^*, v^*) is optimal, then for each positive scalar, α ($\alpha u^*, \alpha v^*$) is also optimal. Following the Charnes - Cooper transformation (1962), one can select a representative solution (u, v) for which to obtain a linear programming problem that is equivalent to the linear fractional programming problem (1) - (4). Thus, denominator in the above efficiency measure h_0 is set to equal one and the transformed linear problem for DMU can be written.

$$\sum_{i=1}^m v_i x_{i o} = 1 \quad \dots\dots\dots (5)$$

$$\max z_0 = \sum_{r=1}^s u_r Y_{r o} \quad \dots\dots\dots (6)$$

Subject to $\sum_{r=1}^s u_r Y_{r j} - \sum_{i=1}^m v_i x_{i j} \leq 0, j = 1,2,\dots,n \dots\dots\dots (7)$

$$\sum_{i=1}^m v_i x_{i o} = 1 \quad \dots\dots\dots (8)$$

$$u_r \geq 0, r = 1,2,\dots, s \quad \dots\dots\dots (9)$$

$$0, i = 1,2,\dots, m \quad \dots\dots\dots (10)$$

For the above linear programming problem, the dual can be written (for the given DMU) as:

$$\min z_0 = \Theta_0 \quad \dots\dots\dots (11)$$

Subject to

$$\sum_{j=1}^n \lambda_j Y_{r j} \geq y_{r0} \quad r = 1,2,\dots,s \quad \dots\dots\dots (12)$$

$$\Theta_0 x_{i0} - \sum_{j=1}^n \lambda_j x_{ij} \geq 0, i = 1,2,\dots,m \quad \dots\dots\dots (13)$$

$$\lambda_j \geq 0, \quad j = 1,2,\dots,n \quad \dots\dots\dots (14)$$

Both of the above linear problems yield the optimal solution Θ^* , which is the efficiency score (so-called Technical efficiency or CCR efficiency) for the particular DMU and repeating them for each DMU_j, j = 1,2,...,n, efficiency scores for all of them are obtained. The value of Θ is always less than or equal to unity (since when tested, each particular DMU is constrained by its own virtual input-output combination too). DMUs for which $\Theta^* < 1$ are relatively inefficient and those for which $\Theta^* = 1$ are relatively efficient, having their virtual input-output combination points lying on the frontier. The frontier itself consists of linear facets spanned by efficient units of the data and the resulting frontier production function (obtained with the implicit constant returns to scale assumption) has no unknown parameters.

(ii) BCC Model (based on Constant Returns to Scale)

Since there are no constraints for the weights λ_j , other than the positivity conditions in the problem (11) - (14), it implies constant returns to scale. For allowing variable returns to scale, it is necessary to add the convexity condition for the weights, λ_j , i.e. to include in the model (11) - (14) the constraint:

$$\sum_{j=1}^n \lambda_j = 1 \quad \dots\dots\dots (15)$$

The resulting DEA model that exhibits variable returns to scale is called BCC model, after Banker, Charnes and Cooper (1984). The input-oriented BCC model for the DMU₀ can be written formally as:

$$\min z_0 = \Theta_0 \quad \dots\dots\dots (16)$$

Subject to

$$\sum_{j=1}^n \lambda_j Y_{rj} \geq Y_{r_0} \quad r = 1,2,\dots,s \quad \dots\dots\dots (17)$$

$$\Theta_0 x_{i_0} - \sum_{j=1}^n \lambda_j x_{ij} \geq 0, \quad i = 1,2,\dots,m \quad \dots\dots\dots (18)$$

$$\sum_{j=1}^n \lambda_j = 1 \quad \dots\dots\dots (19)$$

$$\lambda_j \geq 0, \quad j = 1,2,\dots,n \quad \dots\dots\dots (20)$$

Running the above model for each DMU, the BCC efficiency scores are obtained (with similar interpretation of its values as in the CCR model). These scores are also called “pure technical efficiency scores”, since they are obtained from the model that allows variable returns to scale and hence eliminate the “scale part” of the efficiency from the analysis. Generally, for each DMU, the CCR efficiency score will not exceed the BCC

efficiency score, what is intuitively clear since in the BCC model each DMU is analyzed “locally” (i.e. compared to the subset of DMUs that operate in the same region of returns to scale) rather than “globally”.

II. SCALE EFFICIENCY

Following the scale properties of the above two models, (Cooper et al., 2000) the scale efficiency is defined as follows: *For a particular DMU, the scale efficiency is defined as a ratio of its overall technical efficiency score (measured by the CCR model) and pure technical efficiency score (measured by the BCC model).*

III. COST EFFICIENCY

The standard measure of cost efficiency is obtained via two stage process:

(i) Estimate the minimum price-adjusted resource usage given technological constraints; and (ii) Compare this minimum to actual, observed costs. Cost efficiency can be measured if input prices are available in addition to output and input data. Let $x = (x_1, \dots, x_k) \in R_+^k$ denotes a vector of inputs and $y = (y_1, \dots, y_m) \in R_+^m$ denote vector of outputs. Formally, the cost efficiency model can be specified as :

$$\begin{aligned} \text{Min}_{z,x} \quad & \sum_{j=1}^m w_j o_j x_j \quad \dots\dots\dots (21) \\ \text{s.t.} \quad & z.Y \leq y_0 \\ & z.x \leq x_0 \\ & z_i \geq 0 \\ & \sum_{i=1}^n z_i = 1 \end{aligned}$$

where Y is an $n \times m$ matrix of observed outputs for n industries and x is an $n \times k$ matrix of inputs for each industry. z is a $l \times n$ vector of intensity variables and $w = (w_1, \dots, w_k) \in R_+^k$ denoted input prices. The constraints of the model (21) define the input requirement set given by:

$$L(y) = \{x, z, y \geq y_0, z x \leq x, z_i \geq 0, \sum_{i=1}^n z_i = 1\} \quad \dots\dots\dots (22)$$

The input requirement set specifies a convex technology with Variable Returns to Scale (VRS), which is imposed by the constraint $\sum_{i=1}^n z_i = 1$. Leaving the constraint out of the model changes the technology to Constant Returns to Scale (CRS).

IV. ALLOCATIVE EFFICIENCY

Allocative efficiency is defined as a ratio of cost efficiency score to technical efficiency score. Both under CRS production technology and VRS production technology, this efficiency score was estimated for the present study.

RESULTS AND DISCUSSION

A. Technical Efficiency

The results regarding technical efficiency scores of the selected intermediary goods industries are presented in Table-1.

Table 1: Technical Efficiency (TE) Estimates

DMUs	CRS*	VRS**
2002-03	0.324	1.000
2003-04	0.470	1.000
2004-05	0.595	1.000
2005-06	0.959	1.000
2006-07	0.669	0.865
2007-08	0.853	0.872
2008-09	1.000	1.000
2009-10	0.736	0.785
2010-11	0.778	0.814
2011- 12	0.780	0.791
Average Technical Efficiency	0.716	0.913
Average Technical Inefficiency	0.397	0.095
No of Technical inefficient DMUs	1	5

CRS*- Constant Returns to scale; VRS*- Variable Returns to scale;

(Source: Calculations based on ASI data)

Under Constant Returns to Scale (CRS) production technology, technical efficiency between 2002-03 and 2011- 12 was 0.716. This implied that the industry would have needed only 71.6 percent of the inputs currently being used. In terms of average inefficiency, it would have needed 28.4 percent more inputs to produce the same output, which meant waste of resources to the extent mentioned above.

Under VRS production technology, the number of efficient DMUs exceeded the number of efficient DMUs under CRS production technology. Under VRS production technology, higher average efficiency was always recorded. It may be due to the reason that DMUs that were

efficient under Constant Returns of Scale (CRS) were accompanied by the new efficient DMUs that might operate under increasing or decreasing return to scale. Higher degree of average technology inefficiency particularly under constant return to scale production technology can be attributed to the fact that the industry may not be using the most efficient technology available to transform the input into outputs due to differences in products, the industry was likely to have different best practice frontiers; relatively small regional spheres of operation of the industry may have resulted in inefficiencies; and structured problems regarding staff efficiency and operating efficiency may have prevented the firm from improving its efficiency level. It can be concluded that though the efficiency of the firms varied considerably on account of the various reasons mentioned, the firm was estimated to be on the frontiers at least once. In other words, both under CRS and VRS technology, the number of efficiency scores or levels during the entire period, was indicative of the fact that the efficiency of firm was not strongly influenced by the size of production.

B. Scale Efficiency

The scale efficiency scores is presented in Table-2

Table 2 :Scale Efficiency(SE) Estimates

DMU	CRS*(TE)	VRS(TE)	Scale Efficiency (CRS(TE) / RS(TE))	RTS**
2002-03	0.324	1.000	0.324	IRS***
2003-04	0.470	1.000	0.470	IRS
2004-05	0.595	1.000	0.595	IRS
2005-06	0.959	1.000	0.959	IRS
2006-07	0.669	0.865	0.774	IRS
2007-08	0.853	0.872	0.978	IRS
2008-09	1.000	1.000	1.000	CRS
2009-10	0.736	0.785	0.938	IRS
2010-11	0.778	0.814	0.955	IRS
2011- 12	0.780	0.791	0.986	IRS
Average Scale Efficiency	0.716	0.913	0.798	
Average Scale Inefficiency	0.716	0.913	0.253	
No of Scale Inefficient DMUs	1	5	1	

CRS* – Constant Returns to Scale; RTS** - Returns to Scale; IRS*** - Increasing Returns to Scale; Average scale inefficiency = 1-

(Source: Calculations based on ASI data)

DEA results applied to know the scale efficiency of industries for the entire period revealed that the industries were not operating at an optimum scale. The average scale efficiency was 84.6 percent. In terms of average inefficiency, it could increase additional production to the extent of 15.4 percent, by taking advantage of their scale characteristics. DEA allows to assess whether a firm lies in the range of increasing, constant and decreasing returns to scale. In other words, it revealed the scale characteristics of DMUs. If market contains firms scale, market efficiency can be increased if more DMUs attain constant returns to scale, because fewer resources are wasted. The measurement of economies of scale, therefore, helps assess at the same time whether higher market concentration should be encouraged to improve efficiency. A DMU may be scale inefficient, if it experiences decreasing returns to scale or if it has not taken full advantages of increasing returns to scale. Indeed most of the inefficient DMUs presented increasing returns to scale characteristics which indicated that industries can increase the scale to effectively improve that efficiency.

C. Cost efficiency

Table 3 gives details regarding cost efficiency scores of selected industries for the reference period under study.

Table 3: Cost Efficiency (CE) Estimates

DMU	CRS*	VRS**
2002-03	0.269	1.000
2003-04	0.405	0.999
2004-05	0.548	0.975
2005-06	0.882	1.000
2006-07	0.643	0.825
2007-08	0.798	0.860
2008-09	1.000	1.000
2009-10	0.703	0.737
2010-11	0.650	0.674
2011- 12	0.668	0.676
Average Cost Efficiency	0.657	0.875
Average Cost Inefficiency	0.522	0.142
No of Cost efficient DMUs	1	3

CRS*- Constant Returns to scale; VRS**- Variable Returns to scale;

Average cost inefficiency = 1-

(Source: calculations are based on ASI data)

Under Constant Returns to Scale (CRS) technology, the industry was efficient to the extent of 65.7 percent. Under Variable Returns to Scale (VRS) production technology the industry was more efficient to the extent of 87.5 percent. The cost efficient DMUs, it was found to be more under VRS production technology. The average cost inefficiency was more under CRS production technology than under VRS production technology.

D. Allocative efficiency

Allocative efficiency scores of the industries under the reference period is presented in Table.4.

Table 4: Allocative Efficiency (AE) Estimates

DMU	CRS	VRS
2002-03	0.831	1.000
2003-04	0.861	0.999
2004-05	0.921	0.975
2005-06	0.920	1.000
2006-07	0.961	0.954
2007-08	0.936	0.986
2008-09	1.000	1.000
2009-10	0.956	0.939
2010-11	0.836	0.828
2011- 12	0.857	0.855
Average Allocative Efficiency	0.908	0.875
Average Allocative Inefficiency	0.101	0.143
No of Allocative efficient DMUs Inefficient DMUs	1	3
CRS*- Constant Returns to scale; VRS**- Variable Returns to scale Average Allocative inefficiency = 1- (Source: Calculations are based on ASI data)		

Estimates revealed that over the study period, the industries under CRS production technology had on an average allocative efficiency level of 91 percent implying that the industries were 9 percent inefficient, respectively. In the case of VRS production technology, an average allocative efficiency of 88 percent has been measured, implying that the industries were on an average 12 percent inefficient. More efficient DMUs were observed in VRS production technology in comparison with the CRS production technology.

CONCLUSION

For the entire period, technical, scale, cost and allocative efficient DMUs were more under Variable Returns to Scale (VRS) production technology in comparison with Constant Returns to Scale (CRS) production technology. It is very clear that inefficiency could be due to the existence of either increasing or decreasing returns to scale.

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SCHEDULED CASTES IN MAHARASHTRA: STRUGGLE AND HURDLES IN THEIR SOCIO- ECONOMIC DEVELOPMENT

Anand Sugandhe*

Vinod Sen**

ABSTRACT

The rate of caste atrocities against Scheduled Castes (SCs) is increasing in Maharashtra faster than in any other Indian state. These atrocities have some social, political and economic background; which relates to their marginal socio-economic development. Socio-economic discrimination and exclusion on the basis of caste identities are not new for Maharashtra. Converted Mahars or Buddhists and Matang castes are mostly targeted by upper caste Maratha and OBCs in Maharashtra. Traditionally, SCs have been working as manual workers and agriculture bondage labourers; but they are not easily available for the same work these days. The main objective of the paper is to describe changing caste relations and reasons for atrocities against SCs. The paper also deals with the SC's struggle for socio-economic development and overcoming hurdles in Maharashtra.

Keywords: Atrocities, Caste relations, Maharashtra, Scheduled Castes (SCs), Socio-economic development.

INTRODUCTION

Maharashtra is considered as one of the most progressive and developed state in India. Society of this state is divided hierarchically into *Varnas* and many castes. Socio-economic discrimination and exclusion on the basis of caste identities are not new in Maharashtra. The Scheduled Castes (SCs) are poorest of the poor section not only in Maharashtra but also across India. Converted Mahars or Buddhists and Matang castes are mostly targeted by upper caste Maratha and OBCs in Maharashtra (Teltumbade, 2007). Caste atrocities against SCs

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are showing an increasing trend in Maharashtra in the current period. These atrocities have social, political and economic background; which relates to their marginal socio-economic development. Anger and misunderstanding of non SCs-STs regarding reservation policy are contributing to these atrocities. The reservation policy has been playing a significant role in SC's development. Many of them are now neither following any Hindu rituals, nor believe in Hindu religion and their gods. They have become target of irate chauvinist people. They are refusing exploitative caste system and raising voice against caste discrimination and exploitation. Although most of the other scheduled castes are not opposed to Hindu religion and their rituals, they have been targeted only marginally by the upper castes. This revolution in dynamics of SCs lead to some salient changes in the caste system and new axis of conflicts in caste relation of Maharashtra.

Traditionally SCs have been working as manual workers and agriculture bondage labourers; but they are not easily available for the same work these days. Increasing caste atrocities, discrimination and suppression of SCs in modern period or globalizing world are leading to reinforcement of caste system. This twist is very harmful for the development of not only SCs but also all sections of the society. Consequently, it is the great barrier to the achievement of social harmony.

Caste is a form of social exclusion or deprivation, because the caste a person is born into is supposed to determine his/her occupation and social status. It is the classification or stratification of the people into four and latter five hierarchically ranked caste-groupss called *Varna*. Varna is divided into many *Jati* and classes. It has existed from the ancient period (Deshpande, 2011). Brahmans are a big supporter of the caste system and made it very rigid. They have got privilege, power and social status through it (Ambedkar, 1916). Under *Varna* system, there are five *Varnas*. Each group is predetermined to perform, a particular kind of job. It has been classified according to occupation and determines access to wealth, power and privilege in the Varna system. Brahmans are on the top of the system. They are priest and scholars. Next are the Kshatriya, political rulers and soldiers. They are followed by the Vaishya or merchants and fourth are the Shudras who are usually laboures, artisans and servants. And fifth Varna is *Atishudra* or Untouchables. These individuals perform occupations that are considered unclean and polluting, such as scavenging and skinning dead animals and are considered outcasts. They are not considered to be part of the Varna system. Caste system denies them basic rights to live. They are humiliated and assaulted by the upper castes when they break rules of the caste system.

The caste system is not merely a division of labours which is quite different from the division of labour; it is a hierarchy in which the divisions of labourers are graded one above the other (Ambedkar 1936). This division of labour is not spontaneous; it is not based on natural abilities. Every individual has got occupational freedom after independence of the country. But today opportunities of getting good job are higher for higher caste individuals in comparison with that of lower castes, even if they possess similar qualifications. Caste becomes a direct cause of voluntary unemployment for the higher caste person and involuntary for lower caste person. Lower castes tend to get absorbed into lower paying and less prestigious modern occupations and higher caste get high paying and high prestigious jobs on the basis of social

status, good education, technical skill etc. Job is the major determinant factor of social status in Indian society (Thorat and Newman, 2007).

Untouchables are different from the other lower castes. The Indian caste system is very rigid. Higher castes oppress the lower caste socially, politically and economically. Even lower castes oppose the progress of other lower caste. The institution of caste obstructed them from benefiting under the new economic opportunities. But it also benefited the higher caste like Brahmin, Vaishya and Kshatriya in certain other field. Multiple hierarchies have existed in the caste system. Every caste overvalues itself in relation to others (Gupta, 2005). Functions of caste or caste systems are extremely effective method of exclusion and economic exploitation.

The main objective of the paper is to describe the caste structure and – its relationship with upper caste and among scheduled castes. Furthermore, it deals with SC's struggle for socio-economic development and hurdles in Maharashtra state. The study is based on mix methods qualitative as well as quantitative measure to describe phenomenon. Data for the study has been collected from the various Government reports, published and unpublished documents etc.

CASTE STRUCTURE IN MAHARASHTRA

The caste structure in Maharashtra is different from the other part of India. In Maharashtra it is constituted by several social groups such as Others, Other Backward Castes (OBC), Scheduled Castes (SCs), Scheduled Tribes (STs), Special Backward Class (SBC), Vimukta Jati/ Denotified Tribes (VJ), Nomadic Tribes-B (NT-B), Nomadic Tribes-C (NT-C), and Nomadic Tribes-D (NT-D).

Table1 provides caste- wise population and number of communities coming under particular social group in the state of Maharashtra. 48 per cent population is recorded as upper castes in the state. 'Other' castes are constituted by Maratha, Brahmin and other dominant castes. There are 346 communities recorded as OBCs in the state.

Table 1: Castes and Communities in Maharashtra

Castes	Communities	Population in Percent
Other or General	NA	48
OBC	346	19
SC	59	13
ST	47	7
SBC	7	2
VJ	14	3
NT-B	35	2.5
NT-C	1	3.5
NT-D	1	2

(Source: List of Castes and Tribes in Maharashtra) ¹

SCs and STs were playing role as servant of the upper castes. They constitute 20 per cent share in the total population of the state. SCs constitute 13 per cent while STs 7 per cent. SBC (2 per cent), VJ (3 per cent), NT-B (2.5 per cent), NT-C or Dhangar (3.5 per cent) and NT-D (2 per cent) jointly constitute 13 per cent population of the state. These social groups or castes are having hierarchical status in the society of the state.

CASTE HIERARCHIES, OCCUPATIONS AND RELATIONS

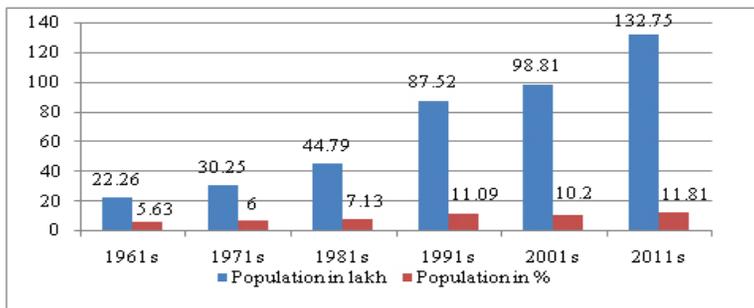
Caste relation depends upon the caste identities or status and their religion. Caste Maratha is the dominant and ruling caste in Maharashtra. This caste is having hold on the means of production in the state. In the caste hierarchy of state Maratha stands at the highest position, followed by Brahmins, and next OBCs and nomadic tribes and at the end of the pedestal are STs and SCs. Maratha caste is dominant in the politics of the state. Maratha and *Kunbi*² are the landlords of Maharashtra (Dahiwale S., 1995). They have majority in all political parties. There is a caste conflict between Maratha or open caste and OBC for political status in the state. In recent period, due to Governmental policy and programs, STs are getting involved in the mainstream of the society. Most of them are following Hindu religion and Christian religion. They also segregate themselves as Brahmin, Kshatriya and Vaishya.

There was *Balutedari* system that existed for workers or servants in Maharashtra. This system was supportive to the agriculture sector. The servants under this system provided services to the farmer and economic system of village. The base of this system was caste. The servant used to get job, according to their castes. There were 12 kinds of servants, called *Bara Balutedar*; such as *Sonar, Gurav, Nhawi, Parit, Kumbhar, Sutar, Lohar, Chambhar, Dhor, Koli, Chougula, Mang* and *Mahar*. In this list of *Balutedar*; *Dhor, Mang, Mahar* and *Chambhar* were untouchables. They were doing job as watchmen for village, messenger, and would dispose dead animals of upper castes. These castes are considered as lowest castes in the society.

STATUS OF SCHEDULED CASTES IN MAHARASHTRA

There are 59 communities under the umbrella of Scheduled Castes in Maharashtra, whereas overall 1092 scheduled castes are registered in India. Mahar or New Buddhist, Matang or Mang and Chambhar are the major communities among 59 SCs. Mahar or New Buddhist (57.5 per cent), Matang (20.3 per cent), Bhambi and Chambhar (17.2 per cent) constitute 95 per cent of SC population in the state (Census of India, 2001).

Figure 1: Scheduled Caste Population in Maharashtra



(Source: Maharashtra Development Report, 2007, Census of India 2011).

Figure 1 illustrates the trend of SCs population in the state. It is showing an increasing trend during 1961 to 2011 period. It has grown from 22.26 lakh in 1961 to 132.75 lakhs in 2011. Thus, population of SCs in 2011 is six times more than their population in 1961. Population in terms of percentage is also becoming more than double. It was 5.63 per cent in 1961 and now climbed to 11.81 per cent in 2011. SCs are recording higher birth rate than other categories. In this trend, there are two decades, which show higher rates of increases; first being 1981-1991 and then the period between 2001-2011.

PROFILE OF MAJOR SCs

Conditions of the SCs in Maharashtra have started to change. Their income, educational level, literacy rate are showing increasing trend in recent years.

Mahar or New Buddhist: Mahar or New Buddhist is major community from SCs in Maharashtra. They became Buddhist after their conversion to Buddhism in 1956, under the leadership of Dr. B. R. Ambedkar. In the state they are notified as *Mahar, Mehra, Dher, Bhumia* (guide), *Yeskar* (gatekeeper), *Taral* (watchman), *Dharnicheput* (son of soil), *Dhegu* and *Megu*. This community constitutes 57.5 per cent population among SCs in the state. The community work as *Balutedar*, in *Balutedari* rural economic system of Maharashtra. Mahar are more mobilized community among all other SCs in Maharashtra. Their educational status is comparatively higher than other SCs communities (Singh, 1995). Most of them are agriculture labourers. Mainly four subgroups exist among the Mahar or Neo-Buddhists such as *Somas, Andhwan, Tilwan* and *Landwan*.

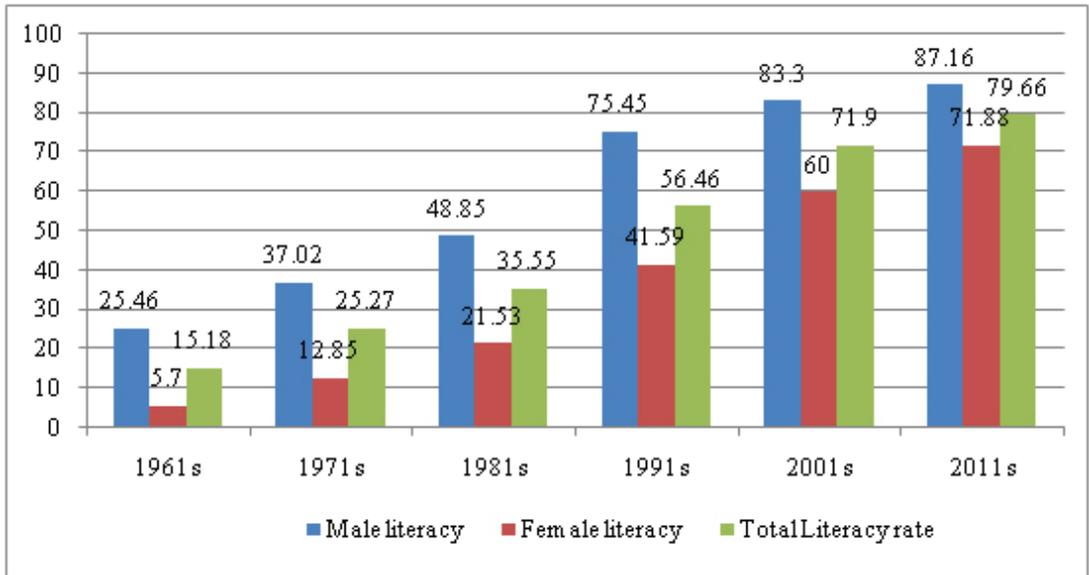
Matang or Mang: Usually known as Mang, they are the second largest SCs community with 20.3 per cent share in total population of the SCs. This community was also *Balutedar*. Community occupation is leather work. Their other job is to beat drum in any ceremony of upper caste Hindu, preparing ropes from hemp/kekati and making brooms from date palms. They use to make announcement (government or personal) in whole village using drum (*Halgi*). They also do job as agriculture laboureres, cleaner of cowsheds in farms or in home of upper castes farmers. They work to dispose off body of dead animals. They collect skin of dead animals and sell it to nearby urban market or contractor. For their immense work, they get some amount food grain during agriculture season.

This community has four subgroups namely i) *Mang Garodi*, ii) *Mang Garudi*, iii) *Dhankani Mang* and iv) *Somvanshi Mang*. They accept exchange of food among themselves, but hardly allow marriage between these subgroups.

Bhambi and Chambar: Their main occupation is production of shoes and chappals from the finished leather. Most of them are still continuing their caste occupation viz. shoe making and repairing. Some of them engage with leather work in companies. The community follows Hindu religion, and its rituals and even practice untouchability against other SCs. They do not accept water and food from the Mangs and Mahars or New Buddhist.

There are some subgroups within this community, such as *Ahir* or *Dhor*, *Chevli* or *Chouly* or *Rohidas*, *Malvanior Konkani*, *Daboli*, *Hardi*, *Ghati*, *Harali*, *Waideshi*, *Chamria*, *Chambar*, *Changar*, *Haralayya*, *Asudary* and *Asodi*.

Figure 2: Literacy Rate among SCs in Maharashtra



(Source: Maharashtra Development Report, 2007, Census of India, 2011).

The rate of literacy is the developmental barometer of the society. Figure 2 shows literacy rate among SCs in Maharashtra. It is the mark of the educational development of the SCs in Maharashtra. The literacy rate among SCs is showing an increasing trend and leaped from 15.18 percent in 1961s to 79.66 per cent in 2011.

Table 2: Educational Levels among Major SCs of Maharashtra

Name of SC caste	Literate without educational level	Below Primary	Primary	Middle	Matric/ Intermediate	Technical and non-technical diploma	Graduate & above
Mahar	2.0	28.2	24.9	17.2	22.1	0.3	5.3
Mang	2.8	37.0	29.	14.1	14.2	0.2	2.4
Bhambi	1.8	26.3	26.7	16.5	22.2	0.7	5.6
All	2.1	29.4	26.3	16.6	20.5	0.4	4.8

(Source: Census of India 2001).

Table 2 indicates the educational status or levels among major SCs of Maharashtra. 72.2 per cent population of SCs is educated up to the middle level. Just 20.5 per cent are appearing for the Matric and Intermediate courses. The dropout rate among SCs is high after

intermediate. Only 4.8 per cent students are having an educational level of graduation and above. All communities from SCs are not standing at equal level of higher education. Bhambi or Chambhar occupy higher position with 5.6 per cent, followed by Mahar at 5.3 per cent. The *Mang* community is deprived than Mahar and Bhambi in terms of overall educational level. But in case of actual number, Mahar or New Buddhist are standing at a higher position than the Bhambi, because their population is comparatively higher than them. Educational level and better job opportunities are positively associated with each other. Therefore, Mahar are getting more government jobs compared with other SC communities.

OCCUPATION OF SCs IN MAHARASHTRA

Mostly SCs in Maharashtra are working as manual or casual labourers in the state economy. Landlessness is the main cause, which keep them as mere rural poor. Work participation rate is recorded at 43.9 percent in 2011. It is slight improvement from 41.9 per cent in 2001. At many places, landless labourers work as bondage labour in agricultural farms of upper caste farmers. Those who have marginal farms, work seasonally in their farms, and go out of village for work during off agriculture season. Discrimination in wages and work is a common thing in their daily life. With economic development, especially industrial growth and tertiary sector growth in urban centres, many SCs migrated from rural to urban areas for searching better job and better livelihood. During this period of transition, many of SCs have left their traditional jobs or castes jobs. But mostly are getting employed merely as manual or casual labour in the urban economy.

Reservation for SCs in education and government (State and Central) services, has improved their share in public service. SCs, STs and OBCs are getting 13 per cent, 7 per cent and 19 per cent reservation in state government jobs respectively³.

CASTE IDENTITIES AND PROPERTY RELATIONS

Indian economy is still agriculture- based, not in terms of the production but in terms of dependency of the population for livelihood. In rural society, agricultural land holding is the most crucial source of livelihood and social status in society.

Table 3: Land Holding by SCs of Maharashtra (in percent)

Year	Land Holding by SCs (per cent of total land)	Population having land (in lakh)
1981	4.48	3.05
1991	6.00	7.00
2001	6.64	9.35
2011	7.10	9.53

(Source: Mohanty, 2001 and Agriculture Census Data Base 2001 & 2011)⁴

Table 3 illustrates the agricultural land holding among SCs of Maharashtra. It shows that the percentage land holding has increased from 4.48 per cent in 1981 to 7.10 per cent in 2011. The number of land holders also increased with land holding. The population of SCs who owned the land was 3.05 lakhs in 1981. This has increased to 9.53 lakh in 2011. In 2001,

9.35 lakhs SCs were having agricultural land. Share of marginal, small and semi-medium SC farmers is recorded at 95 per cent out of total *land holders* among SCs. Just 5 per cent land holder come under the category of medium and large.

Table 4: Land Holdings for SCs in Maharashtra
(Number in '000' and Area in '000' ha.)

		2005-06		2010-11	
S No.	Size of Land holdings	Number	Area	Number	Area
1	Marginal Size	414	231	539	259
2	Small Size	323	422	311	436
3	Semi-medium size	140	367	139	365
4	Medium size	27	150	37	204
5	Large size	3	33	3	40
6	All size	907	1235	1029	1303

(Source: Agriculture Census, Government of India, 2014)

Table 4 shows the size of land holdings among SCs. Share of marginal and small-size holding farmers is 82.60 per cent. Number of land holders has increased from 9,07,000 to 10,29,000 between 2005-06 and 2010-11; and during same period area that SCs owned has increased from 12,35,000 ha to 13,03,000 ha.

PARTICIPATION IN LOCAL POLITICS

The participation of SCs in local and state politics has dramatically increased. There are several state and national level political parties which raise up the issue of their political representation and deal with problems of the socially deprived section of the state. Some of the established parties are *Republican Party of India* (RPI), and different forms of RPI like *Bhartiya Republican Party Bahujan Mahasangh*. Due reservation in the Panchayati Raj system for SCs, STs and women have increased their share in local politics (Tiwari, 2009). Presence of SCs in politics is becoming unpalatable thing for some of the caste hegemonists.

HIERARCHIES AMONG SCHEDULED CASTES

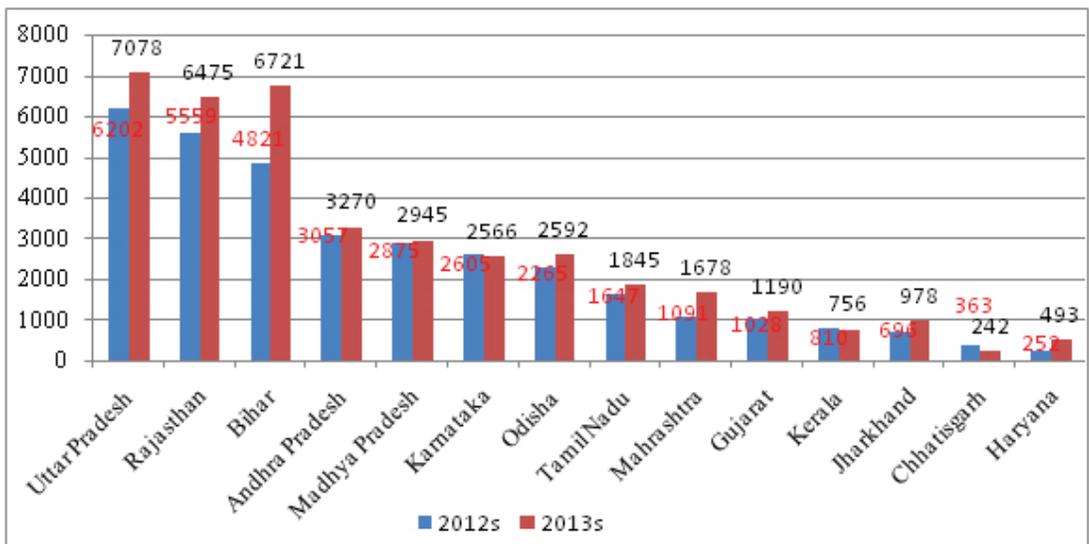
There are hierarchies practiced by SCs among themselves. These hierarchies are based on the ground of castes, occupation and religion. Bhangi, Chambar, Bhambi have considerably improved their social status in the caste system, due to *Sanskritisation*. These castes consider themselves as middle caste in the caste system of Maharashtra (Patwardhan, 1968 and Wankhede, 2001). Ideological differences among the Dalits, like Mahar or Neo Buddhist, Matang and Chamar is a new phenomenon. Mahar continue to struggle and unite against caste system in the name of the Dalit, but caste Matang and Chamar are not participating in movement.

CASTE ATROCITIES AGAINST DALITS

Caste atrocities are not new for the SCs in Maharashtra. They have been experiencing it since very long. During 1970s and 80s, it grew all over India. Especially in Marathawada a region of Maharashtra, brutal onslaught was launched against Dalits. Among Dalits, Mahar community is mostly targeted because they are relatively better off than other Dalit communities in terms of social consciousness, literacy, self-assertion and self-consciousness that increased among new Buddhist due to ideology of Ambedkar.

Figure 3 sums up the atrocity incidents against SCs all over India during the year 2012 to 2013. Incidents of atrocities against SCs have increased during this year in all states with the exception of Chhattisgarh. It reduced from 363 incidents in 2012 to 242 in 2013 in Chhattisgarh as scheduled tribes have a major share in this state. Uttar Pradesh is showing the highest incidents of atrocities against SCs. It increased from 6202 incidents in 2012 to 7078 incidents in 2013.

Figure 3: Atrocities against SCs in India (In numbers)



(Source: National Crime Record Bureau, India 2012 and 2013).

Maharashtra is standing at the 9th rank in term of incidents of atrocities against SCs. Atrocity incidents increased from 1091 in 2012 to 1678 in 2013. This is 53 per cent growth. It is higher than most of the states. Highest increment is recorded in state of Haryana, and second highest in Maharashtra.

MOVEMENT OF NAMANTAR

In 1978, there were several atrocity incidents reported against SCs in rural as well as in urban Maharashtra. The main reason was that the upper caste people resented the change of

name (*Namantar*) of Marathwada University, Aurangabad. There were registered cases of 7 murders and 14 rapes of SCs women. Mostly Mahar and Mang got targeted.

MOVEMENTS OF LOWER CASTES AGAINST CASTE SYSTEM AND DISCRIMINATION

Movement against discrimination started very early in Maharashtra, which is known by *Bhakti Chalval*. This movement was started by the saints. It was further continued by Mahatma Phule, Chhatrapati Shahu and Dr. Ambedkar. Mahatma Phule stated that the education is the most important instrument for development of Shudras. Illiteracy is the main cause of the deprivation of lower caste people. Chhatrapati Shahu started reservation for lower castes student in education, and offered them low fee as well as hostel facility. The efforts of Dr. Ambedkar to create constitutional safeguard for not only SCs of Maharashtra but also for SCs of all over India is remarkable. Constitutional safeguard like reservation for SCs and STs in education and employment in government sector is helping to improve their socio economic condition.

CONVERSION OF MAHAR TO BUDDHIST

Conversion of the Mahars to Buddhist in Maharashtra is a major emancipation movement among the SCs. On October 14, 1956, Dr. Ambedkar changed his religion from Hinduism to Buddhism, along with his lakhs of follower, mostly his community people. This conversation of Mahar was a fight against Hindu ideology and the very basis of discrimination viz. caste identities. After conversion, neo-Buddhist or ex-Mahar stopped believing in Hindu religion, their gods and also forsake any rituals and Hindu festivals. They now follow Buddhism, which encourages scientific temperament. Ex-Mahar were outcasts in Maharashtra, and they decided to shed their Hindu identity for ever. The movement of conversation of the Mahar has come as a challenge to the high-caste Hindu and their followers not only in the state of Maharashtra but also all over India. Post-conversion, standard of living and self-dignity of the ex-Mahars has tremendously increased.

SELF ASSERTION

Self-assertion of the SCs came as a part of the movement of the Dalits under the leadership of Dr. B. R. Ambedkar. He gave the message, "*educate, organize and agitate*", to every scheduled caste person. He wanted to make them conscious about their social and political rights. The outcome of these movements has been an increased awareness about education among SCs and they have become more assertive (Wankhede, 2001). Educated group of this community, especially from the Neo-Buddhist are more self-conscious and self-assertive. They have been influenced by Ambedkar's ideology.

CONCLUSION

Instances of discrimination on the basis of caste identities are still reported from every section and every sector of the Indian society. Atrocities against SCs in the state has become an important issue. Rape and murder of SCs women and men are increasing day by day while the state of Maharashtra is getting the tag of the developed state. It appears that some amount of educational and economic achievements of this community is leading to growing atrocities

against them. On the other hand, some SCs are shedding Hindu religion and radicalism of a neo-Buddhism make them identify differently from other scheduled castes. Every community has different interest. Mostly Mahar or neo- Buddhist are major target of ire of caste conflict.

Indian society or economy cannot be developed without development of these marginal sections. Atrocities and discrimination against SCs is the major barrier in their development. These caste identities and atrocities against SCs are also major hurdles in attaining social harmony social development.

ENDNOTES

1. List of Castes and Tribes in Maharashtra, available at URL http://www.mumbaicitysetu.org/Castelist_Maha.html, accessed on 30/12/2014.
2. *Kunbi* are predominantly agriculture caste from Maharashtra, working in their own land. They consider their social status as equal to Maratha, an upper caste and follows Maratha's rituals and practices.
3. List of Castes and Tribes in Maharashtra, available at following link: http://www.mumbaicitysetu.org/Castelist_Maha.html, accessed on 30/12/2014.
4. Agricultural land holding of SCs in Maharashtra has been calculated from the Agriculture Census Data Base, Available at following link: <http://agcensus.dacnet.nic.in/stateholdingsizeclass.aspx>.

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FEMALE STERILIZATION SERVICES IN PUNJAB: AN OVERVIEW

Poonam Sandhir*

ABSTRACT

In the current era of development and globalization, mere provision of family planning services in public health sector is not enough. A critical aspect is the quality of services provided. Female sterilization is the preferred method to limit the family size in India. The main objectives of the paper are to have an insight into women's experience and understanding of female sterilization; quality of care; and standard operating procedures being followed in Punjab. The study is based on the primary data collected from health facilities of four districts in Punjab selected randomly. The study indicates that providing quality services in public health system can be challenging, but also presents tremendous opportunity for improvement. A comparison with the mandatory guidelines from the Government of India shows that a number of elements could be improved in the place of sterilization. Stringent guidelines must come up along with rigorous monitoring. This will secure a minimal level of quality while delivering sterilization services to the community.

Keywords: ANM, ASHA, National Family Planning (NFP) Programme, Post-operative counseling, Sterilization.

INTRODUCTION

India is one of the first countries to include family planning within health program in its First Five Year plan. National Family Planning (NFP) program was initiated in 1952. Family planning program has evolved and the program is currently being repositioned to not only achieve population stabilization but also to promote reproductive health and reduce maternal, infant and child mortality and morbidity. For achieving goals and objectives of any program, quality of care provided is one of the vital elements. To enhance the acceptance of family planning services, a critical aspect is the quality of services provided. In India, the most widespread and preferred family planning method is sterilization. As per National Family Health Survey-3 (2005-06), female sterilization (37.3%) is the most preferred family planning method and acceptance of male sterilization is only one percent at national

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level. Corresponding figures for the state of Punjab are 30.8 and 1.2 percent respectively. The unmet need for sterilization services in India and Punjab are 6.6 and 4.7 percent respectively (NFHS-3).

Quality assurance in family planning services is the decisive factor in acceptance and continuation of contraceptive methods and services. To ensure quality care in family planning services, Quality Assurance Committees had been established at state and district levels after the directions of the Hon'ble Supreme Court of India for ensuring enforcement of Union Government's Guidelines for conducting sterilization.

Further, to ensure strengthening of monitoring system for quality care in family planning, Research studies & Standard Division of Ministry of Health and Family Welfare, New Delhi had come out with Manuals namely '*Quality Assurance Manual for Sterilization Services*' and '*Standards for Female and Male Sterilization Services*'. Family Planning Division of Ministry of Health and Family Welfare, New Delhi had also come out with Manual of '*Standard Operating Procedures for Sterilization Services in Camps*'.

In the current era of development and globalization, mere provision of family planning services in public health sector is not enough. A general growing concern is the quality of sterilization services being offered. The present paper endeavors into quality of female sterilization services offered as per the client's needs and wants.

OBJECTIVES

The main objectives of the present study are to gain insight into the women's experience and understanding of the female sterilization before and after accepting it; to understand women's experiences of quality of care and informed choice in the process of receiving sterilization services; and to examine whether standard operating procedures as prescribed by the *Manual of Female Sterilizations* are being followed in providing sterilization facilities.

METHODOLOGY

To carry out the empirical study in Punjab, primary data was collected from four districts namely Hoshiarpur, Tarn Taran, Ludhiana and Rupnagar. A list of women who had undergone female sterilization during the last three years prior to the survey was prepared with the help of the paramedical staff posted at health facilities selected randomly. From each district, 25 female sterilization acceptors were to be interviewed by canvassing a pre-designed and pre-tested questionnaire. The sample constituted of 30 acceptors from Rupnagar district; 25 each from Hoshiarpur and Ludhiana districts; and 27 women from Tarn Taran district. In all, 107 female sterilization acceptors were interviewed.

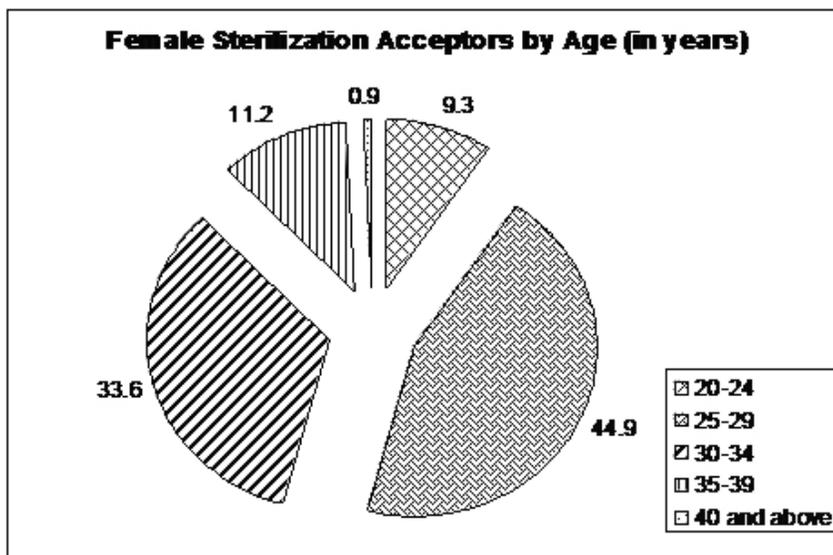
RESULTS AND DISCUSSION

Respondent's Background

Majority (78.5%) of acceptors were in the age group of 25-34 years. The noteworthy point was that 9.3 percent of the acceptors were only 20-24 years old (Figure 1). The proportion was high in Hoshiarpur district (16%) and Rupnagar district (13.3%). Utmost care needs to be taken since female sterilization is a permanent method. These young women accept sterilization

services immediately after completing the family size. There are almost no spacing methods received by them and in most cases female sterilization is the first and only family planning method used by them.

Figure 1



(Source: Field Survey, 2015.)

A glimpse of the basic characteristics of the respondents reveals that 55.1 percent of them were Sikh followed by 43 percent Hindu and only 1.9 percent was Muslim. Punjab has the highest percentage of Scheduled Caste population amongst all the states of the country (Census, 2011). 82.2 percent of the sample belonged to Scheduled Caste category, 12.1 percent were from general caste and 5.6 percent from the backward caste.

Education of women raises their conscious level about the effective and timely utilization of family planning methods. Among the acceptors, about one-third were illiterate and one percent had studied higher than matriculation. When educational level of the spouse of the women was seen, 22.4 percent were illiterate and 8.4 percent had studied above matriculation. Majority of the respondents were housewives (78.5%) followed by labourers (15%) and self-employed (6.5%). Main occupation of the spouse of the women was labourer (72.9%).

A very important and significant aspect of the family planning acceptance is the number of living children of the couple before accepting a contraceptive especially the terminal methods. Table 1 provides a glimpse of the child composition of female sterilization acceptors. The classification is done on the basis of the sex of the living children.

Table 1: Child Composition of Living Children, Punjab*(Percent)*

District	2 children		3 children			4 or more children			All	Total (N)
	2S	1S, 1D	3S	2S, 1D	1S, 2D	1S	2S	2+S		
Rupnagar	26.7	3.3	6.7	20.0	23.3	3.3	13.3	3.3	100.0	30
Hoshiarpur	24.0	20.0	4.0	16.0	12.0	8.0	4.0	12.0	100.0	25
Ludhiana	20.0	36.0	0.0	20.0	12.0	8.0	4.0	0.0	100.0	25
Tarn Taran	11.1	11.1	3.7	33.3	11.1	0.0	11.1	18.5	100.0	27
Punjab	20.6	16.8	3.7	22.4	15.0	4.7	8.4	8.4	100.0	107

(Source: Field Survey, 2015.) Note: 'S'- son and 'D'- daughter.

Those women who had opted for female sterilization had at least two living children (Table 1). Among the female sterilization acceptors, maximum of them had three living children (41.1%) followed by two living children (37.4%) and four or more living children (21.5%). Data reveals that son preference is deep embedded in our patriarchal society. Predominance of sons over daughters influences the decision to stop child bearing and opt for terminal methods. Due to cultural circumstances all families wanted at least one son. Sample covered confirmed it as all the female sterilization acceptors had at least one living son at the time of accepting sterilization.

Information and Decision making about Female Sterilization Services

Sterilization services are largely being provided through a network of public sector health facilities. In this sector, female sterilization is provided on either fixed days in a week in a health facility or in a sterilization camp. All the female sterilization acceptors were enquired about the personnel who had informed them about the sterilization day. For this query multiple responses were allowed. About 73 percent of them were given this first-hand information by the Accredited Social Health Activist-ASHA (Table 2). ASHA is a basic information provider, guide and counselor for the women. Information about sterilization day provided by ASHA's was quite high in Rupnagar district (90%).

Table 2: Source of Information about the Female Sterilization Day, Punjab*(Percent)*

District	Source of information				Total (N)
	ANM	ASHA	Other health staff	All	
Rupnagar	26.7	90.0	0.0	100.0	30
Hoshiarpur	68.0	32.0	8.0	100.0	25
Ludhiana	16.0	76.0	12.0	100.0	25
Tarn Taran	48.1	88.9	0.0	100.0	27
Punjab	39.3	72.9	4.7	100.0	107

(Source: Field Survey, 2015.)

Note: Multiple responses, hence total may exceed 100.0 percent.

Auxiliary Nurse Midwife (ANM) who are the grassroot worker of public health set-up had given information in 39.3 percent cases. She was found to be more active in Hoshiarpur district (68%) and less in Ludhiana district (16%). Other health staff had become source of information in about five percent of cases and these included nurses posted at Community Health Centre (CHCs) or Primary Health Centres (PHCs).

The information about the sterilization day was received at least one month in advance by 49.5 percent acceptors, at least fortnight advance by 36.4 percent women, at least one week advance by 13.1 percent, and only one-two day advance in 0.9 percent of the cases. Information about the sterilization day given in advance gives sufficient time to take appropriate decision instead of regretting later on over a hastened decision. Cases of decision taken mainly by husband (3.7%) and women (17.8%) were very less. In most of the cases decision to accept sterilization was taken jointly either by the family (41.1%) or the couple (37.4%).

Counseling by Health Staff

Counseling is the process of helping clients to make informed and voluntary decisions about fertility. General counseling should be done whenever a client has a doubt or is unable to take a decision regarding the type of contraceptive method to be used. However, in all cases, method-specific counseling must be done (*Standards for Female and Male Sterilization Services*, 2006). For counseling, public health staff has visited all the respondents in Rupnagar district; 92 percent each in Hoshiarpur and Ludhiana districts and 85.2 percent in Tarn Taran district (Table 3).

Table 3: Visits and Counseling by Health Staff, Punjab (Percent)

District	Health staff visited them		Visiting health staff		Total	
	%	(N)	ANM	ASHA	All	(N)
Rupnagar	100.0	30	16.7	83.3	100.0	30
Hoshiarpur	92.0	23	60.9	39.1	100.0	25
Ludhiana	92.0	23	8.7	91.3	100.0	25
Tarn Taran	85.2	23	13.0	87.0	100.0	27
Punjab	92.5	99	24.2	75.8	100.0	107

(Source: Field Survey, 2015.)

Visits and counseling by ANM was more in Hoshiarpur district. ASHA has counseled more respondents in Ludhiana, Tarn Taran and Rupnagar districts. Among those counseled, three out of every four were visited by ASHA. Visits by health staff varied from one-two visits (52.5%) to three-four visits (40.4%) and five or more visits (7.1%). However, there was scope for improvement since there were still some respondents who were not visited and counseled

by the public health staff.

As per Standards for female sterilization set by the Government of India, while counseling client must be made to understand what will happen before, during and after the surgery, its side effects, and potential complications. Among those counseled, about 91 percent claimed that they were informed about these aspects of female sterilization. Those with a negative response were highest in Hoshiarpur district (21.7%).

Accompanying the Sterilization Acceptor

If health staff accompanies the women to the place of sterilization, she feels safer and more confident. Among the respondents, 73.8 percent were accompanied by the health staff on the sterilization day (Table 4). These figures were little less for Hoshiarpur and Ludhiana districts (60% each). Those accompanying the women were mostly ASHA (84.8%) wareers. ASHA wareers gets honorarium per sterilization case motivated by them and to get it they accompany the acceptors to place of sterilization.

Table 4: Health Staff Accompanying for Sterilization, Punjab

(Percent)

District	Respondents who were accompanied by the health staff		Health staff who accompanied the respondent		
	%	(N)	ANM	ASHA	All
Rupnagar	86.7	26	3.8	96.2	100.0
Hoshiarpur	60.0	15	60.0	40.0	100.0
Ludhiana	60.0	15	0.0	100.0	100.0
Tarn Taran	85.2	23	8.7	91.3	100.0
Punjab	73.8	79	15.2	84.8	100.0

(Source: Field Survey, 2015.)

26.2 percent respondents revealed that health staff had not accompanied them to the sterilization place. Among them 71.4 percent informed that ANM/ASHA had come directly to the place of sterilization and stayed there with them. Remaining women revealed that only family members had gone with them to the place of sterilization.

Mode of Transport and Fare Paid

While going for getting herself sterilized, about three-fourths of women had gone by auto or bus (Table 5). In Rupnagar district, most of the women had used this mode of transport to reach the health facility. About nine percent women had walked down to the health facility for female sterilization. Facility of ambulance was availed by very few women (1.9%).

Table 5: Mode of Transportation Used and Fare Paid to go for Sterilization

(Percent)

District	Mode of transportation						Had to pay fare
	Auto/bus	Ambulance	Private vehicle*	Walking	All	(N)	
Rupnagar	93.4	0.0	3.3	3.3	100.0	30	96.7
Hoshiarpur	48.0	4.0	32.0	16.0	100.0	25	72.0
Ludhiana	48.0	0.0	32.0	20.0	100.0	25	80.0
Tarn Taran	48.1	3.7	48.1	0.0	100.0	27	88.9
Punjab	60.8	1.9	28.0	9.3	100.0	107	85.0

(Source: Field Survey, 2015.),

Note: ‘*’ includes ANM’s vehicle and rickshaw.

Women were enquired whether they had to pay for the fare or not. This is an important aspect since they are availing services from public health facility and most of them are persuaded by health personnel to accept female sterilization. If they had to pay from their own pocket then this goes as a negative component of family planning program. Maximum (85%) of them had paid the money for transport from their pocket.

Table 6: Mode of Transportation Used and Fare Paid to Come Back after Sterilization

(Percent)

District	Mode of transportation						Had to pay fare
	Auto/bus	Ambulance	Camp vehicle	Private vehicle*	All	(N)	
Rupnagar	10.0	0.0	13.3	76.7	100.0	30	100.0
Hoshiarpur	16.0	52.0	0.0	32.0	100.0	25	56.0
Ludhiana	8.0	4.0	0.0	88.0	100.0	25	96.0
Tarn Taran	48.1	7.4	0.0	44.4	100.0	27	85.2
Punjab	20.6	15.0	3.7	60.7	100.0	107	85.0

(Source: Field Survey, 2015.), Note:- ‘*’ includes rickshaw.

After getting herself sterilized, most of the women are not fully awake as they are still under the influence of sedatives administered to them. In this condition, they have to come back. As a consequence three out of every five had opted for a private vehicle to come back (Table 6). This mode was used by more women in Rupnagar and Ludhiana districts. In Rupnagar district while coming back women were sharing the private vehicle with other women who had also

gone for female sterilization and had to come back to the same place. About 21 percent of them had come back by auto or bus. Facility of ambulance and camp vehicle was also used by 15 and 3.7 percent, respectively.

However, when charges paid for vehicle used for transportation were enquired, only 15 percent replied that they had not paid for it. Facility of ambulance was maximum utilized in Hoshiarpur district (52%) but some claimed that they had paid for using the ambulance service. For getting sterilized, women get a fixed amount from Government of India as a compensation of wage loss incurred by them. The amount received was spent for travelling expenditure. Almost all the acceptors who had paid the fare amount were little disappointed as some part of money received gets spent on travelling.

Place of Sterilization

Sterilization must be conducted only at established health care facilities as laid down in the standards by Government of India. Under no circumstances sterilization place could be a school building/Panchayat ghar etc. The sample reported that 72.9 percent went to a CHC or PHC, 21.5 percent to a Civil Hospital and 5.6 percent to District Hospital or Sub Divisional Hospital. In Rupnagar district, 90 percent of the visited cases had gone to Nalagarh in Himachal Pradesh and only 10 percent came to Civil Hospital Rupnagar. They found going to Nalagarh better option since 'one stitch' surgery (i.e. laparoscopic) was conducted there, and less formalities were involved and incentive money was given before discharge to the beneficiary.

Pre-operative Examination and Laboratory Tests

The health staff is supposed to counsel females opting for sterilization again before sterilization at the health facility/camp. They have the option to decide against the procedure at any time. About 55 percent of women replied that they were counseled by health staff before sterilization. This percentage was highest in Rupnagar district (90%) and lowest in Ludhiana district (24%).

Before conducting the surgery, health staff has to clinically assess the women and take her history especially medical history (history of illness, current medication, last contraceptive used, menstrual history, obstetrics history and immunization status of women for tetanus). All the women were clinically assessed and history was taken from them in Rupnagar district. However, this figure was quite low for Ludhiana (56%) and Tarn Taran (51.9%) districts. Medical tests like blood pressure, haemoglobin, urine analysis for sugar and albumin and other laboratory examination as indicated are to be conducted before sterilization. In Ludhiana and Tarn Taran districts, these medical tests were conducted for all the respondents. However one woman in Rupnagar district and two in Hoshiarpur district claimed that no medical tests was conducted on them.

Informed consent

It is instructed that before performing sterilization, a written consent is to be taken from the client. Women must sign the consent form for sterilization before surgery. It should not be obtained under coercion or when the client is under sedation.

Table 7: Written Consent Taken before Sterilization, Punjab*(Percent)*

District	Written consent was taken from women				Total (N)
	Yes, with description	No	Taken without explaining	All	
Rupnagar	6.7	0.0	93.3	100.0	30
Hoshiarpur	0.0	20.0	80.0	100.0	25
Ludhiana	0.0	0.0	100.0	100.0	25
Tarn Taran	0.0	0.0	100.0	100.0	27
Punjab	1.9	4.7	93.5	100.0	107

(Source: Field Survey, 2015.)

Only 1.9 percent of the women were explained what is written in consent form before taking their approval (Table 7). The consent was taken without explaining anything from majority of the respondents (93.5%). Such consent defeats the purpose for which it is taken. Women even if illiterate should be explained everything instead of following formality.

Surgical Procedure and Logistics

To adhere with the standards for sterilization procedure, it is important to address areas like logistics and manpower provision, infection prevention measures and monitoring quality of services provided to the women accepting sterilization. To get a quick assessment of the quality of female sterilization services provided from the perspective of the women acceptors they were probed about services received by them on the sterilization day and later on.

As per laid down standards, sterilization procedure is not to be carried out in open verandah or any other place. Instead it is to be conducted in a fully equipped Operation Theatre (OT). Women were asked the place where these sterilization surgery was conducted. All of them replied that it was conducted in an OT or room. Most of respondents were illiterate and could not differentiate much in OT, delivery room and room. Overall, no women claimed that her surgery was performed in verandah, terrace or open place.

Table 8: Place of Sterilization and Person Conducting Sterilization, Punjab*(Percent)*

District	Place of conducting sterilization	Personnel conducting sterilization				Total (N)
		OT/Room	Doctor	Health Staff	Don't know	
Rupnagar	100.0	83.3	6.7	10.0	100.0	30
Hoshiarpur	100.0	96.0	0.0	4.0	100.0	25
Ludhiana	100.0	88.0	8.0	4.0	100.0	25
Tarn Taran	100.0	70.4	18.5	11.1	100.0	27
Punjab	100.0	84.1	8.4	7.5	100.0	107

(Source: Field Survey, 2015.)

The person conducting sterilization should be the authorized doctor and not anyone else. About 84 percent of the women replied that the doctor had performed the surgery on them and 7.5 percent said that they were on sedation and not aware that who was performing the operation (Table 8). The aspect to be looked into was that 8.4 percent women claimed that health staff had conducted their sterilization. It includes nine cases; five from Tarn Taran district and two each from Rupnagar and Ludhiana districts. These responses need to be probed further.

Women were asked about the attitude and behaviour of the doctor and health staff available at that time. They were enquired if they felt that doctor seemed in a hurry/rush to sterilize maximum number of women. In this regard, only 30 percent clients in Rupnagar district gave an affirmative response (Table 9). Cordial behaviour of doctor was reported by 86 percent women. Cordial behaviour of doctor was not reported by about one out of four women in Ludhiana and Tarn Taran districts. Comparatively, un-cordial behaviour of health staff was reported by 24.3 percent of women in Punjab.

Table 9: Attitude and Behaviour of Doctor and Health Staff, Punjab

(Percent)

District	Doctor seemed in a hurry/ rush to sterilize maximum women	Behaviour of doctor cordial with you	Behaviour of health staff cordial with you	All	(N)
	Yes	Yes	Yes		
Rupnagar	30.0	96.7	90.0	100.0	30
Hoshiarpur	0.0	92.0	80.0	100.0	25
Ludhiana	0.0	76.0	60.0	100.0	25
Tarn Taran	0.0	77.8	70.4	100.0	27
Punjab	8.4	86.0	75.7	100.0	107

(Source: Field Survey, 2015.)

Cleanliness and Privacy

It is mandatory to practice appropriate infection-prevention procedures at all times with all clients to decrease the risk of transmission of infection. If the place of sterilization and surrounding area is not neat and clean then chances of infection and related complications increase many times. All respondents were asked if they found the health facility where they went for sterilization and place of performing procedure neat and clean. About 71 percent found both the places to be neat and clean. This percentage was highest in Rupnagar district (93.3%) and lowest in Tarn Taran district (55.6%). These observations reveal that health facility visited for accepting sterilization and place of performing procedure were not so clean in many cases. When privacy was evaluated, about 89 percent women responded that privacy was maintained at the time of performing procedure.

Post-operative Care

Post-operative care and follow-up form an important component of quality of services provided during female sterilization at a health facility. After the surgery, women requires care and attention for some duration; when her vital signs are stable and the client is fully awake, has passed urine, and can walk, drink or talk then she is sent back home with a responsible adult accompanying her.

Immediately after surgery, women are supposed to be shifted to a recovery room. As per standards for female sterilization, physical requirements include a spacious and well ventilated recovery room adjacent to the operation theatre. In this concern, only 54.2 percent women were shifted to a room for post-operative care after surgery (Table 10). These included cent percent cases in Hoshiarpur district. In other three districts, more women were kept in verandah than a room for post-operative care. In Rupnagar district, 56.7 percent were kept in verandah and 40 percent in a room. Corresponding figures for Ludhiana district were 52 and 48 percent respectively. In Tarn Taran district only 33.3 percent were kept in a room and 63 percent were in a verandah.

Table 10: Place of Post-operative Care, Punjab (Percent)

District	Place where the respondent was kept for post-operative care				Total (N)
	Room	Verandah	Discharged immediately	All	
Rupnagar	40.0	56.7	3.3	100.0	30
Hoshiarpur	100.0	0.0	0.0	100.0	25
Ludhiana	48.0	52.0	0.0	100.0	25
Tarn Taran	33.3	63.0	3.7	100.0	27
Punjab	54.2	43.9	1.9	100.0	107

(Source: Field Survey, 2015.)

Two women; one each in Rupnagar and Tarn Taran districts claimed that they were discharged immediately after the surgery and were not kept at any place for post-operative care. During post-operative care, physical requirements include number of beds in the place where women are supposed to be kept. Out of 107, two women had replied that they were not given post-operative care. Out of 105 clients who received post-operative care after the surgery, 52.4 percent had got a bed to lie down in the recovery room/verandah (Table 11). In Hoshiarpur district, all the acceptors had got a bed and in Tarn Taran district 65.4 percent of women had got a bed. These figures were as low as 28 and 20.7 percent in Ludhiana and Rupnagar districts respectively. Those who got a bed to lie down were further probed about sharing of bed with other women acceptors and availability of a mattress on the bed.

Almost one-third had shared bed with other women. The percentage was maximum in Tarn Taran district (52.9%) and minimum in Hoshiarpur district (20%). As per standards laid

down for recovery room after female sterilization, patient's cot should be with mattress, sheet, pillow, pillow cover and blankets. In Tarn Taran district, bed with a mattress was available to 82.4 percent of acceptors who got a bed to lie down.

Table 11: Availability of Bed during Post-operative Care, Punjab (Percent)

District	Given bed to lie down	(N)	Bed was shared	Bed has mattress on it	(N)
	Yes		Yes	Yes	
Rupnagar	20.7	29	33.3	100.0	6
Hoshiarpur	100.0	25	20.0	100.0	25
Ludhiana	28.0	25	28.6	100.0	7
Tarn Taran	65.4	26	52.9	82.4	17
Punjab	52.4	105	32.7	94.5	55

(Source: Field Survey, 2015.)

Those female sterilization acceptors, who were given post-operative care but were not given a bed to lie down, were queried about place where the respondent lied down in absence of bed. Most of them had lied down on a dari/mattress (96%) on the floor in different rooms and corridors. Other response that came up was trolley/stretcher or sofa (2% each). This response was given only in Tarn Taran district. Most of the patients felt that the place was really crowded with patients laying everywhere and accompanying personnel and other patients walking around.

Post-operative Counseling, Checkup and Medication

All the women accepting female sterilization must be given post-operative counseling and checkup before discharge from the health facility. Government of India documents mention that both written and verbal post-operative instructions must be provided to the women in local language. Further the women must be seen and evaluated by a doctor. Whenever necessary, she should be kept overnight at the health facility.

Table 12: Post-operative Counseling and Checkup after Procedure, Punjab (Percent)

District	Post-operative counseling and checkup done after procedure			Total (N)
	Yes	No	All	
Rupnagar	23.3	76.7	100.0	30
Hoshiarpur	16.0	84.0	100.0	25
Ludhiana	12.0	88.0	100.0	25
Tarn Taran	25.9	74.1	100.0	27
Punjab	19.6	80.4	100.0	107

(Source: Field Survey, 2015.)

Only one in every five of the acceptor women replied that they were given post-operative counseling and checkup was done after procedure and before discharge (Table 12). This percentage was very low. Most of women said that when discharged they were not fully vigilant and were under the effect of sedatives administered to them. At that time they were in pain and do not remember much. So they were not given post-operative counseling by the health staff.

Table 13: Medicines given after Procedure, Punjab (Percent)

District	Respondents were given medicines after procedure				Total (N)
	Yes	No	Partially	All	
Rupnagar	93.3	3.3	3.3	100.0	30
Hoshiarpur	100.0	0.0	0.0	100.0	25
Ludhiana	96.0	4.0	0.0	100.0	25
Tarn Taran	88.9	7.4	3.7	100.0	27
Punjab	94.4	3.7	1.9	100.0	107

(Source: Field Survey, 2015.)

Required medications to be consumed after female sterilization procedure by the women are usually given to them from public health facility before discharging them. More than 94 percent of the respondents were given medicines completely (Table 13). About two percent were given medicines partially and had to buy the remaining medications from the market. Those who were not given any medicines after procedure comprised 7.4 percent in Tarn Taran district, 4 percent in Ludhiana district and 3.3 percent in Rupnagar district.

Cash Benefit Received

Under the compensation scheme for sterilization acceptors of Ministry of Health and Family Welfare, sterilization acceptors are paid a fixed amount in lieu of loss of wage for the day on which he/ she attended the medical facility for undergoing sterilization. Under it, amounts paid depend upon whether it is male or female sterilization and varies with the state of residence. This acts as a motivator for acceptors and families. While persuading women to get sterilized in the public health facility, health staff links it with the money they will receive after getting sterilized.

All the respondents were queried whether they had received the money after getting sterilized or not. Except four women all others had got the cash after sterilization. Those who had not got money included two women from Rupnagar district and one each from Hoshiarpur and Tarn Taran districts. Among them one woman had got sterilized at parental place and came back. She said that may be village ANM had given money later on at her parent's place but she was not aware about it. Other three women had got sterilized in the recent past and were waiting for the compensation money. All the respondents were probed about the amount of

money received by them. Among them, 95.2 percent claimed to have received Rs. 600 after sterilization. Other responses were Rs. 400 and Rs. 650.

No respondent had faced any problem in getting the money after sterilization. Further they were enquired about the place of receiving money. Responses received were on the sterilization day at the time of discharge (73.1%), later on at home (24%) and later on in health facility (2.9%). At the time of discharge, cash benefit was given to 89.7, 68, 66.7 and 65.4 percent of women in Rupnagar, Ludhiana, Hoshiarpur and Tarn Taran districts, respectively. Women who had to visit the health facility to get the incentive money felt that money should be given immediately after surgery or at home as in process of visiting health facility again they incur loss of time and money.

Follow-up and Complications Faced

Post-operative instructions given to women after sterilization specifies that they should come for follow-up after 48 hours for checkup; on seventh day for stitch removal; after one month or after first menstrual period, whichever is earlier; and in case of any emergency as and when required.

Table 14: Follow-up and Visits after Sterilization, Punjab (Percent)

District	Respondent went for a follow-up	Health staff visited respondent after sterilization	All	(N)
	Yes	Yes		
Rupnagar	13.3	100.0	100.0	30
Hoshiarpur	16.0	100.0	100.0	25
Ludhiana	24.0	100.0	100.0	25
Tarn Taran	7.4	92.6	100.0	27
Punjab	15.0	98.1	100.0	107

(Source: Field Survey, 2015.)

Visits by women to the health facility where they accepted sterilization for follow-up later on were very less. Only 15 percent had gone to that public health facility to receive follow-up services (Table 14). It was 24 percent in Ludhiana district, 16 percent in Hoshiarpur district, 13.3 percent in Rupnagar district and 7.4 percent in Tarn Taran district. When enquired about the reason of not availing follow-up services from the health facility they replied that they went only in case of some problem. Otherwise, ANM or ASHA visited their place and provided them follow-up services at home. Health staff had visited cent percent women in Rupnagar, Hoshiarpur and Ludhiana districts. The percentage was little less in Tarn Taran district (92.6%). Many studies have concluded that women who receive low-quality follow-up services after sterilization are more likely to report regret than those who receive better follow-up services (Ramanathan and Mishra, 2000; Loaiza, 1995; Zavier and Nair, 1998; Zavier and Padmadas, 2000).

With time, procedure of conducting female sterilization has undergone tremendous improvements resulting in lower complications after sterilization. Still, many women report different types of complications. All the respondents were questioned if they had faced post-operative side-effects. If the reply was affirmative then they were probed about the type of side-effects faced. Seventy-one percent had replied in negative about facing any problems. This was not an encouraging aspect since it reflects the stature of quality of female sterilization services provided in public health facilities. Less post-operative side-effects help in building trust of community on the public health set-up. These figures of women experiencing no problems after undergoing surgery were lowest in Hoshiarpur district (52%) and highest in Ludhiana district (80%).

Among the side-effects faced by women foremost were weight gain (9.3%), headache/body ache/backache (8.4%) and abdominal pain (7.5%). Other side-effects reported by surveyed women included irregular periods, weakness, white discharge, fever, weight loss, excessive bleeding and nausea/vomiting.

SUMMING UP

To enhance the acceptance of family planning services, a critical aspect is the quality of services provided. Poor quality of services leads to unsatisfied clients resulting in underutilization of services. In the current era of development and globalization, mere provision of family planning services in public health sector are not enough. The noteworthy point was that 9.3 percent of the acceptors were only 20-24 years old. As a word of caution, these women should be counseled about the permanency of sterilization and the availability of alternative, long-term, highly effective methods. Background characteristics of respondents revealed that Scheduled Caste and landless households opted more for female sterilization. Women opting for female sterilization had at least two living children. Son preference was deeply embedded in our patriarchal society as all the acceptors had at least one living son. ASHA was the foremost information provider regarding family planning methods and sterilization day. In most cases, decision to accept sterilization was taken jointly with family or husband.

ASHA counseled more women than ANM. Health staff is acting as a link between public health system and community. However, there was scope for improvement since there were still some female sterilization acceptors who were not visited and counseled by the public health staff. Health staff accompanied 74 percent of women on the sterilization day. In most cases, ASHA had accompanied women as ASHA gets honorarium per sterilization case motivated by them. Maximum women had paid the money for transport while going to place of sterilization and coming back home. It caused disappointment as some part of cash benefit received gets spent on travelling.

No female sterilization was performed in verandah, terrace or open place. Almost half of the respondents were counseled by health staff presents on the sterilization day. Health staff should encourage women to clarify their doubts and guide them in right direction. Few women claimed that they were not clinically assessed and medical history was not taken from them before surgery. This is a crucial element with regard to welfare of the acceptor and should not be missed while performing surgery. From most of the women, the consent was taken

without explaining anything to them. Such consent defeats the purpose for which they are taken. Information given to clients should be given under more standardized environments so that women could give a real informed consent as woman have the right to make decisions about their own health.

Post-operative care was observed in bad condition particularly in case of providing beds, separate beds and beds with mattress. Emphasis needs to be given on providing better post-operative care to sterilization acceptors. Percentage receiving post-operative counseling and checkup after procedure and before discharge was also very low. Most of them were discharged when they were under the effect of sedatives and not fully vigilant.

Role played by health staff presents on the sterilization day regarding explaining the medications and precautions to be taken after surgery was not so impressive. Instead ANM/ASHA of their area who was accompanying them in most of the cases had done the needful. Almost all the women had received the compensation money after sterilization and had faced no problem in getting the money. Follow-up visits by women to the health facility were very less. ANM or ASHA visited their place and provided them follow-up services.

About one third women faced post-operative side-effects and this was not an encouraging aspect since it reflects the stature of quality of female sterilization services provided. Foremost side-effects faced were weight gain, headache/body ache/backache and abdominal pain. Need of the hour is to take utmost care and provide good quality services to the clients so that minimum post-operative side-effects are faced.

To get the standardized health services is the basic right of a human being. To provide quality services in public health system can be challenging, but presents tremendous opportunity for improvement. A comparison with the mandatory guidelines from the Government of India suggests that a number of elements could be improved in the place of sterilization. In many aspects, sterilization is a better, cheap and effective method of contraception that can be used to limit the family size. However it is important to ensure that quality maintenance is at an acceptable level and ethical aspects are confirmed. In this regard, stringent guidelines must come up and be followed with rigorous monitoring. These guidelines are necessary to prevent any untoward incident and to secure a minimal level of quality while delivering sterilization services to the community.

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HINDU WOMEN IN THE MIRROR OF TIME: AT ONCE A GODDESS AND A SLAVE?

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ABSTRACT

Hindu women's role and status in India has been subject to frequent change. In Vedic religion which is often considered as the bedrock of present Hindu dharma, women were given the status of goddess, and from their shakti (force), it was said, emanated the male strength. Indian annals hail women as dutiful wives and benevolent mothers but we have numerous instances where they stood up for themselves against predetermined discriminatory law and customs, whether that be Sita, Satyawati, Kunti and Draupadi of epic age or Durgavati, Jijabai, Kittur Chennamma or Laxmibai from more recent times. While on certain levels Hindu women seem to have gained equality with men, severe handicaps and restrictions blight their progress, otherwise. In modern India, women have held highest offices of the land including that of the President and the Prime Minister. But a pertinent question lingers regarding the paradox in India- Does our country of Devi worshippers really worship their women or is it just religious symbolism which often defies the actual picture? The present paper aims at discovering women's true space in Hindu society by taking into account Hindu religious texts, social customs and moral codes of conduct.

Keywords: Hinduism, Vedic pantheon, Shakti, Tokenism, Women Empowerment.

INTRODUCTION

“Man takes birth from woman. Within woman does the creature's body grow. Through her are established blood relations. The cycle of births in this world is sustained by women. Therefore, why call that woman inferior, from whom great emperors are born?”

- Guru Nanak

The evolution of Hindu women's condition in India is based on huge body of empirical research available to us. Two approaches seem valid: classical text view and empirical view. Hinduism is based on a large number of ancient texts varying in authority, authenticity, content

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and theme. The most dependable and oldest scripture being the Vedas which tell us that the women enjoyed a reasonably high if not equal status during the vedic period. Two great Hindu epics, *Ramayana* and the *Mahabharata*, show women in a positive light, while other texts such as the *Manusmriti*, the oldest text pertaining to religion and legal duty seem to curtail women's rights and freedom that they enjoyed earlier. Word for strength and power in Hindu culture is feminine - "Shakti" meaning 'strength' and 'power'. All male power is derived from the feminine. Literary evidence suggests that empires and towns were ruined because a single woman was wronged by the state whether that was Sita, Draupadi or Kannagi.

POSITION OF WOMEN IN HINDUISM

Around 2000 years ago, Classical Hinduism, or present day Hindu Dharma started crystallizing. Worship of the Supreme Being through icons and sacred symbols was started and different religious cults developed out of which the *Shakta* tradition specifically worships the Divine as the Mother of the Universe, (Londhe, 2008). Women were accorded the status of goddess in textual Hinduism.

Like other religions, Hinduism is not restricted to "a set of beliefs or propositional truths or practices". In practice, Hinduism can not credit itself of being fair to its women. Injunctions on morality, social codes, political maxims etc. find mention in the non-revealed texts called the *Smritis*. These *Smritis* often reveal some teachings that are derogatory to women in various ways. However the real position of women in the Hindu society has been better than what is ordained by these texts, and vice versa as well most of the time. (Narayanan, 1999).

HISTORICAL CONTEXT

Adherents of Hindu religion believe their Gods to possess both male and female elements that are integral to their origin. God is shown as 'ardhanarishvara' or 'God who is half woman'. The mother is considered a thousand times more venerable than the father. There was no restriction in the ancient Hindu society that sons must always be named after their father. Numerous heroes of Hindu tradition are frequently addressed as sons of their mother. For instance, Arjuna is referred as 'Kaunteya', Lord Krishna is addressed as 'Devakiputra' while the greatest Sanskrit grammarian Panini is also called 'Daakshiputra'. Though The Vedic texts indicate that widow remarriage was allowed, in general however, the status of widows declined steeply when the texts of classical Hinduism were formulated. As a result, remarriage of widows was highly frowned upon and the ideal widow was expected to live a life of piety, austerity and self-restraint.

The custom of Sati is nowhere mentioned in the Vedic texts. Even *Manusmriti* is silent about it, but later texts such as several Puranas and law-digests glorify it (Chaube, 1969). Despite the overall preference for male issues, Hindu texts do contain several teachings which equate a son with a daughter. The Tantras accord a very high place to the daughter. Even one of the prominent royal dynasties of the Hindus namely *Chandravamsha* (Lunar Dynasty), owes its origin to Ila, the daughter of Manu (Chaudhry, 1938).

The *Harita Dharmasutra* states that there are two kinds of women: *sadhyavadhu* who marry, and the *brahmavaadini* who are religious, wear the sacred thread, perform rituals like

the agnihotra and read the vedas. Women may graduate from the schools as Vedic priests. Thus women were allowed to choose between a life of domestic bliss through marriage or that of intellectual and philosophical attainment through vedic studies (Chaudhari,1941)

Feminine spirituality

Hindu tradition is blessed to have had Meera, Akka Mahadevi, Lalleshvari, Andal and other saintly women of medieval India as sages. Their writings are treated as scripture, and chanted with great regard to this day. The *Shaiva Siddhanta* tradition has several women saints too. Likewise, the Sant tradition of Maharashtra has several feminine voices from Muktabai (13th century CE) to Bahina Bai. Several authors of poetry in the Sangam literature in Tamil are women. The Sanskrit epic '*Madhuraavijaya*' is attributed to Gangadevi (Dutt,1938).

Contradictions

Being male oriented, Hindu texts often make judgemental remarks about women. Smriti writers like ancient Hindu lawgiver Manu confuse us with his contradictory remarks on them. While women have been put on a high pedestal at some places at others they have been summarily dismissed as immature, untrustworthy, sinful and incapable. On one hand Manu says "Women must always be honored and respected by the father, brother, husband and brothers-in-law who desire their own welfare." On the other he quips "It is the nature of women to seduce men in this world, for that reason the wise never remain unguarded in the company of female. Thus, we can safely say that while women are hailed as mothers and wives in our scriptures, they have been caricatured otherwise. However as mother, women are talked about reverently (Chaudhari,1938). Tantra texts often invert the patriarchal archetype, and declare the women to be superior to men.

POSITION OF WOMEN IN ANCIENT INDIA

A thorough perusal of ancient texts makes it clear that the position of women was not stagnant during the ancient period. But in general they had a restricted existence and women had to live under the tutelage of their male relations (Majumdar & Pusalkar,1951) In one of his dictums, ancient lawgiver Manu says- a woman should be subservient in all stages of her life- "*in childhood to the father, in youth to the husband and his elderly kins and to the son when widowed*" while at another place the same author says that '*gods dwell where women are worshipped*'. Ancient sage Varahamihira devotes the 72nd chapter towards praising women in his monumental work *Brihatsamhita*. He finds women to be superior to men as all men are born from women, because women are more faithful to their spouses than men, and that the women are more faithful in following Dharma. It becomes abundantly clear that women who were revered as mothers and wives, had very limited role otherwise. Scriptures such as the Rig Veda and Upanishads do mention several women sages and seers, notably Gargi, Maitreyi, Lopamudra, Apala, Ghosha etc. but the condition of women in general was far from satisfactory.

The position of women in ancient India itself was subject to constant change. Though it is difficult to specify the exact chronological time as to when the deterioration in woman's status started, one can state that gradual changes appeared during the age of Brahmanas.

Generally speaking mothers had a free hand in administering home and family affairs. Some women from high class were not only highly educated but took active part in intellectual discourses (Singh,2009). In fact, both girls as well as boys were initiated into the Vedic studies and were entitled for a rite of passage called *upanayan* ceremony. Though in general practice the Hindu family did not offer much of authority to their daughters. She was taught to be modest and special attention was paid to nurture her feminine aspects. Frequent mention of the word “*Amajur*”, makes it clear that though marriage held great social and religious importance, yet it was not mandatory.

It is commonly agreed upon that sufficiently high, if not equal status of women of the early vedic period deteriorated during the later vedic period (Jayapalan, 2001).

SOCIAL LIFE OF WOMEN IN ANCIENT INDIA

During the ancient period of Indian history, the Hindu women actively participated in religious activities, though they were not entitled to become officiating priests. In the literary field also women made valuable contribution (Leslie,1995). They were encouraged to learn fine arts like singing, dancing, painting etc. Dancing was not confined to low castes and prostitutes, but ladies from affluent families took to learning it.

It is clearly mentioned in the *Rigveda* that young men and women mixed freely and married women were not caged within the confines of their home. The sculptures from Sanchi depict wealthy ladies leaning from their balconies to watch processions. Likewise women are seen worshipping the Bodhi Tree in the company of men. Thus we can conclude that though women's freedom was constrained, yet it was not fully denied to them. However one of the chief duties of women remained to bear children and to bring them up.

The women were allowed to own personal property in the form of jewelery and clothing. The *Arthashastra* permits them to have money of their own. After a woman's death the property went to daughters and not to the husband or the sons. If there were no son(s), the property was inherited by the widower of the deceased.

Arthashastra and *Manusmriti* mention about a woman's right to property called *Stridhana* and its sources. It is of two types: maintenance in the form of money or land and secondly, gifts like ornaments given to her by her relations from time to time. This was wife's exclusive property and according to Manu if the family had no sons, the daughter was to be the legal inheritor of that property (Dubois, Antoine, Beauchamp & King, 1897)

One can conclude that the position of women in ancient India was not that bad as is depicted in the *Smritis*. Strangely she was at once both-a goddess and a slave. However in common practice the women were looked after, cared for and suitably provided by their husbands. Wives were not to be physically abused or ill-treated as it was mentioned. The Gods refuse sacrifice of a wife-beater.

POSITION OF HINDU WOMEN DURING THE MUGHAL PERIOD

Primarily this period marked a low watermark in women's condition in India. The deterioration in their condition which began during the later vedic period reached its climax. Though women still commanded respect in their family, participated in religious ceremonies

with many receiving education and participating in scholarly pursuits, by and large, they remained subservient to men and suffered from social evils. In short women were treated as meager articles of pleasure. However one thing is very clear that it was not just the medieval period that is to be blamed for low status of women, the downfall which began in about 1500 B.C. became more and more pronounced throughout the succeeding ages. The Muslim invasion during the medieval age only aggravated the already rotten situation, but it can not be summarily blamed for the low status of women.

SOCIAL STATUS OF HINDU WOMEN IN MEDIEVAL AGE

While monogamy was the general norm of the society, in practice the rich could keep much wives. With strict restriction on widow remarriage and sad plight of widows, the practice of sati (self-immolation on funeral pyre of husband) became more prevalent. Due to the fear of abduction and molestation by Muslim invaders; child marriages, purdah system, restriction on free movement of women and their education became an inherent part of medieval Hindu society. At the height of Muslim power in India, women of the wealthy merchant class and aristocrats used to go out totally covered, head to toe in blankets. Poorer women had no choice but to go out and work. The women of the low class remained unaffected by most of the handicaps. In fact there was no purdah among them, they were free to divorce and remarry.

The Devadasi system led to exploitation of women in the name of religion. The medieval age was about wars and conquests. As per the norm, women could not participate in wars (barring a few exceptions), hence birth of a daughter was considered bad omen while birth of male children meant rejoicing. In spite of all these handicaps we know of many Hindu as well as Muslim women of outstanding ability during this period, who became prominent in the fields of politics, literature, education and religion. The Gond Queen Durgavati, Shivaji's mother Jijabai, Ahilya Bai Holkar were able warrior and administrators. In South India, many women administered villages and towns. The Bhakti movement tried to restore women's status by providing them equal footing with men thus questioning their subservient status and openly advocating equality among men and women. The purdah system became a rigid institution among Hindus and Muslims in Northern India, where Muslim rule was most extensive and lasted longest.

STATUS OF HINDU WOMEN IN MEDIEVAL DECCAN

Strangely enough women's position in the south of India was much better as compared to their sisters in the north during the medieval period. There are numerous inscriptional, literary and sculptural evidence to posit that while northern India suffered from absence of female administrators during this period, in Deccan (Karnataka) women were at the helm of affairs. Lakkadevi was a village headman. Mailaladevi, Queen of Someshvara I ruled an important province called Banasvi. Piriaketel Devi, wife of Chalukya Vikramaditya XI ruled over three villages among others.

The Devadasi system was a distinct feature of South Indian society. It was the ancient practice of dedicating girls to temple. These women had high artistic talent and held high position in the society. Temple grants were given to manage their expenses. Women were not just housewives but worked in the fields and as nurses as well. While polygamy was practiced

by the kshatriyas, all girls were bound to get married except those opting for asceticism. The practice of Sati or *sahagamana* was not compulsory in the Deccan though many women opted for it. Mahasati stones were built in the memory of those ladies who committed Sati. However practice of widow remarriage was not prevalent in medieval south India. Going by foreign traveller's accounts of this period, widows had a miserable existence (Kamat, 2006)

POSITION OF HINDU WOMEN IN MODERN INDIA

It was the social reform movement of the 19th century that gave birth to both feminism and nationalism in India. The westernized and English educated young men of Bengal initiated social reform movement which spread to sections of middle class. This movement which stressed on upliftment of women included education, widow remarriage, abolition of purdah and opposition of child marriage. During the British rule, many reformers such as Ram Mohan Roy, Ishwar Chandra Vidyasagar and Jyotiba Phule fought for the betterment of women (Talwar, 1990).

STATUS OF WOMEN DURING THE BRITISH RAJ

Promotion of schooling for girls by missionaries led to spread of education among women. But education was still about cultivating domestic qualities in them, so that they could become good wives, mothers and housewives in the future. Still they faced resistance from more orthodox Hindus. 'When Gandhiji assumed India's leadership the average life span of an Indian woman was only 27 years. Babies and the pregnant women ran a high risk of dying young. Child marriage was very common and widows were in very large number. Only 2% of the women had any kind of education and women did not have an identity of their own. In North India, they practiced the Purda (veil) system. Women could not go out of the house unless accompanied by men and the face covered with cloth. The fortunate ones who could go to school had to commute in covered carts (tangas)' (Kamat, 2006).

NATIONALIST MOVEMENT AND WOMEN'S PARTICIPATION

In 1886, Swarna Kumari Devi started the Ladies Association and with that was opened a new chapter in Indian women's life. Women became more visible in the public sphere since the 1890s. Many women participated in non-cooperation, salt satyagraha and civil disobedience movement. INC committed itself to the political equality of women (Kumar, 1993).

Subhash Chandra Bose initiated the formation of the Rani Jhansi Regiment as the women's wing of the Indian National Army. Many women participated in militant nationalism - Pritilata Waddadar, Kalpana Dutt, Santi Ghosh, Suniti Chowdhury, Bina Das shook the consciousness of an entire generation.

The great struggle of our independence which gained momentum in the early 20th century, threw up stalwarts like Gandhi, Azad, Tilak, Gokhale, Nehru and Bose. Their number and stature often makes us believe that it was only a man's movement. But it was not so. Many illustrious women provided it with fresh vigour through their unrelenting efforts.

Early phase of the 19th century saw emergence of female heroes like Kittur Chennamma, Bhima Bai Holkar and Rani Laxmi Bai whose chivalry and patriotic zeal are remembered to this date. Sarojini Naidu, Kasturba Gandhi, Kamala Nehru, Sucheta Kriplani, Vijay Lakshmi

Pundit, Aruna Asaf Ali, Usha Mehta etc. are the names which are etched in our national memory for their singular contribution during the freedom struggle in varying capacities. 'Such a mass participation under Gandhiji's leadership gave women a sense of equality with men, an equality which was unheard of in the tradition-bound Indian society'(Menon, 1975).

GANDHIJI'S CONTRIBUTION FOR BETTERMENT OF WOMEN IN INDIA

Gandhiji was a great advocate of women's emancipation and believed in them attaining equality with men. It was his influence which led to the participation of women in freedom struggle from all walks of life. For Gandhiji, the freedom fight was not political alone, it meant economic and social reform at the national level. He said men and women are equal, but not identical. For him, women are *intellectually, mentally, and spiritually equivalent to a male and she can participate in every activity.*"

The women's condition underwent great change after Gandhi. Today, in spite of all shortcomings, there is a fundamental agreement in our society that both men and women are equal, the credit for this belief system unanimously goes to the Mahatma and his cohorts (Kishwar, 1986).

POSITION OF HINDU WOMEN IN INDEPENDENT INDIA

The Indian Constitution guarantees equality to all women (Article 14), there shall be no discrimination by the State (Article 15(1)), equality of opportunity (Article 16) and guarantees equal pay for equal work (Article 39(d)). Many initiatives have been taken by our succeeding governments for the upliftment of women. Year 2001 was declared as the Year of Women's Empowerment (*Swashakti*). The National Policy for the Empowerment of Women was passed in 2001. On 9th March 2010, Rajya Sabha passed the Women's Reservation Bill requiring that 33% of seats in Indian Parliament and state legislative bodies be reserved for women. While on one hand, the Hindu women are active participants in diverse fields ranging from politics, arts and culture, science, sports, media (Sen & Shivakumar, 2001), yet there are innumerable instances of discrimination, humiliation, unjust behavior and exploitation.

Education and property rights

Though it is gradually increasing, the female literacy rate in India is less than the male literacy rate. Far fewer girls than boys are enrolled in school, and many girls drop out of schools without completing their education. Indian states of Kerala and Mizoram have achieved 100% female literacy which has gone a long way in improving the socio-economic status of women there.

In most Indian families, women do not own any property in their own names, and do not get a share of parental property. The Hindu Personal Law of 1956 gave women rights to inheritance. However, these are still tilted in men's favour. Some amendments have now been incorporated in the Hindu Personal Law in 2005, providing women the same status as men.

Crimes against women

In India, there is a high rate of crimes against women. Earlier, many crimes against women went unreported because of the social stigma attached to rape and molestation. But due to

spread of education, evolving media and growing public awareness, the number of reported crimes against women has increased manifold. Nearly 40% of the world's child marriages occur in India. Another major culprit in this domain is domestic violence which has become endemic. As per The National Crime Records Bureau, every three minutes a crime against a woman is committed.

In 1961, Indian government passed the Dowry Prohibition Act, making dowry demands in marriages illegal. However, many cases of dowry-related domestic violence, suicides and murders are still reported. The undying desire for male progeny in India fuels crimes like female infanticides and sex-selective abortions which are a typical feature of our patriarchal society. UN's human-rights chief has declared rape as a "national problem" in India. (Schmallegger, Humphrey & Frank, 2012). Erosion of social values has turned this crime into a dreadful monster and a cause of national shame. Continuous trafficking of young girls and women is another major crime perpetrated against women.

LOOKING BACK AT DISCRIMINATORY HISTORICAL PRACTICES AGAINST HINDU WOMEN

Practices like Sati, Devadasi and Jauhar have not just become redundant but they have been banned by law in modern India as well. Still, every now and then one comes across instances of these practices in remote parts of India. Purdah is still prevalent in some Hindu communities. Instances of child marriages and female feoticide are frequent .

SATI

Sati is an old, almost completely extinct custom among Hindus, in which the widow was immolated alive on her husband's funeral pyre. The act was supposed to be voluntary on the widow's part. It was abolished by the British in 1829. The Roop Kanwar case in Rajasthan (1987) led to The Commission of Sati (Prevention) Act, 1987. Except the Puranas (Hindu Smriti) no other religious scripture hails it. Only a few examples of *sati* are recorded in the Hindu epics, which are, otherwise, replete with influential widows like Kunti. Ahilya Bai Holkar, Rani Laxmibai are valiant widows from recent past.

JAUHAR

Jauhar was a medieval Rajput practice of voluntary self-immolation by wives and daughters of defeated warriors, in order to avoid infringement of their honour by the enemy, as the Rajputs attached great importance to honour. This practice is defunct today (Jain & Sarma, 1994).

PURDAH

Purdah is basically a Muslim practice requiring women to cover themselves so as to conceal themselves from men. It restricts the mobility of women and curtails their right to interact freely. This practice was adopted by high caste Hindu women of North India during medieval period and continues to be practiced by some sections of Hindu community even today.

DEVADASI SYSTEM

It was practised in southern India, in which women were "married" to a deity or temple. The

ritual was well-established by the 10th century A.D. This practice led to exploitation of women in the name of religion. By 1988, the practice was outlawed in the country (Fowler,1996).

CHILD MARRIAGES

Child marriage has been traditionally prevalent in India and continues to this day. In the past, child widows were condemned to a life of great agony, living in isolation and being shunned by the society. Although child marriage was proscribed in 1860, it is still a common practice.

FEMALE INFANTICIDE & SEX-SELECTIVE ABORTION

In India, the male-female sex ratio is tilted radically in favour of men, the chief reason being the avid desire for male progeny. It is believed that the higher number of males in India is due to female infanticides and sex-selective abortions. Female infanticide (killing of girl infants) is still practiced in some rural areas. Abuse of dowry system is the main cause of sex-selective abortions and female infanticides in the country.

DOWRY

The modern Hindi word for dowry is *dahej*, which comes from the Arabic word *jihaz*, literally meaning *furnishings* or *equipment*, that is, assets brought by a wife for her husband's family post- marriage. Orthodox Hinduism does not sanction the practice of giving dowry in marriage and it "may be a departure from original Sanskrit marriage rituals."

CONCLUSION

A careful perusal of Hindu religious texts, social customs and laws make it abundantly clear that our *Dharma* grants a very high status to women. She and her male partner actually form a pair together, or rather, the husband and wife form one whole. It is convention rather than religion that has halted Hindu women's growth on many accounts. Though it can not be denied that over the centuries, many vices have crept into the Hindu society which have negatively impacted women's condition, these can only be altered through internal reforms. Evil customs such as dowry, female infanticide /sex-selective abortions, child marriage etc. are not only regressive but also malign Hindu religion and culture. In Hinduism, god is called *Ardhanaarishvara* i.e. half-feminine. It becomes duty of Hindu husband to treat his better half on equal footing. Indian women also desire modicum of respect and just treatment at the hands of the society that they are very much a part of.

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MAPPING AWARENESS ABOUT ART IN PUBLIC SPACES IN FORT AREA OF MUMBAI

*Khushboo Bharti**

ABSTRACT

Art in public space is a spatial and social phenomenon with the ability to produce intense emotions in audience as active receptors who constantly analyze the meaning of art thus contributing to the complete communication process of art creation. The way people think about the use of public art and the spaces around matters because the characteristics of these spaces such as the way they are designed , their accessibility and attractiveness, influence understanding of identities, general attitudes towards people, and politics. The knowledge and opinions about a place that a community has is important to understand as it is closely linked to awareness of these places among the community members. Several factors intertwine to create a sense of belonging for the arts in public space and other elements within it. This paper is an attempt to apply the quantitative methods to map awareness about public art in the Fort Area of Mumbai.

Keywords: Art Deco relief, belonging, Flora fountain, habitation, Hutatma Sculpture, participatory action, past, Pheroz Shah Mehta sculpture, Piloo Pochkhanawala's installation, place, public art.

INTRODUCTION

As far as I can remember my visits to Mumbai whether with family or for professional engagement always involved art trip to the historic Fort area in Mumbai. Walking in this vicinity was always a pleasure while looking at art works displayed at various art galleries, the fascinating architecture and the constant buzzing at the streets. All these invited me to walk and have close observation while experiencing a place and ambience. The natural progression of my fascination for the Fort area and interest in public art encouraged me to take this study to seek explanation by enquiring the opinions that people may have of public art in this location.

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Art in public spaces is a spatial and social phenomenon with the ability to produce intense emotions in audience as active receptors who constantly analyze the meaning of art thus contributing to the complete communication process of art creation. How people interact with, and experience their environment can be explored by studying public art.

This project was an attempt to undertake a research enquiry and apply the quantitative methods to analyze an issue at hand. The data gathered and presented in this research will contribute to a more informed discussion about the presence, acceptability, and awareness of different forms of sculptures, particularly in Fort area, Mumbai.

The lack of existing data on what people actually think about public art in Fort area required that I collect new information to answer my research questions. Data were gathered by conducting survey interviews. Finally, survey interviews provided quantifiable data on what people think about different forms of public art.

To deviate from this dialogue and highlighting the opinions of public about the public spaces they venture in or observe, this research tries to focus on the perspective of the urban audience. The general aim is to gain an understanding of the relationships between people and the places they momentarily station at by gathering information on what people think about different forms of public art.

For this purpose the following segments present a detail approach to the methodology of questionnaire design, non- probability sampling, research findings, and finally conclusion where I have tried to identify factors that have most positive response for awareness of a work. An attempt is further made to highlight future possibilities and research implications.

RESEARCH AREA

With the recent large scale undertaking of public art by Mumbai Street Art Festival with acclaimed street artists as participants, the public art scene is definitely increasing the visibility but there are several other examples of public art that can be found at various places within Mumbai. A few of these examples can be seen at various locations such as artist Arzan Khambatta installation of Dolphins called as “*scripture*” by the artist. Located at the Worli traffic island, this installation is made out of scrap metal. The sculpture of R K Laxman’s famous cartoon character ‘*Common Man*’ at Worli Sea Face by sculptor Suresh Sakpal is placed seated at the bench as an ideal interactive public installation. *Flying Bus* at BKC by artist Sudarshan Shetty also serves as a public gallery where different forms of art works are exhibited. The 30-feet high, steel ‘*Charkha*’ presented by Tata Steels in 2011 at Cross Maidan is an effort to develop the area as a recreational public space. Made by architect Nuru Karim, the *Charkha* is easily visible from the Churchgate area. ‘*Child giving birth to a mother*’ sculpture located at the Bandra-Mahim junction shows a woman with a child commissioned by hotelier Vitthal Kamat on a plot given to him for beautification purpose by MSRDC. The Wall Project at Tulsi Pipeline Road– ‘Wall Project’ was founded by Dhanya Pilo in 2010. The wall displays painted graffiti, messages etc done by over 400 people, with the support offered the BMC. Then, there is Dadabhai Naoroji statue facing the flora fountain, made by Mumbai-based sculptor BV Tambi in 1925. It is quite exquisite in capturing the details of the Grand Old Man of India.

The above examples are some of the important works that are present within Mumbai and depict myriad of thoughts to the onlooker. But the choice of art works that I will be studying for this research purpose include five works dotting the mile-long road from Chatrapati Shivaji terminus and NGMA Mumbai near Regal cinema. The selection was also made for the reason that this vicinity was able to incorporate the most diverse set of sculptures based on the formal variations ranging from academic-style commemorative sculpture to abstract installation and from colonial period art to very modern Art Deco relief panels, placed within a short distance of each other.

Five works that I have selected for this research are the Pheroz Shah Mehta sculpture, Flora fountain, Hutatma Sculpture, Art Deco relief panel on the lower facade of New India Assurance Building, and Pилоo Pochkhanawala's installation in front of NGMA. The research will focus on the art works located in the historic Kala Ghoda area in the Fort precinct.

Fort area in the southern part of Mumbai can be historically traced back to the presence of a fortress in this area which was demolished during 1860s. Built by the British East India Company which took possession of the seven Bombay islands from Portuguese in 1668 and completed the construction by 1716, the Fort had three strongly fortified entrance gates one of which was Church Gate where the heritage structure known as Flora Fountain now stands.

With a mix of marvelous building and their enchanting facades which reflect a combination of Italian – Gothic, French - Gothic, Neo – Gothic styles, the Fort area was declared a protected precinct under the Heritage- Regulations formulated by the Urban Development Department of Maharashtra Government in the year 1995. This ensures that no further development or repairs can take place without the prior permission of the advisory committee appointed by the government.

Within this region lies the important commercial hub, the Kala Ghoda area. This important art district was named after a grand 12 feet 9 inch bronze statue of King Edward VII mounted on a black horse which was removed and placed in its present location at the Zoological Gardens, Byculla.

Historically, Kala Ghoda crescent evolved informally as a cultural node right from 1870's after the rampart removal when several educational, art and social institutions were built in its vicinity. Kala Ghoda precinct's role as a cultural node has continued since the area has long been a meeting place for cultural practitioners (artists, performers, journalists, etc) reinforced with the presence of art galleries, craft centers, restaurant and cafeterias.

Although the sculpture of King Edward VII has long been relocated, the memory of the horse (without its rider) continues to persist making Kala Ghoda area an important landmark for people in Mumbai. A survey was undertaken by the city-based architects, with the support of the Urban Design Research Institute to analyze the Kala Ghoda and its adjoining areas. They discovered that the area contained the largest concentration of contemporary art galleries in the country. Based on the report and findings of this research group, a public trust for the area was formed, which petitioned the local government to officially designate the area as an art district. It was declared so in 1999. One of the major activities of this trust is the creation of the Kala Ghoda Art Festival that is organized yearly and is visited by people from all walks

of life and from far off places to exhibit or as spectator. The art fair is a way of raising money to physically improve the area as well as to draw attention to the conservation of its heritage. This has not only driven the conservation process but also restored as a popular public space.

Image 1: Pheroz Shah Mehta sculpture.



(Image Credit: Author)

The Mumbai Municipal Corporation building which was finished in 1893 is an example of Gothic façade. In front of the MMC building, stands the academic style commemorative sculpture of Sir Pheroz Shah Mehta made by artist named ‘Woods’. Mehta was an Indian political leader, activist, and a leading lawyer of Mumbai, who was knighted by the British Government in India for his service to the law. Placed on the road side traffic island on the busy junction in front of Chatrapati Shivaji Terminus main entry, the sculpture of Pherozs hah Mehta overlooks the D.N road intersection that leads towards the Kala Ghoda area.

Image 2: New India Assurance Relief Panel



(Image Credit: Author)

The D.N intersection has many examples of buildings designed in the Art Deco style and designed by architect firm, Master Sathe and Bhuta. One of the examples of their work is the design of Art Deco style building housing the New India Assurance. The building is adorned with relief panels made by another Mumbai-based sculptor, NG Pansare in the year 1935-1937. The panel represents the themes associated with the portfolio of the company and its general insurance schemes for the common people. Thus the panel represents working individuals from various quarters of life.

Image 3: Flora Fountain and Hutatma Chowk



(Image Credit : Author)

The New India Assurance panel is placed on the way towards two other structures -the Hutatma Chowk and the Flora Fountain. The statue of Flora, the Roman goddess of flowers and spring, is situated on the broad Square that lies at the main traffic junction on the Mile Long Road. Within the same vicinity is the Hutatma Chowk, which has a sculpture representing two martyrs holding a torch. Both these sculptures are elevated at the same height enclosed by fence.

It is interesting to note the similarities and the dissimilarities between the two works. Flora Fountain with its circular construction filled with mythical figures, was constructed in 1864 by the Agri-Horticultural Society of Western India. The funding came from a donation of Rs. 20,000 by Cursetjee Fardoonjee Parekh. Designed by Richard Norman Shaw, it was sculpted in imported Portland stone by James Forsythe. On the other hand, the design of the Hutatma Chowk memorial portrays a contrasting layout. The memorial was erected to commemorate 106 martyrs during a 1960 demonstration in which the police shot numerous members of the Samyukta Maharashtra Samiti (United Maharashtra Committee), a political group demanding the establishment of a Marathi-speaking State of Bombay. This incidence is made visible by representing a map using cartographical contour lines within the garden space. By positioning the Hutatma Chowk memorial alongside the Flora Fountain, the recognition of the space's history is highlighted.

Image 4: Pilo Pochkhanawala's Sculpture 'Spark'



(Image Credit: Author)

Flora Fountain and the Hutatma Chowk lead to the end of the road till the NGMA Mumbai where the abstract installation by Pилоo Pochkhanawala is placed. One of India's few female sculptors; she worked alongwith the Baroda School of sculptors in 1960s. Pochkhanawala experimented with a number of media and art techniques in the 1960s and 1970s but her signature style was junk welding, using found objects. One of her sculptures, *Spark*, commissioned by BEST (Brihanmumbai Electric Supply and Transport), was installed at the Haji Ali traffic circle which was demolished due to traffic management problems. While a miniature version of the sculpture now stands, in a garden opposite the NGMA, the original work was actually, four times its present size.

These public art enmeshed with the history of the area has been properly conceptualized by Keith Basso (1996) who believes that public art is a tool by which people enhance their conceptions of the past, present, and future thus positioning public art as a "cultural practice" that develops over a time period in a given context and geography.

LITERATURE REVIEW

Research on public art generally encompasses topics such as: urban identity politics and formation, class-caste representation of other, incorporation of heritage and culture, presentation of self, territorial formations, site-specificity, and semiotics etc. Majority of engagement with public art circulates around the question of its existence and reason for existence with generally seeking answers to the aspect of "why".

These affects are basically ways of connecting, to other people and situations that heighten the sense of belonging. This sense of belonging to a public space is further highlighted by elements that render positive aspects of habitation at public places and generate a set of concepts that methodologically orient and design activities towards place-person engagement, and further help in creating awareness of the spaces. Hence, a strong engaging place character, and an active reaching out towards the novice, or outsider can be identified as various qualities of a habitational space that encourages public engagement. These factors contribute to the general definition of awareness.

Apart from textual narratives, there are dialogues/discussions with policy makers, cultural practitioners and theoreticians based on their knowledge/experience and perceptions about art in public spaces and its engagement with people. There are numerous records of narratives, observations, theories and lived experiences of theoreticians and practitioners about people and their engagement with arts in public places.

The present paper intends to bring in the intervention of public opinion of places at a very basic level. The paper will try to gauge the level of awareness of a public art work and the factors they think make it visible and popular for uninitiated audiences.

METHODOLOGY

For the purpose of this research, descriptive research has been used to gauge the current status of awareness level that people have about the five works. The methods involved in this type of study range from the surveys which describes the status quo and correlation between variables.

SURVEY METHOD

Survey research was carried out to gather information on public awareness about the existence of various art works.

Before creating a survey about public art, it was first necessary to familiarize myself with the different types that exist with the area chosen for my research. For this purpose I made two visits to the Fort and Kala Ghoda precinct and identified various types of art works in public spaces, such as sculptures, mural paintings, graffiti, reliefs on the building façade, etc. but as I delved deeper in my research question it became necessary for me to reduce the number of art works so that the classifications and comparisons between the responses could be made easier.

Due to the visual nature of this project and survey it was important for me to take photographs and document the works to be shown to people. I took images of the works from different angles to facilitate multiple views of the work. But I refrained from naming and tagging these images as I wanted to know if people immediately recognize the work or take longer duration of time.

QUESTIONNAIRE DESIGN

The survey design consisted of six main sections, which was repeated for all the five selected works selected. The questionnaire had variables ranging from nominal to the by-nominal and ordinal. The nominal questions were the ones where the respondents were expected to choose from a range of categories such as – public rally, film shooting, ceremonies, others. The by-nominal questions were based on simple questions such as – have you seen this work, yes or no. On the other hand for the ordinal variables, Likert scale questions were meant to gauge the intensity of respondent opinions on a variety of indicator statements regarding the depicted art-work. Respondents were asked to rate each statement using a five-point scale of strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. Statements were worded as neutrally as possible. Concepts used in the statements were developed based on theories found in review literature.

The other part of the questionnaire contained questions that were divided on the awareness of various aspects. These included the parameters of historical, political and social awareness. These divisions were again based on the literature survey and definitions.

Since there were various questions that had the option of ‘Other’ that respondents could opt for, it was essential to know the nature of these options that the respondents wanted to add to the answers to gain better understanding of the social structure that are integral to the observation a respondent makes of the environment around the art in public spaces.

Also included within the questionnaire were demographic questions which were kept expecting responses that would reflect an association with the questions on the public art works, such as the questions on the age were included to see if the difference in the age factor between the respondents had any significant impact or relation with the responses given for the art works.

Considering the lack of space in Mumbai, a specific question was inserted to seek opinions of respondents whether they would like to use the public space around the art installation

in a different manner or incorporate other amenities. Hence factors such as trees, benches, pedestrian ways, etc were included as option within the question.

Finally a question on the route that people take while commuting to their work place was also included to understand whether people only know about the art works that come on their daily commuting route or they are also aware about the works that do not come on that particular route. For this a map of the area was included in the questionnaire along with the images of the five art works. At the end of the questionnaire was space provided for the respondents to record opinions and suggestions apart from the ones already included in the questionnaire.

LIMITATIONS OF QUESTIONNAIRE DESIGN AND SURVEY

Following limitations could have affected results of the findings

1. *Questionnaire design.*

- The length of the questionnaire was one of the central problems as it could be administered only with people who were willing to spend a time limit of 15-30 minutes. Thus some of the questions were responded to very hurriedly without much of thought being given to them. Thus the sample of population was not a random selection but became exclusive.
- As there were only 15 respondents, the sample size was insufficient to represent the larger population and thus any valid analysis could not be tested with statistical tools. For example T-tests could be conducted to compare the demographic variables to the composite score for each public art example in the survey. This analysis would have been productive towards providing insight into socioeconomic factors that may be influencing people's thoughts about public art.
- Some of the questions should have been framed in a better manner as those did not generate required response from the respondents.
- The demographic questions had many divisions and with the small sample size of 15 the average in each segment became 2 -3 responses. Thus no valid analysis could be formed.

2. *Survey bias*

- Non-response bias: Many respondents did not answer to some questions. Thus the overall ratio between the number of response that the researcher got as opposed to the number of responses that were not given affected research. For example many respondents did not give any response to the Spark installation and the Art Deco relief panel of New India Assurance Building;
- Convergence bias: Since this research required finding people who were willing to give their time from the busy work schedule, hence on a number of occasions the researcher had to take prior appointments. Thus, the research was not sufficient to accommodate every member in the sample frame. I did not find respondents beyond the limit of Kala Ghoda circle, hence the researcher could not capture the responses of

people who were more in proximity to the Spark sculpture placed in front of NGMA. This has led to very few positive responses towards this particular work.

3. *Response bias*

- **Social desirability bias:** This is the crucial bias by which the survey findings were most affected. As Fort area is considered to be the heritage area, many respondents have answered to the questions in a manner that would make their answers favorable towards this aspect. For example the response to the New India Assurance Building relief and the Spark installation where the respondents were expected to answer whether they had seen people visiting this area, the response were not based on their own experience but merely assumptions. As these works come within a heritage area, hence there would be people who are bound to visit them. Thus the respondents were feeling pressured to respond in a favorable manner to the survey.

The above mentioned biases, sampling and questionnaire structure also come under probability sampling. But researcher also employed the non-probability sampling in the survey to overcome these constraints.

NON-PROBABILITY SAMPLING

- **Judgment Samples:** This sampling method was very useful in the survey considering the length of the questionnaire. Researcher included certain respondents based on own judgment. Respondents from art galleries, curators of museums, hawkers, store managers, shop owners, assistants and even school attendant were chosen. This sort of selective sampling ensured that researcher get views from various strata of population and from different economic level.

RESEARCH FINDINGS

These research findings are based on the frequency of responses that were gathered. In the columns below each sculpture is assigned a number.

Table 1

Name	Work
Pheroz Shah Mehta	1
Flora Fountain	2
Hutatma Chowk	3
Spark	4
New India Assurance Building	5

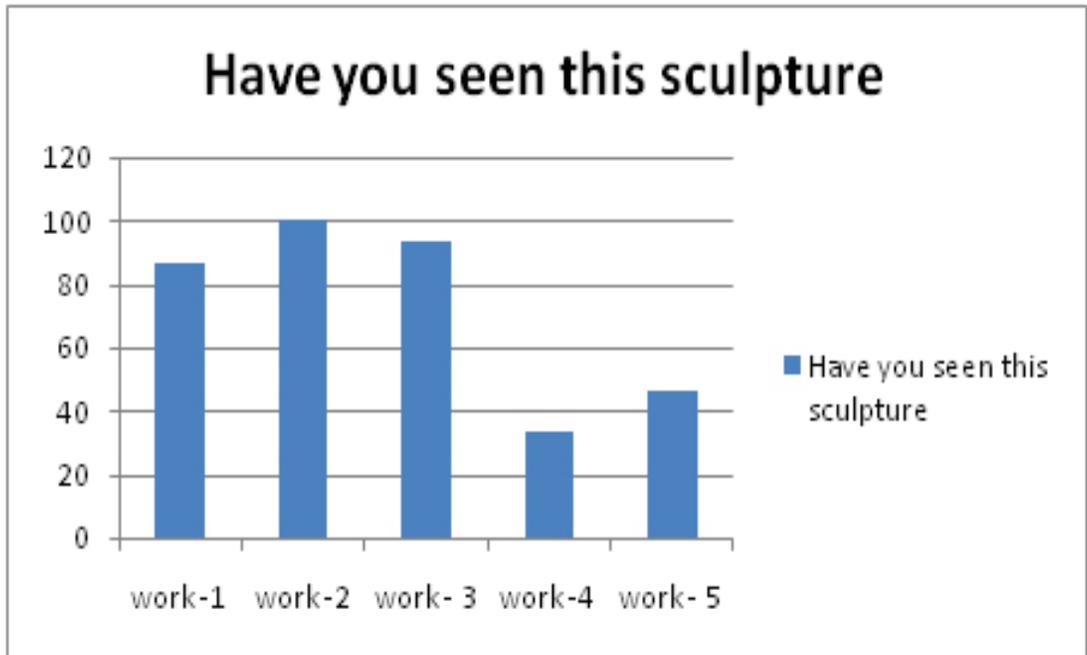


Figure 1

As this research was conducted to assess the level of awareness, it was essential to know the percentage of respondents who would know about the sculptures to be able to answer the questions. The frequency chart (Figure 1) shows the percentage of response against each work and accordingly we can make out that 100% responses came for the Flora Fountain sculpture, 93.3% responses for Hutatma Chowk and 86.7 % people responded for the Pheroz Shah Mehta sculpture. Within these five works the lowest response came for the Spark installation in front of the NGMA Mumbai with 33.3% and 46.7 % responses came for the Art Deco relief panel at New India Assurance Building.

Since the response for the Spark sculpture and New India Assurance Building work was less than 50%, the data would not yield much support for analysis and hence the sample was further sub-divided into two parts. The better known sculptures of Pheroz Shah Mehta, Flora Fountain and Hutatma Chowk can give better understanding of the factors that would generate the level of awareness.

For reasons explained earlier in the Coverage bias for the *Spark* sculpture and also to gain better understanding of awareness, the researcher removed the New India Assurance Building sculpture from the analysis and only focused on three works more formally aligned as 3D works placed on the traffic signal and on high pedestal and have visibility from at least three routes, rather than the New India Assurance Building work that is a relief and characteristically different.

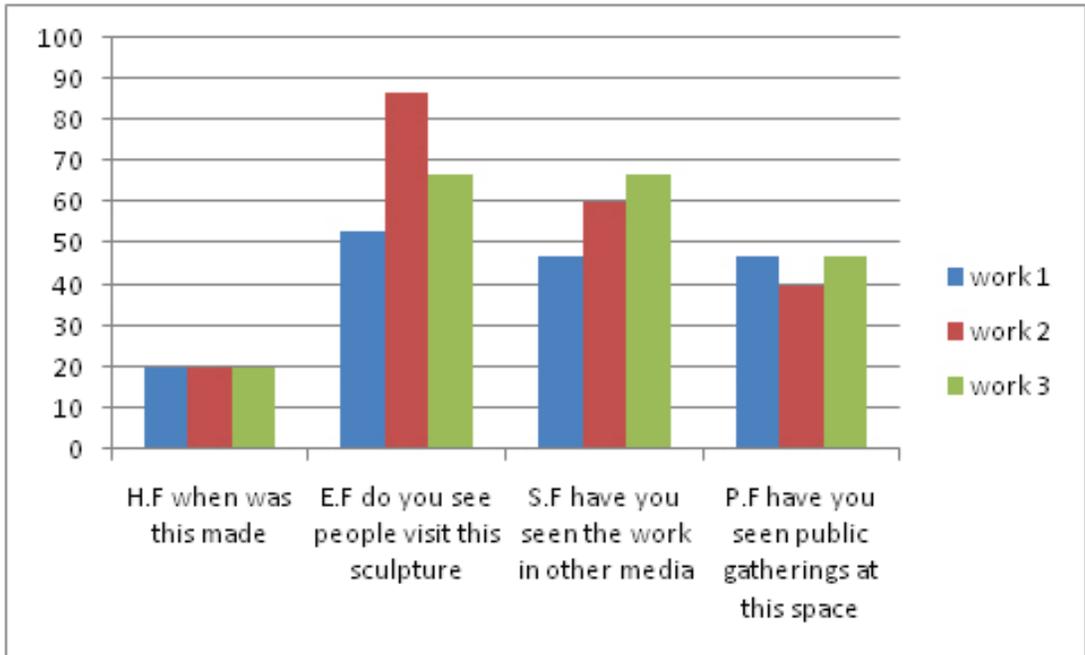


Figure 2

In this second chart (Figure 2) , factors that reflect importance in creating awareness have been reflected . These factors were identified from the literature review. The factors thus identified are HA (Historic Factor), EC (Economic Factor), SF (Social Factor) and PF (Political Factor). These questions were by nominal variable with respondent expected to answer in either yes or no.

All the three works generated equal response for the historic factor. On an average the most number of responses have converged on the economic factor with Flora Fountain rating the highest followed by the Hutatma Chowk and Pheroz Shah Mehta sculpture.

The social factor has also generated fairly good response with Flora Fountain getting 60% but it is the Hutatma Chowk that has gained 66.7% positive response. This can be due to the factor that more people have responded by associating the work with Marathi films, where the work is used as a backdrop for patriotic subjects (as expressed by a few respondents on being asked about the type of films).

The political factor is low for all the works but still lowest for the Flora Fountain and high for Pheroz Shah Mehta sculpture and Hutatma Chowk. This factor was associated with the occasional political meetings that are held in the vicinity of these areas or because of the Commemoration Ceremonies.

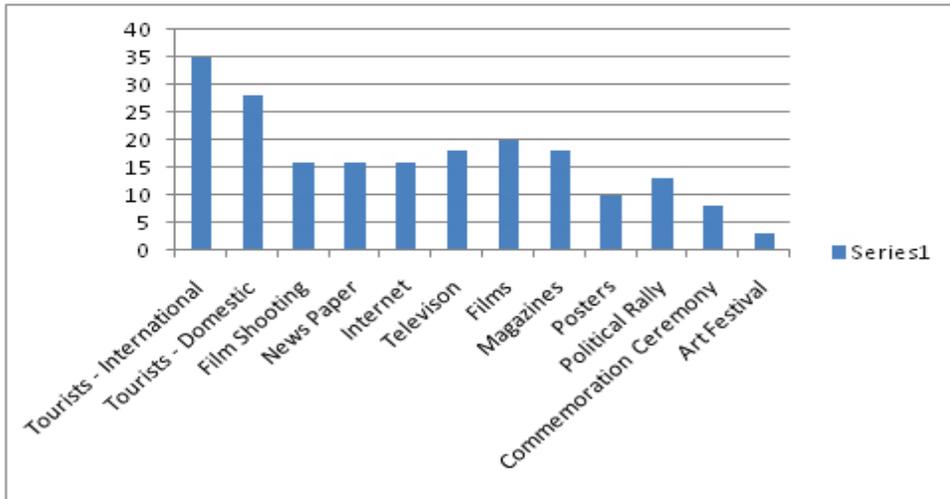


Figure 3

Figure 3 represents the total number of frequencies that each variable under the four different factors identified earlier has garnered. As evident from the chart, the association with Tourists is high, followed by the category of Mass Media such as Films, Magazines, and Television.

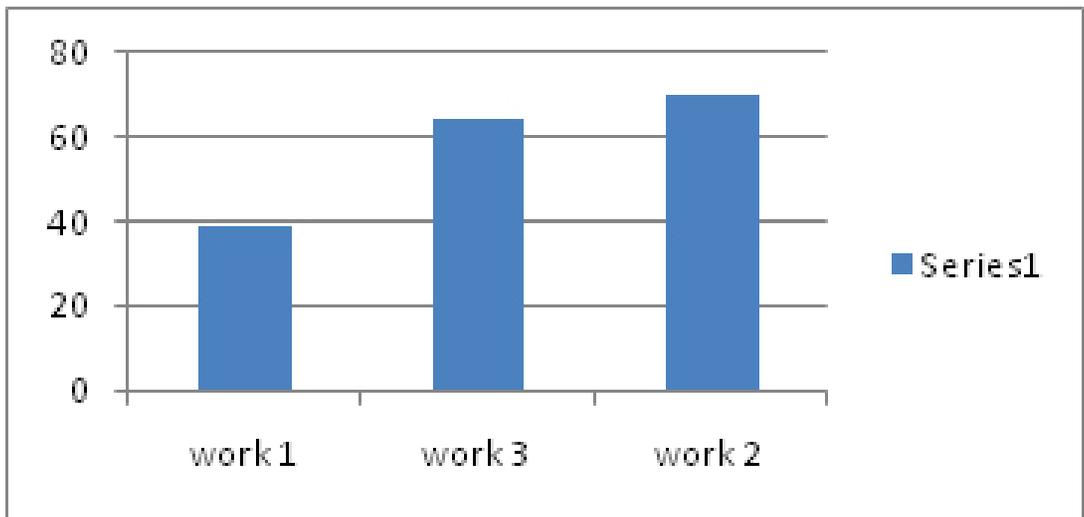


Figure 4

If we calculate all these factors together and take total count for each of the sculptures, then Work 2 (Flora Fountain) has got more responses on most of the factors followed by Hutatma Chowk and then Pheroze Shah Mehta sculpture.

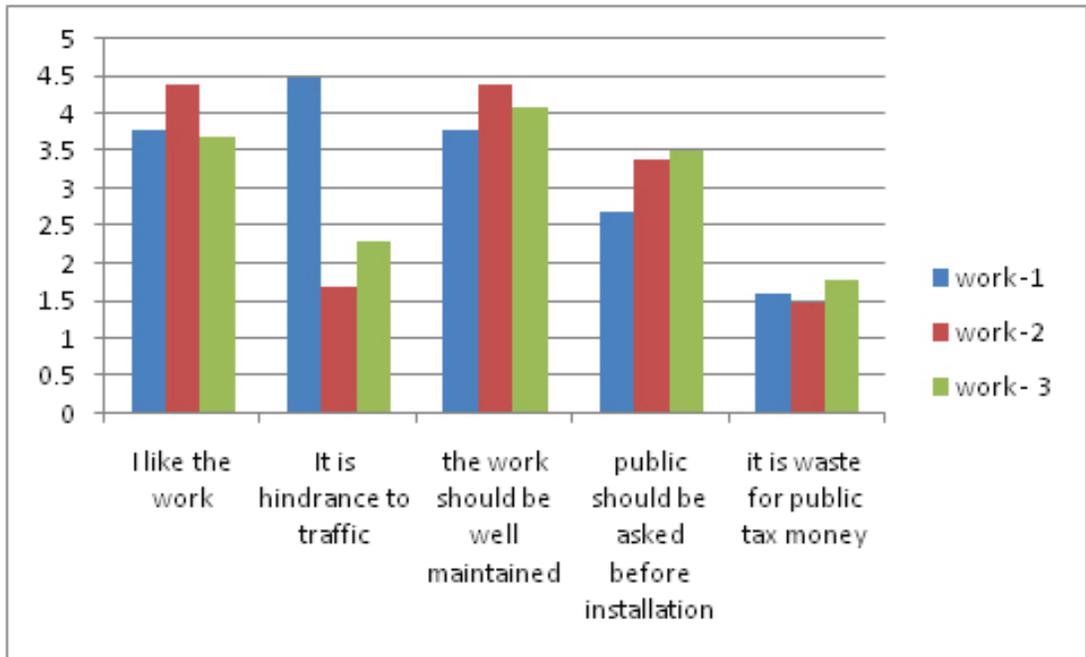


Figure 5

As the questionnaire also included opinion-based questions, the results further brought parameters of subjectivity into the responses. Overall, the assessment of these parameters and the trend thus generated is reflected in Figure 5. Respondents have strong affinity to the works and they want the works to be well maintained. This trend can be linked to the factor of high rating that the Tourists section has got; giving overall validity to the awareness that Fort is the heritage site with many tourists coming to visit, hence the works ought to be maintained well.

Respondents gave low rating to wastage of public tax money but they did give high value to being more involved with the opinions and decision making with the public space art and its management.

The trend again is tilted towards the Flora Fountain with most people saying that they like the work; it causes least hindrance to traffic; and it should be well maintained. Most respondents would like to be involved actively in decision making for the work. Surprisingly the Pheroz Shah Mehta sculpture has been highlighted as a hindrance to traffic where all the rest of the works have scored low in this respect. This could be an association not with the sculpture but the near vicinity of the work, such as the Azad Maidan just next to the island sculpture where most of the time public gatherings take place and almost always there are police vehicles parked on the edge of the road, making the space look visually chaotic.

CONCLUSION

The data gathered based on the questionnaire reflects a pattern where the questions were not just about awareness but also moved beyond to seek opinions thus highlighting a strong sense of association and belonging. The data also reflects trends such as people demanding maintenance of the works to suggesting active participation in decision making for the works. The data also identifies overall high and positive responses for Flora Fountain asserting the fact that the respondents value the cultural significance of the work. The potential in this study is vast as the results may help in creating policies for active participation in public art by the officials and other groups who can subsequently identify indigenous aspects that would enhance interaction of these works with public at the local level.

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PAKISTAN'S BELLIGERENT OCCUPATION OF KASHMIR & INTERNATIONAL LAW

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ABSTRACT

Human Rights law applies to peace time as Humanitarian Law applies to conflict scenarios. The Hague and the Fourth Geneva Convention prescribe rules for the treatment of occupied people and rights as well as duties/obligations imposed upon the belligerent/military government, legitimate government and occupied people. This paper will examine few of the multiple lacunae in those rules, as also the need for evolution in the law to provide for the ends of justice being served; not in theory but realistically.

Keywords: Geneva Convention, Humanitarian law, Kashmir, Occupied Territory, UN Charter.

INTRODUCTION

There is a basic duty of the Legitimate Government and Belligerent Military Government towards protecting the inherent Human Rights as well as Personal and Proprietary Rights of the residents of Occupied territory¹. This is true, idealistically. However, it is not natural for a belligerent who has invaded a territory of another, to care for the people of that territory. The belligerent commits mass murder, rape, arson and other human rights violations when it invades. This is evident in the case of Pakistan's invasion of India in 1947, when Pakistan burnt thousands of villages in Jammu and Kashmir after slaughtering the men, elderly, children and committing mass rape of its women. Besides, women were kept in camps in the town of Baramulla for 13 days while the raiders committed shameful acts in the camps, leaving an inefaceable blemish on the town of Baramulla for the generations that followed.

In such scenarios of unimaginable torture and shame brought upon the successive generations of Pakistan Occupied Jammu and Kashmir till date, what can the legitimate Indian government do to redeem the lives and honour of its people, in occupied area, under the illegitimate government? There should be codified rules for the same.

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Pakistan Occupied Jammu and Kashmir is under Belligerent Occupation by a hostile military force that has been endured for the longest duration of any of the belligerent occupations in human history². Therefore it merits introspection upon some of the issues that are in dire need of resolution:

- i. The established International Humanitarian Law governing Occupied Territory;
- ii. The plight of Occupied people when there is no legitimate administrative entity to prevent uncontrolled torture perpetrated by the Belligerent force;
- iii. Whose duty is it to prevent such criminal acts when there is no notice taken by the international community, despite numerous distress calls by the occupied people?;
- iv. How long can International Law making agencies be oblivious to the fact that there is no stable established law in that regard?;
- v. What are the fundamental moral obligations of the legitimate government in such an eventuality?;
- vi. What are the other stark examples of Human Rights violations of Occupied people the world over?;
- vii. Duties and Obligations of the Belligerent Military Government in occupied territory – an overview and evolution of redundant rules in the concerned law;
- viii. Duties and Obligations of the Legitimate Government of Occupied Territory – an overview and suggested evolution of obsolete rules in the concerned legal framework;
- ix. Duties and Obligations of the residents of Occupied Territory – an overview and suggested evolution of impracticable rules in the concerned legal framework.

FUNDAMENTAL QUESTION

How can the legitimate government ensure human rights protection while its control over its own territory is aggressively prevented by the belligerent force? Further, what restraints must be imposed upon a belligerent force to ensure the prevention of Human Rights violation, which is generally in the nature of the belligerent?

WOES OF HOSTILE OCCUPATION

‘War Crimes’ are an appendage of the subject³, though it is not the main thrust of the issue when it comes to inadequacies in the law relating to aggressive occupation of enemy people⁴. Needless to say, violation of Humanitarian Law by the belligerent, while in occupation, and during the preceding invasion that led to the illegal occupation, is one of the more important legal aspects that needs to be addressed when it comes to alleviating the torment of helpless occupied people. Something that is much in need of evolution, when dealing with belligerent occupations, is the duties imposed upon occupied people in relation to the belligerent. It cannot be expected or demanded of forcefully occupied people that they yield with the same allegiance to the belligerent that they did in respect of their legitimate sovereign. Just as prisoners of war always try to escape from the enemy prison camp, it is human nature and morally sound to assume that the occupied people who are tormented by a belligerent occupant army will

endeavour to spark and uphold revolutions against the 'illegitimate government'.

As per the established principle of '*nullum crimen sine lege, nulla poena sine lege*' – there can be neither retroactive punishment for acts expressly criminal nor any concealed form of punishment for acts which are criminal by analogy. It is interesting to note here, that the legendary Nuremberg Trial expressly endorsed the policy that all acts which may be condemned by the value-judgements of all civilized men, punishable by every civilized municipal legal system are an exception to this fundamental rule. In fact, the Tribunal indicted and punished the leaders of the Third Reich, on the basis of the Pact of Paris⁵ and applied the principles of criminal law as per the U.N. Charter. The contention of the accused was that the U.N. Charter⁶ was not in force at the time the crimes were committed and the Pact of Paris did not prescribe any punitive sanctions for the enforcement of the provisions contained therein.

The judges that belonged to the victorious allied powers, further emphasised quite astutely, that to make an absurd assertion that it is unjust to punish for an innately inhuman acts (on the flimsy ground that there is no law in force prescribing punishment for the same) is itself an inhuman contention; which if upheld would be a gross travesty of justice.

In keeping with this line of thinking, certain issues need to be addressed in regard to occupied people, who are hostage to the tyrannical regime of a belligerent military government. Some of those issues are as follows:

1. The belligerent occupant may impose new taxes to meet the needs of the belligerent administration and the belligerent army;

2. The belligerent occupant may try and punish (which includes even the death sentence) persons who participate in sabotage of the occupant installations, espionage and any hostile activity towards the belligerent;

3. The belligerent occupant may compel the inhabitants to render services for repair of roads, buildings, etc. necessary either for facilitating the belligerent occupant administration or for the needs of the belligerent army.

4. The belligerent occupant has the power to damage and destroy immovable property of military character belonging to the State. This includes forts, etc. that may very well be heritage structures, which are part of the cultural treasures of the occupied people.

Belligerent occupation is naturally an extension of aggressive invasion. It is first and foremost the international crime of aggressive invasion that formed the basis, for which the U.N. Charter was drafted⁷. These above four rules, are among a large number of such others that hardly seem to produce the necessary deterrent effect imperative for evolving the universal prevention of the criminal act of belligerent occupation.

The said rules have been derived from extensive research and study of scholars and experts of international law. But law is dynamic in character and international law has matured to a level that these questions may be put forward. Experts ought to work together to derive some sort of legal code which may be applied to occupied people, that is both morally sound and politically feasible in practical application.

There needs to be a study to document the opinions of experts and record the laws and events, having a bearing on the subject (of contemporary relevance) that may just form a humble basis for further joint government partnerships towards the urgent imperative progress, with regard to alleviating the misery of belligerently occupied people the world over.

MATTERS YET TO BE ADDRESSED BY A UNIVERSAL DECLARATION OR CONVENTION

The Hague Regulations of 1907⁸, the Fourth Geneva Convention of 1949⁹ and the customary laws of belligerent occupation deal with this aspect of International Law. However, the United States has sort of rewritten the rulebook, by setting forth many adapted or completely innovative rules to be applied to Occupied Territory to suit the evolved conditions in the 21st Century, mainly after the U.S. operations in Iraq.

It has been universally accepted that Human Rights Legislation applies to peacetime administration just as Humanitarian Law applies to conflict scenarios. Belligerent Occupation of part of the territory of another is essentially an extension of a conflict scenario, which lacks an adequately definite and particularly codified law, that pertains to unrestrained denial of political, civil, cultural and inherent human rights of occupied people. This unabated abuse of occupied people is still not addressed by a Universal Declaration or Convention, which ensures prevention of this kind of massive intrinsic torture/injustice on an ongoing and recurrent basis.

Under International law, since the Occupant is only the temporary controller of the territory – not the sovereign; there is no authority vested in the Occupant to make changes in the institutions, legislation, regulations, administration, etc. other than those demanded by ‘military necessity’ or ‘public order and safety’. It is just assumed that belligerents will adhere to this golden rule in regard to the territory they have illegally occupied. But the sad reality is that most military governments violate this fundamental rule of International Law. What must be done in such circumstances to aid the suffering masses under the aggressive invader is yet to be addressed by established custom or more importantly by an international agreement. The rule that all erring Occupants will be dealt with when the legitimate government is eventually restored, does not even begin to offer any semblance of justice to the people occupied for the better part of a century, for instance in the case of India’s territory under hostile Pakistani Occupation in the areas of Gilgit, Baltistan, Mirpur, Muzaffarabad, as well as other parts of Jammu and Kashmir.

This effectually means that generations of occupied people live and die under a belligerent occupant’s tyranny. International law has yet to offer a solution to this very old, yet rather controversial question of what happens when the International Community particularly the U.N.O. allows an occupied people to be slave to an aggressive invader’s occupation for an arduously long duration. Should there be a time limit within which the U.N. should be lawfully required to address belligerent occupations? Should a case brought to the U.N. Security Council under any Article which does not prescribe enforcement measures, permit the Council to effectually enforce the resolutions or take action under Article 42 if the erring party fails to abide by the resolutions?

What if a belligerent alters their map to show that the occupied territory is actually their

legitimate territory like in the following case:

1. Pakistan's maps showing areas that do not belong to Pakistan as included illegally in Pakistani territory.
2. China's maps showing vast areas of foreign territory as Chinese territory.
3. Maps of Azerbaijan and Armenia border.
4. Maps of Ethiopia and Eritrea border.

The issue of the South China Sea is also pressing at this juncture. Furthermore, there is the issue of other countries like Indonesia that are trying to extend their territorial waters by extending their shoreline.

Then there is the issue of exploitation of natural resources of occupied territory for the benefit of civil energy supply to the belligerent's territory and for wealth generation by the belligerent government, to fill its coffers.

The Brussels Conference promotes the rule that the Occupant must respect the law in force in the Occupied Territory, which was legislated by the Legitimate Sovereign of that territory. This rule is almost always violated in practice. There must be stringent disciplining rules of International law, so that it becomes imperative that the belligerent adhere to this precept.

The Hague Regulations forbid the occupant from declaring extinguished, suspended, or unenforceable in a court of law, the rights of action of the inhabitants¹⁰. Cases dealing with this aspect should be inspected. For instance:

1. Porter v, Freudenberg¹¹
2. Ochoa v. Hernandez y Morales¹²
3. Raymond v. Thomas¹³

CONCLUSION

If the world is truly a global community then it is our duty to formulate legal theory to address the factual situations; not let factual situations be slave to 'no-longer-workable' legal theories. The writings of authors like Oppenheim, Lauterpacht, Starke, Schwarzenberger, Shearer, Stone, etc. should be widely researched and cross referenced. Military manuals like 'FM 27-5' of the U.S.A. should also be extensively referred to. American occupations of course expressly state that they are not belligerent. Belligerent occupation warrants inspection, for ensuring the human rights protection of the suffering people there. As per the rules pertaining to occupied people today, there is no distinction made between belligerent and humanitarian occupations – in terms of applying the rules of occupied territory. It is very essential to apply different rules to occupied people under a belligerent occupant, and those living under a humanitarian occupant. There is a vast difference in the way both people are treated, which makes it imperative that different law is applied to each people.

It is advisable, for sincere evolution of this aspect of law, to consult adept researchers like Nathalie Weizmann¹⁴, Michael M. Schmitt¹⁵ (UN Special Reporters on Arbitrary executions and torture in Occupied Territory), Sultan Shaheen¹⁶, Dr Shabir Choudhry¹⁷, Yoram Dinstein,

Rafay Bin Ali, Stephen Zunes and other renowned world experts on the Laws of War and Occupied persons.

International Case law, for example:

1. Thirty Hogsheads of Sugar v. Boyle, et al.¹⁸
2. Drewry v. Onassis¹⁹
3. United States v. Rice²⁰

and many others should be referenced for all aspects of Occupation²¹.

ENDNOTES

1. The Hague regulations were considered inadequate to protect occupied civilian population, therefore the 4th Geneva Convention was ratified. This came to be popularly known as the 'Civilian Convention'.
2. Pakistani Belligerent Occupation of Indian territory is the longest ever occupation because it has lasted from 1947 till date and is still continuing. In international history of belligerent occupations it is recorded as the longest one.
3. The Geneva Convention Relative to the Protection of Civilian Persons in Time of War was adopted on August 12, 1949.
4. The 4th Geneva Convention made many rules especially relating to belligerent occupation under Articles 27-34 as well as under Article 47, 48.
5. Officially known as the Kellogg-Briand Pact (1928)
6. Adopted in 1945
7. The Charter prescribes strict rules of non-intervention in the domestic jurisdiction of other nations as well as stringent rules prescribing for non-aggression towards other international States.
8. The Hague Regulations on Land Warfare under Article 42 to 56 protect civilian population on occupied territory.
9. The Geneva Convention IV (1949), relative to the protection of Civilian Persons in time of War, has made it clear that a belligerent occupying part of the territory of the enemy State, cannot annex that territory of that State; thereby making it well established that belligerent occupation does not entail transfer of sovereignty.
10. Article 23 (h) of the Hague Regulations.
11. (1915), 1 K.B. 857
12. 230 U.S. 139
13. 91 U.S. 712
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17. He publishes at www.countercurrents.org and drshabirchoudhry.blogspot.in
18. 9 Cranch 191.
19. 179 Misc. 578, 39 N.Y.S. (2d) 688 (1942).
20. 4 Wheat, 246; TM 27-250, p. 13.
21. These abovementioned three cases deal only with the commercial aspect of Occupation.

JUDICIAL ACTIVISM AND LEGAL REFORMS RELATING TO WOMEN WITH SPECIAL REFERENCE TO PERSONAL LAW

Dr. Anju Tyagi*

ABSTRACT

Judicial Activism may be defined as the pro-active role played by the Judiciary in ensuring that the rights and liberties of the people are protected. It may be understood as the role of the court in stepping out from its normal interpretative role. According to the former Chief Justice of India A.M Ahmadi, "Judicial activism is a necessary adjunct of the judicial function since the protection of public interest happens to be its main concern." This paper is an effort to highlight the progressive judgements given by the judiciary using the tool of Judicial Activism in the field of legal reforms pertaining to personal laws that impact India women.

Keywords: Judicial activism, legal reforms, progressive judgements, public interest litigation, women empowerment.

INTRODUCTION

"Laws are a dead letter without courts to expound and define their true meaning and operation." - Alexander Hamilton

The phrase "Judicial activism" carries more than one connotation. Judicial Activism may be defined as the pro-active role played by the Judiciary in ensuring that the rights and liberties of the people are protected. It may be understood as the role of the court in stepping out from its normal interpretative role. When the court moves beyond its normal role of mere adjudicator of disputes and becomes a player in the system of the country laying down principles and guidelines that the executive must carry out, that role of the court is said to be judicial activism. The basic intention behind this activism was to advance human rights jurisprudence.

In *C. Masilman Mudaliar v. Idol of Swaminathaswami Thirukoil*¹, the Supreme Court noted that as per the UN Report 1980, "Women constitute half of the world population, perform nearly two-third of the work hours, receive 1/10th of the world income and own less

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than one-hundredth percent of world's property." There are numerous laws enacted by the legislature aimed at empowerment of women in the areas of personal labour, criminal, service and socio-economic matters. Even the fundamental law of the land namely Constitution of India guarantees equality for women. But still women suffer from discrimination, exploitation and victimization; that is why there is a need for empowerment of women. Enacting laws is not enough for combating the discrimination against women. The courts and judges have to play a greater role as they can infuse life and blood into the dry skeleton provided by the legislature and create a living organism, appropriate and adequate to meet the needs of the society, in favour of social interest or for common good by using the tool of Judicial activism.

Judicial activism in India encompasses an area of legislative vacuum in the field of human rights. It reinforces the strength of democracy and re-affirms the faith of common man in the "Rule of Law."

ROLE OF THE WOMAN

Lord Denning in his book, *Due Process of Law*, has observed that a woman feels as keenly; thinks as clearly, as a man. She in her sphere does work as useful as a man does in his. She has as much right to her freedom to develop her personality to the full-as a man. When she marries, she does not become the husband's servant but his equal partner. If his work is more important in the eyes of the community, hers is more important in the life of the family. Neither can do without the other. Neither is above the other or under the other, they are equal.² Charles Fourier had stated, "The extension of women's right is the basic principle of all social progress."³

In *Valsamma Paul V. Cochin University*,⁴ it was held by the Supreme Court that human rights are derived from the dignity and worth inherent in human beings. Human rights and fundamental freedoms have been reiterated by the Universal Declaration of Human Rights and they are interdependent and have mutual reinforcement. The human rights of women including girl child are therefore an inalienable, integral and indivisible part of universal human rights. The full development of personality and fundamental freedom of women and their equal participation in political, social, economic and cultural life are concomitants for national development, social and family stability and growth culturally, socially and economically. All forms of discrimination on grounds of gender are violative of fundamental freedom and human rights.

INTERNATIONAL CONVENTIONS AND TREATIES RELATING TO WOMEN

The Covenant on the Elimination of All Forms Discrimination Against Women [CEDAW], 1979 is the United Nations landmark treaty marking the struggle for women's right. It is regarded as the Bill of Rights for women. It graphically puts what constitutes discrimination against women and spells out tools so that women's rights are not violated and they are conferred the same rights.

The Declaration on the Elimination of Violence against Women [1993] is a comprehensive statement of international standards with regard to the protection of women from violence. The Declaration sets out the international norms which States have recognized as being fundamental in the struggle to eliminate all forms of violence against women.

LEGISLATIVE INITIATIVES

In India there are numerous laws aimed at empowerment of women in the areas of personal, labour, service and criminal and socio-economic matters. The Fundamental Law of the land namely Constitution of India guarantees equality for women. Some of the most important legislations pertaining to empowerment of women and specific case laws relating to them which help in empowering the women are enumerated below:

Constitution of India

Constitution of India provides the legal framework for integration and implementation of measures promoting and protecting human rights of women. The Constitution of India not only grants equality to women but also empowers the State to adopt measures of positive discrimination in favour of women for neutralizing the cumulative socio-economic, educational and political disadvantages faced by them. Part III and IV provide the backbone of legislation for socio-economic emancipation of women. We may encapsulate major highlights regarding protection of women's rights from different parts of the Constitution.

Preamble: The Preamble begins with the words "WE THE PEOPLE OF INDIA..." which includes men and women of all castes, religions, etc. It wishes to render "EQUALITY" of status and of opportunity "to every man and woman". The Preamble again assures "dignity of individuals" which includes the dignity of women. On the basis of the Preamble, several important enactments have been brought into operation, pertaining to every walk of life – family, succession, guardianship and employment – which aim at providing protection of status, rights and dignity of women.

Article 14

Equality before Law – "Equal rights and opportunities for men and women in the political, economic and social sphere."

CASES:

Madhu Kishwar and others v.State of Bihar⁵

Air India International v. Nargesh Meerza⁶

Miss C.B Muthamma v. U.O.I⁷

Article 15

Article 15 (1): The State is not to discriminate against any citizen on grounds only of religion, race, caste, sex, place of birth or any of them.

Article 15 (3): The State to make any special provision in favour of women and children.

CASES:

Githa Hariharan v. Reserve Bank of India⁸

Pratibha Rani v. Suraj Kumar⁹

Article 16

Provides for equality of opportunities in the matter of public appointments

CASES:

Randhir Singh v. Union of India¹⁰

Article 19

Protection of certain rights regarding freedom of speech etc. to practice any profession, or to carry on any occupation, trade or business.

CASES:

Vishaka v. State of Rajasthan¹¹

Delhi Domestic Working Woman's Form v. Union of India¹²

Article 21

Protection of Life and Personal Liberty.

CASES:

State of Maharashtra v. Madhukar Narain¹³

Chairman Railway Board v. Chandrima Das¹⁴

Article 23

Right against Exploitation. To give effect to this article and to curb the deep-rooted social evil of prostitution, the Parliament has passed “**The Immoral Traffic (Prevention) Act, 1956.**”

CASES:

Vishal Jeet v. Union of India¹⁵

Gaurav Jain v. Union of India¹⁶

Laxmi Kant v. Union of India¹⁷

Article 39

Enjoins the State to provide an adequate means of livelihood to men and women equal pay for equal work men and woman not forced by economic necessity to enter a vocations.

To give effect to this Article, the parliament has enacted “**The Equal Remuneration Act, 1976,**” which provides for payment of equal remunerations to men and woman workers.

CASES:

Randhir Singh v. Union Of India¹⁸

Article 42

State is to ensure the provisions for just and humane conditions of work and maternity relief. Following are the legislations which promote the objectives of this Article:

Women's Compensation Act, 1923

The Employees State Insurance Act, 1948

The Minimum Wages Act, 1948

The Maternity Benefit Act, 1961

The Payment of Bonus Act, 1965

CASES:

Municipal Corporation of Delhi v. Female Workers¹⁹

Article 44

Uniform Civil Code

The State shall endeavour to secure for the citizens a Uniform Civil Code throughout the territory of India.

CASES:

Mohd Ahmed Khan v. Shah Bano Begum²⁰

Sarla Mudgal v. Union Of India²¹

Article 51 A

It shall be the duty of every citizen of India: To renounce practices, derogatory to the dignity of woman.

This provision reflects its manifestation through the enactment of “**The Indecent Representation of Woman Prohibition Act, 1986.**”

Article 243 D

Reservations of not less than 1/3 of the total number of seats for woman belonging to Scheduled Castes and Scheduled Tribes in every Panchayat.

Article 243 T

Reservations of not less than 1/3 of the total number of seats for woman belonging to Scheduled Castes and Scheduled Tribes in every municipality.

OTHER LEGISLATIVE PROVISIONS RELATING TO WOMEN

Code of Criminal Procedure, 1973:

Under Sec 125 Cr. PC, a woman has got a Right to Maintenance

CASES:

Mohd. Ahmed Khan v. Shah Bano Begum²²

Indian Evidence Act, 1872:

Sections 113 (a), 113 (b) and 114 (c) provide for presumptions as to abetment of suicide by a married woman within 7 years of marriage, as dowry death of a woman and as to absence of consent of woman for sexual intercourse, respectively.

Hindu Adoption and Maintenance Act, 1956

Section 18

Hindu Succession Act, 1956

Section 14 of the Act provides for property of female Hindu to be her absolute property.

The Hindu Minority and Guardianship Act, 1956

Section 6

The Hindu Marriage Act, 1955

Section 13 (2) of the Act provides special rights to wife to present a petition for divorce.

The Muslim Women [Protection of Rights on Divorce] Act 1986

Danial Latifi V.Union of India²³

The Factories Act, 1948

The Provisions of this Act provides for health, safety, welfare and working hours for women labourer working in factories.

The Prenatal Diagnostic Technique (Regulation and Prevention of Measure) Act, 1994

This Act prohibits diagnosis of pregnant women and also identification of child in the womb whether it is male or female.

The Commission of Sati (Prevention) Act, 1992

It safeguards women from Sati.

The Family Courts Act, 1984

The Act provides for setting up a family court for solving matrimonial disputes.

The National Commission for Women Act, 1992

The Act provides for a setting up of a statutory body namely the National Commission for Women to take up remedial measures, and facilitate redressal of grievances and advise the government on all policy matters relating to women.

The Protection of Women from Domestic Violence Act, 2005

The Act provides for punishment for domestic violence committed by husband and his relatives and also provides legal assistance to women suffering from domestic violence. It provides interim maintenance, compensation, damages, shelter home to victims.

Prohibition of Child Marriage Act, 2006.

JUDICIAL INITIATIVES

Though there are a plethora of legislations pertaining to empowerment of women, still they suffer from discrimination and exploitation. GCV Subbha Rao writes in *Family Law in India* (revised by T.V. Subba Rao and Dr. Vijendra Kumar):

“Laws are social digesters and seldom are they neutral. They have masculine flavour especially with reference to family laws. Making of laws, administering the laws or resolution of disputes arising out of implementation of laws are totally considered to be of male bastion and equitable gestures, if any, towards women come out of men’s sympathies of women’s problems.”²⁴

In this paper, some of the landmark judgements will be highlighted in which the Court via judicial activism has not only interpreted the law in its true spirit but has gone beyond that and laid down beneficial guidelines and fulfilled an important gap between the legislature and judiciary by imparting very progressive judgements with moral authority to empower women's rights.

Judicial Activism has not been palatable to many but there is no denial that it has brought about a paradigmatic change from 'rule-specific' to 'rights-specific laws' thereby successfully advancing human rights jurisprudence. The skill of the Judge as a surgeon in interpreting the given laws and the balm of Judicial Activism have in togetherness gone a long way in bringing about deep seated changes in, the life of women.²⁵The Supreme Court has made a determined bid to assuage the women's grievances against discrimination by upholding their Constitutional and Legal rights. Some of the recent decisions given by the Apex Court significantly advance the cause and the dignity of woman. Some of these judgements are given below:

Seema Vs. Ashwani Kumar ²⁶

In this case, the Supreme Court made directions that the marriages of all citizens of India belonging to various religions should be made compulsorily registrable in respective states where marriage is solemnized. The Supreme Court directed the States and Central Government to make rules relating to the procedure for registration of marriages. Non-registration of marriages affects the women to a great measure. If the marriage is registered, it also provides evidence of the marriage having taken place and would provide a rebuttable presumption of the marriage having taken place. Through the registration itself cannot be a proof of valid marriage per se, and would not be the determinative factor regarding the validity of a marriage, yet it has a great evidentiary value in the matters of custody of children, right of children born from the wedlock of the two persons whose marriage is registered and the age of parties to the marriage. Further it will help various women related issues such as:

Prevention of child marriages and to ensure minimum age of marriage;

Prevention of marriages without the consent of the parties;

Check illegal bigamy / polygamy;

Enabling married women to claim their right to live in the matrimonial house, maintenance etc.;

Enabling widows to claim their inheritance rights and other benefits and privileges which they are entitled to after the death of their husband;

Deterring men from deserting women after marriage;

Deterring parents / guardians from selling daughters/ young girls to any person including a foreigner, under the garb of a marriage.

Shamim Ara Vs. State of UP ²⁷

In the year 1979, Shamim Ara filed an application under Sec 125 Cr.P.C. against her husband Abrar Ahmed for maintenance. The case was transferred to the family court after its institution in the state. In a written statement filed in 1990, her husband claimed that he had

divorced Shamim in 1987. No particular of divorce were attached. The family court relied on an affidavit filed by the husband in a civil suit to which the wife was not a party in which he had stated that he had divorced her. The family court held that the affidavit corroborated the plea taken by the husband in his written statement that he had divorced his wife. On this basis, the court concluded that since she was divorced, she was not entitled to any maintenance.

In an appeal filed by the wife, the Allahabad High Court ruled that the divorce was not given in the presence of wife and that it was not communicated to her. But since through his written statements, the husband has communicated the fact of divorce to her, the requirement communication of the divorce had been completed and hence, she was not entitled to maintenance thereafter.

The issue before the Supreme Court was whether the statement containing written statement regarding divorce can be construed as a valid communication of the divorce. The Supreme Court commented, "*None of the ancient holy books or scriptures of Muslims mention such form of divorce as has been accepted by High court and the Family Court. No such text has been brought to our notice which provides that a recital in any document, whether a pleading or an affidavit, incorporating a statement by the husband that has already divorced his wife on a specified or unspecified date, even if not communicated to the wife, could become an effective divorce on the date on which the wife happens to learn of such a statement contained in the copy of the affidavit or pleading served on her.*"

The Court was of the firm opinion that if *talaq* was to be effective, it had to be pronounced. The term "pronounce" was explained as: "to proclaim, to utter formally, to declare, to articulate". The court held that mere plea in his written statement submitted to the court that *talaq* was given cannot be treated as a pronouncement of *talaq* by the husband on the wife. It was held that neither did the marriage between the parties stand dissolved, nor had the liability of the husband to pay maintenance come to an end. The husband continued to remain liable for maintenance till the obligation came to an end in accordance with the law.

In this case, Supreme Court has provided some norms and parameters within which the husband can pronounce a *talaq*. The Supreme Court discussed valid *talaq* in eyes of the Islamic law. The principles laid down by the judiciary with regard to husband's right to *talaq* can be summarized as follows:

Plea of divorce taken by husband in a reply to the maintenance-claim filed by the wife does not constitute divorce;

Mere statement in writing or in oral disposition before the court regarding the *talaq* having been effected in the past is not sufficient to prove the fact of divorce;

To be effective, *talaq* has to be pronounced;

It is mandatory to have a pre-divorce conference to arrive at a settlement. This meditation should be in the presence of two mediators, one chosen by the wife and the other by the husband.

If wife disputes the fact of *talaq* before a court of law, all the stages of conveying the reasons for divorce, appointment of arbitrators, conciliation proceedings for reconciliation

between the parties by the arbitrators and failure of such proceedings are required to be proved.

A Muslim husband cannot divorce his wife at his whims and caprice; and the husband must also prove that there was a valid ground for divorcing the wife.

Mohd Ahmad Khan Vs. Shah Bano Begum²⁸

In this case the issue before the court was to find out the extent of Muslim husband's liability to maintain his divorced wife under Section 125 of the Cr. P.C., 1973. Ahmad Khan, an advocate, was married to Shah Bano Begum in 1932, and had five children. They lived together till 1975, when she was driven out of the house by her husband. In 1978, she filed a petition for maintenance under Section 125 of the Cr. P.C. As soon as she filed this petition, the husband divorced her 'by an irrevocable *talaq*'. He contended that after the divorce, he had no obligation to maintain her. The judicial Magistrate at Indore ordered him to pay her a sum of Rs. 25 per month even though the wife had alleged that he was earning Rs. 60,000 per year. On appeal, the Madhya Pradesh High court raised this amount to Rs. 179.20. Dissatisfied with this order, the husband came to appeal to the Supreme Court. He challenged the maintainability of the petition as also his liability to maintain her after the period of *iddat* and after returning her *mahr*.

The court went into the details of various authorities and translations of the verses of the Holy Quran in support of the view that a Muslim woman who has been divorced by her husband has a right to be maintained even after the period of *iddat*. The husband's plea that since he had returned to her the whole sum of Rs. 30,000 which, under the personal law applicable to them was payable after divorce in terms of provisions of section 127 of the Cr.P.C., he had no further liability towards her maintenance, was not accepted. According to the court, *mahr* was an obligation imposed on the husband as a mark of respect for the wife. It is not an amount in consideration of divorce. It further held:

"There can be no greater authority on this question than the Holy Quran, "the Quran, the sacred book of Islam, comprises in its 115 Suras or chapters, the total of revelations believed to have been communicated to Prophet Mohammed, as a final expression of God's Will" ... Verses (Aiyats) 241 and 242 of the Quran shows that there is an obligation on Muslim husbands to provide for their divorced wives."

The court, thus, upheld the wife's right to be maintained and imposed costs of Rs. 10,000 on husband who divorced his wife and threw her out of the house after 43 years of marriage and after having five children. It held that the provision for maintenance under Section 125 of the Cr. P.C. is not dependent on the religion of the spouses.

The Court further observed :

*"The liability imposed by section 125 to maintain close relatives who are indigent is founded upon the individual's obligation to society to prevent vagrancy and destitution. That is the moral edict of the law and morality cannot be dubbed with religion".*²⁹

This judgement created a hue and cry among Muslims and finally "The Muslim Women (Protection of Rights on Divorce) Act, 1986" was passed.

Danial Lafiti Vs. Union of India³⁰

In this case, the constitutional validity of the Muslim Women (Protection of Rights on Divorce) Act, 1986 (MWA), was challenged on the ground that it infringed Articles 14, 15 and 21 of the Constitution.

The principles laid down in this judgment include:

The provision of paying a reasonable and fair provision and maintenance applies only to a Muslim women whose marriage and divorce took place in accordance with Muslim law; it does not apply to women who are deserted and separated Muslim wives (who are not divorced); it does not apply to women who have married or have been divorced under other laws of India;

At the time of the divorce, the Muslim husband is required to contemplate the future needs for the entire life of the divorced wife and make preparatory arrangements in advance for meeting those needs;

Reasonable and fair provision may include provision for the divorced women's residence, food, clothes and other articles;

As per the provisions of the 1986 Act, the Muslim husband is obliged to pay the maintenance within the *iddat* period;

A divorced Muslim woman is legally entitled to receive life-long post-divorce maintenance within the *iddat* period (i.e. three months from the date of divorce);

A divorced Muslim woman, who has not remarried, and who is not able to maintain herself after *iddat* period can proceed as provided under section 4 of the Act against her relatives who are liable to maintain her in proportion to the properties which they inherit on her death according to Muslim law, from such divorced woman, including her children and parents. In case of any of the relatives being unable to pay maintenance, the Magistrate may direct the State Wakf Board established under the Act to pay such maintenance;

The provisions of the Act do not offend Articles 14, 15 and 21 of the Constitution of India.

This judgment has reiterated the fact that the 1986 Act would be applicable only to women who have married under Muslim law. A civil marriage under the Special Marriage Act, 1954 is a viable option for those women who do not wish to be governed by provisions of Muslim law. The provisions of *mehr*, divorce without the intervention of the court and polygamy would not be available to Muslims marrying or subsequently registering their marriages under the Special Marriage Act. This judgment also held the 1986 Act to be legally valid.

So, the court, by way of its interpretative skills, held that the use of word "written" and not "for" makes it clear that this provision and maintenance extends not just for the *iddat* period but for the entire life of the divorced wife until she remarries.

Shabano Bano Vs. Imran Khan³¹

The Supreme Court finally laid the controversy to rest and confirmed that family courts have the power to decide issues under the Muslim Women's Act. The court commented that where social legislations enacted to secure the rights of the needy women are concerned, adherence

to rigid rules of procedure and evidence should be avoided. The petitioner, Shabana Bano had approached the family court at Gwalior under S.125 Cr. P.C., directed for maintenance of Rs. 3000 p.m. Her plea was that her husband was harrassing her and she was asked not to return after her delivery from her parents house unless his demands for dowry were not met. In response, the husband pleaded that he had divorced her and hence he is not liable to pay any maintenance to her. Conceding this plea, the family court awarded Shabana Rs. 2000 p.m. for the four months between the date of filing the petition and the alleged divorce. The Madhya Pradesh High Court dismissed her appeal against the judgement of family court.

Reversing the High Court judgement, the Supreme Court held that if a petition filed by the wife under S. 125 Cr.P.C., is pending before a family court at the time of her divorce, the same must be decided by the family court, as per the provision of MWA, and until such time, the wife should be awarded maintenance under S. 125 Cr.P.C.

The Supreme Court in this case cleared all doubts and vagueness surrounding the issue after post-enactment of the Muslim Women [Protection of Rights on Divorce] Act, 1986. The Supreme Court made it crystal clear that even a divorced Muslim woman would be entitled to claim maintenance from her divorced husband under Section 125 of the Cr.P.C even after the *iddat* period as long as she does not remarry. This being a beneficial piece of legislation, the benefit thereof must accrue to the divorced Muslim women. Secondly, the Supreme Court arrived at a finding that the family court established under the Family Courts Act shall exclusively have jurisdiction to adjudicate upon the applications filed under Section 125 of the Cr.P.C.³²

Sarla Mudgal Vs. Union of India³³

This is a landmark case on the bigamy conversion issue, which initiated the debate on the Uniform Civil Code(UCC) by directing the Union Government to file an affidavit about the action taken for framing UCC. The Court examined whether a Hindu husband, married under Hindu Law, by embracing Islam, can solemnise a second marriage and whether such a marriage without having the first marriage dissolved under law, would be a valid marriage qua the first wife who continues to be Hindu . From a catena of case laws, the Supreme Court inferred that a marriage celebrated under a particular personal law cannot be dissolved by the application of another Personal Law to which one of the spouse's converts and the others refuses to do so. Where a marriage takes place under Hindu law the parties acquire a status and certain rights by the marriage itself. Under the law governing the Hindu Marriage and if one of parties is allowed to dissolve the marriage by adopting and enforcing a new personal law, it would tantamount to destroying the existing rights of the other spouse who continues to be Hindu. The Court ruled that there was no automatic dissolution of the marriage and by virtue of equity, good conscience and natural justice, the second marriage will be rendered void and S. 494 IPC will be made applicable. So, the Court held that if husband converts to another religion and marries to another woman without having first marriage dissolved, the apostate husband can be prosecuted under Section 494 for committing bigamy. Conversion does not *ipso facto* dissolve first marriage. And so the second marriage during subsistence of first marriage is void even if solemnized after conversion. It is a welcome judgement which seeks to stop back- door entries to bigamous relationships under the garb of conversion.

Githa Hariharan Vs. Reserve Bank of India , Vandana Shiva Vs. J Bandhopadhyaya³⁴

In these two cases, the constitutional validity of Sections 6 (a) of the Hindu Minority and Guardianship Act, 1956 and 19 (b) of the Guardians and Wards Act, 1890 was challenged as being violative of Articles 14 and 15 of the Constitution. The Court observed that the *wording of section 6 (a) of the Hindu Minority and Guardianship Act, 'the father and after him the mother'*, do give an impression that the mother can act as a guardian only after the life time of the father. The Supreme Court construed the provisions in a manner so as not to effect the constitutional mandate of gender-equality and non-discrimination and adopted the *harmonious construction* and held that the word "*after*" in section 6 (a) of the Hindu Minority and Guardianship Act need not necessarily mean "*after the life time*", but "*in the absence of*", that is, when the father is not in the charge of actual affairs of the minor, either because of his indifference or by virtue of mutual understanding between the parents, or because he is staying away from the place where the father can be considered as 'absent' under the impugned provisions and the mother, who, in any case is recognized natural guardian, can act validly on behalf of the minor as the guardian. The predominant consideration in every case, however, would be the welfare of the child.

In this case, Supreme court constituted the guardianship legislation in the radiance of Articles 14 & 15 of the Constitution of India, to the effect that the mother was entitled to be the natural guardian even during the life time of the father, despite the fact the statutes had relegated the women to a secondary position .

Ramesh Chandra Rampratap ji Daga Vs. Rameshwari Rameshchandra Daga³⁵

It is a historical judgement in which the Supreme Court upheld the maintenance rights of women in informal relationship or invalid marriages. In this case the husband, a widower, had married Rameshwari who had obtained a customary divorce (*chhor chithhi*) through a divorce deed. The wife alleged that this document was shown to the husband prior to the marriage and he had accepted the validity of same. Later, when disputes arose and the wife was driven out of the matrimonial home, she filed for judicial separation and claimed maintenance. During these proceedings, the husband denied the marriage on the ground that the woman had not been formally divorced. Rejecting the plea, both the family court situated at Mumbai and the High Court had upheld the wife's and her daughter's right of maintenance. The Supreme Court accepted the women's plea that the husband, an advocate, was aware of the customary divorce at the time of his marriage. The Court held that a bigamous marriage may be declared illegal being in contravention of the provisions of the Act but it cannot be said to be immoral so as to deny even the right of alimony or maintenance to a spouse who is financially weak and economically dependent.

The judgement sets right the wrongs suffered by legions of Hindu women for half a century. The Hindu Marriage Act, 1955 had rendered Hindu marriages monogamous in letter but, Hindu marriages continue to be bigamous in reality. The advantage of this mandate of 'legal monogamy' was to the husband, as he could escape from the economic liability of maintaining his wife on the ground of a legal defect or lacking legal sanctity in the marriage. Several earlier judgements had denied women in such relationships the right of maintenance by adopting a 'righteous and moral stand'.

B.P Achala Anand Vs. Appi Reddy³⁶

The Supreme Court pronounced a land mark ruling in the above case by breathing a new life into the right of women to the matrimonial home. In its opening comments, the ruling reiterates the power of the judicial law making:

“Unusual situations posing for resolution are an opportunity for innovation, law, as administered by courts, transforms into Justice. Markandey Katju, while reaffirmed, that ‘the law does not remain static. It does not operate in a vacuum. As social norms and values change, laws too have to be re-interpreted and re-casted, law is really a dynamic instrument fashioned by society for the purposes of achieving harmonious adjustment, human relations by elimination of social tensions and conflicts. Lord Danning once said: ‘ Law does not standstill, it moves continuously. Once this is recognized, then the task of a judge is put on a higher plain. He must consciously seek to mould the law so as to serve the needs of the time.’”

Since the parties were Hindus, the Court examined the right in the context of Hindu law and held that the right to residence is a part and parcel of a wife’s right to maintenance and that the right has been statutorily recognized with the enactment of the Hindu Adoption and Maintenance Act, 1956. ‘Maintenance’ under Section 18 of the Act includes residence and further that, for the purpose of maintenance, the term ‘wife’ includes a divorced wife. Since there were no Indian legal precedents which address the issue directly, the Court referred to the legal principles under English Law and approvingly quoted Lord Denning:

‘A wife is no longer her husband’s chattel. She is beginning to be regarded by the law as a partner in all affairs which are their common concern. Thus, the husband can no longer turn her out of the matrimonial home. She has as much right as he has to stay there even though the house does stand in his name..... Moreover it has been held that the wife’s right is effective, not only as against her husband but also as against the landlord. Thus where a husband, who was statutory tenant of the matrimonial home, deserted his wife and left the house, it was held that the landlord could not turn her out so long as she paid the rent and performed the conditions of the tenancy.’”

Y. Narasimha Rao Vs. Y. Venkata Lakshmi³⁷

The issue in this case was whether a divorce decree passed by a foreign court which has neither jurisdiction nor the legal ground to dissolve a marriage under the Hindu Marriage Act, be recognized in India. The rules of Private International Law in India are not codified and are scattered in different enactments such as the Civil Procedure Code, the Contract Act, the Indian Succession Act, the Indian Divorce Act, and the Special Marriage Act etc. The Court in this matter relied on the relevant provisions of Section 13 of the C.P.C., which are capable of being interpreted to secure the required certainty in the sphere of this branch of law in conformity with public policy, justice, equity and good-conscience, and the rules so evolved will protect the sanctity of the institution of marriage and the unity of family which are the corner stones of our societal life.

Various guidelines laid down by the Apex Court in this case and the directions issued for strict observance of the principles of natural justice by foreign courts while exercising

jurisdiction in matrimonial courts, will surely provide protection to wives whose husbands abandon them and manipulate divorce decree under foreign jurisdiction.

CONCLUSION

By going through judicial judgments in realm of personal laws, one finds that Indian judiciary has imparted very progressive judgments by using the tool of judicial activism. It kept alive the aspirations of the framers of the Constitution and the goals enshrined in the Preamble. Judiciary should be applauded for the way it is shaping the future laws for women's right through silent and determined activism. The Supreme Court through intense judicial activism has become a symbol of hope for the people of India.

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SIGNIFICANCE OF MOON OVER MIND: AN ASTROLOGICAL OVERVIEW

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ABSTRACT

Astrology considers the Moon as a deity whereas astronomically, it is merely a celestial body. The essential nature of mind of a believer or a disbeliever in astrology remains one and the same whereas their personal feelings, sentiments and experience may vary under cosmic nature. Astrological texts written by the Indian seers emphasized close relationship of the moon and human mind. The waning and waxing state of the Moon demonstrate the reality of human life blended with ups and downs of fortunes based upon time, space and causation. The present paper is an attempt to give an overview of the influence of moon over human mind as enunciated in Indian astrology.

Keywords: Brihat Jataka, Daśādhyāyī, Lunar Influence, Sanhitā, Upanishads, Veda.

INTRODUCTION

Indian Classical Texts becomes valid reference guide for integrated research in terms of quest for knowledge. Astrological texts deliberate over the true influence of lunar effect on human personality. The personal experience recorded by the ancient seers by seeing the nature with wisdom eye remains eternal truth that was gradually converted into knowledge. Mind has been the seat of knowledge and wisdom. Ancient seers were baffled by the intrinsic qualities of mind.

The first serious deliberation over mind was documented in the *Kena Upanishad* (Kenopanishad is a short treatise containing purely conceptual knowledge). *Kena* (Sanskrit: केन) literally means, depending on the object-subject context, “by what, by whom, whence, how, why, from what cause”. The root of *Kena*, in the sense of “by whom” or “from what cause” is the central quest in the treatise that speculates over mind and the nature of Greater mind, the Brahman. The very first verse start with these fundamental queries raised by a disciple to the sage:

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केनेषितं पतति प्रेषितं मनः केन प्राणः प्रथमः प्रैति युक्तः।
केनेषितां वाचमिमां वदन्ति चक्षुः श्रोत्रं क उ देवो युनक्ति॥ (1.1)

(Sent by **whom**, flies out thither the mind?
Harnessed by **whom**, roves thither the first breath?

Who sends out the speech which we speak?
Who is the Deva that harnesses the ears and eyes?)

—Translated by Paul Deussen¹

Thus, the fundamental question for the sages was to seek out the commander of “Mind”. The next verse of the same Upanishad seeks to quench the thirst of knowledge of the disciple.

श्रोत्रस्य श्रोत्रं मनसो मनो यद् वाचो ह वाचं स उ प्राणस्य प्राणः।
चक्षुषश्चक्षुरतिमुच्य धीराः प्रेत्यास्माल्लोकादमृता भवन्ति॥ (1.2)

(That one which is of the ear, the mind of the mind and the speech of the speech is the life breath of the life breath and is the eye of the eye. Those wise men who were able to know it and have understood it leave behind themselves all sorts of attachment. By that renunciation, they attain immortality).²

Though ‘mind’ appears to be the incisive and all-penetrating, there is something beyond the reach of ‘mind’ which needs to be understood. The Kena Upanishad delves upon that ‘something’ in the following verse of the first part:

न तत्र चक्षुर्गच्छति न वाग्गच्छति नो मनः।
न विद्यो न विजानीमो यथैतदनुशिष्यात्॥ (1.3)

(The eyes cannot go there; the speech cannot reach as well; and it is the same with the mind. We will not be able to understand it in its real true sense. Hence we do not know how to explain it also (to our disciples and others). We have only heard from our wise ancestors and Gurus that it is verily different from the things that we have understood and it is quite distinct and beyond the things that we have not understood so far.)³

In the *Maha Shiva Purana*, the nouns such as चन्द्रसंजीवनः, रजनीजनकः has been used as the synonyms of the Lord Shiva which invest sacredness in the Moon (Soma). The Vedic rituals connected with *Soma Yagya* and *Soma Pana* are still performed for environmental refreshment, balancing the longevity and peaceful co-existence of the mankind.

Mind is generally considered as an internal organ which is produced with triple cardinal qualities (*trigunas*) linked with five subtle elements. Functionally, it is known by four different names - *manas*, *buddhi*, *chitta* and *Ahamkara*. The *Bhatta School of Purva Mimamsa* mention that the mind is universal and has eternal contact with the all-pervasive Atman and mind is in contact with several cognitions.

The *Samkhya* and *Yoga* system consider the mind to be of the size of the body. *Advaita*

Vedanta says, the mind is a subtle substance (*dravya*). It is neither atomic nor infinite in size, but it is said to be of *madhyama parinama*, medium size, which permeates the body of the particular *Jiva* in which it belongs. The mind of each *Jiva*, that has a beginning, is different.

MOON IN JYOTISHA

The significance of Moon has been narrated in different fundamental astrological texts whereas the most elaborated signification available in *Uttara Kalamritam* of Kalidasa, *Khanda-5*, Verses 25^{1/2} to 29 is as follows:

बुद्धिः पुष्पगंध दुर्गगमन व्याधिद्विजालस्यक श्लेष्मावस्मृति गुल्मभावहृदय स्त्रीसौम्य पापाम्लकाः
निद्रासौख्यजलस्वरूपरजत स्थूलेषु शीतज्वराः यात्राकूपतटाक मातृसमदृग्जमध्याह्न मुक्ताक्षयाः
धावल्यं कटिसूत्र कांस्यलवण ह्रस्वामन शक्तयो वापीवज्र शरमुहूर्त मुखकाति श्वेत वर्णोदराः
गौरी भक्तिमधुप्रसाद परिहासाः पुष्टिगोधूमकाः मोदाः कातिमुखेमनोजवदधीप्रीति तपस्वी यशः
लावण्यं निशि वीर्यः पश्चिममुखे विशारकार्याप्तयः प्रत्यक दिक् प्रियमध्यलोक नवरत्नानीह मध्यं वयः
जीवो भोजन दूरदेशगमने लग्नं च दोर्व्याधयः छत्राद्यजितराज्य चिह्नसुफले सद्रक्तधातुस्तथा
मीनाद्या जलजाः सरीसृपदुकूले सद्विकासस्फुरत् शुद्धस्थत्स्फटिकास्ततो मुदुलकं वस्त्रं त्वमीस्युरविधोः।

The following denotation belong to the Moon : (1) intelligence (2) flower (3) good perfume (4) going to a fortress (5) disease (6) Brahmin (7) idleness (8) phlegmatic (9) epilepsy (10) enlargement of the spleen (11) disposition of mind (12) heart (13) woman (14) good or bad (15) sourness (16) sleep (17) happiness (18) anything watery (19) silver (20) thick sugarcane (21) typhoid (22) travel (23) well (24) tank (25) mother (26) impartiality (27) mid-day (28) pearls (29) consumption (30) whiteness (31) waistband (32) bell metal (33) salt (34) short in stature (35) mind (36) ability (37) pond (38) diamond (39) Sarad Ritu (40) an interval of 48 minutes (41) facial luster (42) white colour (43) belly (44) reverence to Goddess Gowri (45) honey (46) favor (47) joking (48) nourishment (49) wheat (50) pleasure (51) splendor (52) face (53) quick in thought (54) love of curd (55) mendicant (56) fame (57) beauty (58) strength at night (59) Westward-faced (60) learned (61) saline (62) getting a job (63) love towards west (64) the middle world (65) nine gems (66) middle age (67) life (68) eating (69) going to distant counties (70) disease of the shoulders (72) umbrella or other royal insignia (73) good fruits (74) good blood and vital energy (75) fish and other water born creatures (76) serpent (77) Silk Garment (78) good budding (79) shining (80) clean crystal and (81) delicate cloth (82) Menstrual Problems (83) Dry Breast (84) Mother's Milk (85) Paddy (86) Deceitful (87) Pearl (88) Temporal Love (89) Disciplinary Actions from Higher Authorities (90) Loss on Expenditure.⁴

All the state of affairs are related with feeling and emotions of the mind linking its fluctuating attitudes as per the lunar movements. Indian astrology bestows the most compatible indications connected with Moon keeping the illustrations open ended; leaving individual freedom to the astrologers to find out the extension of related peculiarities, occurrence and experience.

कालात्मादिनकृत्, मनःस्तुहिनगु सत्वं कुजो ज्ञो वचो जीवो ज्ञानसूखे सितश्च मदनो दुःखं दिनेशात्मजः
राजानौरविशीतगु क्षितिसुतो नेता कुमारो बुधः सूरिर्दनवपूजितश्चा सचिवौ प्रेष्यस्सहस्रांशुजः।

Brihajjatakam denotes the planetary significance of *Kalapurush*: the Sun is the soul, Moon is the Mind, Mars is strength, Mercury is speech, Jupiter is knowledge and health, Venus is desire, and Saturn is sorrow. Among the planets the Sun and Moon are Kings, Mars is General, Mercury is the first prince. Jupiter and Venus are counselors and Saturn is servant. (Chapter-II Verse 1). The fourth Chapter of *Saravali* describe the characteristics of moon as :

सौम्यःकांतविलोचनो मधुरवाग्वैरः; कृशांगोयुवा प्रांशुस्सूक्ष्मनिकुंजितासितकचः प्राज्ञोमृदुस्सत्विकः
चारुर्व्वातकफात्मकः प्रियस्सुखोरक्तैकसारोघृणी वृद्धस्त्रीपुरतश्चलोतिसुभगश्चित्रंवरश्चन्द्रमाः।

The Moon signifies beautiful eyes, fascinated speech, whitish colour, thin and tall body, soft, slim and youthfulneess, blackish curled hair, noblest attributes, rheumatic and phlemic nature, fond of splendid life, dimple and generous, artistic and temporal nature with graceful characters. Under astrological categorisation, Moon is considered as a female planet whereas it is treated as masculine deity in the epics (*Saravali*, Chapter IV, Verse 22).

MOON STARS AND EFFECTS

Brihajjatakam distinguish the true characteristic of the native born during moon-based stars in astrology. Varahamihiracharya stipulates that the narrated effects will fully come to pass only if the Moon is powerful. Stregth of the Moon reflects the vigor of the human mind.

प्रिय भूषणः सुरूपः सुभगो दक्षोऽश्विनीषु मतिमांश्च। कृत निश्चय सत्यारुग् दक्षः सुखितश्च भरणीषु॥
बहु भुक् परदाररतस्तेजस्वी कृत्तिकासु विख्यातः। रोहिण्यां सत्य शुचिः प्रियंवदः स्थिर मतिः सुरूपश्च॥
चपलश्चतुरो भीरुः पटुरुत्साही धनी मृगे भोगी। शठ गर्वितः कृतघ्नो हिंस्रः पापश्चरौद्रऋक्षे॥
दान्तः सुखी सुशीलो दुर्मेधारोग भाक् पिपासुश्च। अल्पेन च सन्तुष्टः पुनर्वसौ जायते मनुजः॥
शान्तात्मा सुभगः पण्डितो धनी धर्म संसृतः पुष्ये। शठः सर्व भक्ष पापः कृतघ्नधूर्तश्च भौजङ्गे॥
बहु भृत्यधनो भोगी सुर पितृ भक्तो महोद्यमः पितर्ये। प्रिय वाग् दाताद्युतिमान् अटनो नृप सेवको भाग्ये॥
सुभगो विद्याप्तधनो भोगी सुखभाक् द्वितीय फाल्गुन्याम्। उत्साही धृष्टः पानपो घृणी तस्करो हस्ते॥
चित्राम्बर माल्यधरः सुलोचनाङ्गश्च भवति चित्रायाम्। दान्तो वणिक् कृपालुः प्रिय वाग् धर्माश्रितः स्वातौ॥
ईर्ष्युर्लुब्धो द्युतिमान् वचन पटुः कलह कृद् विशाखासु। आद्यो विदेश वासी क्षुधालुरटनोऽनुराधासु॥
ज्येष्ठासु न बहु मित्रः सन्तुष्टो धर्म कृत् प्रचुर कोपः। मूले मानी धनवान् सुखी न हिंस्रः स्थिरो भोगी॥
इष्टानन्द कलत्रो मानी दृढ सौहृदश्च जलदैवे। वैश्वे विनीतधार्मिक बहु मित्र कृतज्ञ सुभगश्च॥११॥
श्रीमान् छवणे श्रुतवान् उदारदारो धनान्वितः ख्यातः। दाताढ्यः शूरो गीत प्रियो धनिष्ठासु धन लुब्धः॥
स्फुट वाग् व्यसनी रिपुहा साहसिकः शतभिषजि दुर्ग्राह्यः। भाद्रपदासु द्वि गनः स्त्री जितधनी पटुरदाता च॥
वक्ता सुखी प्रजावान् जित शत्रुधार्मिको द्वितीयासु। सम्पूर्णाङ्गः सुभगः शूरः शुचिरर्थवान् पौष्णे॥

(*Brihajjatakam*, Chapter-XVI , Verse 1 to 14)

Nakshatras	Nature of the natives born under various Moon-Phased Stars
Aswani	Scholastic, Intelligent, courageous, conceited, independent and majestic.
Bharani	Successful at work, truthful, clever, free from grief and hurting syndromes.
Krittika	Gluttonous, fond of wives of other men, scorching, handsome and renowned.
Rohini	Truthful, eloquent with firm views, fine in appearance, moderate and generous.
Mrigasirsha	Unethical, dialectful, faint-hearted, splendid, competent and romantic.
Ardra	Dishonest, bad tempered, bothersome and addicted to wicked deeds.
Punarvasu	Committed, tolerant, cheerful, good natured, of wrong views and seducer.
Pushya	Self-controlled, Mastered, Charitable, Collective and correlated with society.
Aslesha	Unattentive, promiscuous, philandering, Sinful, deceitful, errant and skilled.
Magha	Commanding, worshipper of Devas and Smruthis, possessor and malicious.
Poorva Phalguni	Sweet Speech, wandering, thankful and royal servant
Uthara Phalguni	Hard-earned, Tactful Leader of Dexterity and Popular among the public.
Hastha	Active Habits, Scholastic, shameless, fearless.
Chithira	Person with beautiful eye-lids and limbs, luxurious and fond of foreign life.
Swathi	Charitable, eloquent, passionate, thirsty, controlled, tradesman and virtuous.
Visakha	Jealous, diligent, pompous, distinct speech for consolation and hard-working
Anuradha	Over thirsty, diseased, messenger, virtuous, foreign traveller and noble.
Jyeshtha	Irresistible temper, irritating, Group-Leader and recognised.
Moola	Haughty, rich, happy, graceful, prosperous, with firm views and luxurious.
Poorvashada	Compassionate, approachable, responsive, gracious and sympathetic.
Uthrashada	Prodigious, inordinate, well-mannered, decorous and accommodating.
Sravana	Technologist, researcher, gorgeous, classy and propounding.
Dhanishta	Talented, niggard, melodic, pleasant-sounding, and enjoying dance performer.
Satabhishak	Harsh, straightforward, free, anguished, conquerer and inconsiderate.
Poorva Bhadrapada	Victim, well-heeled, persuasive, well-expressed and conscientious.
Uttar Bhadrapada	Orator, gifted with progenies, subjugator, affluent, sophisticated and erotic.
Revati	Well-Structured, knowledgeable, henpecked, esteemed and well-off.

RELEVANCE OF MOON IN ZODIAC SIGNS

Brihajjatakam's "Chandra Rashisheela Adhyaya" distinguish the true characteristic of the native born during moon-based zodiac signs in Astrology (Chapter XVII, Hymns 1–13). Varahamihiracharya stipulates that the astrological analysis about the parciular native is possible, considering the power of Moon stands at the top even though the birth Ascendant has salient features. The following verses are supportive in predictive asstrology. The position of the moon is causative for differentiation in characteristics of the native and further behavioral changes which is spread throughout the life. The specific features of the twelve signs where moon is posited are as follows:-

वृत्ताताम्रदृग् उष्ण शाक लघुभुक् क्षिप्र प्रसादोऽटनः कामी दुर्बल जानुरस्थिरधनः शूरोऽङ्गना वल्लभः।
सेवाज्ञः कुनखी व्रणाङ्कितशिरामानी सहोत्थाग्रजः शक्त्या पाणि तले अङ्कितोऽतिचपलस्तोये अतिभूरुः क्रिये ॥1॥

कान्तः खेल गतिः पृथूरुवदनः पृष्ठास्य पार्श्वाङ्कितस्त्यागी क्लेश सहः प्रभुः ककुदवान् कन्या प्रजः श्लेषलः
पूर्वेर्बन्धु धनात्मजैर्विरहितः सौभाग्ययुक्तः क्षमी दीप्ताग्निः प्रमदा प्रियः स्थिर सुहृन् मध्यान्त्य सौख्यो गवि ॥2॥

स्त्री लोलः सुरतोपचार कुशलस्ताम्रेक्षणः शास्त्रविद् दूतः कुञ्चित मूर्धजः पटु मतिर्हास्येङ्गितद्यूतवित्।
चार्वाङ्गः प्रिय वाक् प्रभक्षणरुचिर्गीत प्रियो नृत्यवित् क्लीबैर्याति रतिं समुन्नत नसश्चन्द्रे तृतीयऋक्षगे ॥3॥

आवक्रद्भुतगः समुन्नत कटिः स्त्री निर्जितः सत् सुहृद् दैवज्ञः प्रचुरालय क्षयधनैः संयुज्यते चन्द्रवत्।
ह्रस्वः पीन गलः समैति च वंश साम्ना सुहृद् वत्सलस्तोयोद्यानरतः स्व वेश्म सहिते जातः शशाङ्के नरः ॥4॥

तीक्ष्णः स्थूल हनुर्विशाल वदनः पिङ्गोक्षणोऽल्पात्मजः स्त्री द्वेषी प्रिय मांस कानन नगः कुप्यत्यकार्ये चिरम्।
क्षुत् तृणोदरदन्त मानसरुजा सम्पीडितस्त्यागवान् विक्रान्तः स्थिरधीः सुगर्वित मना मातुर्विधेयोऽर्क भे ॥5॥

व्रीला मन्थर चारु वीक्षण गतिः स्रस्तांस बाहुः सुखी श्लक्ष्णः सत्यरतः कलासु निपुणः शास्त्रार्थविद् धार्मिकः।
मेधावी सुरत प्रियः पर गृहैर्वित्तैश्च संयुज्यते कन्यायां परदेशगः प्रिय वचाः कन्या प्रजोऽल्पात्मजः ॥6॥

देव ब्राह्मण साधु पूजनरतः प्राज्ञः शुचिः स्त्री जितः प्रांशुश्च उन्नत नासिकः कृश चलद् गात्रेऽटनोऽर्थान्वितः।
हीनाङ्गः क्रय विक्रयेषु कुशलो देवद्वि नामा सरुक् बन्धूनाम् उपकार कृद् विरुषितस्त्यक्तस्तु तैः सप्तमे ॥7॥

पृथुल नयन वक्षा वृत्त जङ्घोरु जानुर्जनक गुरु वियुक्तः शैशवे व्याधितश्च।
नर पति कुल पूज्यः पिङ्गलः क्रूर चेष्टो झष कुलिश खगाङ्कश्छन्न पापोऽलिजातः ॥8॥

व्यादिर्घास्य शिरो धरः पितृ धनस्त्यागी कविर्वीर्यवान् वक्ता स्थूलरद श्रवोऽधर नसः कर्मोद्यतः शिल्पवित्।
कुब्जांशः कुनखी समांसल भुजः प्रागल्भवान् धर्मविद् बन्धुद्विट् न बलात् समैति च वंश साम्नैक साध्योऽश्वजः ॥9॥

नित्यं लालयति स्वदार तनयान् धर्मध्वजोऽधः कृशः स्वक्षः क्षाम कटिर्गृहीत वचनः सौभाग्ययुक्तोऽलसः।
शीतालुर्मनुजोऽटनश्च मकरे सत्वाधिकः काव्यकृत् लुब्धोऽगम्य जराङ्गनासु निरतः सन्त्यक्त लज्जोऽघृणः ॥10॥

करभ गलः शिरालुः खर लोमशदीर्घ तनुः पृथु चरणोरु पृष्ठ जघनास्य कटिर्जरटः।
पर वनितार्थ पाप निरतः क्षय वृद्धि युतः प्रिय कुसुमानुलेपन सुहृद् घटजोऽधव सहः ॥11॥

जल परधन भोक्तादार वासोऽनुरक्तः समरुचिर शरीरस्तुङ्ग नासो बृहत्कः।
अभिभवति स पत्नान् स्त्री जितश्चारु दृष्टिर्दृष्टि निधि धन भोगी पण्डितश्चान्त्यराशौ ॥12॥

बलवति राशौ तदधिपतौ च स्व बलयुतः स्याद् यदि तुहिनांशुः।
कथित कलानाम् अविकलदाता शशिवद् अतोऽन्येत्यनुपरिचिन्त्याः ॥13॥

Sign	Moon Ascendant and Characteristics of the Native
Aries	The person who is born with Moon in this sign will be of round red-eyes, vegetarian, fond of hot food stuff, quickly relenting nature, fond of travel and sexual union, having strong knees, temporarily wealthy, skilled and befriending, haughty, possessing disfigured nails and wounded head, eldest brother, fickle minded and afraid of water and having lines of Shakti in his hand.
Taurus	Moon in Taurus natives will be of fine appearance and of beautiful gait, having large thighs and face, identification marks on back, face, sides, gifted, moderately unfortunate, influential authority, large hump of the neck, having female progenies, phlegmatic problems, separated from kinsmen, wealth and sons, agreeable manners, fond of women, friendly and can enjoy happiness both in childhood and adulthood respectively.
Gemini	Affectionate personality of women, tactful in sexual union, inflamed-eyed, scientific scholar, message giver, curly hair, sharp intellect, witty and humorous, thoughtful discoverer, handsome features, possessing elevated nose, sweet speech, artistic musician and dancer and favorite hermaphrodites.
Cancer	The personality of Moon sign in Cancer will have the nature of bent body, steadfast, high hip, feminine influencing, good friend, interested in astrology, palatial house properties, fluctuating wealth proprietorship, copious neck, expressive word power, friendly and fond of water and forest.
Leo	Native of Leo Sign will have irritable annoyance, broad face with fleshy cheek and brown eyes, very few progenies, revulsion with woman, non-vegetarian, fond of wood and hills, prolonged wrath at trifles, afflicted with hunger and thirst, mental agony due to stomach and tooth-ache, high anxiety, generous, quarreling, man of principle and will be haughty.
Virgo	Person born with Moon in sign Virgo will be indifferent, modesty, attracting eyes and gait, low shouldered and sunk arms, depressed, soft body, truthful, intelligent scientist, artistic scholar, fond of sexual union, holder of joint family property, foreign wealth, pleasing and having more daughters and very few male heirs.
Libra	The native will respect Devas, Brahmins and the learned, intelligent, dispassionate in other's properties, favoring religious rites, surrender of female, tall, raised nose, having defective limbs, fond of travel, wealthy, trader, having the name of Deva coupled with excellent surname of Epics, diseased, isolated by the family kinsmen.
Scorpio	The personality born with Moon in Scorpio will have extensive eyes, wide breast and round shanks, thighs, knees, separated from the ancestors, diseased and afflicted during young stage, respected by the King and High Officials, brownish red colored, will not be straight forward, having lines on hand and feet with symbol of fish, the Vajrayudha or bird and with concealed sins in life.

Sagittarius	The native of Sagittarius ascendant has long face and neck, inherent paternal properties, literary author, powerful speech, having large teeth and ears, lips and nose, multifaceted trait, skilled sculptor, possess indistinct shoulders, disfigured nails and lengthy hands, inventive intellect, right supporter, hate kinsmen, having hypothecated with kind treatment and avoider of compulsion.
Capricorn	will perform the deeds of virtue, attached to spouse and children, thick lower limbs, good eyes and thin waste, open advisor, will be of amiable manners, slow worker, unaffordable to cold, wandering nature, literary author, attached to older women of inferior caste and often shameless or merciless.
Aquarius	The native will have neck like camel, covered with muscles, covered with rough hairy and tall, large organs like legs, thighs, back, buttocks, face, lower belly etc, will be a deaf, attached with wife, interested in wicked deeds, rise and fall in fortune, fond of flowers and fragrance.
Pisces	A man with Moon in Pisces sign will be dealer of sea products or a trader in particular, can enjoy the possessions of traditional properties, supported by wife and children, perfect limbs, light body, long nose and large head, puts enemies into disgrace, will be subject to the influence of female, handsome eyed, fair, rich happy and learned in all the sense.

Prashna Margaacharya reiterate the impact of moon 9 times : need of the power of Moon, combination of benefic planets, aspect from the benefics, location of benefic planets in quadrants, trines and end bhava, 3-6-11 bhavas with malefic planets, combination of Jupiter and moon in good signs, position of the lord of Moon Ascendant at cardinal signs from birth Ascendant, location of the powerful lord of moon ascendant or in 11th bhava from moon are specified exclusively as symptoms of longevity of the native.

The verse of the *Rig Veda* denotes Moon as *Manokaraka* and the Sun as *Netrakaraka*. चन्द्रमामनसोजातश्चक्षोःस्सूर्योअजायत (*Rig Veda*: 10-90-13). The Vedas and *Upanishads* tell us about the correlation about the masculine factor as *Purusha* and Feminine factor as *Prakriti*. *Bhagavad Gita* mentions आदित्यानामहविष्णुर्ज्योतिषांविंशमान् मरीचिर्मरुतामस्मिन्नक्षत्राणामहंशाशी (The illustration is compared with the Lordship of the radiant Sun and the reflecting Moon among astral bodies). Thus *naksatranamahamsasi* refers to the moon as the Lord of all the constellations. Another verse, explains about the restless state of the mind that becomes fickle due to emotional actions. चंचलहिमनःकृष्णप्रमाथिबलादुदं तस्याहंनिग्रहंमन्येवायोरिवसुदुष्करं (Everyone can realize that controlling the human mind is extremely difficult in view of the binding of desire, habituated sense of fulfillment and delusions. Based upon the moving state of mind, the astrologers offered a synonymical name “*Sasi*” as the significant planet of mind and body [शशअस्यास्तीतितत्रनिष्पत्तिः] The exalted and debilitated state of lunar movements put malefic or benefic or combined impacts on every creature in this universe. As per the *Prashna Marga*, चन्द्रस्यारिमृतिव्ययस्थितरसन्मध्यस्तितीक्ष्णान्वयाः क्षीणत्वं तनुगत्वमत्र निजनीचापितश्च दोषा इमे — The Moon becomes evil if it occupies the sixth, eighth or 12th house or is situated between the evil planets or is associated with or aspected by malefic or starts waning or occupies Ascendant or is debilitated (9/22).

MIND IN JYOTISHAM

The mind is illustrated as ‘manas’ [मनः] from the root word ‘*man*’, “to think” having the competence of recording, storing and commemorating the received impressions gathered by the sense from the outside world. The accrued sense yields *Vijñāna* rather than wisdom and understanding. It is coupled with the intellect, inner consciousness, memory and ego. The mind is further divided as *Buddhimanas* and *Karmamanas* (higher and lower mind). *Amarakosha Dheevargga* says चित्तं चेतोहृदयस्वान्तं हन्मानसं मनः बुद्धिर्मनीषा धिषणा धीः प्रज्ञाशेमुषि मतिः। मानसं सरसि स्वाते। मनश्चित्ते मनीषया। (Verse 1)

Prashna Margacharya specifies the mental state of the astrologer while conducting Prashna:

प्रशकाले शुभे प्रष्टुःस्तितस्पर्शक्षणादिके दैवज्ञ चित्तेतुष्टे च शय्यादिष्टार्थ समागमः
मनोगतफलप्राप्तिशुभेषु नो भवेत् मिश्रेषु योषामाधिक्यम् फलं तेषां विनिर्दिशेत्।

(Chapter 22, Verse 129-130)

While doing *prashna*, the astrologer’s mind should be free from anxieties, grief and without any physical problems. In adverse conditions, he cannot achieve the desired objectives. In case of mixed state, the prediction effects become assorted as per the good or bad indications. These narrations are substantiating the state of the mind which is controlled by the Moon under incessant cosmic pressure.

In *Nishekadyaya* writes शशांकलग्नोपगतैः शुभग्रहैः त्रिकोणजायार्थासुखास्पदस्थितैः This describe how benefic planets are positioned in the ascendant. (Chapter-4 Verses-10 , *Nishekadyaya, Brhu Jataka*).

Madhaveeya Acharya indicated the strength of Moon as:

मूलं कालतरोः स्मृतो हिमरुचिशाखादयोऽन्ये ग्रहाः मूलेति प्रबलेसति क्षितिरुहः पुष्यति शाखादयः तन्मूलंतरुमाश्रितः
खलु जनः पुष्टफलं विन्दते तस्मात् चन्द्रबलक्षये हि विबलश्शुक्रज्ञजीवोदः।

(Chapter-V, Verses-33).

Moon has been compared to the tree that develop as per the good-natured time factor to bear fruits. Without the strength of Moon in a natal chart, the benefic combinations will not make any impact upon the native.

CONJUGAL STATE OF MIND AS PER JYOTISHA

In Chapter 75 *Sowbhagyakarana of Brihad Samhita, Varahamhira* says that a child born to a woman resembles the man whom she thinks of at the time of sexual conjugation (Verse 1-4).

जात्यंमनोभवसुखंसुभगस्यसर्वमाभासमात्रमितरस्यमनोवियोगात्।
चित्तेनभावयतिदूरगतापियंस्त्रीरगर्भाभिर्तिसदृशंपुरुषस्यतस्य।

The man who fascinate the heart of damsel enjoys all kinds of erotic pleasures, while one who is not gorgeous the female partner get fake pleasures because woman’s mind is not fallen on him. A woman developes a foetus similar to the man whom she intensely thinks of at the time of conjugation, though she may be far off from him. The instant hymns denotes great psychological problem, if the man is highly attractive, the women in sexual union concentrates

all her mental power and thoughts over him. Consequently, the foetus takes all the features of her partner. On the other hand a woman might think of some other man who influenced and far away, the foetus gets his resemblance. This mental state enunciated while on demise is well applicable in the spiritual sphere wherein Bhagavad Gita says: यं यं वापि स्मरन्भावं त्यजत्यन्ते कलेवरम् तं तमेवैत्तिकौन्तेय सदा तद्भावभावितः (Chapter VIII.6). [Whatever image prominently floats in one's thoughts at the moment of death and one leaves one's physical body with that final thought one will become the same in their very next life]. One's final thought will naturally be what was constantly reflected upon and mediated on during their span of life based upon one's association and daily habits.

भक्त्वाकाण्डंपादपस्योप्तमुर्व्याबीजंवास्यानान्यतामेतियद्वत्।
एवंह्यात्माजायतेस्त्रीषुभूयः कश्चित्स्मिनक्षेत्रयोगाद्विशेषः॥

The branch cut-off from the mother plant or a seed planted in the soil does not change its nature and characteristics when their buds grow without any change of its species. It does not grow into a different sapling similar to kids born from women. Based on the influence of the soil or mother slight difference may occur in the fruit or child keeping the same species. In *Mahabharata*, Bhishma compare the man as seed and women as fertile soil.

(भास्त्ना माता पितुः पुत्रो येन जातः स एव सः)
आत्मासहैतिमनसामनइन्द्रियेणस्वार्थेनचेन्द्रियमितिक्रमएषशीघ्रः
योगोयमेवमनसः किमगम्यमस्तियस्मिनमनोब्रजतितत्रगतोयमात्मा

The soul associate with mind, the mind with the senses, and the sense with their respective objects that happens in quick progression. Due to its innate strength, nothing is inaccessible for the mind as the mind and soul follows together. The inter-connectivity of mind, soul, intellect and its goal has been distinguished in *Kathopanishad* and *Gita* vide reference III (40, 42)

इन्द्रियाणि मनो बुद्धिरस्याधिष्ठानमुच्यते एतैर्विमोहयत्येष ज्ञानमवृत्य देहिनं
इन्द्रियाणि पराण्याहुरिन्द्रियेभ्यः परं मनः मनसस्तु परा बुद्धिर्यो बुद्धेः परतस्तु सः

The *Kathopanishad* states - अंगुष्ठमात्रः पुरुषोमध्य आत्मनि तिष्ठति। ईशानो भूतभव्य न ततो बिजुगुप्सते॥

The causation of menstruation is linked with the Moon and Mars as per Indian astrology and tries to link the orderly cycle of the female with lunar movements. *Horacharya* specifies the average period of commencement of menstruation by the age of 15 and menopause by the age of 51 years. This is liable to change due to the living conditions, food habit and un-natural intake of medicines or other-wise (*Hora Shastram*, 4th Chapter Verse-1)

The conception on different days of cycle will produce different results as per the Indian astrology. *Jatakadeshm* mentions

पुत्रोत्पायुर्दारिका वंशकर्ता वंध्या पुत्रः सुन्दरीशो विरूपा
श्रीमानपापा धर्मशीलस्तथास्त्री सर्वज्ञः स्यात् तुर्यरात्रे क्रमेणा।

(Chapter-2 , Verses-3, p.22)

The offspring conceived during 13 nights commencing with the fourth day after menstruation, will be of the following qualities: If conceived on the fourth night, it will be a short-lived son; if on the fifth, a girl; if on the sixth, a founder of family; if on the seventh, a barren female; if on the eighth, a son; if on the ninth, a beautiful female; if on the 10th, a lord; if on the 11th, a deformed female; if on the 12th, a fortunate son; if on the 13th, a sinful female wretch; if on the 14th, a virtuous son; if on the 15th, the very goddess of fortune; and if on the 16th, an intelligent son. Here the age, health and mental stability is believed to be determined by the moon's position. As per the *Madhaveeyam*, the auspicious days for Garbhadhaana is specified to obtain perfect female or male kids.

विभावरीषोडशभामिनीनामुदुल्गामादीर्यतुकालमाहुः नाद्याश्चतस्रो त्रनिषेकयोग्याः पराश्चयुग्मास्सुतदाः प्रशस्ताः

(*Madhaveeyam*, Chapter-6 Verses-3, p.92).

After menstruation, if garbhadhaana takes place during even days of 6,8,10,12,14,16 days and odd days of 5,7,9,11,13,15; a perfect healthy woman is causative for male and female baby, respectively. The fundamental attribute of the Moon in Astology is that it gives the most congruent information about the pregnancy of women about the strength of the womb and potency of the couple to produce the progenies. The inadequate human potency has been metaphorically linked with the blind in the moonlight:-

भवत्यपत्यं हि विबीजनामिमे करा हिमांशोर्वीदृशामिवाफलाः

[*Horasastram-I*, 4th Chapter Verse-3, p.149].

The Natal chart of female should be posited with Moon and Mars in even sign or navamsha and for male, the sun and venus in odd sign or navamsha alongwith due trine aspect of Jupiter is causative for children. These expressions are highly informative from the past which is available in several astro-Texts.

CHANDRAYANA FASTING

The vedic culture optionally recommends the Chandrayana Fasting for getting the progenies.

अष्टावष्टौ स भुञ्जीयात् पिंडामध्यदिनेस्थिते नियतात्मा मासमेकं यति चान्द्रायणं त्विदं

(*Sayaneeyam* , Chap 4, Verse 82).

Sayanacharya suggest this fasting under *Karmavipaka* by taking eight numbers of ball of rice by noon for a period of 30 days; chanting prayer, doing penance and offerings to the deities along with mindset of *Shad-Saadhnas*. Astrologers suggest 'Mounavrat' (Total Silence) on Full Moon day provides power and strength of mind. Moon is treated as lovable God and a loving God. *Himaamshu* causes nightfall that strengthens the mind, purifies the blood and is considered as the mother who radiates nectar (*Amrit*). Worship of this *graha* is said to be beneficial for relief from all sorrows, helps in curing mental afflictions. The rays emitting from the Moon especially those who meditate on Mondays, radiate happiness around. In a healthy state of nature, mind and sense faculties are not disturbed and they perform their duties in a healthy way. In order to maintain mental health, one should make all positive efforts. Thus, person who is desirous of his own well being should always perform noble acts (*Sad-vritta*) with proper care.

THE MOON AND THE SOMA

Somalata plant is a hygienic medicinal plant which is used in age old Vedic ritual—*Somayaga* and *somapana* for rejuvenating the mind and body of the ritwiks called *Somakriya*. It is linked with the Moon (Soma) and hence synonymously called the Moon Plant which is being supplied from Kachankurussi Temple, Kollengode, Palghat, Kerala to several yagyas. The Atharva Veda describe the adoration of Lord Indra to drink Soma for rejuvenation.

अभित्वा पूर्वपीतय इन्द्रस्तोमेभिरायवः समीचीनास ऋभवः संस्वरन् रुद्रा गुणन्त पूर्व्या।

(*Atharva Veda* , Khand-20 Sookta 99)

As per the *Nitisara Sangraha* of Kautilya, the Moon has been treated as the seat of nectar and medicinal herbs , that become blemished in presence of the Sun.

अयमृत निधानं नयाकोप्यौषधीनां अमृतमयशरीरः कातियुक्तोपि चन्द्रः
भवति विगतरष्टिमर मण्डलं प्राप्य भानोः परसदननिविष्टः को लघुत्वं नयाति।

Dismal state of Moon in a horoscope is compared with the disfigured morale of man who lives in a stranger's residence. The moon is significant for 'Amritakalas' showering during *Shukla Paksha*, which protect the living beings of this world. The narration by Saint Varahamihira illustrates the reflection of mind and the moon with different synonyms:

सोम औषधीशानामधीपतिः। चन्द्रः कर्पूर काम्पिल्य सुधाम्शु स्वर्णवारीषु।

As per the *Amarakosha*, Moon has been compared with the one who makes a leper happy. The Moon is considered as heavenly body in Vedic astrology, due to its influence on the mind and emotions. It reflects the energy of the Sun and balances its blaze with its fresh, cooling, nourishing and vitalizing light.

MOON ASPECTS IN ASTROLOGY AND ASTRONOMY

The Moon being the satellite of the earth, revolves around its mother planet and follows orbital revolution around the self-luminous father planet (the Sun).

आयं गौः पृश्निरक्रमीत् असदन्मातरं पुरः पितरं च प्रयत्स्वः

(*Taittiriya Samhita*, 1.5.1.3.4)

The Moon is the only satellite of the earth with a distinct nature, while all other satellites have sizes below 1/8th size of their mother planet. Therefore this is the only satellite in the solar system which is very big. Aryabhatta in his masterpiece *Aryabhatiya* (499CE) denotes the casue of eclipse as when the Moon covers the Sun and the great shadow of the earth covers the moon.

छादयति शशी सूर्यं शशिनां महती च भूच्छया।

(*Arybhatiya*, Gola Pada, Verse 37)

QUALITY OF MOON PHASE

On the New Moon day, the non-lit side of the Moon face radiates *Raja-Tama* frequencies towards the Earth. These frequencies decrease on the Full-Moon day due to high illumination. Full-Moon day frequencies augment all activities of the mind to observe the impressions from the sub-conscious mind. That will increase random thoughts in mind. They impose personality defects like anger, greed, frustration and character demoralization. Under these circumstances, Astrology recommends to follow spiritual path to acquire mental satisfaction by means of fasting, japa, tapa, dana, upasana and taking aushadhi especially during Purnima. In Astrology, there are 36 *Chandravela*, 60 *Chandrakriya* and 12 *Chandravastas* notifying the state of moon at the time of birth. These conditions are relevant to everybody in terms of the qualitative aspects of traits as noted by the stalwarts. The supportive verses narrated in *Maadhvaeeyam* as:

इन्दोर्लिप्ता खगाशे भैरहत्वाशिष्टास्तिथ्यग्न्यकैः हत्वाखाभ्रश्रोत्रैरलब्धाः कर्मावस्थावेला श्रेया

(*Maadhvaeeyam* Chapter-2 Verses-72, p.44)

As per *Ganita*, the time factor of birth will be calculated with high precision to note the character of the native based on *sphutas* of the moon.

When the moon is Full or New, the gravitational pull of the moon and sun gets combined. The moon exerts a pull on the Earth on other days too, but it is not as powerful as on the days of the Full Moon and the New Moon.

On New Moon days, people engaged in occult rituals and predominantly *tāmasik* activities are strongly influential to receive black energy in the same manner.

सत्त्वं राजस्तम इति गुणाः प्रकृतिसम्भवाः निबद्धन्ति महाबाहो देहे देहिनमव्ययं (Gita 14/5)

Since the harmful effect of the New and Full Moon is due to a spiritual reason, only spiritual remedies and spiritual practice can help in giving protection.

It is better to avoid taking important decisions or commercial transaction on these days. Enhance the quantity and quality of spiritual practice from two days prior to and continue for two days after the Full Moon and the New Moon day, by chanting respective mantras. During waning period, behavioral changes such as criminal tendency, birth rates, menstrual cycle, alcohol consumption, homework load, and amount of sleep is quite natural.

Mantreswara substantiates the importance of transitional movements of the moon and temporal state of the planets shall be considered specifically.

सर्वेषु लग्नेष्वपि सत्सु चंद्रलग्नप्रधानं खलुगोचारेषु तस्मात्तदृक्षादापि वर्तमानग्राहेंद्रचारैः कथयेत फलानि।
क्रमेण भाग्योदयमर्थहानिर जयं भयं शोकमरोगतां च सुखान्यनिष्टं गदमिष्टसिद्धिं मोदं व्ययं च प्रददाति चन्द्रः।

(*Phaladeepika*, Chapter 26, Verses-1 and 12)

The location of the Moon in the first *bhava* indicates fortune, second-loss of money, third-triumph, fourth-fear and agony, fifth-grief, sixth-salubrious state, seventh-good natured, eighth-dislikes, ninth-illness, tenth-prosperity, eleventh-cheerfulness and twelfth-expenditure.

CONCLUSION

The *Chandogya Upanishad* defines the mind and speech as under:-

मनो वाव वाच्यो भूयो यथा वै द्वे वामलके द्वे वा कोले द्वौ वाक्षौ मुष्टिरनुभवत्येवं वाचं च नाम च मनोऽनुभवति स यदा मनसा मनस्यति मंत्रनधीयीयेत्यथाधीते कर्माणि कुर्वीयेत्यथ कुरुते पुत्राँश्च पशूँश्चेच्छेयेत्यथेच्छत इमं च लोकममुं चेच्छेयेत्यथेच्छते मनो ह्यात्मा मनो ही लोके मनो हे भ्रह्म मन उपास्स्वेति। सा यो मनो ब्रह्मेत्युपास्ते यावन्मनसो गतं तत्रास्य यथाकामचारो भवति यो मनो ब्रह्मेत्युपास्तेऽस्ति भगवो मनसो भूयइति मनसो वाव भूयोस्तीति तन्मे भगवान्ब्रवीत्विति। (p.188)

Mind is exceptionally superior in human life. It is practically our own self which reinforces the selfhood by superimposition of characters within us. Individually, selfhood really does not belong to the mind that is responsible for all the achievement in this universe. The linkage between Sun (Atma) and the Moon (Manas) is substantiated here. The world experience is actually controlled and directed by the mind.

Horaacharya strongly support this description with another hymn 'मूर्तित्वे परिकल्पितः शशभृतो' wherein mind is compared with reflecting image of an idol. One who adorns, the idol, can acquire all the benedicted results from that image. सगुणब्रह्मा प्रकृत्या, मनसो मूर्तित्वे परिकल्पितः मनो यां यां मूर्तिं ध्यायति तत्तद्भावेपरिकल्पित- This can be achieved by performing duties considering its pros and cons, with the help of the mind (*Manas*), intellect (*Buddhi*), sense faculties (*Indriya*) and their application to their respective objects (*Indriyārtha*).

The principal duty of every individual is to elevate the self by using the potency of mind to attain the life objective. Astrology is an alternative way of reflecting over reality with symbolic objectivity. Astrology corroborates influence of astral bodies and measure their effect on mind qualitatively. It is shrouded in mystery that how and when our ancestors realized the connection between moon and menstrual cycles based on moon's phases. The moon does not move from New Moon to the Full in one night, but follows a rhythmical movement and transition from phase to phase.

By the benedictions of the eternal moon, rendering altruistic service become state of the art of Astrology underscoring the imperishable truth - *the mind is everything and what we think, we become.*

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A COMPARATIVE STUDY OF AYE KWEI ARMAH'S NOVEL, *THE BEAUTYFUL ONES ARE NOT YET BORN* AND ARAVIND ADIGA'S NOVEL, *THE WHITE TIGER*

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ABSTRACT

Aye Kwei Armah and Aravind Adiga satirically portray the decadent moral values, the spiritual bankruptcy and rampant corruption in post-independent Ghana and India, respectively. Both these writers have spent a substantial time abroad to familiarize themselves with the American mindset and Eurocentric mindset. Though their countries are ruled by the native people yet their attitude is no better than their colonial white rulers. The sardonic mockery in their novels is directed against the practice of what Frantz Fanon calls 'Black Skin, White Mask'. In both the novels, it has been depicted how post-colonial leaders have become nonchalant not only to the political ideologies but also to the fate of their countries. They have seized to become instruments of change and have stewed themselves in dishonesty and corruption.

Keywords: Corruption, Franz Fanon, national bourgeoisie, post-colonial literature.

INTRODUCTION

The relation between literature and the historical phenomenon of imperialism has been both long and intimate. Literature certainly played a key role in validating imperial rule. Edward Said was never far from the truth when he stated that in literature some issues related to imperialism were "reflected, contested and even for a time decided" (Introduction, *Culture and Imperialism*, xiii). The imperialists use the services of literature for the twin purposes of perpetuating Western ideology and culture in the colony as also exerting important influence on their own people in their motherland. Martin Green underscores that English men savoured the

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tales of Robinson Crusoe for nearly two centuries after the publication of Defoe's novel. Such tales charged "England's will with energy to go out to the world and explore, conquer and rule (*Dreams of Adventure, Deeds of Empire* 3).

Victorian literature was saturated with imperialist notions of racial pride and national greatness. The greatest spokesman of imperialism in literature was Rudyard Kipling. He fervently believed in the civilizing mission of Europe; small wonder he was looked upon as 'the greatest apostle of imperialism of his time' (*Imperialism Reader: Documents and Readings on Modern Expansionism* 87). It was in the early part of the twentieth century that the glory of the British Empire began to wane. Now the colonized writers began to register their protest against the imperial power. They did this not by a miracle but by appropriating both the language and the free form of the colonized people. This marks the beginning of anti-colonial and post-colonial writings in the colonies. It is with the experiences of the former colonized people that post-colonial literature is primarily concerned. Elleke Boehmer define post-colonial literature as "that which critically scrutinizes the colonial relationship" (*Colonial and Post-Colonial Literature: Migrant Metaphors* 20). Post-colonial literature provides open expression to the colonial experience. It includes all the cultures that were affected by the imperial process. In the context of Africa too, there has been a substantial contribution to post-colonial literature.

The post-independent African situation is far from satisfactory. It is always plagued by political conflicts and *coup d'état*. One listens to the sad story of intra-party struggles and corruption even in the highest echelons of power. Needless to say that Africa gained political independence but this independence became synonymous with neo-colonialism. The outcome of these political developments was rueful. Africa was left at the mercy of imperialist forces and multinational corporations. The ramifications of colonialism were so deep that they began to create problems for Africa even after independence. The surprising thing about the African situation is that neither the nationalist leaders nor the subsequent military regimes gave the exploited masses the slightest opportunity to participate in the political processes. On the contrary, these regimes worked in such a manner that they legitimized the role of reactionary forces.

Ayi Kwei Armah raised a controversial storm with the publication of his first novel, *The Beautiful Ones Are Not Yet Born* (1968). Armah was greatly influenced by Frantz Fanon. Fanon's psychological – therapeutic approach was primarily concerned with the states of mind of the colonized. He spoke of the different kinds of frustrations and complexes of the colonized African. Such frustrations do not give the natives an opportunity to view themselves as an entity so that they can gauge their deplorable economic plight. Fanon's treatise entitled *The Wretched of the Earth* (1961) is a socio-psychological work that directs the attention of the black man towards the realization that his alienation is not an individual problem. Its roots can be traced to the inferiority of the black man which is determined both historically and economically. It is on these lines that Armah scripts the novel *The Beautiful Ones Are Not Yet Born*. Armah acknowledged the influence of Fanon in his work and thought process in the following terms:

"The one theorist who has worked out consistent formulations concerning ... a revolutionary

restructuring of African society is Frantz Fanon.

("African Socialism : Utopian or scientific?" *Presence Africaine*, No. 64 (1967) 29)

Critics have delved deep into the general philosophical pessimism of Armah's novels vis-à-vis their thematic treatment. Even a perceptive critic like Charles E. Nnolim regards Armah not only as a 'cosmic pessimist' but also a 'retrogressive pejorist'. The images of decay, degeneration, avarice, dishonesty and corruption goads Nnolim to remark that 'Ghana is one giant stinking lavatory' when he comments on Armah's fiction *The Beautiful Ones Are Not Yet Born*. (*African Literature Today* No.10 207)

Chinua Achebe another great African novelist of repute labels *The Beautiful Ones Are Not Yet Born* 'a sick book'. Achebe castigates Armah for taking up the role of a reformer and a teacher in this novel. Achebe expatiates that the unnamed protagonist in Armah's novel struggles to remain immaculately honest when everyone around him has fallen into the mire of corruption.

Aye Kwei Armah and Aravind Adiga satirically portray the decadent moral values, the spiritual bankruptcy and rampant corruption in post-independent Ghana and India respectively. Both these writers have spent a substantial time abroad to familiarize themselves with the American mindset and Eurocentric mindset. Though their countries are ruled by the native people yet their attitude is no better than their colonial white rulers. The sardonic mockery in their novels is directed against the practice of what Frantz Fanon calls '*Black Skin, White Mask*'

The trustworthiness of Fanon's remark can be seen on a close perusal of Armah's novel *The Beautiful Ones Are Not Yet Born*. The Socialist party of Nkrumah in Ghana created a revolution in the ballot box with tall electoral promises in as much as the Congress party in India initiated the progressive Five –year plans to put the country on the economic map. But politicians and bureaucrats are surging on the wave of corruption, nepotism and dishonesty. As a matter of fact , dishonesty and favouritism have permeated even to the grassroots of the society. It is no longer the White rulers who misappropriate public money for their vested interests but it is the natives who swindle public money of the natives and make a total misuse of government machinery for their selfish interests. Unaccounted wealth accrued from the African natives leads to conspicuous consumption on the part of the members of the ruling Socialist party. All this is done at the cost of public money and the resources of the country. The chasm between the rich and the poor keeps on increasing because even the lower level employees are not free from this nefarious practice.

The nameless protagonist in Armah's novel *The Beautiful Ones Are Not Yet Born* is not great professionally. The only qualification which this ordinary railway clerk has is that he is honest to a fault. On account of his sensitive perception of the society, he is able to make an incisive study of men and their morals. In Aravind Adiga's *The White Tiger*, the protagonist Balram is able to know about every fibre of the Indian society through the manners and modes of the metropolitan chauffeurs. The protagonist of Armah keeps his eyes open to the changing social realities of his times and he always tries to adapt himself to the need of the hour in as much as Balram Halwai of *The White Tiger*.

Armah's unnamed protagonist is reluctant to be a part of the 'national game' (*The Beautiful Ones Are Not Yet Born* 129) because he is never motivated by cupidity of wealth. Small wonder the society dismisses him for his being nonchalant to it. He compares his life with the life of his friend Koomson and his meteoric rise to the apex of fortune. Koomson is the emblem of corruption. Koomson symbolizes the corrupt people of post-independent Ghana. He has thrown all his conscience to the winds to attain prosperous fortune. Ethical considerations have little or no part to play in his life. He prizes his self and does not attach any interest to national issues. Koomson's 'doublespeak' (to use an epithet from Orwell) nature and blatant hypocrisy enables him to enrich himself with 'spoils of office'. It is in a coup that his decline becomes evident. The protagonist has every reason to believe that the problem of his dilemma is resolved and he is fairly sanguine that a new generation of beautiful persons shall be born.

It is needless to say that Armah's protagonist remains inviolate despite the corrupting influence of time. His mother-in-law and his wife Oyo seem to sail with the wind. They almost tease him out of his wits for his not taking bribes. They reiterate time and again that by taking bribes he shall help provide a better standard of life for his family. It is by his sterling integrity that he is able to overcome the compelling pressures of greed. It is none other than his wife Oyo who not only gives him a clean chit but also declares the superiority of her husband over Koomson. This is evident in her plain assertion: I am glad you never became like him. (*The Beautiful Ones Are Not Yet Born* 165). The protagonist is able to foresee a beautiful era in the distant future when Ghana will be peopled with the beautiful ones. Armah sketches his mental graph with the help of a vision:

He was not burdened with any hope as new things were not yet ready to emerge. Someday in the long future a new life would maybe flower in the country, but when it came, it would not choose its instruments the same people who had made a habit of killing new flowers. (*The Beautiful Ones Are Not Yet Born* 159-160)

Armah paints the pathetic condition of a corrupt man who was highly powerful in the not too distant past. His condition has degraded to such an extent that he is compelled by circumstances to escape through a hole in the toilet ----- the toilet which he hated to use. The degraded man follows Koomson to his heels as he embarks on a boat to cross over to the other bank. When he sees his friend off he reads the inscription: *The Beautiful Ones Are Not Yet Born*. Armah's vision of a moral order is evident through the inscription which underscores the victory of virtue over a vicious system.

Armah is relentless towards the corrupt politician. The corrupt politician does not escape punishment even at the end. Here we appreciate the novelist's dramatic method of characterization. Armah makes a contrasted study of a conscientious law abiding citizen and his friend who flagrantly violates all standards of morality and displays naked cupidity of wealth. Though the unnamed protagonist sees people about him scrambling for a bit of cash, he refuses to become a votary of this godless civilization founded on money and material pursuits:

The man was left alone with thoughts of the easy slide, and how everything said there was something miserable, something unspeakably dishonest about a man who refused to take and

to give what everyone around was busy taking and giving; something unnatural, something very cruel, something that was criminal for who but a criminal could ever be left with such a feeling of loneliness? (*The Beautiful Ones Are Not Yet Born* 31-32)

Post-independent Ghana is ruled by politicians who show their unbridled lust for power. There is a grain of truth in the remark of Lord Acton, 'Power corrupts and absolute power corrupts absolutely'. A man wins a lottery but to pocket the prize money, he needs to bribe the police officials. It is his tormenting agony which adds to his psychological crisis, "it costs you more money if you go to the police". The situation is identical in post-independent India where there is wide panoply of justice once the police intervenes in it. The reaction of the man in a highly corrupt society is certainly eye opening for he states that : The man realizes that in a society that has become highly corrupt, "it is terrifyingly plain that in these times honesty could be a social vice". (*The Beautiful Ones Are Not Yet Born* 51)

The protagonist makes a contrasted study of the exploitation of the white men (colonizers) and the exploitative ways of the native rulers. The methods of governance of the native rulers of Ghana square with the methods of governance of the white men. In the past the white men exploited the African natives. Now it is the turn of the native rulers to exploit their countrymen. Armah's satire becomes pungent when he states that only the cowards and fools are honest:

When all around him the whole world is never tired of saying there were only two types of men who took refuge in honesty – the cowards and the fools...Very often these days he was burdened with the hopeless, impotent feeling that he was not just one of these, but a hopeless combination of the two. (*The Beautiful Ones Are Not Yet Born* 51)

Aravind Adiga's novel *The White Tiger* is an eye opener since it exposes the ugly features of post-colonialism. To a large extent, Adiga is an anti-colonial. He highlights the condition of post-colonial India or to put it appropriately post-independent India. The colonial masters had left the Indian shores in the forties of the last century but their place has been taken by the landlords of the village. The landlords own all the wealth and resources and so they dominate over the poor villagers. As the landlords are the owners of the factors of production, they exploit the labourers in ways more than one. They deprive the farmers of their legitimate wages and exploit the women sexually. Their cupidity for wealth and their covetousness have motivated the villagers to remember them by the sobriquet which they have given them. The greediest of the landlords is Buffalo; there are other landlords with different animal names, viz. the Stork, the Wild Boar and the Raven. Stork was named so because he 'took a cut of every catch of fish caught by villagers'. Raven was called so because he 'liked to dip his beak into their back side'. Just as wild animals gobble up the natural vegetation, similarly, the landlords eat up the produce of the land and deprive the farming hands from having even a small portion of the agricultural produce. In a post-colonial country, all the regions are allowed to grow and prosper together and all the people enjoy the same civic amenities. But this is not the case in Laxmangarh where the villagers lack the basic amenities like electricity, drinking water, sanitation and nutrition:

‘Children ----- too lean and short for their age, with oversized heads from which vivid eyes shine, like the guilty conscience of the Government of India.’ (*The White Tiger* 20)

The writer makes potshots at the poor standards of health, hygiene and sanitation of the village. The commodities sold in the shops of the village are either stale or below the cognizable standard:

There is one street in the village; a bright strip of sewage splits it into two. On either side of the ooze, a market: three more or less identical shops selling more or less identical adulterated and stale items of rice, cooking oil, kerosene, biscuits, cigarettes and jaggery. (*The White Tiger* 19)

Proper opportunities of employment are denied to them. Since they do not have proper employment, they are compelled to work as farm labourers, canteen boys in tea-shops, or rickshaw-pullers. In a tone of sardonic mockery to the landlords and in a mood smacking of pity for the labourers, Adiga equates them with spiders. The authenticity of the metaphor of the spider can be seen in this. Just as the spider spins web on walls and crevices and the webs do not have any productive value, similarly, the service rendered by tea-shop boys and rickshaw-pullers and the wages earned by them are not linked to productivity:

“human spiders that go crawling in between and under the tables with rags in their crushed uniforms, sluggish, unshaven in their thirties or forties but still ‘boys’. (*The White Tiger* 51)

Adiga shows the hollowness of the anti-poverty programme of the government when he cites the instance of the sick and needy rickshaw-pullers like Vakeel Halwai and Kishan Halwai dying speedy deaths from consumption owing to lack of medical treatment in government hospitals. Adiga narrates how Vakeel got “*tuberculosis and died on the floor of a government hospital, waiting for some doctor to see him, spitting blood on this wall and that!*” (*The White Tiger* 86).

The corruption in the running of government hospitals prevents the fruits of medical treatment from reaching the poor masses. It is through the mouth of a Muslim character that we learn about the dishonesty in the appointment of doctors in government hospitals. Whenever the place of a doctor falls vacant, the post is filled by auctions that are done at very exorbitant rates. The newly appointed doctor parts one-third of his slavery to the Medical Superintendent. The Medical Superintendent allows the newly appointed doctor to work in private hospitals as a return for the monthly bribe. Even if the new doctor does not attend to his duties at the government hospital, the Medical Superintendent presents a fictitious report of his regular attendance by his ticking the attendance register.

The Government of India has presented a rosy picture of the village of Laxmangarh and has glorified it incredibly. Though the Prime Minister has underscored that the standards of civic amenities, health and hygiene measure up to the standards laid down by the United Nations Organization and other organizations yet the picture is far from satisfactory. Adiga’s incisive irony brings out the difference between appearance and reality in Balram’s letter to the Chinese Premier:

“Your Excellency, I am proud to inform you that Laxmangarh is your typical Indian

village paradise, adequately supplied with electricity, running water, and working telephones; and that the little children of my village, raised on a nutritious diet of meat, egg, vegetables, and lentils, will be found, when examined with tape measure and scales, to match up to the minimum height and weight standards set up by the United Nations and other organizations whose treaties our prime minister has signed and whose forums he so regularly and pompously attends". (*The White Tiger* 19)

As Balram shifts from Dhanbad to Delhi, he becomes aware of "the city of immense possibilities" with a feeling of naïve crudity. He sees his shift as a sort of cultural dislocation: from his native village roots to a technological society. His shift is not to be seen as a physical transfer alone. It is also suggestive of his change on the plane of his mind and sensibility. He presents a glorified picture of the nation's capital, the seat of the parliament and what not, but his euphoria dies down when he reflects on the slums adjoining the rich colonies of Delhi. The picture of reality is presented with shades of Adiga's sarcasm:

"They have come from the darkness too, you can tell by their thin bodies, filthy faces, animal-like way, they live under the high bridges and over-passes, making fires and washing and taking lice out of their hair while the cars roar past them." (*The White Tiger* 119-120)

In a post-colonial country like India, the idealism of Gandhi, the apostle of peace and non-violence and the moral teachings of Buddha, should have some relevance. But the drivers are so frustrated by the evil-doings of their masters that all the tall idealism of sages reflected in their bronze statues have no impact on them. They manage to procure English wine from Embassies where tax-free wine is supplied, albeit unofficially. These inhabitants of light as they consider themselves in Delhi are strangers to real culture and refinement, if their "womanizing" ways are anything to go by. It would therefore, be in the fitness to describe Delhi as the city with affluence atop and visible darkness below.

Balram finds a striking contrast between the joviality of his native town, and the "boredom" of Delhi. It is Balram's statement of fact: "*you can sneak a bottle of Indian liquor into the car --- boredom makes drunks of so many honest drivers.*" (*The White Tiger* 149)

Balaram gathers some bitter experience about worldly life during his stay in Delhi. In his opinion the trustworthiness of servants is the basis of Indian economy. He uses the analogy of trapped chickens in a rooster coup. Balaram does not condescend to remain in this coup forever. He dreams of making it big in the entrepreneurial world. In the process he breaks the trust of his master, Ashok Sharma and makes capital of his master's munificence but at the same time he grows revengeful when Pinky's madam, the wife of Ashok meets with a car accident and Balaram is persuaded to own the responsibility. Later when Balaram is ensconced as an entrepreneur in Bangalore, his vehicle collides with a cyclist on the road but Balaram manages to save his skin by bribing the police. Balaram condones the dishonesty and corruption of entrepreneurs in a post-colonial country particularly in the heydays of the corporate sector.

Frantz Fanon is critical of the national bourgeoisie because they blindly follow the exploitative ways of their past masters:

The national bourgeoisie since it is stung up to defend its immediate interests, and sees no further than the end of its nose, reveals itself incapable of simply, bringing national unity into being or of building up the nation on a stable and productive basis (*The Wretched of the Earth* 128).

When we make an analysis of the two novels, *The Beautiful Ones Are Not Yet Born* and *The White Tiger*, we find that both the novelists Armah and Adiga like to expose the degeneration of moral values in the post - independent countries Ghana and India, respectively. It is the irony in the nation's history (Ghana and India) that after independence the great masses and their leaders have become nonchalant not only to the political ideologies but also to the fate of their countries. They have seized to become instruments of change and have stewed themselves in dishonesty and corruption.

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