

## Comparative Analysis of FDI in India and Brics Nations

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**Abstract :** The research paper tries to bring out the comparative study of flow of FDI in India and its comparison with BRICS nations. It gives the historical back drop of the various trends in FDI of various countries. It further gives the ranking to various country based on the flow of FDI.

**Findings:** China attracted highest FDI, followed by Brazil (stands second), Russia (stands third), India (stands fourth) and South Africa (stands fifth).

### **Introduction:**

All the countries in the world are continuously striving for rapid economic growth and as a result they are inviting more and more investments by allowing foreign investors to invest in their land. There are several factors that help or hinder the economic growth of a country, and the factors, that are often identified as stimulants (World Investment Report UNCTAD, 1994) for a country's growth are: (1) Large amounts of investment capital, (2) Advanced Technologies, (3) Highly skilled labor, (4) Well-developed transportation and communication infrastructure, (5) Stable and supportive political and social institutions, (6) Low tax rates, and (7) Favorable regulatory environment. Differences in the growth rates of the countries are explained by the differences in the endowments or levels of these factors (Dondeti and Mohanty, 2007).

Though, FDI is seen as a vital factor in inducing growth rate, however, it will only lead to growth if its inflows are properly managed (Bezuidenhout, 2009). The degree up to which FDI can be exploited for economic development depends on conduciveness of economic climate. In the absence of such a climate FDI may be counterproductive; it may thwart rather than promote growth.

In this article the FDI inflows of the BRICS nations are compared which also indicates the economic growth of the BRICS nations.

### **Objectives:**

- 1) To compare the FDI in India with the World as a whole.
- 2) To compare the FDI in India with China.
- 3) To compare the FDI in India with Russia
- 4) To compare the FDI in India with Brazil
- 5) To compare the FDI in India with South Africa
- 6) To compare the FDI in India with BRICS Nations and rank them.

### **Comparative Analysis of India V/s. World**

#### **FDI in India**

At the time of independence, the attitude towards foreign capital was one of fear and suspicion. This was natural on account of the previous exploitative role played by it in 'draining away' resources from this country.

The suspicion and hostility found expression in the Industrial Policy of 1948 which, though recognizing the role of private foreign investment in the country, emphasized that its regulation was necessary in the national interest. Because of this attitude expressed in the 1948 resolution, foreign capitalists got dissatisfied and as a result, the flow of imports of capital goods got obstructed. As a result, the prime minister had to give following assurances to the foreign capitalists in 1949:

1. No discrimination between foreign and Indian capital. The government of India will not differentiate between the foreign and Indian capital. The implication was that the government would not place any restrictions or impose any conditions on foreign enterprise which were not applicable to similar Indian enterprises.

2. Full opportunities to earn profits. The foreign interests operating in India would be permitted to earn profits without subjecting them to undue controls. Only such restrictions would be imposed which also apply to the Indian enterprises.
3. Guarantee of compensation. If and when foreign enterprises are compulsorily acquired, compensation will be paid on a fair and equitable basis as already announced in government's statement of policy.

Though the Prime Minister stated that the major interest in ownership and effective control of an undertaking should be in Indian hands, he gave assurance that there would be "no hard and fast rule in this matter."

By a declaration issued on June 2, 1950, the government assured the foreign capitalists that they can remit the he foreign investments made by them in the country after January 1, 1950. In addition, they were also allowed to remit whatever investment of profit and taken place. Despite the above assurances, foreign capital in the requisite quantity did not flow into India during the period of the First plan. The atmosphere of suspicion had not changed substantially. However, the policy statement of the Prime Minister issued in 1949 and continued practically unchanged in the 1956 Industrial Policy Resolution, had opened up immense fields to foreign participation. In addition, the trends towards liberalization grew slowly and gradually more strong and the role of foreign investment grew more and more important.

The government relaxed its policy concerning majority ownership in several cases and granted several tax concessions for foreign personnel. Substantial liberalization was announced in the New Industrial Policy declared by the government on 24th July 1991 and doors of several industries have been opened up for foreign investment.

From then India's inward investment regime went through a series of changes since economic reforms were ushered in two decades back. The expectation of the policy makers was that an "investor friendly" regime will help India establish itself as a preferred destination of foreign investors. These expectations remained largely unfulfilled despite the consistent attempts by the policy makers to increase the attractiveness of India by further changes in policies that included opening up of individual sectors, raising the hitherto existing caps on foreign holding and improving investment procedures. But after

2005-06, official statistics started reporting steep increases in FDI inflows.

The following table shows year-wise inflow of FDI and percentage of the world FDI, inflows in India.

**Table 1.1**  
**Year-wise Inflow of FDI in India**  
**Amount in Million**

YEAR	INDIA	PERCENTAGE OF WORLD
1980	451.75	0.0646
1981	543.67	0.0725
1982	615.75	0.0785
1983	621.39	0.0743
1984	640.63	0.0740
1985	746.72	0.0756

1986	864.45	0.0761
1987	1076.77	0.0805
1988	1168.02	0.0764
1989	1420.12	0.0772
1990	1656.81	0.0796
1991	1731.81	0.0739
1992	1983.81	0.0818
1993	2515.81	0.0964
1994	3489.81	0.1224
1995	5640.81	0.1663
1996	8165.81	0.2110
1997	10630.10	0.2385
1998	14065.36	0.2541
1999	15426.10	0.2284
2000	16338.95	0.2194
2001	19675.92	0.2635
2002	25826.28	0.3437
2003	32549.19	0.3462
2004	38060.24	0.3431
2005	43201.58	0.3744
2006	70870.28	0.5123
2007	105790.49	0.5927
2008	125211.65	0.8187
2009	167023.18	0.9305
2010	197939.29	1.0341
<b>TOTAL</b>	<b>915942.55</b>	<b>-</b>
<b>AVERAGE</b>	<b>29546.53</b>	<b>0.2607</b>

Source: UNCTAD

The above table shows that the inflow of India is continuously increasing. From the year 1980, the inflow of FDI was increasing continuously at slower rate. As mentioned above, India made new Industrial Policy in the year 1991 and opened up the door for foreign investment. Therefore, the speed of FDI inflow in India was increased. From then the policy maker continuously made favourable changes in the policies of FDI to accelerate it, as a result of this there was a rapid increase in the inflow of FDI in India from the year 2006. FDI Inflows in India During 2005- 2006 has registered significant growth in comparison to the previous year. FDI Inflows in India During 2005- 2006 has increased to such an extent that the country has ranked 4th among all the recipients of foreign direct investment in 2006. In the year 2006, the India attracted 0.5123% of the world FDI. In the year, 2010, the total inflow of FDI was \$ 197939.29 million. India attracted 1.0341% of World FDI because of the positive policy of the government for accelerating FDI inflow in India. Within the span of 4 years i.e. from 2006 to 2010, the India attracted the double percentage of world FDI, as it was attracted 0.5123% world FDI in the year 2006 and was able to attract 1.0341% of world FDI in the year 2010.

The following charts show the year-wise inflow of FDI and percentage of world FDI.

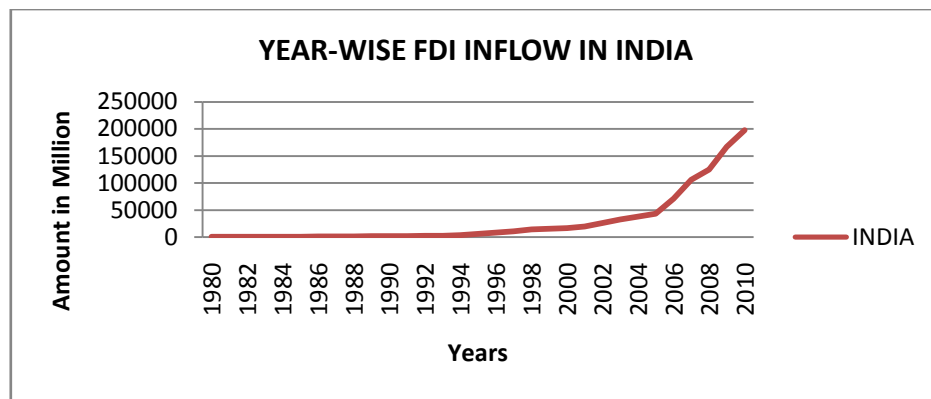


Figure 1: Year-wise Inflow of FDI

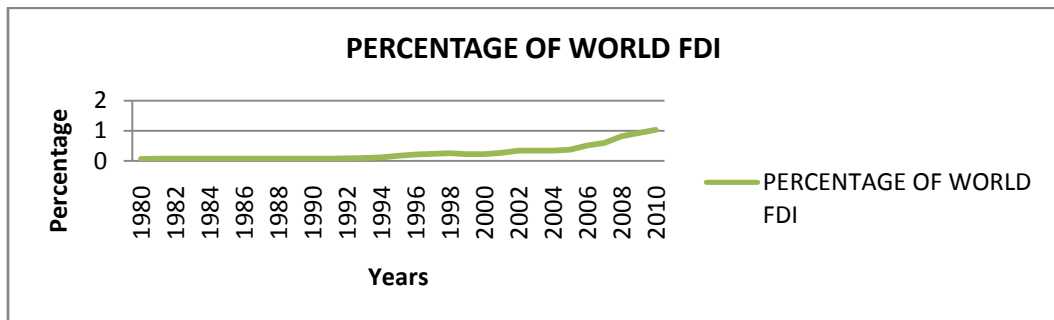


Figure 2: Year-wise percentage of World FDI inflow in India

**Comparative Analysis of India V/s. China  
FDI in China**

In late 1970s, China underwent through economic reformation which did pay well when the current situation is analyzed. The most important of the reforms was the opening of foreign trade and investment in China.

Foreign Direct Investment in China, in 1980s was limited to only joint venture partnerships with the Chinese firms. The policies were basically export oriented. But after 1990, things changed gradually and steadily, as China allowed the foreign investors to manufacture and sell a wide range of goods in the Chinese domestic market. China saw wholly foreign owned enterprises, which can be called as the true form of foreign direct investment, producing goods for Chinese as well as foreign consumers.

Today, China is one of the leading foreign direct investment recipients in the world. The following table shows year-wise inflow of FDI in India and China.

**Table 1.2**  
**Year-wise Inflow of FDI in India and China**  
**Amount in Million at current price**

<b>YEAR</b>	<b>INDIA</b>	<b>Percentage of World FDI in India</b>	<b>CHINA</b>	<b>Percentage of World FDI in China</b>
1980	451.75	0.0646	1074.00	0.1537
1981	543.67	0.0725	1339.00	0.1787
1982	615.75	0.0785	1769.00	0.2256
1983	621.39	0.0743	2685.00	0.3210
1984	640.63	0.0740	4104.00	0.4740
1985	746.72	0.0756	6060.00	0.6136
1986	864.45	0.0761	8303.00	0.7307
1987	1076.77	0.0805	10617.26	0.7940
1988	1168.02	0.0764	13810.94	0.9035
1989	1420.12	0.0772	17203.51	0.9360
1990	1656.81	0.0796	20690.62	0.9941
1991	1731.81	0.0739	25056.96	1.0687
1992	1983.81	0.0818	36064.47	1.4868
1993	2515.81	0.0964	63579.42	2.4370
1994	3489.81	0.1224	74151.00	2.6000
1995	5640.81	0.1663	101098.00	2.9798
1996	8165.81	0.2110	128069.00	3.3093
1997	10630.10	0.2385	153995.00	3.4552
1998	14065.36	0.2541	175156.00	3.1641
1999	15426.10	0.2284	186189.00	2.7568
2000	16338.95	0.2194	193348.00	2.5968
2001	19675.92	0.2635	203142.00	2.7208
2002	25826.28	0.3437	216503.00	2.8812
2003	32549.19	0.3462	228371.00	2.4292

2004	38060.24	0.3431	245467.00	2.2127
2005	43201.58	0.3744	272094.00	2.3580
2006	70870.28	0.5123	292559.00	2.1149
2007	105790.49	0.5927	327087.00	1.8325
2008	125211.65	0.8187	378083.00	2.4720
2009	167023.18	0.9305	473083.00	2.6355
2010	197939.29	1.0341	578818.00	3.0240
<b>TOTAL</b>	<b>915942.55</b>	<b>-</b>	<b>4439570.18</b>	
<b>AVERAGE</b>	<b>29546.53</b>	<b>0.2607</b>	<b>143211.94</b>	<b>1.8032</b>

Source: UNCTAD

The above table shows that the inflow of FDI in china is greater than the inflow of FDI in India. In china, the inflow of FDI was continuously increasing till 1992. In the year 1992 China introduced a new legislation and allowed the foreign investors to manufacture and sell a wide range of goods in the Chinese domestic market, as a result of this in 1993, the FDI inflow increased rapidly almost doubled. In the year 2007, due to financial crises, the companies started selling their shares and invested the amount in their host countries; because of this the inflow was affected in China. In India the inflow of FDI was increasing slowly till 2005. But from the year 2006, there was a rapid increase in the inflow of FDI. In the year 2006, the India attracted 0.5123% of the world FDI. In the year, 2010, the total inflow of FDI was \$ 197939.29 million. India attracted 1.0341% of World FDI because of the positive policy of the government for accelerating FDI inflow in India while in China was able to attract 3.0240% of world FDI. In the last five years India attracted on an average 0.7777% of world FDI and China attracted approx. 2.4158% of the world FDI. In the year 1993, the FDI inflow in China was almost 25 times more than India. But now due to positive policy of the Indian government, the china is getting only 3 times more than FDI as compared to India.

The following charts show the year-wise inflow of FDI in India and China.

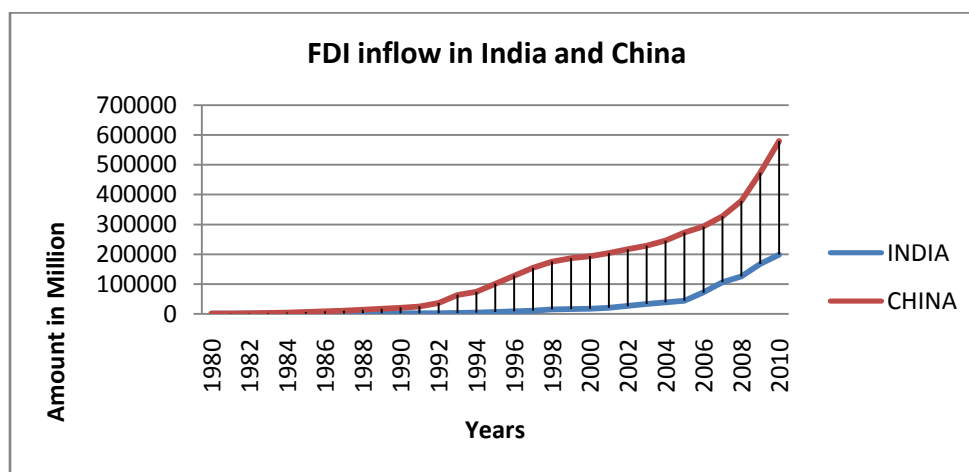


Figure 3: FDI inflow in India and China

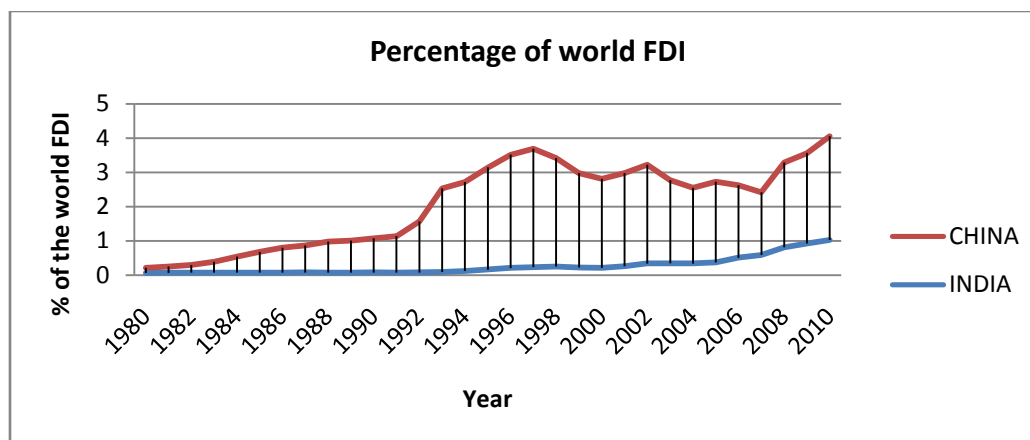


Figure 4: Percentage of the world FDI inflow

### Comparative Analysis of India V/s. Russia FDI in Russia

The largest republic of the erstwhile Soviet Union, Russia has also been witness to contrasting political structures. As a part of the Soviet Union, it experienced an authoritarian one-party communist regime from 1917-1990. Under its rule, critical decisions related to production, consumption, and distribution were centrally planned and enforced.

Democracy made its first entry into Russia in 1991 when the Soviet Union disbanded itself into numerous independent states called the Commonwealth of Independent States (CIS). In that year, Boris Yeltsin emerged as the first democratically elected President of Russia.

After the tumultuous transition years from communism to capitalism spanning the 1990s, the Russian economy has been on a steady growth path since the onset of the 21st century, barring the recessionary phase during the latter half of 2008.

The following table shows year-wise inflow of FDI in India and Russia.

**Table 1.3**  
**Year-wise Inflow of FDI in India and Russia**  
**Amount in Million at current price**

YEAR	INDIA	Percentage of World FDI in India	RUSSIA	Percentage of World FDI in Russia
1980	451.75	0.0646	-	-
1981	543.67	0.0725	-	-
1982	615.75	0.0785	-	-
1983	621.39	0.0743	-	-
1984	640.63	0.0740	-	-
1985	746.72	0.0756	-	-

1986	864.45	0.0761	-	-
1987	1076.77	0.0805	-	-
1988	1168.02	0.0764	-	-
1989	1420.12	0.0772	-	-
1990	1656.81	0.0796	-	-
1991	1731.81	0.0739	-	-
1992	1983.81	0.0818	0.00	0.00
1993	2515.81	0.0964	183.00	0.0070
1994	3489.81	0.1224	3279.50	0.1150
1995	5640.81	0.1663	5601.20	0.1651
1996	8165.81	0.2110	8144.70	0.2105
1997	10630.10	0.2385	13611.90	0.3054
1998	14065.36	0.2541	12911.90	0.2333
1999	15426.10	0.2284	18302.70	0.2710
2000	16338.95	0.2194	32204.00	0.4325
2001	19675.92	0.2635	52919.00	0.7088
2002	25826.28	0.3437	70884.00	0.9433
2003	32549.19	0.3462	96729.00	1.0289
2004	38060.24	0.3431	122295.00	1.1024
2005	43201.58	0.3744	180228.00	1.5618
2006	70870.28	0.5123	265873.00	1.9220
2007	105790.49	0.5927	491052.00	2.7511
2008	125211.65	0.8187	215755.00	1.4107
2009	167023.18	0.9305	381962.00	2.1279
2010	197939.29	1.0341	423150.00	2.2108
<b>TOTAL</b>	<b>915942.55</b>	<b>-</b>	<b>2395085.9</b>	<b>-</b>
<b>AVERAGE</b>	<b>29546.53</b>	<b>0.2607</b>	<b>77260.84</b>	<b>-</b>

Source: UNCTAD

Soviet Union experienced an authoritarian one-party communist regime from 1917-1990.



Under its rule, critical decisions related to production, consumption, and distribution were centrally planned and enforced. Democracy made its first entry into Russia in 1991 when the Soviet Union disbanded itself into numerous independent states called the Commonwealth of Independent States (CIS). In that year, Boris Yeltsin emerged as the first democratically elected President of Russia. In 1992, Russia opened the door for FDI to develop the economy of the country. In the year 1993 the total FDI inflow was 183 million US \$. In the coming year there was huge increased in the FDI inflow from 183 to 3279.50 million US \$. In the year 1993 the India's FDI inflow was Rs.2515.81 US million \$. It means the Russia's FDI inflow was approx. 7% of India's FDI inflow in the year 1993. But in the year 1994 the FDI inflow is Russia is become almost equal to FDI inflow in India. It was a great achievement of Russia.

There was a increase in FDI inflow in both the countries, but the increase of FDI inflow in Russia is greater than India. In the year 1997, Russia was able to attract more FDI as compared to India. The FDI inflow in Russia was 13611.90 while FDI inflow in India was 10630.10 million US \$ in the year 1997. In the year 1998, the FDI inflow in Russia was decrease but able to attracted the international investor from the year 1999. In the year 2010 the FDI inflow in Russia was more than doubled of FDI inflow in India. It was shown that the FDI inflow was increased rapidly in Russia as compared to India.

The following charts show the graphical representation of the FDI inflow in India and Russia and the percentage of the World FDI.

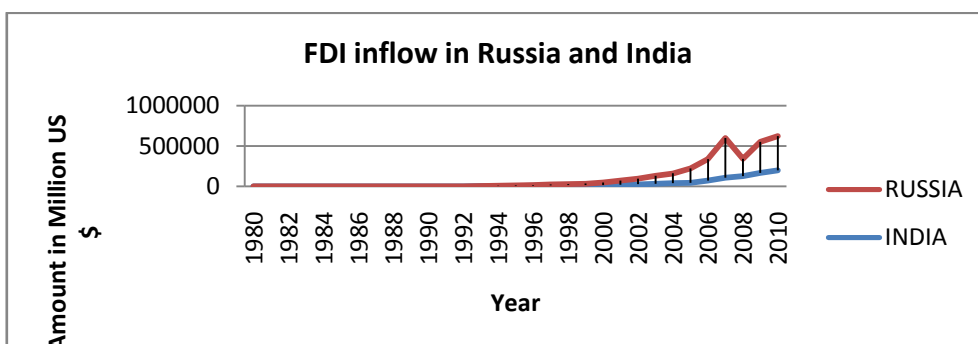


Figure 5: FDI inflow in India and Russia

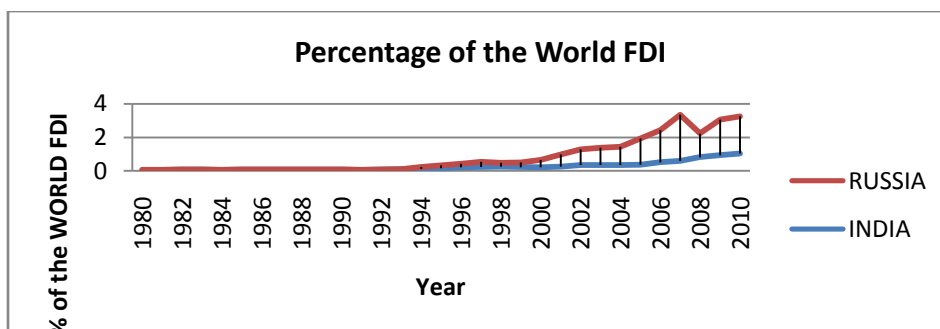


Figure 6: Percentage of the world FDI inflow

**Comparative Analysis of India V/s. Brazil  
FDI in Brazil**

Historically, the productive sector of the Brazilian economy has included a broad-based, well entrenched international component. In the early twentieth century (British hegemony), Brazil was

already one of the major destinations for foreign capital. In 1913, it accounted for 3.9% of Great Britain's global stock of direct investments (Gonçalves and others, 1998, p. 165). This placed Brazil in seventh position, preceded only by Argentina (a major exporter of wheat, beef and wool) and five other countries that were still, or had been, British colonies.

After the Second World War, Brazil retained its position as one of the foremost FDI destinations in the world. According to United Nations statistics on cumulative FDI, Brazil was, in the early 1980s, the seventh most important FDI destination in the world, exceeded only by developed countries.

Over the last 50 years, foreign direct investment (FDI) and transnational corporations have played an important role in Brazil's economy. Currently, Brazil's gross domestic product (GDP) is the eighth highest in the world, and its production capacity is complex and relatively sophisticated compared with the patterns of other developing countries. The development of this industrial base is, to some extent, the result of the deep and wide-ranging penetration of foreign capital in the Brazilian economy, principally in manufacturing.

Since the mid-1990s, government authorities have relied on FDI inflows to assist them in achieving three major objectives, relating to external adjustment, adjustment of public accounts and modernization of the production base and services, namely:

- FDI inflows should be used to finance the balance-of-payments deficit, which, in 1998, is expected to exceed 4% of GDP.
- FDI should be used to help finance public accounts—which are expected to show a nominal deficit of the order of 7% of GDP for 1998—through foreign investor involvement in the privatization of State enterprises.
- Foreign investors and transnational corporations should channel new investments into modernizing the Brazilian production facilities and services to enhance their productivity and competitiveness

The following table shows year-wise inflow of FDI in India and Russia.

**Table 1.4**  
**Year-wise Inflow of FDI in India and Brazil**  
**Amount in Million at current price**

<b>YEAR</b>	<b>INDIA</b>	<b>Percentage of World FDI in India</b>	<b>BRAZIL</b>	<b>Percentage of World FDI in Brazil</b>
1980	451.75	0.0646	17480.03	2.5009
1981	543.67	0.0725	19246.71	2.5691
1982	615.75	0.0785	21176.38	2.7011
1983	621.39	0.0743	22302.13	2.6662
1984	640.63	0.0740	22843.54	2.6381
1985	746.72	0.0756	25664.48	2.5986
1986	864.45	0.0761	27897.71	2.4550
1987	1076.77	0.0805	31458.04	2.3526

1988	1168.02	0.0764	32031.00	2.0955
1989	1420.12	0.0772	34286.53	1.8654
1990	1656.81	0.0796	37143.41	1.7846
1991	1731.81	0.0739	38580.25	1.6455
1992	1983.81	0.0818	47262.07	1.9484
1993	2515.81	0.0964	54593.72	2.0926
1994	3489.81	0.1224	61825.90	2.1678
1995	5640.81	0.1663	47886.62	1.4114
1996	8165.81	0.2110	54846.02	1.4172
1997	10630.10	0.2385	69721.50	1.5643
1998	14065.36	0.2541	99505.44	1.7975
1999	15426.10	0.2284	102330.70	1.5152
2000	16338.95	0.2194	122250.31	1.6419
2001	19675.92	0.2635	121948.39	1.6333
2002	25826.28	0.3437	100862.53	1.3423
2003	32549.19	0.3462	132818.12	1.4128
2004	38060.24	0.3431	161258.84	1.4536
2005	43201.58	0.3744	181344.35	1.5715
2006	70870.28	0.5123	220620.86	1.5949
2007	105790.49	0.5927	309667.99	1.7349
2008	125211.65	0.8187	287696.89	1.8810
2009	167023.18	0.9305	400807.74	2.2329
2010	197939.29	1.0341	472578.52	2.4690
<b>TOTAL</b>	<b>915942.55</b>	<b>-</b>	<b>3379936.72</b>	<b>-</b>
<b>AVERAGE</b>	<b>29546.53</b>	<b>0.2607</b>	<b>109030.22</b>	<b>1.9598</b>

Source: UNCTAD

The FDI inflows into Brazil favored the capital intensive or technology intensive industrial production sectors of the economy. In 1980, the FDI inflow in Brazil was 17480.03 US million \$. Brazil stands seventh position in the world attracted highest FDI. Brazil the FDI inflow was between

2% to 3% of the total world FDI inflows. It slipped from seventh place in 1980, to eleventh in 1990, and twentieth in 1995. From 1980 to 1995, other developing countries, such as China, Mexico, Singapore and Indonesia attracted substantial inflows, thus becoming the leading FDI destinations (UNCTAD, 1996, pp. 239-243). Brazil's percentage share of the global stock of FDI fell from 2.5009% in 1980 to 1.4114% in 1995.

Even in an era when industrialization was synonymous with import substitution, Brazil had a FDI regulatory regime, which was far from discriminatory. In comparison to the widespread variety of restrictions imposed on the country's imports, investment activity attracted a small number of horizontal reservations and some standard sectoral limitations.

FDI flow into Brazil was encouraged by the existence of a vast, dynamic home market insulated by a host of trade barriers. Since the very beginning the Brazilian government prompted the market seeking behavior of foreign investments. A protectionist trade policy was put in place to guarantee the profitability of these investments.

In the year 2010, FDI inflow of Brazil was almost 250% of the FDI inflow in India. This indicates that Brazil attracted more FDI as compared to India.

The next figure shows the graphical representation of FDI inflow in India and Brazil and the percentage of the world FDI inflow.

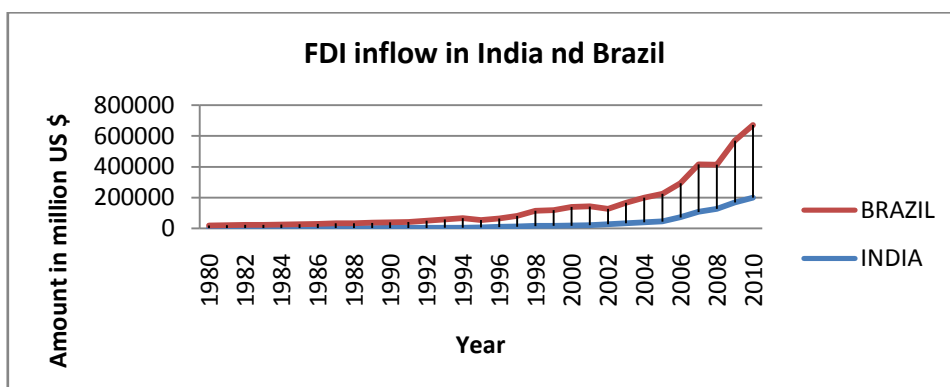


Figure 7: FDI inflow in India and Brazil

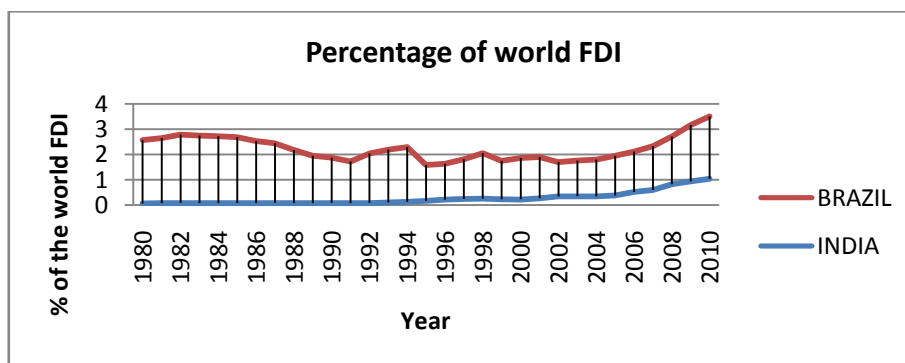


Figure 8: Percentage of the world FDI inflow

**Comparative Analysis of India V/s. South Africa**

In the year 2010, the South Africa also became the part of BRIC nation and now it is known as

BRICS.

The following table shows year-wise inflow of FDI in India and South Africa.

**Table 1.5**  
**Year-wise Inflow of FDI in India and South Africa**  
**Amount in Million at current price**

YEAR	INDIA	Percentage of World FDI in India	SOUTH AFRICA	Percentage of World FDI in South Africa
2010	197939.29	1.0341	132396.00	0.6917

BRIC summits were held in Russia in 2009 and in China in 2010. In these summits the South Africa was also included in BRIC nations and now it becomes BRICS.

**From BRIC to BRICS**

BRIC, to be known as BRICS now that South Africa has become a member, is a powerful bloc of emerging economies which, according to the International Monetary Fund, will account for as much as 61% of global growth in three years' time.

International Relations and Cooperation Minister Maite Nkoane-Mashabane, briefing journalists in Pretoria last Tuesday, said South Africa would both benefit from and contribute to the grouping's ambitious goal of "expanding inter-trade amongst BRICS countries to US\$400-billion to \$500-billion by the year 2015."

South Africa brought into BRICS "not only South Africa but a larger African market of a billion people," Nkoane-Mashabane said, noting that trade between BRIC and Africa had grown significantly over the last decade.

The above table shows that the South Africa attracted 0.6917% of the world FDI and India attracted 1.0341% of the world FDI. It is concluded that FDI inflow in India was more than FDI inflow in South Africa.

The following figures shows the graphical representations of the FDI inflow in India and South Africa and percentage of world FDI inflow.

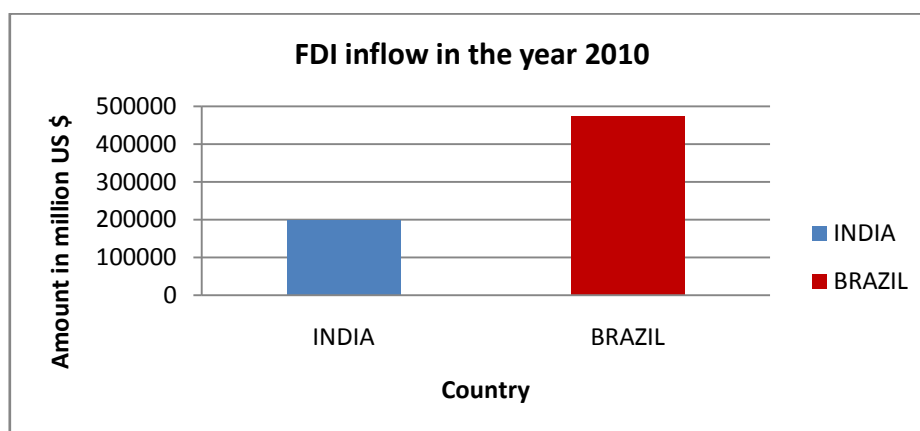


Figure 9: FDI inflow in India and Brazil

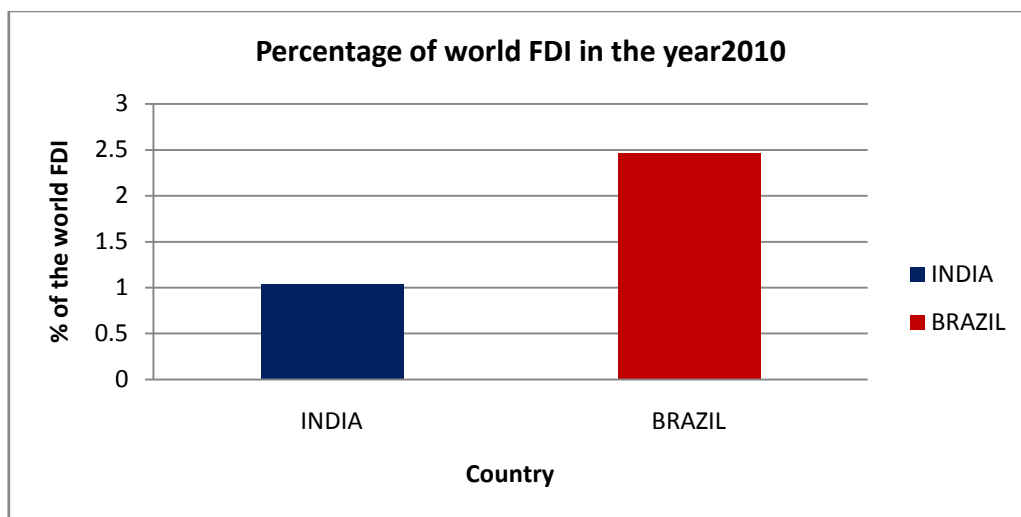


Figure 10: Percentage of world FDI inflow

**Comparative Analysis of India V/s. BRICS**

YEAR	INDIA	CHINA	RUSSIA	BRAZIL	SOUTH AFRICA
1980	451.75	1074.00	-	17480.03	-
1981	543.67	1339.00	-	19246.71	-
1982	615.75	1769.00	-	21176.38	-
1983	621.39	2685.00	-	22302.13	-
1984	640.63	4104.00	-	22843.54	-
1985	746.72	6060.00	-	25664.48	-
1986	864.45	8303.00	-	27897.71	-
1987	1076.77	10617.26	-	31458.04	-
1988	1168.02	13810.94	-	32031.00	-
1989	1420.12	17203.51	-	34286.53	-
1990	1656.81	20690.62	-	37143.41	-
1991	1731.81	25056.96	-	38580.25	-
1992	1983.81	36064.47	0.00	47262.07	-
1993	2515.81	63579.42	183.00	54593.72	-
1994	3489.81	74151.00	3279.50	61825.90	-
1995	5640.81	101098.00	5601.20	47886.62	-

1996	8165.81	128069.00	8144.70	54846.02	-
1997	10630.10	153995.00	13611.90	69721.50	-
1998	14065.36	175156.00	12911.90	99505.44	-
1999	15426.10	186189.00	18302.70	102330.70	-
2000	16338.95	193348.00	32204.00	122250.31	-
2001	19675.92	203142.00	52919.00	121948.39	-
2002	25826.28	216503.00	70884.00	100862.53	-
2003	32549.19	228371.00	96729.00	132818.12	-
2004	38060.24	245467.00	122295.00	161258.84	-
2005	43201.58	272094.00	180228.00	181344.35	-
2006	70870.28	292559.00	265873.00	220620.86	-
2007	105790.49	327087.00	491052.00	309667.99	-
2008	125211.65	378083.00	215755.00	287696.89	-
2009	167023.18	473083.00	381962.00	400807.74	-
2010	197939.29	578818.00	423150.00	472578.52	132396.00
<b>TOTAL</b>	<b>915942.55</b>	<b>4439570.18</b>	<b>2395085.9</b>	<b>3379936.72</b>	
<b>AVERAGE</b>	<b>29546.53</b>	<b>143211.94</b>	<b>77260.84</b>	<b>109030.22</b>	

**Note:** FDI inflows was there in South Africa from 1980, but in the above table the figure of 2010 was shown as South Africa became member of BRIC in 2010.

The above table shows that in 1980, Brazil was the nation who received the highest FDI inflow followed by China. In the year 1993, the China become the country of BRICS who attracted the highest FDI with 63579.42 US million \$ followed by Brazil with 54593.72 US million \$.

In the year 2010, the China was the country, attracted highest world investor. The FDI inflow in China was 578818.00 US million \$, followed by Brazil with 472578.52 US million \$, Russia with 423150.00 US million \$, India with 197939.29 US million \$ and South Africa with 132396.00 US million \$.

Since 1979 China has adopted open door policy and has attracted FDI to modernize its economy while keeping its capitalistic characters. China has adopted a delineated FDI regime in major investment laws and their implementing regulations.

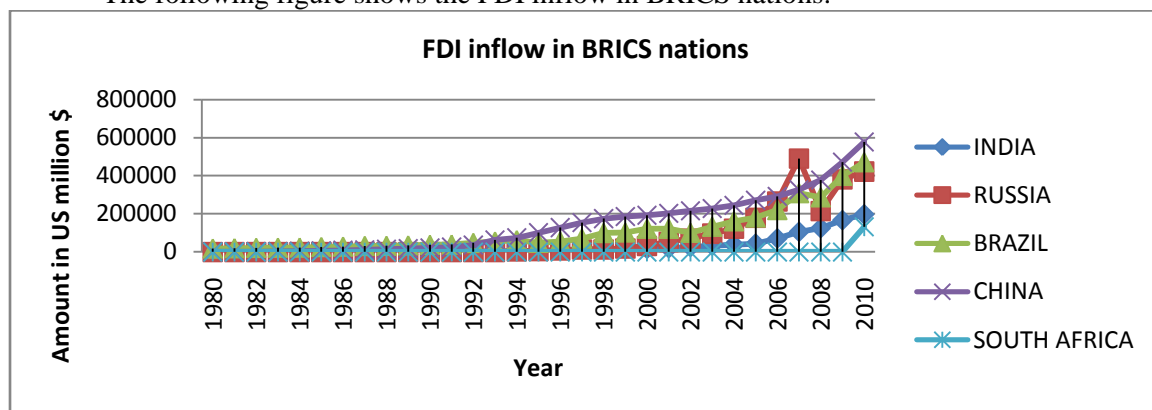
India also adopted the path of liberalization from 1991 onwards but due to lack of political consensus the labor reforms, fiscal reforms has not yet taken place. Also the red tapism, prevailed in the system, unnecessarily causes delay in approval of projects and de- motivates the investors. Thus abled to attracted 197939.29 US million \$, which higher than the FDI inflows in South Africa. FDI inflow in India was less than FDI inflow in China, Brazil and Russia. The FDI inflow in other BRICS nations other than South Africa was doubled as compared to India.

In China, the maximum FDI inflows in manufacturing business i.e. secondary sector, while in all other countries the maximum FDI inflows in service sector i.e. tertiary sector.

The above table reveals that the FDI development in China can be divided into three stages: 1979 to 1991, 1992 to 2001, and 2002, the year after the China's entry into the World Trade Organization (WTO) to present.

The BRICS nation was attracted approx 10% of the total FDI inflow in the BRICS nation. And India was attracted the 10% of the FDI inflow attracted by the BRICS nation.

The following figure shows the FDI inflow in BRICS nations.



### Conclusion

Since 1980 there was increase in the FDI inflow in India regularly, but the speed of the increasing is very slow. Till 2010 India was able to attract 1.0341% of the World FDI. China was the country from the BRICS nations, attracted highest FDI inflow i.e. 3.0240% of the World FDI in the year 2010. Russia opened the door in the year 1992 for international investor and attracted the world investor. The FDI inflow was increase rapidly in Russia. In the year 2010, Russia attracted 2.2108% of the world FDI. Brazil was the only country among BRICS nations, attracted the highest FDI inflow from the year 1980 till 1993. But due to the development of the secondary sector of China, the Brazil was able to attract approx. 2% of the World FDI. In the year 2010, Brazil was able to attract 2.4690% of the world FDI. South Africa attracted 0.69175 of the world FDI in the year 2010. Thus, China attracted highest FDI, followed by Brazil (stands second), Russia (stands third), India (stands fourth) and South Africa (stands fifth).

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## Urban Demographic Structure of Panaji City

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**Abstract** : The urban development is one of the growths by influence of physical, socio-economic, demographic, cultural and technological factors. The level of urbanization is force of socio-economic improvement and as well as the level of population. The present paper concentrated level of demographic structure of Panaji City, Goa through the innovative approaches through geographical information systems.

**Keyword** : Demographic structure, socio-economic level and GIS.

**Introduction** : Urbanization depends on the socio-economic system of the society and the rate of its development. At present urban population explosion is found in each and every country. Arrousseav (1921), is bringing the status the distribution of population, review of the problem ration of the particular urban centre. Davis and Elsher (1963) studied the pattern of urban, within the urban centre, were design the city planning of India. Chandna (1996), delineated geography of population, gave the concept and pattern. The level of urbanization in 1991 was about 40 percent of the worlds population is urban, about 25 percent urban population live in the centers of 20000 percents are more, about 10 percent people live in the million cities. From how population changes over time due to births, deaths, migration ageing and the linked analyses of relationship between economic, social, cultural, and biological processes influencing on population.

**Study Area**: Panaji City lies between 14° 53' 54" to 15° 48'.00" North latitude to 73° 40' 33" to 74° 20' 13" East longitudes and about 60 meters above the mean sea level, the city is bound by the Rua-de-Querem Creek on the east that has been artificially drained to flow along its east side, the Mandovi river estuary on the north. The Zuari River on the South. The Arabian Sea on the West the St. Inez Nullah and Taleigao Plateau on the South – East.

Goa Science Centre, Raj Bhavan area, Nagle wado, Taleigao, Durga wado, Caranzalem, Sharada Mandir School area, Miramar Campal, Municipal Garden, Altinho area. This Court Pontainhas GIDC Hostel area, Secretariats, New Patto area, Ribandar etc are the 18 words of Panaji City.

**Objectives** : To present treatise has assessed the status of population growth, growth trends and finally overlap overall demographic structure and socio-economic status of the city.

**Database and Methodology** : The present study is based on primary and secondary sources. The Panaji City is the Rome of India. The flow pattern of the population is moderate. This studies the methodology as prepare base map of the study area and the demographic view like population trends density, economic development etc.

**Decadal Growth and Urbanization in Panaji City** : The dynamics of population growth mainly depends on two forces, namely natural increase and migration (Peter Hegget 1972). Natural increase is the result of variation between the number of births and deaths. If the birth rate or fertility rate, exceeds the death rate or mortality rate, there will be a population increase and vice-versa. The second force is that of increase in the number of population due to immigrants.

Panaji city is an ancient city of Goa state with vivid historical and cultural background covering over several centuries. According to 2001 census, population of the city was 70,078 persons (including outgrowth) and the city ranks 5 place in terms of size of area, as compared with other cities in Goa. In the post independence period (1961), Panaji was classified as a class II city by the census authority of India.

If it is compared with the population of 1901, the present population of Panaji city increased sharply by about 4.18 times that of 100 years earlier population. Demographic growth is an expression commonly used to indicate quantitative as well as qualitative changes in the population composition of

the area under study.

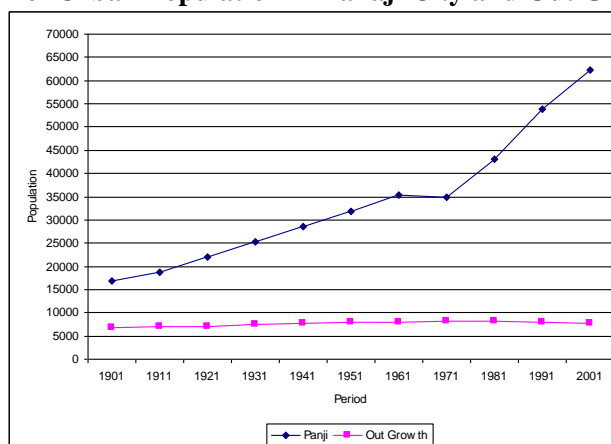
Several amenities such as educational facilities, administrative activities, urban amenities and facilities, means of transport and communication, business activities, concentration of industries etc., are reasons for the population growth of the city. In the modern era, the process of tourist industry accelerated the rate of population growth and due to this factor demographic and ecological structure has undergone vast change in the city. Table 3.1a & b. explain the decadal growth of population in Panaji city and its outgrowth.

**Table -1.1 : Decadal Growth of Population in Panaji 1901-2001**

Period	Population	Actual decadal variation	Decadal variation (%)	Annual variation (%)
1901	16772	-	-	-
1911	18802	2030	12.1	1.1
1921	22120	3318	17.64	1.76
1931	25280	3160	14.28	1.42
1941	28470	3190	12.61	1.26
1951	31950	3480	12.22	1.22
1961	35468	3518	11.01	1.1
1971	34953	-515	-1.45	-0.14
1981	43165	8212	23.49	2.34
1991	53823	10658	24.69	2.46
2001	62330	8507	20.18	2.02

Source: (Census of India, Growth rate is computed by researcher).

**Fig. 1.1 Decadal Growth of Urban Population in Panaji City and Out Growth 1901-2001**



There was slow population growth during 1961-1971 due to emigration of Portuguese from Panaji, during these two decades major plans were introduced, new educational institutions and commercial complexes were opened in the city, These have attracted migration of population, and major socio-economic services were made available during this decade. It is also due to the migration from surrounding regions for the purpose of jobs and education.

According to 1981 census the total population has reached 43,165 persons. Growth rate during this period was 25.7 per cent. The population of Panaji city in the year 1991 was 53,823 and growth rate was about per cent the lowest growth rate occurred during this period after independence. This was mainly due to increase in the rate of literacy and increase in the number of the educated in the city that made it possible to control natural growth of population.

According to 2001 census, population of Panaji city reached 70,078 persons and growth rate is found to be 30.20 per cent. There is rapid increase in the urban population growth rate of the city as

compared to 1991 census report (Fig.3.1)

**Saturated and constraint wards :** Wardwise density analysis indicates that , about 3 wards of very high or saturated density. Areas in and around of Bazaarstreet , mh road and CBD are noted to have density that range from 18 wards. Like ward no.5, 6,8,10,13,18 have density between 2049-3038 persons per sq .kms. About 50 percent of the wards (9 wards) are identified with density between 655-2166. This wards are identified as the potential wards for the development and high growth rates is attributed in these wards in future.

**Table no. 2 : Density of population in Panaji city**

Groups	Range(persons/sq.kms)	No of Wards
Very Low	0-1050	2
Low	1300-2000	4
Medium	2001-2500	3
High	2501-6000	3
Very high	6001-10000	3
Saturated	Above 10000	3

Source: Municipal Corporation, Panaji

**Economic Development :** The city has witnesses rapid growth for the past flow decades with its economy revolving in construction of real estate, tourism and now the 15 sector as per 2001 census 38.92 p4percent of the total population as upto city consisted the workforce, which has registered and increased of over 2 percent from the last decades

**Table- 3 Workforce Participation**

Worforce	1981	2001
Population	43,165	70,078
Primary Sector	1669	2218
Secondary Sector	551	4667
Turtiary Sector	13,585	20,964
Non Workers	27,198	42,797
Wrkforce Participation rate	37	38.92

Source: socio-economic Abstract, Panaji city

The main aim of the understanding the determinants of special development is to assess the future which makes less and ideally suited too urban development

**Table – 4 : Population Growth in Panaji City and Goa**

Years	Population panaji	% of Decadal growth	Population Goa	% of decadal growth
1961	35,468	0	2,87,320	0
1971	34,953	-1.45	3,03,233	23.07
1981	43,165	23.49	3,82,782	58.82
1991	53,823	24.69	7,79,932	28.84
2001	70,078	30.20	9,68,908	39.43

Source : Municipal Corporation Panaji

The city is growing in the North, East and West directions along the major radial roads. In the past the growth direction towards along the NH-17 however with the establishment of technical. Educational and tourist residences have lad to the increase of urban population. The growth of population would accentuate the need for the provision of infrastructure and other services which have to be planned and prioritized to meet the demand . Also it is not possible to estimate the migrate population which is largely happening in the peripheral areas beyond the corporation jurisdiction.

**Concluding remarks :** Urban demographic view of the Panaji city analyses through remotely sensed data and available secondary sources. The present study of the interest consented in socio-

economic aspect, economic growth, small scale industrial growth and the population growth trends based on the available potential resources of the study area. The main growth trends are growing in three zones like, North, East and West. Most of the development is technical, educational and tourism industrial growth.

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## Cooling of Earth from a Hot Sphere of Plasma and Determining there from the Age and Present Temperature of the Earth

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### Abstract:

The earth at the time of its formation is assumed to be a spherical mass of plasma with temperature as high as the temperature of the interior of the Sun. The cooling is similar to the cooling of a hot sphere. The geothermal gradient has been mathematically worked out. An independent treatment on the lines of Newton's law of cooling, graphically reveals facts such as mode of cooling and the age of earth. The radiation of heat-content of the earth is considered as an interaction with solar radiation from which the present average temperature of the earth is seen to be in agreement.

### Constants

Age of Earth = 4.6 Billion ( $4.6 \times 10^9$ ) years =  $1.45 \times 10^{17}$  second

Radius of Earth,  $r_e = 6.4 \times 10^6$  metre

Mass of Earth,  $m_e = 5.98 \times 10^{24}$  kg

Average density of material of Earth,  $\rho = 5500 \frac{\text{kg}}{\text{m}^3}$

Surface area of Earth =  $5.101 \times 10^{14}$  m<sup>2</sup>

1 Quantity of heat lost across the surface of Earth by conduction per second,

$$Q = 2.7 \times 10^{13} \frac{\text{J}}{\text{s}}$$

2 Specific heat of material of Earth,  $s = 837 \frac{\text{J}}{\text{kg}^\circ\text{K}}$

3 Thermal diffusivity,  $h^2 = \frac{K}{\rho s} = 2 \times 10^{-7} \frac{\text{m}^2}{\text{s}}$

Thermal conductivity of material of Earth,  $K = 0.9206 \frac{\text{W}}{\text{m}^\circ\text{K}}$  (Worked out from the above

Values of constants)

The Earth at the time of its formation must have been in a state of plasma with temperature of about  $2 \times 10^7$  °C equivalent to the present temperature of the interior of the Sun. The present state of the Earth is as a result of cooling of this sphere of plasma since the time of its birth. The gradual cooling can be compared with the cooling of a hot sphere

The wave equation in polar coordinates is the Laplace's equation,

$$\frac{\partial^2 w}{\partial r^2} + \frac{2}{r} \frac{\partial w}{\partial r} + \frac{1}{r^2 \sin^2 \theta} \frac{\partial}{\partial \theta} \left( \sin \theta \frac{\partial w}{\partial \theta} \right) + \frac{1}{r^2 \sin^2 \theta} \frac{\partial^2 w}{\partial \phi^2} - \frac{1}{C^2} \frac{\partial^2 w}{\partial t^2} = 0 \quad \dots (1)$$

Where the wave function W is a product of the type

$$W = R(r) \Theta(\theta) \Phi(\phi) T(t) \quad \dots (2)$$

The quantity T is of the form

$$a e^{-k^2 h^2 t}$$

where a and k are constants and  $h^2$  is the diffusivity. A solution which depends on r and t is of the type

$$\frac{1}{r} \sin kr e^{-k^2 h^2 t}$$

And is ideal for the present problem of the spherical Earth. There is uniform and continuous flow of heat radially outward from the centre. If  $\theta$  is the temperature, the Fourier equation of heat conduction is,

$$\frac{\partial \theta}{\partial t} = h^2 \nabla^2 \theta \quad \dots (3)$$

Where  $h^2 = \frac{K}{s\rho}$  is the diffusivity.

Equation (3) holds good if  $K$ ,  $s$  and  $\rho$  are independent of temperature,  $\theta$  whereas in reality they are not constants but vary slowly with temperature. As there are no sources of heat continuously distributed within a certain volume of the sphere, an additional term,  $\frac{Q}{s\rho}$  where  $Q \equiv Q(x, y, z, t)$  is a function denoting the strength of the sources, will appear. Equation (3) then becomes non-homogeneous. That is

$$\frac{\partial \theta}{\partial t} = h^2 \nabla^2 \theta + b^2 \quad \dots (4)$$

where  $b^2 = \frac{Q}{s\rho}$ . The particular integral which must be added to the solution of equation (3) is  $-\frac{b^2 r^2}{6h^2}$

Let the temperature  $\theta$  be equal to a constant value  $\theta_0$  throughout the Earth and let the boundary  $r = r_e$  where  $r_e$  is the radius of the Earth (Fig. 1) is suddenly maintained at a temperature,  $\theta_1$  since the formation of the Earth at  $t = 0$  to a sufficiently long time  $T$ , the condition at the surface is satisfied by writing

$$\theta = \theta_1 + \frac{b^2}{6h^2} (r_e^2 - r^2) + \frac{1}{r} \sum_{m=1}^{\infty} D_m \sin\left(\frac{m\pi r}{r_e}\right) e^{-\left(\frac{m^2 \pi^2 h^2 r}{r_e^2}\right)} \quad \dots (5)$$

where the constant  $D_m$  is obtained by Fourier rule from the expansion of

$$\theta_0 - \theta_1 - \left[ \frac{b^2}{6h^2} (r_e^2 - r^2) \right] \text{ in a sine series. Thus}$$

$$D_m = (-)^m \left[ \frac{2r_e^3 b^2}{h^2 m^3 \pi^3} + \frac{2r_e (\theta_1 - \theta_0)}{m\pi} \right] \quad \dots (6)$$

where  $m$  is an integer.

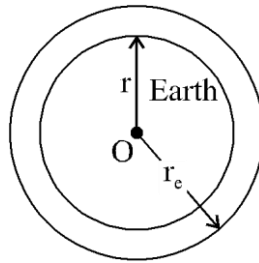


Fig. 1

After initially long time approaching the present age of the Earth, we may set the time  $t$  to infinity so that the temperature assumes the value

$$\theta = \theta_1 + \frac{b^2}{6h^2} (r_e^2 - r^2) \quad \dots (7)$$

and the temperature gradient is given by

$$\frac{\partial \theta}{\partial r} = - \left( \frac{b^2}{3h^2} \right) r \quad \dots (8)$$

where

$$b^2 = \frac{Q}{sp} \quad \text{and} \quad h^2 = \frac{K}{sp} \quad \dots (9)$$

From equation (7), the temperature further tends to  $\theta_1$  on the surface of the Earth where  $r = r_e$  is the radius. As one goes to the interior from the surface, we have to consider the thermal gradient or more correctly the geothermal gradient given by equation (8). The negative sign indicates that there is a fall of temperature with increasing  $r$  towards the surface of the Earth. Let us now work out the value of this geothermal gradient under different conditions. Ignoring the negative sign and combining with equation (9), we have

$$\frac{\partial \theta}{\partial r} = \left( \frac{b^2}{3h^2} \right) r = \left( \frac{Q}{3K} \right) r$$

Considering the quantity of heat lost by conduction across unit area per second and substituting the values, we have

$$\frac{\partial \theta}{\partial r} = \left( \frac{2.7 \times 10^{13}}{3 \times 0.9206 \times 5.101 \times 10^{14}} \right) r = 0.01916 r$$

Thus, for a km depth from the surface, we put  $r = 1000$  m and therefore

$$\frac{\partial \theta}{\partial r} = 19.16 \frac{^\circ\text{C}}{\text{km}} \approx 19.2 \frac{^\circ\text{C}}{\text{km}}$$

This thermal gradient is, however, larger than the average value. The discrepancy can be accounted for the fact that there is a variation of specific heat with temperature and the change of density from  $5500 \frac{\text{kg}}{\text{m}^3}$  to  $9500 \frac{\text{kg}}{\text{m}^3}$  from mantle to core of the Earth 6. These variations affect the conductivity. Assuming the diffusivity to be constant within limits and taking the mean value of the density from mantle to core, we have the conductivity as  $1.255 \frac{\text{W}}{\text{m}^\circ\text{K}}$  and hence

$$\frac{\partial \theta}{\partial r} = \left( \frac{2.7 \times 10^{13}}{3 \times 1.255 \times 5.101 \times 10^{14}} \right) r = 0.014006 r$$

Thus, for a km depth, we have the thermal gradient,

$$\frac{\partial \theta}{\partial r} = 14.06 \frac{^\circ\text{C}}{\text{km}} \approx 14.1 \frac{^\circ\text{C}}{\text{km}}$$

This is in perfect agreement with the value of  $14 \frac{^\circ\text{C}}{\text{km}}$  7

Apart from variations in density with temperature, the particular temperature variations are also due to the nature of material constituting the earth's crust. Most of the crust consists of solid

granite (density,  $2650 \frac{\text{kg}}{\text{m}^3}$ ) floating over a layer of basalt (density,  $3000 \frac{\text{kg}}{\text{m}^3}$ ). These values of density do not differ much and the hotter layers inside consist mainly of basalt and taking that density into consideration and assuming there is no much variation of specific heat, the conductivity works out to be  $0.5022 \frac{\text{W}}{\text{m}^\circ\text{K}}$  and the resulting thermal gradient for a km depth from the surface is,

$$\frac{\partial\theta}{\partial r} = 35.1 \frac{^\circ\text{C}}{\text{km}}$$

This is in perfect agreement with the value of  $36 \frac{^\circ\text{C}}{\text{km}}$  8. The value, however, is slightly greater than  $30 \frac{^\circ\text{C}}{\text{km}}$  9, a value obtained by deep mining operations. Elementary books on Physics, for example, the one by Stollberg and Hill 10 have given the value of thermal conductivity as  $1.675 \frac{\text{W}}{\text{m}^\circ\text{K}}$  with which the thermal gradient works out to be

$$10.5 \frac{^\circ\text{C}}{\text{km}}$$

To summarize, various values of geothermal gradient are given below

$$10.5 \frac{^\circ\text{C}}{\text{km}}$$

$$14.1 \text{ ''}$$

$$19.2 \text{ ''}$$

$$35.1 \text{ ''}$$

Values of thermal gradient vary because of non-uniformity of the Earth's crust. Large differences are probably due to very low values of thermal conductivity of the order of  $0.15 \frac{\text{W}}{\text{m}^\circ\text{K}}$  Ssuch as that of brick made from Earth's soil and of conductivity  $0.13 \frac{\text{W}}{\text{m}^\circ\text{K}}$ . Values of thermal gradient in such cases exceed even  $100 \frac{^\circ\text{C}}{\text{km}}$ . The rate of increase is greater near a source of heat such as an active volcanic centre and also affected by the thermal conductivity of rocks at a particular locality.

Due to the high temperature of the sphere of plasma at the time of formation of the Earth, no thermal equilibrium between the sphere and the convective cloud which is the present atmosphere, could be expected. The cooling must have taken place in different ways. One must be by the rotation and revolution of the Earth. The other must be due to conduction from the interior of the Earth with a variable thermal gradient which is the most prominent and responsible for the cooling. After sufficient cooling, there is no much difference of temperature between the sphere of plasma and the convective cloud in its immediate neighborhood and hence one can legitimately apply Newton's Law of Cooling as a first approximation.

Taking the standard value of thermal gradient to be  $14 \frac{^\circ\text{C}}{\text{km}}$ , the temperature of the inner core of the Earth has a theoretical value

$$0.014 \times 6.4 \times 10^6 = 0.09 \times 10^6 \approx 10^5 \text{ } ^\circ\text{C}$$

We can assume the fall of temperature taking place from  $2 \times 10^7 \text{ } ^\circ\text{C}$  at the time of



formation of the Earth to  $10^5 \text{ }^\circ\text{C}$  over a period of time corresponding to the present age of Earth. Now, in order to find out the fall of temperature over a period of time, we follow the scheme provided by Sir William Thomson (Lord Kelvin) 11 and Peter Guthrie Tait in their classical book on "Principles of Mechanics and Dynamics", Dover Edition, 1962. In the Appendix D on 'Secular Cooling of Earth' under serial (r) on page 478, is quoted here:

"[..... (r) Whenever the amount of such effects is at any one time, it would go on diminishing according to the inverse proportion of the square roots of the times from the initial epoch.

Thus, if at 10,000 years we have  $2^0$  per foot of increment below ground.

At 40,000 years we should have  $1^0$  per foot

At 160,000 " " " " " " " " " " "  $\left(\frac{1}{2}\right)^0$  per foot

At 4000,000 " " " " " " " " " " "  $\left(\frac{1}{10}\right)^0$  per foot

At 100,000,000 " " " " " " " " " " "  $\left(\frac{1}{50}\right)^0$  per foot]"

As events correct to a second in the Big Bang are uncertain, let us have a look at Fig. 2 12 which gives the Big Bang model of the universe that appeared in the 'Independent' newspaper in Great Britain on Friday the 24<sup>th</sup> April 1992. From the figure it is seen that a temperature of  $10^9$  degree corresponds to 3 minutes after the Big Bang. As the diagram is not as per scale and as a reasonable approximation, the starting time for our purpose can be taken as the very first day (86400 second) after the initial epoch and the corresponding temperature as  $(2 \times 10^7) \text{ }^\circ\text{C}$ . Following the method given by Lord Kelvin, various readings for time and temperature are shown in Table 1. In order to facilitate plotting a graph later, the readings for time are shown as multiples of  $10^{13}$  and readings for temperature as multiples of  $10^3$ .

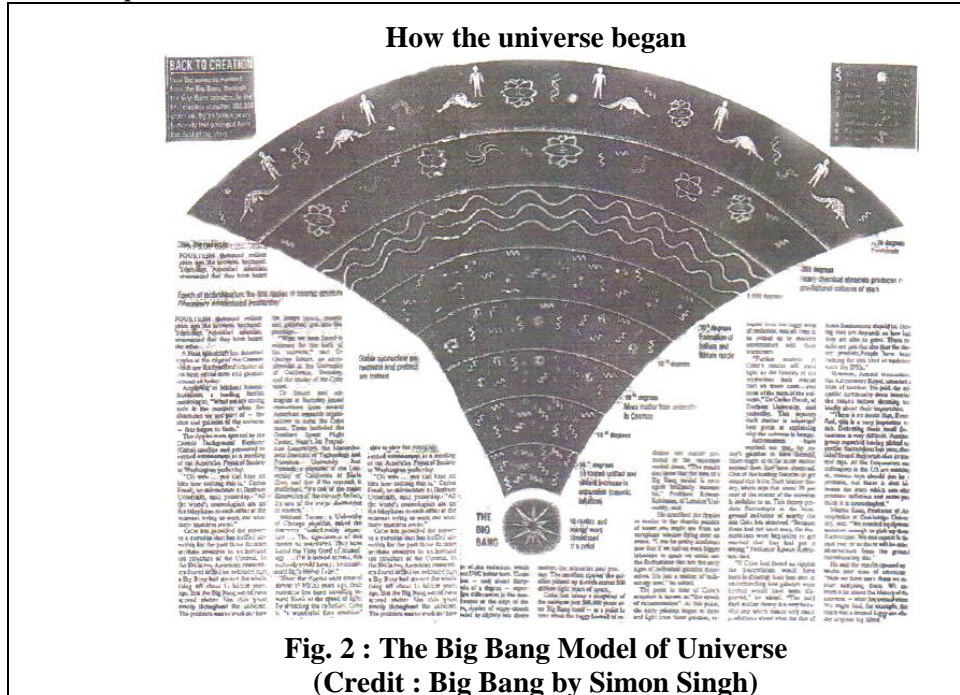


Table 1

No.	Time in seconds $\times 10^{13}$	Temperature in $^{\circ}\text{C} \times 10^3$
1	0.00000000864 (1 <sup>st</sup> day of the Big Bang)	20000
2	0.00000003456	10000
3	0.00000013824	5000
4	0.00000055296	2500
5	0.00000221184	1250
6	0.00000884736	625
7	0.00003538944	312.5
8	0.00014155776	156
9	0.00056623104	78
10	0.002265	39
11	0.00906	19.5
12	0.03624	9.77
13	0.14496	4.885
14	0.57984	2.44
15	2.31936	1.22
16	9.27744	0.61
17	37.10976	0.305
18	148.43904	0.153
19	593.7562	0.076
20	2375.025	0.038
21	9500.099	0.019
22	14500	0.0154

From the above table, we notice that the starting time which was arbitrarily taken as the very first day of the epoch and strictly following Kelvin's rule brings out a temperature under serial No. 21 as  $19^{\circ}\text{C}$  which appears to be close to the real value of present temperature of Earth. Now, in order to get the age of earth theoretically, we should get reading No. 22. From the table, by looking at the nature of increase of time and the corresponding decrease of temperature, the age and present temperature of Earth should lie somewhere after reading No. 21. As we will be plotting a graph later to find the age of earth and theoretically determine the temperature, we may legitimately assume the age of Earth as given in the list of constants given at the beginning of the paper viz.  $1.45 \times 10^{17}$  second and whatever we get from the graph can be taken as a confirmation. Thus, to get reading No. 22, the

multiple,  $x$  is  $\frac{14500}{9500} = 1.526$ . The reading for temperature given in serial No. 21 should be divided by square root of 1.526. That is,  $\frac{0.019}{\sqrt{1.526}}$  which is equal to  $\frac{0.019}{1.2353} = 0.0154$ . Thus, the time and temperature for serial No. 22 are respectively  $14500 \times 10^{13}$  and  $0.0154 \times 10^3$ . In fact this step is not necessary except that we will be benefited by an additional point in the graph which we will be plotting.

It should be noted that the temperature  $10^5$  °C is just a theoretical value and the difference  $(\theta - \theta_1)$  is not much different from  $\theta$ .

The temperature,  $15.4^\circ\text{C}$  so obtained corresponding to the age of earth is appropriate as it is the average temperature of the northern and southern hemispheres. Thus, we see that the method given by Lord Kelvin is an excellent tool to find out the age and temperature of the Earth.

A simple form of equation (5) for temperature,  $\theta$  at any time  $t$  is given by

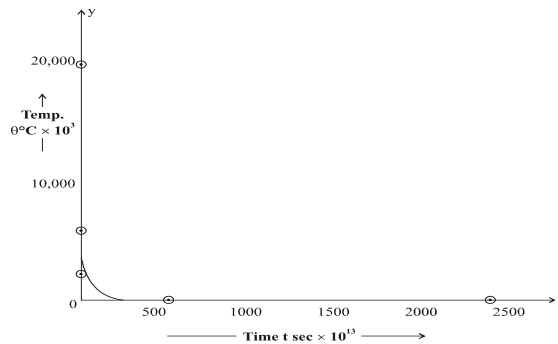
$$\theta = \theta_1 + (\theta_0 - \theta_1) e^{-\lambda t} \quad \dots (10)$$

This is akin to Newton's Law of Cooling where  $\lambda$  is the cooling constant. The negative sign for  $\lambda$  indicates a fall of temperature with time. It should be noted that the reciprocal of  $\lambda$  has dimensions of time. From the above equation, we have

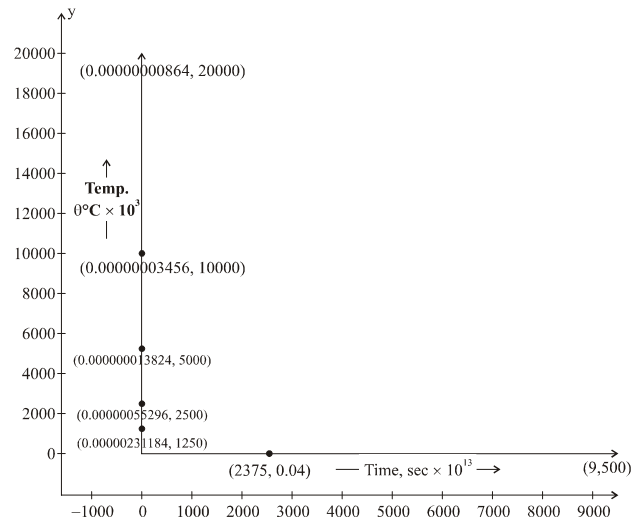
$$\frac{d\theta}{dt} = -\lambda (\theta - \theta_1) \quad \dots (11)$$

Now, in order to find the age of Earth graphically, we must try to get a cooling curve by plotting 'time' versus 'temperature'.

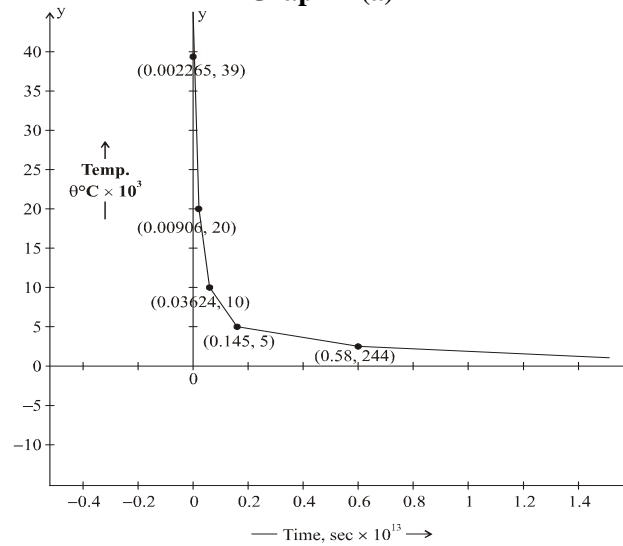
From Table 1, plot a graph of time (x-axis) versus temperature (y-axis) and the nature of graph is as shown in Graph 1. We see from the graph that the readings for both time and temperature are found to lean on the respective axis. The curved portion of the graph which is the actual cooling curve lies near the origin. In order to trace the points for the curve near the origin, another graph is plotted with the help of a computer and the same is shown in Graph 2 (a) and another Graph 2 (b) with the points in the curved portion lying near the origin duly magnified. It is found that the readings with serial numbers 11 to 16 (Table 1) lie near the origin forming a curve. Now, plot a separate graph for readings 11 to 16 and the same is shown in Graph 3. Whatever scales are chosen, the readings being less in number, they are found to lie far apart. This compels us to get more points for which the number of readings are to be increased in that region of the graph. This can be done by taking the intermediate readings also by following Lord Kelvin's method and the same is shown in Table No. 1.2 in which the readings shown with asterisk are the intermediate readings.



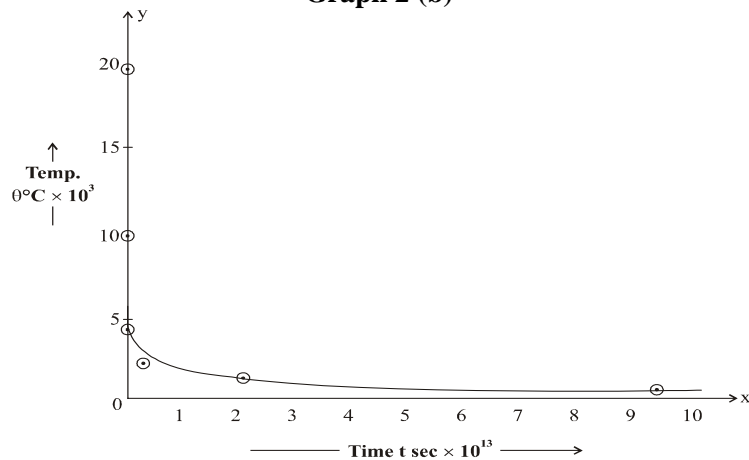
**Graph 1**



**Graph 2 (a)**



**Graph 2 (b)**



**Graph 3**

**Table 2**

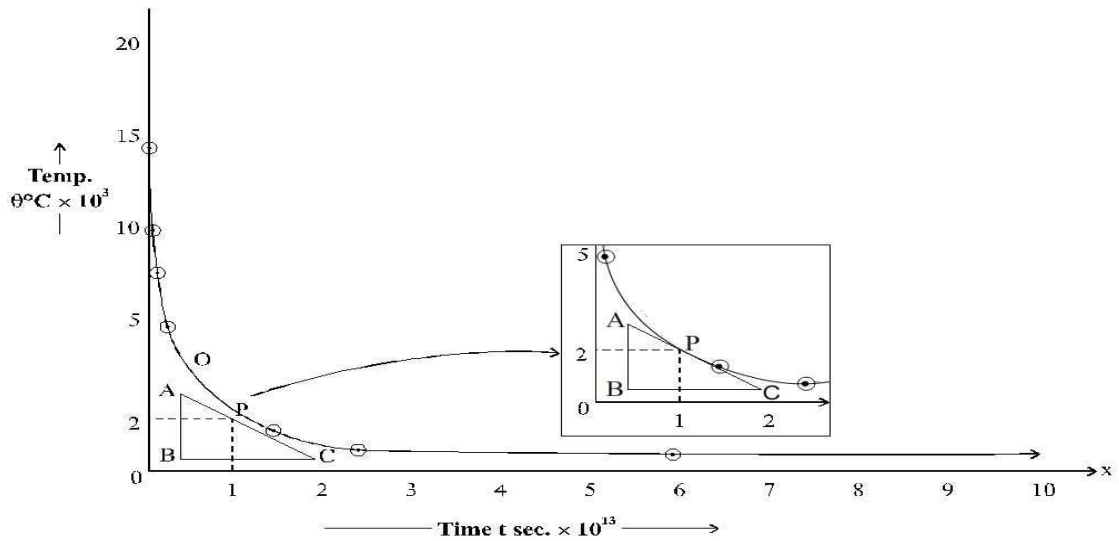
No.	Time in seconds $\times 10^{13}$	Temperature in $^{\circ}\text{C} \times 10^3$
11	0.00906	19.53
*11 (a)	0.02265	14.67
12	0.03624	9.8
*12 (a)	0.09062	7.34
13	0.145	4.88
*13 (a)	0.3625	3.66
14	0.58	2.44
*14 (a)	1.45	1.83
15	2.32	1.22
*15 (a)	5.8	0.915
16	9.277	0.61

With the same scale a separate graph is plotted and the same is shown in Graph 4. The curve so obtained is the 'cooling curve' obeying Newton's Law of Cooling and the same can be legitimately applied as sufficient cooling has already taken place. The lower part of the curve asymptotically approaches the present temperature of the Earth.

$$\begin{aligned} \text{Slope of graph at the point P} &= \frac{AB}{BC} = \frac{d\theta}{dt} = \frac{2.1 \times 10^3}{1.5 \times 10^{13}} = 1.4 \times 10^{-10} \\ &= -\lambda (\theta - \theta_1) = -\lambda [(2 \times 10^7) - 10^5] \\ &= -\lambda (1.99 \times 10^7) \end{aligned}$$

$$\text{Ignoring -ve sign, } \lambda = \frac{\frac{d\theta}{dt}}{1.99 \times 10^7} = \frac{1.4}{1.99} \times 10^{-17} \text{ per second}$$

$$\therefore \frac{1}{\lambda} = \frac{1.99}{1.4} = 10^{17} = 1.42 \times 10^{17} \text{ second} = \text{Age of Earth (4.5) billion years}$$



**Graph 4**

The rate of cooling can be found from the graph by carefully taking the slope of the tangent exactly at the curved portion, say at point P. It is found from the graph that

$$\begin{aligned} d\theta &= 2.1 \times 10^3 \\ dt &= 1.5 \times 10^{13} \end{aligned}$$

$$\therefore \frac{d\theta}{dt} = \frac{2.1}{1.5} \times 10^{-10} = 1.4 \times 10^{-10}$$

From equation (11),  $\frac{d\theta}{dt} = -\lambda (\theta - \theta_1) = -\lambda [(2 \times 10^7) - 10^5] = -\lambda (1.99 \times 10^7)$

$$\therefore \lambda = - \left( \frac{\frac{d\theta}{dt}}{1.99 \times 10^7} \right) = \frac{1.4}{1.99} \times 10^{-17}$$

Ignoring the negative sign, we get

$$\frac{1}{\lambda} = \frac{1.99}{1.4} \times 10^{17} = 1.42 \times 10^{17} \text{ second}$$

which is the age of the Earth and also our assumption for getting reading No. 22 (Table 1) is graphically confirmed.

The cooling constant,  $\left( \frac{m^2 \pi^2 h^2 t}{r_e^2} \right)$  for  $m = 1$  obtained from equation (5) also gives the

value of age of Earth as  $200 \times 10^{17}$  second. The discrepancy is large due to the uncertain value of diffusivity,  $h^2$ . Values tally only for higher values of  $h^2$  and the value of age of Earth obtained by graph is more reliable.

The graphically obtained value  $1.42 \times 10^{17}$  second (4.5 billion years) as the age of Earth is in perfect agreement with the accepted value  $1.45 \times 10^{17}$  second (4.6 billion years).

The 'cooling curve' obtained in Graph 4 is peculiar in the sense that it represents a transition from plasma state to molten state and subsequent solidification of the Earth. The curve can rightly be called a 'Transition Curve'. The point P in the curve where the slope has been taken may be called a 'Transition Point'. The temperature corresponding to this point is about 2000 °C when the

molten metals start solidifying. The time corresponding to this temperature is about  $1.2 \times 10^{13}$  second (380000 years). In geological time scale, this corresponds to 'Quaternary period' of the Cenozoic era and the same is in agreement.

As mentioned earlier, cooling must have taken place due to loss of heat-content of the Earth through its various layers constituting the crust. As specific heat is the main factor affecting the surface temperature of Earth, let us work out its value in various possible ways. On page 4 we have shown the thermal conductivity of Earth as  $\frac{1.255W}{m^0K}$  with which we obtained a satisfactory value of the thermal gradient. This conductivity is specific but when applied to the entire sphere of Earth, we may have to consider the density of Earth as a whole in the list of constants. Hence, the specific heat works out to be

$$s = \left[ \frac{1.255}{(2 \times 10^{-7} \times 5500)} \right] = \left( \frac{1.255}{11000} \right) \times 10^7 = 1140 \frac{J}{kg^0K}$$

Taking this value of specific heat, the total heat-content of the Earth right from the time of its formation is

$$Q = m_e s \Delta\theta = 5.98 \times 10^{24} \times 1140 \times 1.99 \times 10^7 = 13566 \times 10^{31}$$

$$\text{Therefore, } Q = 1.357 \times 10^{35} \text{ joule}$$

Now, to find the rate of loss of heat over a period of time corresponding to the age of Earth, we have

$$\frac{Q}{t} = \frac{1.357 \times 10^{35}}{1.45 \times 10^{17}} = 0.936 \times 10^{18} \frac{J}{s} \text{ or Watt.}$$

The intensity of radiation can be obtained by dividing this by the surface area of Earth and therefore

$$\frac{0.936 \times 10^{18}}{5.101 \times 10^{14}} = 1.835 \times 10^3 = 1835 \frac{W}{m^2}$$

Due to this high value, one expects a faster cooling to very low values. But, that does not happen. There is the solar radiation  $13, 1400 \frac{W}{m^2}$  to be considered. The result of the interaction of

these two radiations is that there is both emission and absorption. Earth can be assumed to be a black body which absorbs the entire solar radiation because of the high specific heat of sea water which occupies about two-thirds of the globe. The loss of heat due to radiation is thus compensated to a larger extent and the net intensity of radiation is  $1835 - 1400 = 435 \frac{W}{m^2}$ .

Now, coming to the present temperature of Earth, one can apply Stefan's Law of Radiation which states that the "Heat energy flux,  $E$  is proportional to the 4<sup>th</sup> power of absolute temperature,  $T$ ." That is,  $E = \sigma T^4$ , where the constant  $\sigma$  is the Stefan's constant the value of which is  $5.7 \times 10^{-8} \frac{W}{m^2K^4}$ .

The surface temperature of the Earth is then

$$\left( \frac{435}{5.7 \times 10^{-8}} \right)^{\frac{1}{4}} = 296^{\circ}K = 23^{\circ}C$$

which is the average temperature of the equatorial regions that constitute a larger surface area of the globe.

As a further confirmation of the specific heat, we may apply "Dulong and Petit's Law established in 1819 by P.L. Dulong (1785-1838) and A.T. Petit (1791-1820) which states that "The specific heat is the ratio of the heat capacity per kilomole to the atomic mass of an element and the

same is approximately equal to  $6 \frac{\text{k cal}}{\text{k mole}^{\circ}\text{K}}$ . The law is applicable to crystalline solids, but, as the

matter in the Earth is in a vaporized state and elements are still to be formed or being formed, we may consider the following elements which constitute more than 5% by weight 14.

Element	Percentage	Atomic weight
Oxygen	47	16
Silicon	28	28
Aluminium	8	27

The average of the atomic weights can be taken as that of any quasi element present in the Earth and that works out to be 23.7 which may be rounded off to  $24 \frac{\text{kg}}{\text{k mole}}$ . The specific heat is then

$$\frac{6}{24} \times 4200 = 1050 \frac{\text{J}}{\text{kg}^{\circ}\text{K}}$$

which almost matches with the previous value of 1140. Taking 1050

As the new value of specific heat, the total heat-content of the Earth is

$$m_e s \Delta\theta = 5.98 \times 10^{24} \times 1050 \times 1.99 \times 10^7 = 1.25 \times 10^{35} \text{ Joule}$$

Working out on the same lines as done above, we get the energy per second as  $8.62 \times 10^{17}$

Watt and hence the intensity is  $1690 \frac{\text{W}}{\text{m}^2}$ .

The net radiation is  $1690 - 1400 = 290 \frac{\text{W}}{\text{m}^2}$ . The surface temperature comes out to be

$$\left( \frac{290}{5.7 \times 10^{-8}} \right)^{\frac{1}{4}} = 267^{\circ}\text{K} = -6^{\circ}\text{C}$$

which is the temperature of the polar regions. The previous value, viz.  $23^{\circ}\text{C}$  appears to be more correct or one can say that the surface temperature of the Earth varies from  $-6^{\circ}\text{C}$  to  $23^{\circ}\text{C}$ . Even the mean of these two if we take, it comes out to be  $8.5^{\circ}\text{C}$  which is the average temperature of the northern and southern hemispheres.

The theoretical value of temperature,  $10^5$  °C at the inner core of the Earth is legitimate as it has been computed that a rock of basaltic composition melting at  $2280^{\circ}\text{F}$  ( $1250^{\circ}\text{C}$ ) at the surface will melt at  $2600^{\circ}\text{F}$  ( $1400^{\circ}\text{C}$ ) at a depth of 20 miles 15. Further, the tremendous pressure of 3,700,000 atmospheres at the centre of the Earth takes the rock melting to extremely high values.

The above procedure we adopted appears to be lethargic and becomes inevitable as even some of the constants vary in standard books.

The surface temperature of the Earth so found from theoretical considerations ranging from  $-6$  °C to  $23$  °C at various regions of the globe, however, brings out variations in the weather at a place or climate in the region. The changes are due to motion of the Earth. Days are hot and nights are cold due to Earth's rotation. Climatic changes such as summer, winter or the like occur due to revolution of the Earth around the Sun. The Earth got cooled and appears to be settled. There are various physical processes that take place both inside and outside the Earth. These processes are all temperature related. Heat transport both by conduction and convection take place inside the Earth. Conduction from the molten materials from the mantle and core to the solid crust of the Earth. The



convective motion of the molten materials creating tectonic movements responsible for earthquakes and volcanoes. Outside the Earth, the main source of energy is from the Sun heating the sea water and vapor so created forming clouds. Climatic changes take place due to absorption of solar radiation by the atmosphere and clouds. Earth itself is a huge magnet and the electrically conducting core in the magnetic field of the Earth induce currents within the Earth. Tides are created due to gravity. Life on Earth is controlled by all these factors.

Climate change or widely known as the 'Greenhouse Effect' is due to the emission of greenhouse gases mainly carbon dioxide to the atmosphere by agencies created by the humans.

16 NASA Earth Institute research team has found that man-made greenhouse gases have made climate of the planet most dangerous for human survival. The NASA survey done between 1992 and 2002 indicates that due to global warming, melted ice from Antarctica has entered the sea creating a rise in sea level

17 David Herring (2007) argues the other way round. According to him, "Earth is cooling and not warming". Research showed that Earth experienced a period of cooling by about 0.3 °C from the year 1940 through 1970

18 Theodor Lancscheidt says that the solar wind near the Earth is an indicator of variations in global temperature. The total magnetic flux from the Sun and dragged by the solar wind has increased by a factor 2.3 since the year 1901. Accordingly, the global temperature has increased by 0.5 °C

A news item in the Times of India, Mumbai dated 24 February 2012 quotes the following from 19 Roger Davies regarding climate change. *"It seems that the sky above your head is falling gradually, as scientists have found that the height of clouds has been shrinking gradually over the last 10 years. The timeframe is short, but if future observations show that clouds are truly getting lower, it could have an important effect on global climate change, researchers said. Clouds that are lower in the atmosphere would allow the Earth to cool more efficiently potentially offsetting some of the warming caused by greenhouse gases, they pointed out. "We don't know exactly what causes the cloud heights to lower", study researcher Roger Davies of the University of Auckland was quotes as saying". But it must be due to a change in the circulation patterns that give rise to cloud formation at high altitude". The researchers found that the global average cloud height increased by around 1% over the decade, a distance of 100 to 130 feet."*

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## A Study on the Role of Gifts as a Promotional Strategy in Pharmaceutical Brand Promotion

**Prof Co. Ajay Kulkarni:** Professor – Marketing, IES Management Ilege, Bandra, Mumbai 400050 & Research Scholar, Jodhpur National University, Jodhpur, Rajasthan

**Abstract:** Pharmaceutical industry has a unique way of marketing its products. Every organization appoints medical representatives to promote their brands to doctors through printed product literatures and flipcharts. Gifts as promotional tool are very popular amongst the pharmaceutical companies and doctors. The main objectives of providing gifts are one to break the resistance of a doctor and develop favorable opinion towards brand, two to help in brand recall, third to provide a utility. Since gifts are costly and contribute to a major chunk of the promotional budget, it would essential to find out the doctors perception about gifts as a promotional tool, Do the doctors really appreciate gifts as a promotional input and whether gifts really help in brand recall and there by prescription generation.

The study was undertaken to understand the effectiveness of gifts as a promotional input. Its utility value to the doctors and its impact on doctors in facilitating brand recall.

**Key words:** Gifts, promotional input, brand recall, utility, prescription generation.

**Introduction:** Pharmaceutical industry has a unique way of marketing its products. Every organization appoints medical representatives to promote their brands to doctors through printed product literatures and flipcharts. Promotion is broadly defined using the WHO definition: “all informational and persuasive activities by manufacturers, the effect of which is to induce the prescription, supply, purchase and/or use of medicinal drugs.”

Promotion is emerging as the most effective tool in building brands across the pharmaceutical industry. Gifts as promotional tool are very popular amongst the pharmaceutical companies and doctors. The main objectives of providing gifts are one to break the resistance of a doctor and develop favorable opinion towards brand, two to help in brand recall, third to provide a utility.

Drug representatives shower on doctors with gifts has it's in-tended effect: building relationships with doctors and ultimately changing how they prescribe.

The variety of gifts includes key chains, calendars, table tops and kitchen utility items. Small gifts such as pens, message pads, and office clocks are accepted by nearly all physicians Individual physicians may receive these items, which bear the company or product name, and also more expensive items such as medical books and medical equipment.

Gifts such as pens and notepads are called “reminder items”; they play an important role in opening doors and promoting friendlier, more cooperative relationships between the pharmaceutical company representative and the gift usually reminds the doctor about the brand-name of the drug and results in a prescription However, gifts cost money which is ultimately passed on to the patients without their explicit knowledge.

Gifts are yet another way companies use to gain influence. Many pharmaceutical companies have admitted to the fact that interactions of doctors with medical representatives would decline if no gifts or meals are given.

Since gifts as promotional aides are very important according to pharmaceutical industry for business generation and also they take a significant share of the budgets many pertinent questions arise about these useful resources being spent wisely in terms of time, effort and money. How the doctors perceive about their effectiveness, whether they are effective in influencing the doctors for prescription generation.

Though there is worldwide criticism of doctors for receiving gifts also The Indian medical council has come heavily on doctors who accept gifts given by drug companies and get influenced to prescribe the brand many pharmaceutical companies still continue to spend on this promotional input.

Hence it is imperative to really understand the utility of this valuable input in the changed scenario.

The study was undertaken to understand the effectiveness of gifts as a promotional input. Its utility value to the doctors and its impact on doctors in facilitating brand recall.

**Purpose of research:**

- To understand whether doctors really appreciate gifts as a promotional input.
- To understand the perception of doctors about gifts as a utility input.
- To understand the effectiveness of gifts as promotional input in brand recall.

**Research Methodology:**

The research undertaken was carried out primarily at three stages, namely:

1. Secondary data collection: Newspaper, Magazines, Websites
2. Questionnaire design
3. Primary data collection: structured questionnaire administered on one to one basis and Live Interview.

**Sampling design:** Random sampling was carried out.

**Sample size:** The sample consists of 100 doctors from Mumbai city & suburbs

**Analysis of data:** Collected data was edited for avoiding unwanted error & was arranged in order and sequence. The data obtained .The statistical software such as SPSS was used wherever necessary. Suitable statistical methods were used was then coded and classified for further process by preparing tables, graphs, charts and pie – diagrams. For testing hypotheses & analyzing the data. Please refer the charts in annexure for detail data analysis.

**Limitations of the study:**

- The study is limited to Mumbai city & suburbs only
- The sample size does not give a clear representation of the total universe.

**Major results:**

- 52% of doctors opined that they don't appreciate gifts as a promotional input against 48% doctors opining favorably for gifts.
- 63 % doctors thought gifts do have utility value against 37 % of doctors who opined that gifts does not have utility value.
- 54% of doctors opined that gifts don't help in brand recall against 46 % of doctors opining that gifts do help in brand recall.
- On a scale of 1-5 gifts were rated by doctors as the least important promotional input.

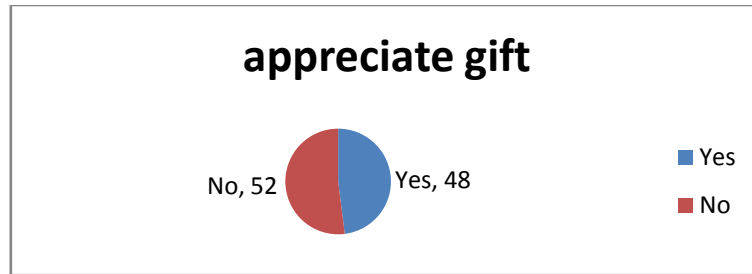
**Implications:** Though majority companies spend heavily on gifts as promotional inputs it is necessary to relook gifting as a strategy as the finding suggests that majority of the doctors neither appreciate gifting as a strategy nor according to them gifts help them in brand recall also gifting as a strategy used by majority of the pharmaceutical companies

**Key references:**

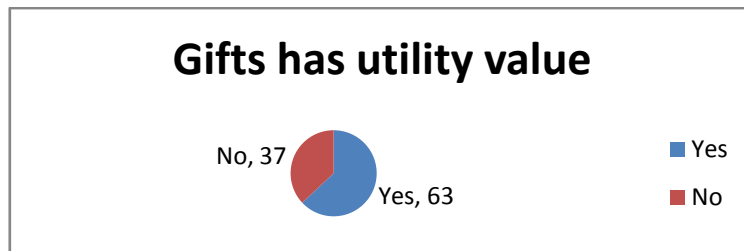
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**Annexure:**

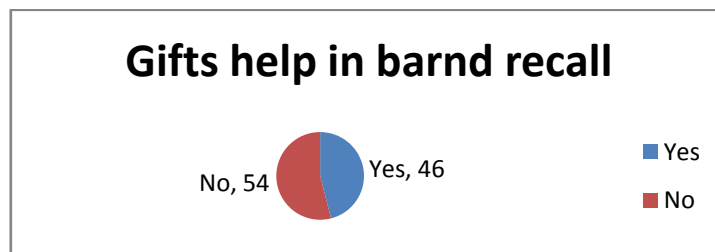
		Do u appreciate gift as a promotional input				
		Frequency	Percent	Valid Percent		Frequency
Valid	Yes	48	48	48	Yes	48
	No	52	52	52	No	52
	Total	100	100	100		



Do u feel gifts have utility value						
		Frequency	Percent	Valid Percent		Frequency
Valid	Yes	63	63	63	Yes	63
	No	37	37	37	No	37
	Total	100	100	100		



Do u feel gifts help in brand recall						
		Frequency	Percent	Valid Percent		Frequency
Valid	Yes	46	46	46	Yes	46
	No	54	54	54	No	54
	Total	100	100	100		



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## Psychology of Fast Bowling

**Shri. Arvind A. Dhond:** Assist. Prof. St. Xavier's College, Mumbai

### Abstract:

**“Fast bowling is hard work, but enjoyable and satisfying.” – Brett Lee**

An analysis of psychology of fast bowling is required in order to help bowlers prepare effectively for the future games. All fast bowlers can be helped to re-create their 'ideal performance state' by making them more aware of how they feel and how they can give a good performance. The present paper deals with various such dimensions associated with the sports of cricket with special reference to fast bowling.

**Key Words:** Psychology, Mental Skills, Fast Bowling.

### Objectives of the Study:

1. To understand the psychology of fast bowling.
2. To understand these basic features of fast bowling.
3. To train the bowlers in order to equip them with the skills of fast bowling.

### Introduction:

Psychology of fast bowling refers to the mental skills required to perform this activity. Although rarely considered by the bowlers themselves to be as important as the physical, technical and tactical components of bowling, the acquisition of mental skills often differentiate the Test level bowlers from the Club level. The case for mental skills training in today's world of elite sport is quite convincing.

### Demands of Fast Bowlers

a) Fast bowling is often classified as a 'repetitive, independent closed skill'. This jargon means repeat essentially the same skill, with only subtle changes, over and over again almost as if they were all by themselves on the field. Bowlers are indeed uniquely in control of the performance outcomes and their performance environment is relatively unchanging and stable. It is vital to understand these basic features of fast bowling.

b) Knowledge of Interrelated Factors that Influence Closed-Skill Performance:

At least five interrelated factors can influence the performance of a fast bowler:

- i. Biomechanical or technique factors.
- ii. Physiological conditioning or fitness factors.
- iii. Strategy or tactical factors.
- iv. Environmental factors such as climatic and wicket conditions.
- v. Mental or physical factors.

### Mental Skills for Fast Bowlers:

While elite, professional fast bowlers are very much aware of the mental demands of their trade, their traditional means of coping with these demands can be somewhat naive. The nature and significance of these practical and useful skills along with a brief suggestion for its application is provided in this paper.

#### a) Goal Setting:

'If you don't know where you are going... you will probably end up somewhere else!'

Goal Setting is important. Having clear goals and clear strategies facilitates:

- i. Motivation, confidence and determination.
- ii. An understanding of the aspects of bowling that need to be performed as well as the development of new strategies to learn them.
- iii. The will of individual to make initial efforts to improve and to persist with training and practice.

**Methods to Practice:**

Bowlers are mostly concerned with performance goals such as ‘How do I improve my bowling figures?’ Few realize how important other areas could be in their quest for excellence. Bowlers should set goals in at least five related areas.

- Performance goal – e.g. to improve my strike rate.
- What do I have to do?
- When do I want this to happen?
- Who can help me achieve it?
- How do I go about it?
- How can I measure it?
- How will I know I have achieved it?
- Physical goals – e.g. to improve my aerobic fitness (endurance).
- Environmental goals – e.g. To structure my weekly activities so that I can include time everyday with my family.
- Behavioral goals - e.g. to be more co-operative and positive.
- Mental skills – e.g. to acquire and practice visualization skills.

**Goals Setting Guidelines:****Set:**

- Difficult but realistic goals.
- Specific goals in measurable terms.
- Short-range as well as long range goals. Performance related goals versus outcome goals.

**Identify:**

- Target dates for achieving goals.
- Strategies.
- Seek consultation from trainer, coach senior players and other support personnel.

**Record:**

- Goals once they have been identified.

Evaluate goals with periodic checks of progress and organize support for achievement of goals from the family, coaches or teammates who can assist and encourage one’s effort. Goal setting is the most effective mental skill for facilitating both motivation and performance.

**b) Concentration and Attention Skills:**

Sport intelligence is paying attention to the right things at the right time. Concentration and attention skills are important. Fast bowlers have to attend to deciding on the next delivery and how to execute it, dealing with stressful situations that occur during play and thinking about field placements. The circumstances require ability to shift attention from time to time and to adopt an appropriate focus for attention at any one time. The key to effective concentration therefore, lies in selective attention and knowing how to ‘switch channels’ in concentration from ‘off’ to ‘on’ at appropriate times during play.

**Methods to Practice:**

Selective attention is the most important characteristic of successful fast bowlers. It is important to learn how to reduce irrelevant and distracting cues to a minimum during performance. In essence this means:

- Focusing on one thing at a time, such as targeting on the wicket just prior to delivery. Focusing on anything else at this time is poor selection and will probably distract the bowler.
- Remaining in the here-and-now (present). Concerns about previous bad overs or the previous bad ball (which may have been hit for six), or future overs after lunch or tea, are counterproductive.

Bowlers have no control over either past or future events and therefore all attention should be directed to matters over which they do have control, namely the very next moment, which is the next delivery.

Concentration skills demand patient and persistent practice. Learning to switch channels effectively during performance requires selective attention, and the development and active practice of pre-delivery and post-delivery routines. Even small improvements in concentration overtime can have dramatic effects on bowling performances at all age and competitive levels.

**c) Anxiety and Pressure:**

What happens to you is nowhere as important as how you react to what happens to you. Stress Management is important. Mental toughness is a characteristic ascribed to bowlers who perform well under pressure and in adverse circumstances. In these situations such players are able to keep their mental and arousal levels within manageable limits, which in turn facilitates performance. The adverse circumstances are not inherently stressful unless bowlers choose to perceive them as such. Bowlers, therefore, can learn that pressure is really something they put on themselves. It can therefore be controlled by integrating both physical and mental coping skills.

**Methods to Practice:**

Physical techniques that help bowlers control and manage pressure and problem situations immediately are:

- At least three deep breaths. This may sound too simplistic but if bowlers stand, or walk slowly, and focus on the sensations of deep breathing, their focus and attention immediately internalize to body processes. This provides a momentary welcome relief from external stresses.
- One or two deep release breaths. Again, this simple technique of inhaling deeply, then forcibly exhaling, effectively relieves tension. This is particularly so when bowlers feel rushed or hurried.
- Muscular relaxation. By alternately contracting and relaxing certain muscles and muscle groups which feel tight and stiff from prolonged periods of inactivity or overuse (e.g. upper- and lower-limb muscles, shoulder and back muscles), relief from physical stress is achieved. Coupled with passive stretching exercises, muscle relaxation techniques are excellent for dealing with physical tension.

Mental techniques such as thought stoppage are also very effective and easy to use. Thought stoppage has three simple steps:

- Bowlers first learn to listen to their inner voice, which is what they say to themselves and what they are thinking; and to become particularly sensitive to any negativism such as ‘If only I hadn’t delivered that last ball.’
- Bowlers should immediately halt negativism and stress-producing dialogue, by saying to themselves ‘STOP!’ Cricketers who use this technique are amazed at how effectively this actually stops counter productive and dysfunctional self talk.
- Bowlers should then replace negative self-talk with statements that are functional, positive and, task-oriented such as ‘Next time focus on the top of the off-stump, begin again’.

The most simple, helpful and probably most important ‘mental device’ for dealing with anxiety and stress is a focus on the task oriented behavior. When confronted with a problem, bowler should immediately ask themselves one question: ‘What is it I have to do, right now? By sticking with this strategy and with the process of bowling and not the product, bowlers will work their way through difficult situations without panicking or losing control.

**d) Visualization Skills:**

Visualization is one of the most powerful mental training strategies available to all performing athletes. Visualization skill is important. Research results of elite performers clearly show the incredible power of mental rehearsal in both learning and enhancing the sport skills. It would be safe



to say that while there is no substitute for active bowling practice, bowlers who both practice and perform visualization skills will achieve higher levels of performance than those who merely practice.

**Methods to Practice:**

- Visualization skills are best learned while in a relaxed state. Bowlers should therefore first practice at the nets by relaxing with, say, deep breathing and then visualize the type of ball they wish to deliver. Ultimately, visualization should be of an actual performance at an actual venue. Features of the environment should be noted so that the visualized performance is realistic and vivid.
- The bowling action should be performed to include all phases from run-up to follow through and if preferred against a particular batsman. Performing the complete action in its entirety ensures proper sequencing of actions and total perspective for the performance.
- Only successful bowling images should be used. Unsuccessful or poor images increase the likelihood of errors. Thinking and seeing a positive image is infinitely more powerful than merely thinking positively. Positive thoughts follow naturally from positive images and not vice-versa.
- Repeat the visualized bowling as often as necessary. Three or four repeats may be all that time will allow in between deliveries during an over. However, ten or twelve repeats while waiting in the field is advised.
- Visualize at the real speed and not in slow motion. Timing and rhythm may be adversely affected as a result of slow-motion images which might create inappropriate effects. All bowling actions should therefore be visualized at the correct speed and under competitive circumstances.
- As well as 'seeing' the technique, the 'feel' of the action ought to be vividly sensed and experienced. Harnessing these kinesthetic cues in the image will make the visualization more powerful. For example, the feel of the ball in the hand, the feet floating across the turf, the speed of approach, the arc of the bowling arm, the perfection of the release of the ball and the follow-through can all be imaged.
- Finally, a key element in successful visualization is intentionality. Bowlers must have a true desire to have or create the bowling action they wish to visualize. They must also believe that it is really possible to attain such results.

**e) Confidence and Consistency:**

If you've made up your mind that you can't do something . . . you're absolutely right! Confidence and consistency are important. Confidence affects bowling performance and performance affects self-confidence. Consistency of results therefore directly affects a bowler's self-confidence. Most cricketers find confidence and consistency elusive. The key to both confidence and consistency is effective skill in setting goals.

**Methods to Practice:**

Self confidence is concerned neither with what fast bowlers hope to do, nor what they have already achieved. It is concerned with what bowlers realistically believe they are capable of doing at a particular moment. To enhance confidence and consistency bowlers should do the following:

- Prepare and develop a consistent thought pattern and focus. Pre-game preparation (physical, technical and mental) will facilitate consistent results. Visualization, combined with self-talk, ought to be integrated with active physical preparation.
- Be positive, determined and committed. Bowlers should choose to feel and be positive in what they do. This helps to ensure that they perform within their capacity and are in control, both mentally and physically.
- Mean what is said. Self-talk about expectations for performance will have a corresponding effect on the body only if stated with emotion and conviction. How one walks, talks, listens and looks

reflects the person. If one really means it when saying 'I feel 3 meter tall and bullet proof' or 'I own this place', the changes in walking, posture and especially the outlook must be seen.

Diffident bowlers should consider the following:

- Not be prisoners of negative images. Bowlers who lack confidence tend to focus so intently on mistakes and errors that it distracts them from attending to those aspects essential for good performance. As in both the goal setting and coping skills sections, bowlers should ask themselves, 'What is it I have to do?' rather than, 'What is it I'm doing wrong?'
- That's not like me. When out-of-form bowlers are having a lean period they typically discount the positives in their performances and conjure up images of themselves, being far less talented and less skilled than reality. Good bowlers never lose their ability and skill but they can lose confidence in their ability and skill. Hence, out-of-form bowlers should deal only in successful images and best performances, and stop dwelling on uncharacteristic, less talented images.
- Think realistically about performances. Bowling performance is rooted in realistic expectations and beliefs. Some bowlers actively look for 'proof' that they are out of form and evidence to support their belief that they 'just can't do it'. This must be short-circuited before a negative, self-fulfilling prophecy develops. This is especially true in the first few matches after a promotion, or even the first few overs, if they have not been successful. Bowlers should therefore expect to do well and look instead for proof that they 'can do it'. Paper cuttings and videos of previous successes are excellent examples of proof. This intervention does not deceive bowlers, it simply reminds them that their ability has not disappeared.

Effective goal setting will arrest the downward spiraling of self-confidence that bowlers frequently create as a result of temporary lapses in form. By remaining task oriented bowlers can help themselves restore and sustain confidence.

**f) Game Strategy:**

A necessarily different mental or psychological state exists when a bowler is performing well as opposed to when he or she is performing poorly. It is called the ideal performance state. Game strategy is important. Optimal preparation for games helps to produce optimal performances and this is made possible by analysing previous satisfactory or outstanding performances. Bowlers tend to analyse only poor performances because mistakes and errors draw attention to themselves. Good performances on the other hand, which provide excellent learning opportunities, may be rarely scrutinized with as much detail and concern. All bowlers, therefore, can help re-create their 'ideal performance state' by becoming more aware of how they feel and how they behave during good performances.

**Methods to Practice:**

(1) **Day before the Game:** How were daily activities structured? Rest and nutrition are particularly important. What did you do that you think helped?

(2) **Game Day: Pre-competition Planning:**

Prior to arriving at the field:

Wake-up procedures, structure of activities, nutrition and rest, control of arousal, maintenance of confidence, visualization, gear preparation, travel to field (did you drive or were you driven).

At the field: Field/wicket inspection, group and individual warm-up, practice of physical and mental activities.

During the Game: Where was your focus? Focus ought to be on individual and team mini-goals within each session and bowling spell, and a philosophy of 'ball by ball' delivery strategy.

Post-game Analysis:

The four R's should be addressed:

Review what happened:

Retain what can be learned from good and bad individual and team performances, and what can

be learned from the opposition (discard the rest); Rest regardless of how well you bowled. It's over, so rest and re-energize; Return to practice refreshed and eager, feeling positive and determined about future games regardless of previous performances.

An analysis or de-briefing of pre-game, during-game and post-game activities is required in order to help bowlers prepare effectively for the future games.

#### **Psychological Readiness to Return to Play:**

An attitude that 'if the body is ready for a return to play, the mind is also' is both naive and dangerous because it may lead to immediate re-injury or injury to another body part due to over-protection of the more seriously injured part. It could also cause lowered performance and possible loss of confidence. A concern therefore with only physical rehabilitation, such as absence of pain, full range of motion and full strength return, must be supplemented with psychological considerations. There should be thorough discussions between the cricketer and the support staff about his or her readiness to return. In spite of physical evidence, diffident cricketers should never be returned to active duty, particularly if they believe they are not ready.

#### **Communication with Fast Bowler:**

The fast bowler during a string of overs is by far the hardest worker on the field, experiencing more physical discomfort, more fatigue and possibly more stress and pain than anyone else. The fast bowler is both the endurance and explosive athlete of the cricket team. Not all fast bowlers, under these circumstances can maintain the proper attitude, and they may become discouraged or angry in some other way fall into mental attitude not conducive to for best performance. One of the captain's job is to observe or sense any such problems and any negativity, and assist the bowler in recovery. This can be done by the usual method of encouragement and praise. If criticism from the captain is unavoidable, as it may sometimes, it may best be made after a spell of bowling, after an entire session or indeed after the match. However, if something readily observable has gone wrong without the bowler realizing it, like loss of rhythm, bowling from too wide of the stumps or clearly gripping the ball wrongly, the captain might be able to quietly indicate whatever might be worthy of attention. Wicket-keepers can often pick those things up and all fast bowlers should strive to develop a working liaison with the wicketkeeper. Notwithstanding these occasions when the captain must talk to the bowler, the captain should not do it too much or too often. The fast bowler has to concentrate on the next delivery and will have switched off other considerations well before commencing the run-up. Unnecessary chatter or repetitive remarks like 'keep it up' can interfere with the operation of the bowler's own mental devices. Hence psychological aspects in fast bowling are as important, if not more, as the other aspects with proper direction and persistence, bowlers will eventually notice improvements in performance.

#### **Conclusion:**

Currently the psychological care of injured cricketers has not been a priority amongst health care professionals and coaches, but it should be. Consequently the psychological impact of a serious injury is poorly understood. Cricketers themselves often appear to care less about such factors until they are personally affected (injured). With the advent of more sport psychology personnel available, this situation seems to be fast changing for the better.

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## Person with Disability: Social Impact of Cultural Beliefs

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### Abstract

Person with disability experiences discrimination from the society. This kind of social treatment generates additional psychological stress on person with disability. On top of it if the person with disability is socially disadvantaged, the disadvantaged status doubles for him. The discriminatory behavior is rooted in the cultural beliefs of the society it cultivates and maintains. Overall, it vitiates the perception towards the person with disability. Further, it leads to isolation and segregation of people with disabilities. This creates barriers between accesses of benefits from the help giving agencies. Hence, it is important to investigate in to the cultural beliefs of the society.

**Key words:** person with disability, culture, beliefs.

### Introduction

Individual interpretations of events can vary widely according to culturally determined factors. These include not only material resources but also history, social custom, tradition, religious beliefs, cultural values related to human worth, family structures, and so forth (Beth, 2002). Family attitude regarding a person with disability is determined by the community and religion which the family shares. The religious beliefs influence behavior of an individual. Religious beliefs serve to organize one's feeling and thinking about illness and disability through value judgments of right and wrong, of purpose and ultimate meanings. However, value judgments also enter the scientific approach and can influence perception (wright, 1983).

Status of a physically handicapped can varies in different cultures. In some cultures, they are completely rejected and became outcasts. In others, they were treated as economic liabilities and grudgingly kept alive by their families. Still in others, they are tolerated and utilized in incidental ways. In addition, in some they were given respected status and allowed participation to the full extent of their capabilities (Berreman, 1954). Sometimes the belief system that one holds of a particular religion or culture can also bounce back on him. Human behavior is dominated by his perception about the world and in turn, which contributes in framing his belief system, for example beliefs that illness or disability is a punishment from god. A family influenced by this belief considers disability as a direct result of sinning. Someone among the family or one of the parents had done some sin in the past. Treating disability as a "punishment for sin" for example forces the family to feel guilty and hide the disability with this understanding that they are hiding the "evidence of sin" from public, resulting in neglect of child or persons with disability. Hence, the individual is ignored and naturally, the "expectancy prophecy" comes to be true for example "the child is gift by god so now nothing can change the condition, no future, the child can't do anything". When the disability in some way associated with punishment or idealizes the normal ideal, then the possibility of disability as a sign of inferiority will be perceived (wright, B. A. 1983). In such circumstances the individual develops in to a person who cannot contribute socially or economically to the family and the society. This kind of beliefs directly encourages dependency among persons with disability and it ultimately leads to loss of human resource. The stigma attached to a social group can result in influencing the professionals' perception as well. This gets reflected in failure to identify the strength of the person those are from different social background. For an example African Americans are seen as a group who do not have their own culture (Beth H, 2002). The Hindu theological concept of *Dharma* explains an existing personal condition as the inevitable result of past behavior in previous incarnation. It is consequently reasonable that sympathy for persons with defects is lacking because they have brought their affliction upon themselves. That the attribution of responsibility is an important factor in attitudes toward persons who have a disability has been consistently demonstrated in research (Shurka & Katz, 1982). In western society, the person tends to be held more accountable for alcoholism, mental illness, and

obesity than for sensory and orthopedic impairments, and therefore is especially stigmatized on this account (Wright, 1983).

One of the possible barriers between parent and professional relation is the social and cultural treatment given from years to the parents, especially if the parents are from socially disadvantaged background. Socially disadvantaged parents are at a disadvantage due to the discriminatory treatment from the society. One of the barriers between parents and the services providers (rehabilitation professional) could be the lack of information for rehabilitation services and the experience of being treated differently due to minority status (Beth, 2002).

Indian society, projected as one culture, is not the fact. One important feature of Indian society is that it is highly polluted with discrimination based on class and caste. This kind of attitude dissociate the being from feelings of respecting diversities, valuing differences and maintaining feelings of connectedness among each other. In Indian society there is no scope for movement because of the socially disadvantage status. So considering the issues regarding disability, such (non-accommodative and non-flexible) kind of social structure in itself is a source of stress for parent of a child with disability. The dominant culture in this multicultural society is free-floatingly imposing its so-called "normative" expected behavior on the minor groups. Non-dominant groups now also internalize living to those standards as it is regarded as a qualification for inclusion. Consequently, in this process people have lost their individuality and their own culture specific individual differences. Therefore, the Indian society is representing a pseudo mono-cultural expression. The effect of imposed perceptions is observed directly on the belief system of a person. As mentioned above that labeling disability because of "sin committed in the past life" can be a part of belief system of a person who believes in rebirth and such kind of transformations from one birth to another. Believing that disability is due to "curse of a god" is because of believing in the fact that god can function in this manner. Containing such beliefs further vitiates the perceptions and behavior towards a child/person with disability.

To be accommodative, society should believe in the principle of equal opportunity to all. However, in Indian society there is always an ongoing struggle for equal opportunities among different groups. In a society where social disadvantage status is related with economic status, there is a string possibility that the resources will be inadequate with them (Beth, 2002). Indian society is not an exception to similar disadvantage.

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## **Analysis of Anthropometric Profiles among Inter University Level Women Ballbadminton Players**

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### **Abstract**

The purpose of this study was to analysis of anthropometric profiles among Inter University level women Ball badminton players. **Subjects:** For this study, One fifty Inter University Ball badminton women players from Amravati University, Andhra University, Calicut University, Kerala University, Bharathidasan University, M.G University, Bangalore University, Anna University Chennai, BSAU Tamilnadu, Madras University, Anna University Trichy, Annamalai University, Mumbai University, Madurai Kamaraj University and Pondicherry University were selected and their age ranged from 18-28 years as per the university norms. The subjects selected from All India Inter University Ball badminton women tournament held at Alwa's Educational Foundation and Mangalore University from Mangalore for the academic year 2011-2012. **Variables:** Standing height, body weight, arm length, palm length and elbow girdle were selected as anthropometric variables. **Test and Equipment Used:** Height measured by Steadiometer, weight measured by weighing machine, arm length, palm length and elbow girdle measured by inch tap. **Statistics Used:** Descriptive statistics (Mean & Standard deviation) and analysis of variance ANOVA were used analyze and to find out the significant difference. To test the significance the level of confidence was fixed at .05. **Result:** There was a significant difference was occurred among different universities women Ballbadminton players on arm length and there was no significant difference was occurred among different universities women Ball badminton players on Standing height, body weight, palm length and elbow girdle.

**Keywords:** Achievement Motivation, personality inventory and Cricket.

### **Introduction**

Anthropometric techniques are used to measure the absolute and relative variability in size and shape of the human body. Depending on the objective, anthropometric instrumentation may include weighing scale, anthropometer, skinfold calipers, body volume tanks, and bioelectrical impedance analyzers. Similarly, radiographic instruments and x-ray scanners such as dual-energy-ray absorption meters and ultrasound densitometers are used for quantifying cortical bone density, bone mass, subcutaneous fat density, and lean body mass (Spencer 1997). According to James Tanner, formerly Professor of Child Health at the University of London, 'anthropometry was born not of medicine or science, but of the arts, impregnated by the spirit of Pythagorean philosophy (Tanner 1981). The development of anthropometry was also closely bound up with research into the health and physical condition of people living under different social and economic conditions (Eveleth and Tanner 1990). The interest in anthropometric characteristics, body composition and somato type from different competitive sports has increased over the last decades. It has been well described that there are specific physical characteristics in many sports, such as the anthropometric profile, that indicate whether the player would be suitable to compete at the highest level in a specific sport (Bourgois et al 2000). Hence the aim of the study is to analysis the anthropometric variables among all India inter university women ball badminton players.

### **Statement of the problem**

The purpose of the study was to analysis of anthropometric profiles among inter university level women ballbadminton players.

### Methodology

**Purpose:** The purpose of this study was to analysis of anthropometric profiles among Inter University level women Ballbadminton players.

**Subjects:** For this study, One fifty Inter University Ballbadminton women players from Amaravathi University, Andra University, Calicut University, Kerala University, Bharathidasan University, M.G University, Bangalore University, Anna University, BSAU, Madras University, Anna University Trichy, Annamalai University, Mumbai University, Madurai Kamaraj University, and Pondicherry University were selected and their age ranged from 18-28 years as per the university norms. The subjects selected from south-west Inter University Ballbadminton women tournament held at Alwa's Educational Foundation and Mangalore University from Mangalore for the academic year 2011-2012.

**Variables:** Standing height, body weight, arm length, palm length and elbow girdle were selected as anthropometric variables.

**Test and Equipment Used:** Height measured by Steadiometer, weight measured by weighing machine, arm length, palm length and elbow girdle measured by inch tap.

**Statistics Used:** Descriptive statistics (Mean& Standard deviation) and analysis of variance ANOVA were used analyze and to find out the significant difference, if any between the (university) group for selected variables. To test the significance the level of confidence was fixed at .05 Data were analyzed using SPSS (statistical package for social science) version 11.5.

**Table I**  
Descriptive Statistics of Anthropometric Measurement

University	Height	Weight	Armlength	Palm length	Elbowgirdle
Amaravathi Uni.	1.54±4.9	47.9±2.80	26.9±0.6	6.8±0.25	8.42±0.33
Andra Uni.	1.58±5.73	46.5±5.33	27.9±1.02	6.9±0.49	8.48±0.39
Calicut Uni.	1.56±7.1	45.4±4.9	27.5±1.38	6.86±0.33	8.52±0.45
Kerala Uni.	1.58±6.1	48±4.85	28.03±1.3	6.8±0.26	8.36±0.34
Bharathidasan Uni.	1.57±7.6	46.8±8.54	27.7±2.08	6.8±0.42	8.58±0.75
M.G Uni.	1.58±6.4	46.5±6.07	28.16±1.51	6.9±0.35	8.47±0.49
Bangalore Uni.	1.58±4.9	48.1±3.95	28.6±1.34	6.9±0.33	8.49±0.43
Anna Uni.Chennai	1.63±9.9	54.1±9.19	28.8±1.16	7.09±0.32	8.62±0.53
BSAU	1.57±6.1	48.8±9.3	27.44±1.2	6.8±0.35	8.5±0.91
Madras Uni.	1.62±2.3	47.9±5.08	28.9±1.12	7.1±2.9	8.4±0.44
Anna Uni. Trichy	1.53±6.8	50.4±6.38	28.03±1.15	6.9±0.34	8.98±0.49
Annamalai Uni.	1.57±5.5	45.3±3.86	27.7±1.1	6.9±0.50	8.52±0.44
Mumbai Uni.	1.54±6.61	48.8±4.87	27.7±1.26	7.01±0.26	9.04±0.45
M. K. Uni.	1.55±5.9	48.5±4.42	26.9±0.75	6.78±0.34	8.48±0.34
Pondicherry Uni.	1.59±5.7	44.9±7.18	28.1±0.67	6.71±0.33	8.26±0.47

**Table II**

ANOVA Calculation for Anthropometric Measurement						
Variable	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Height	Between Groups	995.773	14	71.127	1.771	.049
	Within Groups	5422.500	135	40.167		
	Total	6418.273	149			
Weight	Between Groups	738.149	14	52.725	1.418	.153
	Within Groups	5020.549	135	37.189		

	Total	5758.698	149			
<b>Armlength</b>	Between Groups	49.232	14	3.517	2.295*	.007
	Within Groups	206.811	135	1.532		
	Total	256.043	149			
<b>Palmlength</b>	Between Groups	1.913	14	.137	1.076	.384
	Within Groups	17.140	135	.127		
	Total	19.053	149			
<b>Elbowgirdle</b>	Between Groups	6.134	14	.438	1.679	.067
	Within Groups	35.230	135	.261		
	Total	41.364	149			

Table value at .05 level with df (14, 135) is 2.16.

Table I and II shows the descriptive statistics Standing height, body weight, arm length, palm length and elbow girdle were selected as anthropometric variables of Inter University level women Ballbadminton players. Results of the ANOVA revealed that there was a significant difference among the university level Ballbadminton players on arm length and there was no significant difference was occurred among different universities women Ballbadminton players on Standing height, body weight, palm length and elbow girdle.

#### **Conclusion**

From the analysis of data the following conclusions was drawn

- There was a significant difference was occurred among different universities women Ballbadminton players on armlength.
- There was no significant difference was occurred among different universities women Ballbadminton players on Standing height, body weight, palm length and elbow girdle.

#### **Implication**

Hence it would be recommended that players will be selected by considering the anthropometric variables apart from their physical, skill and fitness components.

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## Resins - Powerful Catalyst towards Green Chemistry

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### Introduction:

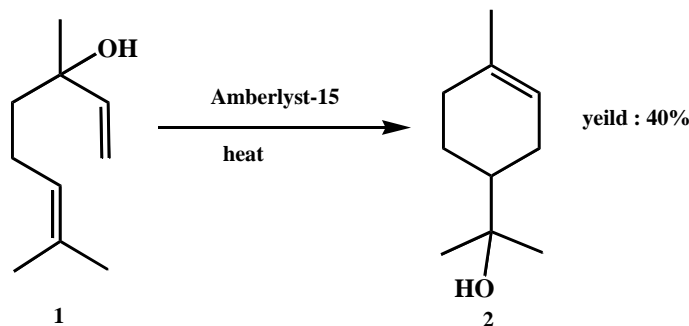
Cationic cyclization is a powerful synthetic tool for the preparation of carbocyclic and heterocyclic compounds. Its attractiveness lies in the readiness with which, highly substituted carbon-carbon and carbon-hetero atom bonds are formed. In recent years, the use of heterogeneous catalysts such as ion exchange resins, clay, solid acids, and zeolites has attracted considerable attention and are widely used in different areas of organic syntheses. Increasing stringent environmental regulations have stimulated chemical manufacturers to develop alternative technologies and use of non hazardous chemicals that produce a minimum amount of waste and avoid, as much as possible, the use of toxic and/or hazardous reagents and solvents.<sup>1</sup>

The present report highlights on the uses of cation exchange resin Amberlyst<sup>®</sup> and its application to a convenient, environmentally benign, and practicably feasible method for the desirable organic synthesis.<sup>2</sup>

The use of ion-exchange resin as catalyst for a reaction has the important advantage that the resins are insoluble in water and in organic solvents and can be removed by filtration without leaving any unwanted ion in the solution. The recovered resins can be rejuvenated and used repeatedly for the reactions, thus reducing cost and environmental hazards. Mostly resin catalyzed method does not require any additives or promoters to facilitate the reaction.<sup>3,4</sup>

AMBERLYST<sup>™</sup> polymer based catalysts and ion exchange resins involve mostly the use of functionalized styrene divinylbenzene copolymers with different surface properties and porosities. The functional group is generally of the sulphuric acid type. These resins are supplied as gellular or macroreticular spherical beads. AMBERLYST<sup>™</sup> polymeric resins have been used for 40 years in a wide variety of reactions and purification processes. Amberlyst resins have been optimized for their particular application over the past 40 years and represent in many applications the benchmark of the industry. They have been developed in respect to conversion and selectivity, prolonged lifetime, chemical and physical stability, and capacity. The list of various types of AMBERLYST<sup>™</sup> resins are listed in the following table 1.

In this article application of Amberlyst-15<sup>®</sup> resin is mentioned. Amberlyst-15<sup>®</sup> possesses unique properties such as environmental compatibility, nontoxicity, resusability, noncorrosiveness, selectivity, and chemical and physical stability. Owing to the numerous advantages associated with this inexpensive and non hazardous catalyst, Amberlyst-15<sup>®</sup> has been explored as a powerful catalyst for various organic reactions. Few examples are listed below,

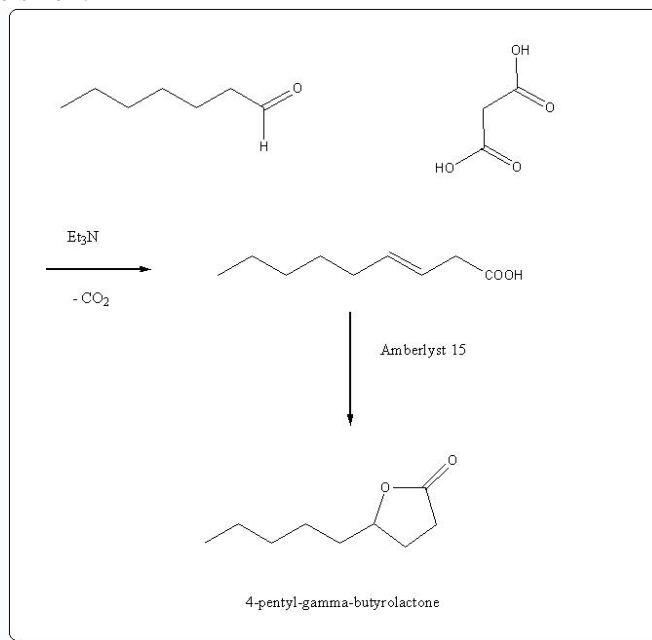


Example 1: Conversion of monoterpene linalool to  $\alpha$ -Terpineol

$\alpha$ -Terpineol has a pleasant odor similar to lilac and is a common ingredient in perfumes, cosmetics, and flavors.

**Example 2: Synthesis of Gamma-Nonalactone (Coconut Aroma)**

Gamma nonalactone also known as 4-pentyl-gamma-butyrolactone, is one of the major constituents responsible for the aroma of coconut. It has a very pleasant coconut smell, and is not "harsh" to the nose when pur as some aromas can be. It can be synthesized fairly easily in two steps, and in good yields and purity. One of the starting materials, heptanal can be difficult to obtain for the home-chemist, as there are no easy and direct way of preparing it from common materials. On the other hand, the reaction can be applied to other linear aldehydes, the lactones obtained often equally possessing a coconut-like smell.



Amberlyst-15 has been used to catalyze regioselective additions of phenols to  $\alpha,\beta$ -unsaturated ketones in yields of 20-90%. The reaction is superior to the analogous reaction employing concentrated sulfuric acid in affording greater yields and purer products with a minimum of laboratory operations.

There are many such examples explored in organic synthesis world. In summary resin catalyzed reaction finds a special place owing to its operational simplicity and generally high yields of the products.

**Table1:** Amberlyst<sup>®</sup> resin and their application to organic reactions.

Product Name	Matrix	Functional groups	Max. Op. Temp.		Remarks
			°C	°F	
Amberlyst 131Wet	Gel	SO <sub>3</sub> H	130	265	Uniform particle size catalyst for the production of Bisphenol A.
Amberlyst 15Dry	MR*	SO <sub>3</sub> H	120	250	Standard grade resin for alkylation reactions.
Amberlyst 15Wet	MR*	SO <sub>3</sub> H	120	250	Excellent kinetics, high stability and lifetime. For production of oxygenates (MTBE, ETBE, TAME.). Also used for plating bath

					rejuvenation.
<b>Amberlyst 16Wet</b>	MR*	SO <sub>3</sub> H	130	265	Excellent kinetics, high stability and lifetime. For phenol purification
<b>Amberlyst 31Wet</b>	Gel	SO <sub>3</sub> H	130	265	Excellent lifetime, good selectivity and reactivity catalyst for the production of Bisphenol A.
<b>Amberlyst 33</b>	Gel	SO <sub>3</sub> H	130	265	High activity and very low acid and leaching. Specifically designed for the production of Bisphenol A.
<b>Amberlyst 35Dry</b>	MR*	SO <sub>3</sub> H	150	300	High temperature stability and excellent kinetics for alkylation reactions.
<b>Amberlyst 35Wet</b>	MR*	SO <sub>3</sub> H	150	300	High thermal stability. For production of oxygenates (MTBE, ETBE, TAME.).
<b>Amberlyst 36Dry</b>	MR*	SO <sub>3</sub> H	150	300	Very high temperature stability for alkylation reactions.
<b>Amberlyst 36Wet</b>	MR*	SO <sub>3</sub> H	150	300	High thermal stability. Excellent kinetics, high stability and lifetime. For phenol purification. Also used for olefin hydration.
<b>Amberlyst 39Wet</b>	MR*	SO <sub>3</sub> H	130	265	Excellent kinetics, high physical stability and lifetime. Suitable for esterification (e.g. acrylates) where high yield and good mechanical resistance are required.
<b>Amberlyst 40Wet</b>	MR*	SO <sub>3</sub> H	140	285	High capacity resin for plating bath rejuvenation and rinse waters recycling. Recovery of metal catalysts from adipic acid manufacture.
<b>Amberlyst 70</b>	MR*	SO <sub>3</sub> H	190	375	Stable up to 190°C. Excellent kinetics and lifetime. Use for many high-temperature applications including olefin hydration and esterification.
<b>Amberlyst CH10</b>	MR*	SO <sub>3</sub> H, Pd	130	265	Palladium doped product (0.3%) for hydrogenation (MIBK, TAME).
<b>Amberlyst CH28</b>	MR*	SO <sub>3</sub> H, Pd	130	265	Palladium doped product (0.7%) for hydrogenation (MIBK, TAME).
<b>*MR = Macroreticular</b>					

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## Financial Market Integration in India

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**Abstract:** A spate of crises in the early 1990s compelled countries to pave the way for reforms. India too made concerted efforts to remove restrictions on pricing of various financial assets, allowed easy capital mobility across national boundaries, made technological developments in electronic payments and communication, harmonised prudential regulations in line with international best practices, and shifted the operating procedure of monetary policy to price-based instruments to integrate the various financial market segments. This paper finds that reforms have integrated the domestic market segments to a large extent. However, the equity market still remains segmented from the remaining markets.

**Key Words:** Financial Market Integration, Financial Sector Reforms, Cross-Correlation

Financial market integration is a process unifying market and enabling convergence of risk adjusted returns on the assets of similar maturity across the markets. After several crises in the 1990s, the developed and emerging economies alike have made concerted efforts to reform their economies. Financial Sector reforms in India focussed on removal of structural bottlenecks, introduction of new players/instruments, relaxation of quantitative restrictions, improvement in trading, clearing and settlement practices and greater transparency. These measures have helped in achieving significant progress in terms of policy and institutional reforms, introduction of numerous players and instruments and enabled faster and cheaper flow of information. After more than two decades of reform the question is how far these initiatives have been able to reduce the inter-market divergencies that existed previously? Is the financial market integration complete in India? This paper makes an attempt to answer the above questions empirically.

Section I of the paper deals with certain conceptual issues relating to financial integration. Section II discusses the measures taken towards domestic financial market integration in India. Section III examines the results obtained from the empirical study done and finally the conclusion summarises the findings with the policy implications.

### **Section1: Concept of Financial Market Integration**

Financial market integration is the process by which segmented markets become open and unified so that participants enjoy the same unimpeded access. Financial market integration is imperative for several reasons. It helps in transmission of price signals. It serves as a vehicle for promoting domestic savings, investment and consequently economic growth (Mohan, 2005). It contributes to financial stability by enhancing competition and efficiency of intermediaries in their operations and allocation of resources (Trichet, 2005). Integrated markets lead to innovations and cost effective intermediation, thereby improving access to financial services for members of the public, institutions and companies alike (Giannetti et al., 2002). Financial market integration induces market discipline and informational efficiency.

The need for financial market integration arises primarily because of the lack of uniformity of the various market segments. The coverage of the segments could be national (money market) or international (foreign exchange market) depending upon the location of the financial transactions. Financial markets differ in terms of risk profile, the extent of depth and liquidity of the instruments. Lastly, market participants differ in different financial markets. However, financial integration brings in certain risks too. The large capital inflows induced by financial integration can have undesirable macroeconomic effects, including rapid monetary expansion, inflationary pressures, real exchange rate appreciation, and widening current account deficits. Thus the need is to identify the policy prerequisites necessary for maximizing gains and minimizing the risks associated with financial

integration.

### **Section II: Domestic Financial Market Integration in India**

A comprehensive package of financial sector reforms was undertaken following the recommendations of Narsimham Committee (1991). The measures that facilitated integration of markets in particular are as follows:

#### **Free Pricing**

- a) freedom to banks to decide interest rate on deposits and credit
- b) shift to market-determined floating exchange rate regime
- c) gradual liberalisation of the capital account
- d) introduction of the book-building process in the new issue market

#### **Widening Participation**

- a) enhanced presence of foreign banks
- b) participation of FIIs in the Indian equity market
- c) allowing banks/authorised dealers (ADs) to borrow and invest funds abroad and to lend in foreign currency to companies in India for any productive purpose.
- d) permission to raise resources by Indian companies

#### **New Instruments**

- a) Repurchase agreement (repo) and the liquidity adjustment facility have emerged as a tool for both liquidity management and also signalling device for interest rates in the overnight market. Instruments like inter-bank participation certificates, certificates of deposit, commercial paper and collateralised borrowing and lending obligation (CBLO) have also emerged as money market instruments.
- b) Treasury Bills of various maturities, zero coupon bond and government of India dated securities were introduced. Derivative products such as forward rate agreements and interest rate swaps were introduced.

#### **Technology, Payment and Settlement Infrastructure**

- a) The Delivery-versus-Payment system (DvP), the Negotiated Dealing System (NDS) and subsequently, the advanced Negotiated Dealing System – Order Matching (NDS-OM) trading module and the real time gross settlement system (RTGS) have facilitated transactions and settlement process.
- b) Electronic trading system was started in all the stock exchanges.

### **Section III: Empirical Analysis**

The organised Indian financial sector can be broadly divided into the following market segments: money market, government securities market, equity market and foreign exchange market. We choose representative variables from each market to test for the domestic financial market integration in India. The variables chosen are reverse repo rate, call rate, yields of 91 day and 364 day Treasury Bills, commercial paper yield, yield of 10-year government securities, forward premia of 1month, 3 months and 6 months, real effective exchange rate and BSE-Sensex. The last two variables have been taken in the natural logarithm form. The period of our analysis is from April 1993 to March 2011. We divide the entire period into two distinct phases. The first phase refers to the early transition phase of the 1990s i.e from April 1993 to March 2001 and the second phase is the period of relative stability in the financial markets from 2001 onwards i.e April 2001 to March 2011. With the available time series data we find out the cross correlations among the various market interest rates and present our results.

The correlation structure of interest rates reveals several features of integration of specific market segments (Table 1).

1. In the money market the correlation among the interest rates is stronger in the second phase than in the first phase. The correlation coefficient between call rate and TB91 has increased to 0.84 from 0.31. Similarly the correlation between call rate and commercial paper too increased from 0.21 to 0.48.

Further the correlation coefficient between the two TBs increased from 0.86 to 0.97. This indicates the improved efficiency of the financial intermediaries operating in the money market.

2. The transmission of monetary policy has improved due to the increased correlation coefficient between the reverse repo rate and the money market rates.

**Table 1: Correlation Among Major Financial Markets in India**

April 1993 to March 2001											
	RR	CR	TB91	TB364	G10	CP	FP1	FP3	FP6	LREER	LSEN
RR	1.00										
CR	0.45	1.00									
TB91	0.51	0.31	1.00								
TB364	0.29	0.06	0.86	1.00							
G10	-0.06	0.20	0.24	0.53	1.00						
CP	0.27	0.21	0.68	0.68	0.58	1.00					
FP1	0.22	0.63	0.15	0.04	0.47	0.38	1.00				
FP3	0.20	0.41	0.21	0.18	0.64	0.56	0.93	1.00			
FP6	0.16	0.27	0.27	0.29	0.72	0.65	0.84	0.97	1.00		
LREER	-0.25	0.00	-0.39	-0.34	-0.26	-0.23	-0.07	-0.16	-0.26	1.00	
LSEN	-0.12	0.06	0.04	-0.12	-0.60	-0.15	-0.38	-0.51	-0.58	0.40	1.00
April 2001 to March 2011											
	RR	CR	TB91	TB364	G10	CP	FP1	FP3	FP6	LREER	LSEN
RR	1.00										
CR	0.76	1.00									
TB91	0.90	0.84	1.00								
TB364	0.90	0.78	0.97	1.00							
G10	0.56	0.48	0.65	0.78	1.00						
CP	0.53	0.48	0.55	0.56	0.48	1.00					
FP1	0.22	0.44	0.41	0.40	0.45	0.57	1.00				
FP3	0.19	0.36	0.38	0.39	0.49	0.51	0.96	1.00			
FP6	0.18	0.32	0.35	0.38	0.51	0.46	0.90	0.98	1.00		
LREER	0.41	0.24	0.45	0.45	0.21	-0.07	-0.08	-0.03	0.02	1.00	
LSEN	0.13	0.00	0.14	0.22	0.32	0.40	0.08	-0.01	-0.08	0.00	1.00

RR: Reverse Repo, CR: Call rate, TB91/364: Treasury Bills yield, G10: yield on 10- year Government securities, CP: Commercial paper yield, FP1/3/6: 1/3/6 month Forward premia, LREER: Natural Log of REER, LSEN: Natural Log of BSE-Sensex

3. The integration between the government securities market and money market too has improved in the second phase. The correlation coefficient between 10-year GOI bond and TB91 has increased from 0.24 to 0.65 and that between the government bond and TB364 has increased from 0.53 to 0.78. This explains that the degree of correlation between the long term instruments with the short term instruments have also increased.
4. The integration between the money market and the foreign exchange market too has improved in the second phase. The correlation coefficient between call rate and 6-month forward premia has increased from 0.27 to 0.32. Similarly the correlation coefficients between the Treasury Bills and forward

premium have all increased in the second phase. The horizontal integration of the foreign exchange market with the money market has facilitated closer co-ordination of monetary and exchange rate policies.

5. Finally the equity market remains relatively less correlated with the risk free money market segments. This is indicative of greater volatility of stock returns and the existence of large equity risk premium. This could be due to the presence of different participants in the equity and other financial markets. The participants in the other financial markets are fairly common (for e.g banks), but in the equity market these participants have limited participation due to prudential regulations.
6. One may note that any correlation coefficient exceeding 0.20 and 0.18 (for 5% level of significance) for phase I and II respectively is significantly different from zero. Thus, the cross correlations of most of the variables are quite high and significant. The critical values have been calculated by testing the hypothesis on correlation coefficient  $H_0: r=0$  against  $H_1: r \neq 0$  where  $t_{n-2} = r \sqrt{[(n-2)/(1-r^2)]}$

#### **Conclusion**

To sum up, horizontal integration among various market segments in India have grown, especially in the recent period. This was reflected in the higher correlation among interest rates in various market segments. However, in order to reap the benefits fully financial market integration has to be more strengthened. The equity market still remains segmented from the rest of the financial markets. Therefore the ongoing financial reform needs to be accelerated to further deepen the degree of convergence among the various market segments.

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## **Effect of Yogic Exercises for the Promotion of Physical Fitness and Badminton Skills of Junior College Girls**

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### **Abstract**

Yoga has been accepted by the world-wide nations for its whole-some approach for the humanity. Various scientific researchers are in opinion that practicing yogic exercises results into the improvement of certain factors of physical fitness like flexibility, lung capacity, endurance, neuromuscular co-ordination etc. Considering the above facts, the investigator wanted to find out whether training in Yoga would help to improve the skills in Badminton. Therefore, it was proposed to study and evaluate, "Effect of Yogic Exercises for the Promotion of Physical Fitness and Badminton Skills of Junior College Girls" with this objectives, to evaluate gain or acquire the best advantages of yoga practices to improve the Badminton skills of the college girls. The investigator has used a parallel group method of true experimental design. Sixty female students (N=60) from S.N.D.T Arts and Smt. C.B. College of Commerce & Economics for Women, Mumbai. The subjects were selected from a population of thousand students by Fishers' table random sampling. A set of selected yogic exercises (asanas and breathing exercise) formed the independent variable in the present study. They were selected on the basis of the assumption that they would have a developmental effect on physical fitness as required in Badminton. The investigator has selected the tests from the AAHPER youth fitness battery and the dynamic flexibility test to measure certain physical fitness factors along with the Flicks Badminton skill test & Miller Wall Volley test as dependent variables for the pre and post testing. The present study, a 2 X 2 X 6 Factorial ANOVA followed by Scheffe's Post Hoc test has been applied for data analysis. Experimental group could show higher score in Arm Strength ability than the Control group ( $q = 0.18, p < 0.01$ ). Higher performance score in Abdominal Strength and Endurance was evident in Experimental group than the Control group ( $q = 6.23, p < 0.01$ ). Experimental group could significantly reduce the performance time in Shuttle Run test than the Control group ( $q = 1.48, p < 0.01$ ). Significantly lower score in performance time in 50 Yards Dash was evident in experimental group than the Control group ( $q = 0.49, p < 0.01$ ). Experimental group did not show higher performance score in Standing Broad Jump Test than the Control group ( $q = 0.20, p > 0.05$ ). Experimental group showed significantly higher score in performance of Flexibility than the Control group ( $q = 0.2.20, p < 0.01$ ). In Miller's Wall Volley test, the experiment group showed higher performance score than the Control group ( $q = 5.83, p < 0.01$ ). Experimental group showed better performance score in Hick's Clear test than the Control group ( $q = 10.76, p < 0.01$ ). The results of this study warrant the conclusions were, Six weeks training of selected Asanas and Breathing Exercises improved physical fitness level of college Badminton players. Six weeks training of selected Yogic Exercises showed significant improvement in the performance in Badminton Skills.

**Key words:** Yogic exercises, Physical fitness, Badminton players.

### **Introduction**

In modern civilization life has become extremely complicated as compared to earlier. Thus, as a result, one is not only deprived of physical exercise but also of proper rest, relaxation and recreation. Most of our jobs involve least physical activity. A busy life pattern prevents us from going out in to a fresh atmosphere and spending time for sports and other recreational activities. Pollution, improper diet and competitive life pattern create tensions. The pace of life is so fast that the mind is always overburdened with many cares and anxieties. All these evils in our modern society give rise to a sick, weary and aching body crowded with a tensed mind.



Yoga has been accepted by the world-wide nations for its whole-some approach for the humanity. Various scientific researchers are in opinion that practicing yogic exercises results into the improvement of certain factors of physical fitness like flexibility, lung capacity, endurance, neuromuscular co-ordination etc. Yoga also improves the functioning capacity of the various systems of the body. The investigator feels that these aspects of Yogic activity would be advantageous in the improvement of the physical fitness level of Badminton players. As Yoga deals with body and mind, both with equal importance, this aspect is used in the highly competitive games and sports. The athletes or players have shown remarkable improvement in their performances as they are able to overcome psychological stress and concentrate more on giving the best physical performance. Considering the above facts, the investigator wanted to find out whether training in Yoga would help to improve the skills in Badminton. In the light of above discussion it was proposed to study and evaluate, “*Effect of Yogic Exercises for the Promotion of Physical Fitness and Badminton Skills of Junior College Girls.*” The study has been conducted some objectives were as, To assess the level of physical fitness of selected Badminton players; To employ some of the selected yogic practices for the promotion of physical fitness; and to evaluate gain or acquire the best advantages of yoga practices to improve the Badminton skills of the college girls. The hypotheses formulated, in this investigation, are as,

H1: Six weeks training of selected Asanas and breathing exercises will improve physical fitness level of college Badminton players.

H2: Six weeks training of selected asanas and breathing exercises may also show significant improvement in the Badminton skills ability

Yogic exercises are stretching in nature in which the practice of asana leads to stability, health and lightness of body. Further it is also stated that the practice of Asana contributes to strength. Badminton is a game that can be played by men, women, children, young and old, fat or thin, indoor as well as outdoor. When played properly, it requires a great deal of speed, endurance, power and flexibility. The game Badminton requires good level of physical fitness and quick physical and mental reflexes. Physical fitness helps to perform the skills in a better way and it takes care of the physical side of a skill; but yoga deals with body and mind both with equal importance and, therefore, may help the player to perform the Badminton skill in a better way by having a stable body mind co-ordination along with physical health. It has been proved that yoga helps to improve coordinated function of the various systems of the body such as respiratory, circulatory, nervous system, muscular system etc. Yoga is not only a set of exercise but it is a way of life to every individual. Yoga is universal benefiting all people of all ages irrespective of caste, creed and colour. It can improve general health and maintain their intellectual keenness. The aging process is inhibited; sometimes particularly around middle age, people find themselves rejuvenated physically as well as intellectually if they practice yogic exercises regularly.

The findings of this study may benefit all the players since they can use yogic exercises to improve their suppleness of body. This is a very important aspect of any physical activity and any skilled game. Badminton players can take advantage of the yogic exercises and breathing exercises to improve their flexibility, agility, strength concentration, lung capacity and speed which are essential factors to improve their sports skills and performance.

#### **Method**

##### ***Procedures***

The investigator has used a parallel group method of true experimental design for the present study that consists of one control group and the other experimental group. A set of selected yogic exercises (asanas and breathing exercise) formed the independent variable in the present study. They were selected on the basis of the assumption that they would have a developmental effect on physical fitness as required in Badminton. The investigator has selected the tests from the AAHPER youth fitness battery and the dynamic flexibility test to measure certain physical fitness factors along with

the Flicks Badminton skill test and Millers wall volley test as dependent variables for the pre and post testing. The tests are described below. Selected sixty subjects of experimental and control group were given pre test which comprised of AAHPER youth fitness test, Dynamic flexibility test, Hick's Badminton, skill test and Miller's wall volley test. The experimental group was then put under six weeks yogic exercises training programme along with their Badminton coaching sessions; control group was not given yogic training but they continued with their regular programmes. The programme in short has been presented below:

- **Pre test programme**  
On 20th & 21st June 1998 in the morning at 8 a.m. pre test which comprised of some of the items of AAHPER Youth Fitness tests, Dynamic flexibility test, Hicks Badminton Skill test and Millers Wall Volley test. With the help of some professionally qualified and trained teachers the data were recorded in a tabular form in the chart. After completing this fitness test they were asked to give the Hick's Badminton Skill test and Miller's Wall Volley test on the Badminton court that was kept ready according to the test requirements. The data were recorded carefully, entered in the chart and preserved.
- **Training Sessions**  
A regular training session of Yogic exercises was started on the next day after completion of the Pre-testing programme. The subjects of the experimental group were undergone the training in the selected Yogic exercises for a total period of 6 weeks, whereas the subjects of the control group did not participate in the above programme, but they were continued their daily programme.
- **Post-test**  
After completion of the experimental period of 6 weeks, the subjects of both the experimental and control groups were again tested with the test items of Physical Fitness along with Miller' Wall Volley Test and Hick's Badminton Skill test. The procedure of post-testing has been followed similarly as stated in the pre-test. The data were recorded and preserved carefully.

#### a) Independent Variables

- **Asanas** The selection of asanas was done by considering the important fitness factors which are required to perform Badminton skills in an improved manner. The fitness factors required for Badminton are flexibility, arm strength, abdominal strength, agility, speed and power. The asanas beneficial for improving the factors of physical fitness may be as follows:

1. Parvatasana.	7. Dhanurasana.
2. Vajrasana.	8. Udthanpadasana.
3. Yogamudra.	9. Ardhashalabhasana.
4. Paschimotanasana.	10. Halasana.
5. Ushtrasana.	11. Vakrasana.
6. Bhujangasana.	

These are good for abdominal strength.

➤ Vrikshasana.	➤ Trikonasana.
➤ Tadasana.	➤ Viparitarani.
➤ Standing Chakrasana.	➤ Hastapadasana.
➤ Gorudasana.	➤ Shavasana.
➤ Utkatasana.	

- **Breathing exercises**

1. Anuloma viloma.
2. Kapalabhati.
3. Ujjayi.

➤ **Dependent Variable**

The investigator has selected the tests from the AAHPER youth fitness battery and the dynamic flexibility test to measure certain physical fitness factors along with the Flicks Badminton skill test and Millers wall volley test as dependent variables for the pre and post testing. The tests are described below.

1. AAPHER youth fitness test
  - a) Flexed arm hand.(for girls) - Arm strength.
  - b) Sit up - Abdominal strength.
  - c) Shuttle Run - Agility.
  - d) 50 yards dash - Speed.
  - e) Standing long jump - Power.
2. Flexibility test: Dynamic flexibility - Flexibility.
3. Hicks Badminton Skill Test (Clear test)
4. Millers wall volley test

**Subjects**

Sixty female students (N=60) from S.N.D.T Arts and Smt. C.B. College of Commerce & Economics for Women, Mumbai were volunteered for the present study. All students were between the age of 18 to 20 years. These sixty subjects were selected from a population of thousand students by Fishers' table random sampling. They were divided into two equal groups. All sixty students were given the opportunity to play Badminton. One group of 30 students was considered as an experimental group. They were given a special yogic exercise training programme. The other group of 30 students was considered as control group. All the subjects were clinically fit.

**Data Analysis**

The data collected by the above procedures were analyzed primarily by the descriptive statistics. Further, looking towards the nature of design of the present study, a 2 X 2 X 6 Factorial ANOVA followed by Scheffe's Post Hoc test has been applied for data analysis. Table 1 represents the model for presentation of data. In this table the dependent variables were arranged vertically in columns whereas the control and experimental groups were arranged horizontally.

**Table 1**  
**Statistical Model for Presentation of Data in 2 x 2 x 6 Factorial ANOVA**

Performance in Physical Fitness Variables						
Groups	F.A.H. (A 1)	S.U. (A 2)	S.R. (A 3)	50 Y.D. (A 4)	S.B.J. (A 5)	D.F. (A 6)
Expt. Gr. (B 1)	(A <sub>1</sub> B <sub>1</sub> )	(A <sub>2</sub> B <sub>1</sub> )	(A <sub>3</sub> B <sub>1</sub> )	(A <sub>4</sub> B <sub>1</sub> )	(A <sub>5</sub> B <sub>1</sub> )	(A <sub>6</sub> B <sub>1</sub> )
Cont. Gr. (B 2)	(A <sub>1</sub> B <sub>2</sub> )	(A <sub>2</sub> B <sub>2</sub> )	(A <sub>3</sub> B <sub>2</sub> )	(A <sub>4</sub> B <sub>2</sub> )	(A <sub>5</sub> B <sub>2</sub> )	(A <sub>6</sub> B <sub>2</sub> )
Expt. Gr. (B 1)	(B <sub>1</sub> C <sub>1</sub> )					(B <sub>1</sub> C <sub>2</sub> )
Cont. Gr. (B 2)	(B <sub>2</sub> C <sub>1</sub> )					(B <sub>2</sub> C <sub>2</sub> )
	(C <sub>1</sub> )					(C <sub>2</sub> )
	Miller's Wall Volley Test					Hick's Clear Test

Where, F.A.H. = Flexed Arm Hang,  
 S.U. = Sit Ups  
 S.R. = Shuttle Run,  
 50 Y.D. = 50 Yards Dash  
 S.B.J. = Standing Broad Jump

D.F. = Dynamic Flexibility .

The model of the factorial design accepted as 2 X 2 X 6 Factorial ANOVA which can be seen in Table -2. In this table the levels of dependent variables were flexed arm hang, sit up, shuttle run, 50 yards dash, standing broad jump, dynamic flexibility, and skills of Miller’s Volley test and Hick’s Clear test.

**Table 2**  
**Experimental Model for Factorial Design**

Factor	Levels	Design
<b>Physical Fitness</b>	Arm Strength (A1), Abdominal Strength/Endurance (A2), Agility(A3) Speed (A4), Explosive Power (A5) Dynamic Flexibility (A6 )	2x2x6 FACTORIAL DESIGN
<b>Groups</b>	Expt. Gr. (B1), Cont. Gr. (B2)	
<b>Badminton skills</b>	Miller’s Wall Volley Test (C1) Hick’s Clear Test (C2)	

The descriptive statistics evaluated were central tendency and dispersion of the subjects performance. The measures of Central tendency and Dispersion of both the experimental and control groups have been presented in Table - 3.

**Table 3**  
**Measures of Central Tendency and Dispersion of Experimental Group and Control Group in Physical Fitness Variables**

Performance in Physical Fitness Variables							
Groups		F.A.H. (A 1)	S.U. (A 2)	S.R. (A 3)	50 Y.D. (A 4)	S.B.J. (A 5)	D.F. (A 6)
<b>Experimental Group</b>	Pre-test	06.43	16.53	15.25	08.40	01.62	06.00
		(3.14)	(8.23)	(2.20)	(0.21)	(0.20)	(1.20)
	Post-test	06.23	22.15	14.10	08.01	01.78	08.23
		(2.89)	(6.80)	(2.13)	(0.25)	(0.13)	(1.10)
<b>Control Group</b>	Pre-test	06.39	14.70	15.53	08.58	01.60	06.11
		(3.20)	(6.25)	(2.07)	(0.28)	(0.10)	(1.23)
	Post-test	6.41	15.92	15.58	08.50	01.58	06.03
		(3.28)	(6.57)	(2.15)	(0.27)	(0.15)	(1.28)

Where, F.A.H = Flexed Arm Hang (Secs.), S.U. = Sit Ups (No./Min.)  
 S.R. = Shuttle Run (Secs.), 50 Y.D. = 50 Yds. Dash (Secs.)  
 S.B.J. = Standing Broad Jump (M)  
 D.F. = Dynamic Flexibility (Cycles/20 Secs.)

The scores of Miller’s Wall Volley test in Badminton presented in Table-3a revealed that the pre - test and post - test performances for experimental group

**Table 3a**  
**Measures of Central Tendency and Dispersion of Experimental Group and Control Group in Badminton Skills**

Badminton Skills (M & SD)			
Groups	Pre-test	Miller’s wall Volley test	Hick’s Clear test
<b>Experimental Group</b>			16.24 (2.10)

	Post-test	21.20 (3.14)	77.36 (12.05)
<b>Control Group</b>	Pre-test	15.72 (3.05)	68.27 (12.43)
		15.37 (2.89)	66.60 (13.63)
	Post-test		

Miller's Wall Volley Test (Trials/90 Secs.)

Hick's Clear Test (Pts./ 20 Trials)

The overall significance of the data as presented in Table - 4 was acceptable at the 0.01 level of confidence ( $F = 3799.71$ ,  $p < 0.01$ ). This result indicates that there must be significant difference in between the groups and within the groups including their inter-actions. Table - 4 also supports that there is significant difference between Control and Experimental groups ( $F=5.35$ ,  $p < 0.05$ ). The significant differences could also be traced for the values of physical fitness variables ( $F=10.71$ ,  $p < 0.01$ ). Similarly the significance of differences in the Badminton skills were also evident ( $F=15.06$ ). The value of interaction was also revealed statistically significant ( $F=3.00$ ,  $p < 0.05$ ). Thus, it can be interpreted from the Table - 4 that the Mean achievement in Badminton skill ability associated with selected physical fitness variables was statistically significant. The Scheffe's Post Hoc Test further highlights the event wise difference in achievement between the Control and Experimental groups.

**Table 4**  
**ANOVA for Mean Performance in Dependent Variables**  
**of Selected Subjects (2 x 2 x 6 Factorial)**

Source of Variation	SS	df	MS	F
Total	362576.54	479		
Dependent Variable	414131.21	7	59161.60	3799.71**
Physical Fitness Variables (A)	834.25	5	166.85	10.71**
Subject's Group (B)	83.35	1	83.35	5.35*
Badminton skills (C)	234.56	1	234.56	15.06**
Interaction (ABC)	327.17	7	46.73	3.00*
ERROR	7134.49	458	15.57	
		**P < 0.01	*p < 0.05	

**Results :** The results obtained in this study have been summarized below :

➤ **Results on Flexed Arm Hang (or Arm Strength)**

Experimental group could show higher score in Arm Strength ability than the Control group ( $q = 0.18$ ,  $p < 0.01$ ).

Thus, mean gain in Arm Strength ( as assessed by Flexed Arm Hang test) was evident significantly in experimental group as compared to the controlled one. This result helps to interpret that the Yogic exercise training is helpful to improve the strength of arm significantly.

➤ **Results on Sit Ups (Abdominal Muscle Strength and Endurance)**

Higher performance score in Abdominal Strength and Endurance was evident in Experimental group than the Control group ( $q = 6.23$ ,  $p < 0.01$ ).

Thus, treatment effect was evident significantly in the experimental group which was superior to the control group. This in turn suggests that Yogic exercise training had statistically significant effect to increase the overall level of strength and endurance of abdominal muscles.

➤ **Results on Shuttle Run (Agility)**

Experimental group could significantly reduce the performance time in Shuttle Run test than the Control group ( $q = 1.48, p < 0.01$ ). This result helps to interpret that the performance in Agility of the experimental group has been improved as compared to the controlled subjects.

Thus such improvement in Agility in experimental group was evident as a result of Yogic exercise intervention.

➤ **Results on Shuttle Run (Agility)**

Significantly lower score in performance time in 50 Yards Dash was evident in experimental group than the Control group ( $q = 0.49, p < 0.01$ ). Thus, the performance level in Speed of experimental group was significantly higher as compared to the control group.

➤ **Results on Standing Broad Jump (Explosive Power)**

Experimental group did not show higher performance score in Standing Broad Jump Test than the Control group ( $q = 0.20, p > 0.05$ ). Thus, the performance in Standing Broad Jump of experimental group was similar to the control group. This result indicates that the intervention of the schedule of Yogic exercises could not contribute to the improvement in the ability of Explosive Power.

➤ **Results on Dynamic Flexibility**

Experimental group showed significantly higher score in performance of Flexibility than the Control group ( $q = 0.20, p < 0.01$ ). Thus, the performance level in Flexibility of experimental group was significantly higher as compared to the control group. This result helps to interpret that the intervention of Yogic exercises could contribute in improving the flexibility.

➤ **Results on Miller's Wall Volley Test**

In Miller's Wall Volley test, the experiment group showed higher performance score than the Control group ( $q = 5.83, p < 0.01$ ). Thus, the performance in Miller's Wall Volley test (in Badminton skill) of experimental group was significantly better as compared to the control group. This result indicates that the intervention of Yogic exercises helped to improve the ability in Badminton.

➤ **Results on Hick's Clear Test**

Experimental group showed better performance score in Hick's Clear test than the Control group ( $q = 10.76, p < 0.01$ ). Thus, the performance in Hick's Clear test (in Badminton skill) of experimental group was significantly better as compared to the control group. This result indicates that the intervention of Yogic exercises helped to improve the ability in Badminton skills.

**Discussion**

The results presented above revealed that the mean gain in Arm Strength (as assessed by Flexed Arm Hang test) was evident significantly better in experimental group as compared to the controlled one. This result helps to interpret that the Yogic exercise training is helpful to improve the strength of arm significantly. This result appears contradictory with the study of Bera et al. (1995). However, the result obtained in the present study seems to be justified because Yoga provides a well distributed physique.

In the case of Sit Ups test, the treatment effect was evident significantly in the experimental group which was superior to the control group. This in turn suggests that Yogic exercise training had statistically significant effect to increase the overall level of strength and endurance of abdominal muscles. This result is supported by various investigators (Bera, 1993; Gharote, 1976). The better level of strength and endurance of abdominal muscles, as evident in this study, may be because most of the Yogic practices give exercises to the spine and abdomen.

The improvement in Agility in experimental group was evident as a result of Yogic exercise intervention. The appearance of such result may be due to the fact that Yoga gives muscular stretching which in turn increases muscle tone. The performance level in Speed of experimental group was significantly higher as compared to the control group. As we know speed depends upon the stride length and frequency. In fact both these stride length and frequency are depending upon the range of motion of joints which in turn depend up on the stretching ability of muscles. Perhaps, Yogic practices might have increased the stretching ability of muscles which helped to increase the speed. The

performance in Standing Broad Jump of experimental group was similar to the control group. This result indicates that the intervention of the schedule of Yogic exercises could not contribute to the improvement in the ability of Explosive Power. In fact, Explosive power is the result of composite functions of a large muscle group involving large motor unit. As basic mechanisms of Yogic practices are to provide gentle massage to the muscles, pleasant stretching of the muscles with minimum expenditure of energy and psycho-physiological relaxation; the study could not warrant the improvement in Explosive Power. The performance level in Flexibility of experimental group was significantly higher as compared to the control group. This result helps to interpret that the intervention of Yogic exercises could contribute in improving the flexibility. Several research reports are in agreement with this result of the present study.

The above results revealed that almost all the variables of physical fitness were improved as a result of 6 weeks Yoga intervention. Thus, the Hypothesis (H1) formulated in this study, "Six weeks training of selected asanas and breathing exercises will improve physical fitness level of college Badminton players" was sustained. The above results, in turn, might have influenced the experimental subjects for improving the performance in Miller's Wall Volley test and in Hick's Clear test. Therefore, it can be interpreted that Yogic exercises helped to improve the ability in Badminton skills. Thus, the Hypothesis (H2) formulated in this study, "Six weeks training of selected asanas and breathing exercises may also show significant improvement in the Badminton skills" was retained.

Finally, from the results it can be inferred that the training of Yogic exercises selected in this study was useful in improving the skills in Badminton and associated physical fitness variables.

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## Teaching Approach: Instrumental in Effective Writing

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### Abstract:

This paper aims at spotlighting the effectiveness of widely prevalent approaches adapted for teaching writing. The language teaching has marked a paradigm shift in its field. There have been regular concerns about the writing competency level of the adult EFL learners. Taking into account the major hindrances encountered by an adult EFL learner, the study would scrutinize the effectiveness of various contemporary approaches adapted for teaching writing to adult EFL learners with varied level of language proficiency. The highlighted approaches in the study would be product and process approaches. Further, the paper will propose to grade the approaches according to the language proficiency level: elementary to intermediate students with regard to the Omani General Foundation Programme (GFP) setup. This can also become a base for mounting further research to improve and determine pedagogies in adult ESL/ EFL classroom.

**Key words:** L1; Mother tongue, native /first language, L2; Secondary/ foreign language, EFL; English as a foreign language, ESL; English as a second language; product approach, process approach

**Introduction:** The History of approaches in teaching writing gives an insight into present day pedagogies, trends and finds direction for future growth. In the sixties, the golden age of language learning; the audio-lingual method originated in America which had a distinct feature of separation of skills: listening, speaking, reading and writing. Ever since the four skills were identified as crucial to language competency, the methodologies and pedagogies of teaching each skill has received a great attention from the researchers and the practitioners. Nevertheless, writing has not received much attention as compared to other three former skills. Stephen Krashen claimed that “studies of second language writing are sadly lacking” ( 1984: 41) This does not imply that writing skill can be ignored in any academic setup. Whether it is one’s first language, second or foreign language, it continues and will continue to be a major educational undertaking around the world. In fact quality writing is the substantial evidence of the language proficiency of the learner.

Becoming a writer is a complex and ongoing process, and becoming a writing teacher is no less complex (Kroll, 1990). The complexity escalates further in an adult’s EFL classroom. Adult language learners often do not have enough time to travel the same long road as they did when they had set out to acquire their native language, where they had ample time and exposure to adapt the language and achieve the ‘expressive’ and ‘poetic’ aims of writing that Britton(1979) characterizes as two of the three aims of writing. Usually, Second language adult learners have ‘transactional’ aim of writing. As the aim of writing differs within the L1 and L2 learners, so should the approaches vary in teaching too.

### 1. Literature Review:

The term EFL owes its identity to post world war era of late 1940’s. This modern era of second language learning and teaching began in the United States and soon gained the attention of practitioners and researchers all over the world. English Language Institute of the University of Michigan, under the leadership of Charles Fries, approached the teaching of ESL from the point of view of structural linguistics. Charles Fries and his successor Lado’s contrastive linguistic theories, the new technology of language laboratory and the generous financial support for language research in combination with the behaviourist theory contributed to the development of audiolingualism. Perhaps it was the first language theory that was based on linguistics and psychology (cited in Stern, 1983)

Audio-lingual method appeared under various names. In fifties it was popularly referred as



aural-oral method. The term audio lingual was proposed by Brooks (1964, cited in Stern, 1983, p.463) though he further referred the same method as “new key”.

Reid (2001) states that Audio-lingual method primarily focussed on the grammar and its accuracy. In this students copied pattern drills and made changes only in person and tenses. The teachers were there to constantly correct the grammar mistakes made by the students. This was based on the notion that language is speech (From structural Linguistics) and that learning is habit formation (from behaviourist psychology). Hence writing was essentially considered as reinforcement of oral habits. This was also the basis of controlled composition approach or the guided approach mentioned by Silva (1990). However, this approach was rejected by many such as; Zamel (1982), Raimes (1983) on the grounds that this made the writers merely the manipulators of previously learnt structures and the teachers adopt the role of editors and proof readers. (Kroll, 1990)

Early eighties witnessed the rising of a teaching approach that was not only conscientious of the accuracy in written discourse but was also concerned about the logical construction and arrangement of the discourse forms. This approach reflected theory of contrastive rhetoric. According to it, rhetoric was the method of organizing syntactic units into larger patterns (Kaplan, 1967). In this the primary interest was on the paragraph and its elements such as; topic sentence, supporting sentence, concluding sentence, and transition. Moreover, it gave importance to organizational patterns and modes for instance; narration, description, exposition and argumentation. However this confined the writing to identifying, internalizing, and executing patterns.

Some researchers and practitioners might argue that these approaches are obsolete and are no longer operational in EFL classrooms and contemporary approaches have been adopted but the fact is, that it can be claimed that they are still being practiced and are supported by teachers in their EFL classrooms.

## **2. Contemporary Writing Approaches:**

The EFL and ESL writing approaches have been on the roller coaster since their existence. An approach enjoyed its heyday for a certain period and soon faded due to criticism and few obvious shortcomings but gave a lead to some other approaches. The history repeated for the other approaches too, the support and acceptance by linguists and practitioners gave those approaches a lift to reach the heights but soon they were in the arena of criticisms. Nevertheless, none of the approaches vanished; they are still in practice in one way or the other, perhaps under a different name. From the outset it has to be made clear that there is no rigid line between the various teaching approaches; in fact one approach may overlap another in certain areas. However, for the sake of convenience and broader understanding the written discourse may be categorised under two major approaches of its teaching; Product and Process. These approaches are being much appreciated and practised in the adult EFL classroom, particularly in examination oriented setups.

Researches have categorized teaching writing approaches under various names. Hyland (2002) categorises the three approaches based on text, writers and readers while, according to Silva (1990) there were four major influential approaches; controlled composition, current-traditional rhetoric, the process approach and English for Academic Purposes. Linguists and researchers view them differently but in a broader prospect and for the convenience sake, it would not be unfair to take the liberty to categorize the approaches in two major sections in a chronological order of their origin. However, in practice it is very difficult to draw an obvious line between them.

### **2.1 Product Approach (Traditional):**

**2.1. a.** Charles Fries's(1945) advocated an oral approach which was the precursor of audio-lingual method of second language learning and the foundation to the product approach of teaching writing. This approach of 1970's focuses on the product of writing by examining text in various ways either through their formal surface elements or by their discourse structure (Hyland, 2002). Silva (1990) names it as controlled composition or the guided composition where the writer's work is

confined to manipulate the previously learnt structures and focus on correctness and accuracy of the text (reported in Barbara Kroll, 1990,pg. 11). It also resembles with current-traditional rhetoric of Silva. Thus in this approach the objectives of writing instructions are explicitness and accuracy. Further, writing is an autonomous mechanism and the text is an autonomous object. Enough number of books for L2 learners can be seen in the shelves of bookshops boasting itself with the captions “How to write” or and having multiple exercises on practising correct forms of sentence structures such as passive voices being drilled for describing a process. The approach claims its effectiveness in ESL and EFL classrooms but it has a few deficient aspects too, which are worth considering.

### **2.1.b Effectiveness and shortcoming of Product Approach**

In the EFL context product approach is based on structural linguistics and behaviourist theory which complies with controlled writing approach where the teaching has to be directed towards minimal interference of L1 by reinforcement of L2 behaviour. The approach gives in the opportunity to demonstrate the understanding of the previously learned second language structures and vocabulary, and make it a habit with minimal L1 interference. Finding its way in current-rhetoric the learner can be taught logical sequencing by incorporating various elements of writing a paragraph (topic sentence, supporting sentences, concluding sentences, and transitional signals). Hence, the approach can be a good drill to practise previously learned forms and structures. But does it improve adult learners writing and are the practitioners really satisfied with the quality of writing produced?

In the five famous slogans of language learning by Bloomfield (1942, cited in Stern, 1983, p.158) in Outline Guide, the fifth slogan says teach the language, not about the language. It is a reminder for the cliques of product approach proponents, in teaching writing to the adult EFL learners that their principle aim is to learn language as a means of communication. The rejection of this approach is inevitable; it was accused to the level of being mindless, repetitive and anti-intellectual because in this the writing is treated as an object and the writer is confined to a manipulator of learned language structures with no concern for audience or the purpose of writing. Hyland (2002) says that in this approach of teaching text is considered as autonomous object, and learner’s compositions are seen as langue, that is demonstration of their knowledge of forms and their awareness of the system of rules to create texts. Thus the teacher response is limited to an editor or proof-reader. The affectivity and shortcomings can be jotted as:

#### **Effectiveness:**

- Enhances structural proficiency
- EFL learners learn largely through imitation
- Modelling is limited to imitation; it extended to exploration and analysis
- If not exposed to native like models then errors are more likely to persist
- Drills on three P’s: presentation, practice and production
- Evokes three skills; reading, analysing and writing

#### **Shortcomings:**

- Writing is viewed as an object
- Purpose of writing is ignored
- Reader or decoder is neglected
- Focuses more on forms and organization rather than content
- Devalues learners potential both linguistic and personal

### **2.2 Process Approach (Modern):**

**2.2.a** Dissatisfied with ‘linguistic competence’ and “behavioural imitation” as the sole aim of learning and teaching writing in the EFL classroom encouraged a broader approach to teaching writing in EFL classroom where writing and the composing task is more important than the text produced as a product. This approach was mounted on expressivist and cognitive view which

condemned the narrow definition of writing based on the notion of correct grammar and logical sequencing. Expressivism was at its zenith in late sixties and early seventies which emphasized on individual expression of honest and personal thoughts. In addition, cognitivist see “writing as problem- solving” which was based on Hayes and Flower (1983) Problem solving strategies... This approach emphasizes on think aloud and the recursive procedure of prewriting, drafting, evaluating, and revising. Proponent of this approach believe that writing is learnt, not taught, and the teacher’s role is to be non-directive and facilitating, providing writers with the space to make their own meaning through encouraging, positive, and cooperative environment with minimal interference ( Hyland, 2002).

In the classroom practice learners are encouraged to brainstorm ideas through various means, drafting and redrafting the texts after discussions and feedbacks, and editing throughout the writing process. Teacher’s interference is restricted to facilitators and stimulators role and the writing is thus learner-centred. Here in this model of student get a thrust with brainstorming and they sail through with regular feedbacks and multiple drafts.

The general composing process patterns seems to be similar with L1 and L2 writers because the approach to teaching L2 writing is influenced by L1 theories. However, the response to this approach is not overwhelming with all the EFL learners with varied language level proficiency due to many reasons.

#### **2.2.b Virtues and Inadequacies of Process Approach**

There have been many proponent of process approach such as; Flower and Hayes’ (1981), Johnson (1996), Emig (1983) etc. Based on the views of Elbow (1998), Murray (1985) and others the approach encourages writers to find their own voices to produce writing that is fresh and spontaneous. The micro level flaws are the secondary concerns as the whole writing process is writer-centred and self discovery, originality and the process involved, is of primary concern. This teaching writing approach has been generally well and widely received by composition teachers, researchers and practitioners; nevertheless it is not spared of critics. Some opponents of process approach condemn to an extent by stating

“This movement emphasis on developing students as authors when they are not yet ready to be second language writers, .....

#### **Pros**

- Important in raising teachers’ awareness of what writing entails-contributing to professionalism teaching approach
- Learner centred; teacher is a facilitator
- Students generate original ideas instead of merely pondering on imitated learnt structures
- Provides positive, encouraging, and collaborative workshop environment within which students, with ample time and minimal interference, can work through their composing processes (Silva,1990)

#### **Cons**

- Is not very effective with EFL learners with limited language proficiency
- It does not suit all the target audience and content of text
- Time consuming, hence may not suit to examination oriented academia
- The grammatical improvement of EFL learners with lower level of proficiency is next to nothing
- No concrete researches made proving quantitative or qualitative language enhancement
- Based on individual ideologies; in the attempt to discover and communicate personal meaning writer neglects to recognize writing as a social activity

#### **3. EFL Adult Learners and teaching Problems: In Omani context**

Language writing teachers face the challenges of teaching fluency and appropriateness of the writing contents to social contexts on one hand, and linguistic accuracy on the other hand. Teaching

writing to adults EFL learners can be more challenging because of the fact that the time that adult learners can devote to learning the language is far less than young children who learn English as a foreign language. In addition, these adult learners are already literate in their first language which might impede their L2 learning.

### **3.1 Learners Background**

English is a foreign language in Oman and its use is limited to certain educational and professional contexts. It is taught as one of the subjects in the school curriculum where as the medium of instruction of other subjects still remain to be Arabic. According to Simon Borg there is a parallel existence of two systems at the school level i.e. General and Basic. The former introduces English at Grade four where as the latter which has been introduced lately, English is taught from grade one. Hence the majority of Omani of the age group seventeen and above is the ones who have been educated in the General Educational System. In the General Educational System, English is taught for five lessons a week in the elementary and preparatory level, and 6-7 lessons per week in the secondary level. This limited exposure to the language is not sufficient and makes the situation challenging for the youth who aim at studying the courses offered by various Western University or organizations in which the complete course is in English.

### **3.2 GFP's: Bridging the gap**

General foundation programmes caters to the students who do not have the required level of English language proficiency that is needed to commence a higher level academic or professional course. It aims at enhancing all the skill of language through the means of large chunks of grammar doses, reading, writing and speaking sessions. GFP's try to bridge the gap and transform the students from EFL to ESL learners within a period of one year. (See Stern, 2002). This crucial system of GFP is challenging for both learners as well as the teachers. Learners who enrol in the foundation programme are either secondary school leavers (17 and above) or working students who might be even in their late forties. There is a huge difference in the learner's language proficiency due to age difference, experience, background and exposure to the English language. Teaching writing to such students is very challenging, and only wise and consensus graded approach can address the specific needs of such adult learner within the limited period of time.

## **4. Conclusion:**

Though product approach has been ritually and vigorously condemned by the proponents of process approach, yet with the personal teaching experience it can be claimed that it is still alive and appreciated in EFL classroom for instance; many beginners level classroom in GFP's in Oman still support product approach. On the other hand Process approach has been criticised on the basis of theoretical and practical issues concerning adult EFL learners.

This merry-go-round off approaches have a number of negative effects on the discipline: it generates more heat than light .... such a situation engenders a great deal of confusion and insecurity among ESL composition teachers. (Silva, 1990)

Why can't we use the best of both the approaches?

## **5. Recommendation**

The best of both the approaches can revert the case and generate more light than heat. More comprehensive conception of the teaching approaches and a consensus graded implementation will not only enhance the writing skill of the EFL learners but will also support in formulating research base to establish a credible qualitative and quantitative data for viable theories to teach adult EFL learners.

### **5.1 Product approach: Beginners and Elementary Level**

Considering all the problems of the learners and the system, the study proposes to follow a graded teaching approach for such adult learners. The learners at the beginners and the elementary level have limited language exposure, so adapting process approach for such will not be appropriate as

they are not short of ideas or unaware of the process of writing. The main hindrance in their writing is lexico-syntactic errors and the process of prewriting, writing, editing, revising and then writing drafts after drafts can not contribute much in the improvements needed at the micro level. Thus, they can be given more practice on the structures and vocabulary to produce error free writing. More emphasis on paragraph structures, cohesion and coherence may downplay of significance of accuracy in encoding the ideas.

### **5.1.a Input**

Though the language learning skills have been divided as reading, writing, listening and speaking but they are inter-woven, each one supports the other. Speaking and listening and reading text can act as the spring board for writing error free sentences. Imitation through native- like model can be enable beginners and elementary level students. This can be done through various means of language summary, controlled writing, guided writing or semi free writing. Peer correction can also be encouraged.

### **Process Approach: Intermediate Level onwards**

Once the learners have equipped themselves with the better structures then language becomes a habit (from behaviourist psychology) and the learner's thought process gains momentum. The language gains spontaneity and that is the time to adapt the process approach of teaching writing. The students with the intermediate level of English will be in a better state to follow the recursive pattern of writing.

### **5.2. a Input**

As process approach sees writing as a developmental process, teachers are encouraged not to impose their view by giving models or suggested responses to topic before hand. Instead there can various classroom input to accomplish the target writing.

Pre writing-Activities can be done in groups or pairs to discuss the topic or some relevant reading material can be provided to support discussion with the minimal interference of the teacher to complete the planning stage. This brainstorming stage may even be extended to debate level.

Writing- group, pair or individual writing may be promoted with, teacher proceeding limited to help students' on-the-spot with little structural corrections of the points generated by the writers. Al though more of self evaluation must be encouraged.

Post writing -Peer editing and rewriting helps to understand the significance of critical analysis. This will also help the writers to become critical readers and then understand writing for a purpose or audience. However, editing should focus more on the global errors, for instance; poor sentence structure, poor organization, and the ambiguity cause due to irrelevant ideas etc. this can be done with underlining the flaws with a code marking. Further, the second drafts can be done by analysing and rectifying the pointed out errors, before the final submission to the teacher. Feed back-Peer feedback or the teachers feed back is extremely important for the students too.

## **6. Contribution:**

The present study done reached an analysis that adult EFL learners face many challenges in learning writing. If the product and the process approach is adapted according to the level of language proficiency of the learners then the practitioners and the teachers can address the needs of the learners more effectively and enhance quality writing skills.

## **7. Future Work**

The study done was confined to the adult learners enrolling in the General Foundation Programme offered by the Colleges in Oman to equip the students with certain level of English language proficiency, enabling then to enrol for further specialized academic courses. Therefore, further research work on the other adult learners outside the boundaries of Oman will help determine the EFL practitioners, teachers and curriculum developers to have a defined approach for various adult learners with varied level of language proficiency.

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## IT – Enabled Financial Inclusion

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### Abstract

Objectives of technology intervention are broadly to reduce cost of doing business, enhance business productivity and better manage business risks. The approach to technology implementation therefore requires a phased approach so as to stagger capital investment, better align the system to meet business needs, provide flexibility to incorporate user feedback and identify a key theme for which technology should be leveraged. The chosen technology should focus on building interfaces which go beyond meeting reporting requirements. It should support different technologies for different legs of the microfinance value-chain, enable credit scoring, meet not only the reporting objective but also develop better customer insight, business performance management and efficiencies, as also support the need for collecting enormous amount of data, both positive and negative. Thus use of technology requires a positive policy approach, subsidies and incentives for capital expenditure, developing the BC/BF model, as also exploring outsourcing and development of a credit Bureau for better management of business. There is also a need for building industry standards and collaboration between various stakeholders to ensure success.

**Key words:** ICT, cost effective solution, financial inclusion

### Introduction

Indian banking has largely bypassed the poor and points to the falling reach of formal banking services to them. A plethora of reasons exist for this---from lack of a clear policy to the limiting infrastructure which makes financial inclusion an extremely difficult proposition. A few banks have forayed into rural areas but a lot remains to be done. However things are changing as building commercially viable models has found renewed focus. There is an increasing realization that welfare orientation and commercial prudence are not disjoint objectives.

While financial inclusion aims at delivery of financial services to all in a fair, transparent and equitable manner at an affordable cost, making latest technology available in these areas is one of the prerequisites for overall development of the economy. Technology has become the driving force of change and it has altered the way we work and think as well as the nature of economic structures. As Information and Communications Technology (ICT) becomes advanced, cheaper and innovative uses are being devised and discovered. In broad terms, ICT facilitates collection, transfer and transformation of data and knowledge in an efficient and effective manner with a renewed interest to reach out to the financially excluded. Today technology has taken centre stage. Hence ICT is being looked upon as an extremely viable option to circumvent all evident problems.

### Digital Divide

Despite this realization, majority of those living in rural areas have been excluded from the purview of technological advancements. There exists a digital divide. Indian technology companies have been pioneers and preferred partners for global technology initiatives. While India has become the brain and back office of the world, it is time now to utilize the same expertise and learning to our back yard, leverage ICT interventions better to enable financially sustainable development.

Developments in the field of information and communications technology sector and the drastic reduction in costs have spurred its expansion. Introduction of wireless phone service, internet facilities etc have transformed our lives. These new technologies have the potential to connect isolated villages and populations.

However there are some challenges that need to be overcome with technology intervention. Some of them are- distance and reach, awareness of technology usage, contingencies for link failure, servicing of equipment, storage of high volume data, etc. The need of the hour is developing a suitable cost-effective model to serve the financially excluded and banks also stand to gain by way of newer

business opportunities.

**Focus areas for financial inclusion through technology.**

Majority of the financially excluded are poor and belong to migrant population. The only way to include these people is to reach them at their place of residence or work i.e. **doorstep banking** through cost effective technology driven by Business Correspondents/Business Facilitators model. (BC/BF models)

BCs and BFs need to be involved and also have high acceptability and respectability in the area. They are better equipped to handle the last mile activities. The petty savings of the people will be brought in to the banking stream.

Another area where technology will help is in spreading **customer education**. Many people in rural areas still depend on moneylenders and are either not aware of or are denied affordable banking services. The BC/BF model has an important place in this scenario. They are the first point of contact with the customers and can hence educate them about the benefits of having an account with a bank. NGOs, SHGs, cooperatives Farmers training institutes and Information kiosks will also aid in customer education.

Technology can also help in **credit counseling**. The farmers must be informed about the credit facilities available to them. The BCs and BFs can provide them with credit counseling and help them choose from the various options available to them.

**Credit off take** is also important. There exists a multitude of cards like kisan credit card, Debit cards, credit cards etc. These are presently used as a token of identity. With use of technology a person in a remote area should be able to access his accounts.

**Approach to Technology Implementation.**

ICT can help realize multiple objectives such as reducing cost of achieving financial inclusion, enhancing productivity and efficiency levels. However the following have to be kept in mind while harnessing technology.

- a) There is a long gestation period and huge investments involved in introducing technology. Hence the strategy has to be well thought of.
- b) Technology tends to have maximum impact when a key theme for leveraging technology is identified and then all the decisions that follow rally around this central thought process. Technology investments which may appear financially unviable in one case may turn out to be extremely rational and profit oriented in another.
- c) Technology impact is not immediately evident. Hence it is important to have a phased approach to ICT infrastructure enablement.
- d) To derive maximum benefit out of any financial inclusion intervention that relies on technology, it should focus beyond just automation and digitization. It should help to build capabilities and provide network externalities which lead to substantial improvements in core capabilities.
- e) Technology actually creates value by transforming business processes and industry structures. Hence not adopting affordable technology will have real costs and disadvantages associated with them.
- f) Finally, it is advisable to choose a technology implementation approach that is closely aligned to the financial inclusion initiative's broader business objectives, capital capacities and internal technology management capabilities.

**Rangarajan Committee** has also put forth several **recommendations** in this regard. It has stressed the integration and synchronization with core banking systems of the banks. There is also a need to replace various individual purpose specific cards to a single card containing all possible features. Two models one on line and the other offline have been envisaged for meeting the requirements of both banks and customers. Banks will take advantage of the expansion of network connectivity even in remote areas. Internet facility and smart cards will be used. Terminals will be



voice enabled in regional language and BCs and BF's may be used for operations. Offline models without connectivity are also envisaged in remote areas. Transactions will be done through a "point of transaction" device using BCs and bank officials. There are also options with the use of mobile telephones.

#### **Challenges**

However technology adoption alone will not solve all problems. In some cases technology investments have created new problems rather than providing effective solutions.

a) After the technology has been introduced, investments in training and understanding of new risks must be studied more carefully. Technology may be cheap but internalizing it may be expensive.

b) MFIs generate a significant amount of data and information but do not share this with the various stakeholders. Hence there is a need for technology investment education within the microfinance industry.

c) Much work remains to be done in comparing the cost of various technologies.

d) Technology acquired should be capable of adapting to changing situations.

#### **Conclusion**

Banks have a major role to play in taking banking to rural areas and to the common man. In this context commercial orientation may be important for achieving financial inclusion. IT industry will need to collaborate with a renewed focus beyond short term sales maximization of hardware and software. Industry standardization is also relevant along with policy support. BCs and BF's and technology outsourcing guidelines need to be thawed further so that they become relevant to current times. Financial inclusion through technology intermediation has to be supported by accompanying social and developmental interventions to have a positive reinforcing effect on future productivity. Here also technology has a role to play through efforts like tele-medicine, e-learning etc. or from making available underlying technology infrastructure like networks.

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## Globalization: Myth and Reality

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### Abstract:

In this paper, an attempt has been made to understand the implications of globalization that govern the economic condition of country. As every coin has two sides likewise globalization has its own pros & cons, it analyze positive & negative impact of globalization on Indian agriculture, FDI, education, culture, industry, human resource, which also includes, massive and reckless industrialization, de-humanization of science, technology and industry, ineffectiveness of nation-states, newfangled consumerism. Few suggestions can be implemented to overcome on globalization like, importance should be given on the production of basic needs of the local population. Societies which are basically self sufficient in the production of basic needs can stand up to external imposition, there should be regulatory regimes to control the inflow and outflow of foreign investments and the operation of MNCs, all economic activity should be filtered through the screen of ecological soundness, social equity, cultural and gender sensitivity and economic stability, the poor should be helped to establish producer and marketing cooperatives, water, air, soil, knowledge and biological diversity should not be privatized, land reform laws should be strictly implemented. Traditional rights of indigenous people over their ancestral domain and resources should be respected, otherwise, 'small is beautiful' is an answer to 'gigantism mania', which has no rational basis. Gandhian model will bridge the gap between individual and society, city and town, local and global. So, if we want values on non violence, that is, the values of righteous conduct, truth, peace, love, dignity of labour, self reliance, self control, equality, swadeshi, sarvodaya, sacrifice, satyagraha and trusteeship then we have to "Think Globally And Act Locally" It is imperative and urgent that we should increasingly make use of Gandhian ideas and strategies.

### Introduction:-

Globalization refers to the increasing flow of technology, finance, trade, knowledge, values, ideas across the borders. (Knight, J and de Wit, H 1997). Globalization as a dialectic process between the local and the global which creates transnational social space, which upgrades local cultures and gives rise to new cultures. It aims at expanding business from local to global level, with a view to exploit global opportunities for local growth. It is borderless world. Physical and geographical boundaries have given way to the world to become a global village.

The word globalization is used in two ways.

In the positive sense, it is used to describe a process of increasing integration into the world economy. In other words, it means the expansion of economic activities across national boundaries

In the negative sense, it is seen as domination by developed nations over developing nations.

Now in this borderless world new actors crossed the national boundaries like WTO with authority over national government, the MNCs with more economic power than many states, the global networks of non governmental organization (NGOs) and other groups with new rules like multilateral agreements on trade, services and intellectual property, backed by strong enforcement mechanisms and more binding for national government, reducing the scope for national policy.

The key features of globalization are :-

1] Economic features:- Growth in Trade, Growth in FDI and Capital flows, Global Production and consumption, Global competition, Trade and Investment Liberalization Policies.

2] Non Economic features:- Loss of National Sovereignty, Standardization of values and cultures.

In other words, a major features of globalization is the growing concentration and monopolization of economic resources and power by transnational corporations( TNCs) and by global

financing firms and funds and globalization of national policies and policy making mechanism. National policies ( like economic, social, cultural and technological areas) that until recently were under the jurisdiction of states and people within a country have increasingly come under the influence of international agencies and processes or of big private corporations and economic/financial players. This led to erosion of national sovereignty and narrowed the ability of governments and people to make choices from options in economic, social and cultural policies. Government now have to implement policies that are in line with the decisions and rules of these international institutions (World Bank, IMF, WTO).

The theoretical base of globalization is directly rooted in the Principle of comparative advantage, specialization in the production of goods and services based on factor endowment and competition results in benefits to all countries in international trade. In open market, trade leads to factor price equalization and optimum pattern of resource allocation globally. Globalization leaves the poorer countries behind in global competition, as the clear objective of capital mobility is profit, prestige and power for its owners and not the well-being of the people at large.

#### **Waves of Globalization:-**

The first wave of globalization occurred from 1870 to 1914. It was sparked by decreases in tariff barriers and new technologies that resulted in declining transportation costs. Therefore, exports as a share of world income nearly doubled to about 8% while per capital incomes, which had risen by 0.5% per year in the previous 50 years, rose by an annual average of 1.3%. However, the first wave of globalization was brought to an end by World War I.

The horrors of the retreat into nationalism provided renewed incentive for internationalism following World War II. The result was a second wave of globalization that took place from 1945 to 1980. Falling transportation costs continued to foster increased trade.

Although the second globalization wave succeeded in increasing per capita income within the developed countries, developing countries were being left behind.

The latest wave of globalization, which began in about 1980, is distinctive. First, a large number of developing countries broke into world markets for manufacturers. Second, other developing countries became increasingly marginalized in the world economy and realized decreasing incomes and increasing poverty. Third, international capital movements, which were modest during the second wave of globalization, again became significant.

Of major significance for third wave globalization is that some developing countries succeeded for the first time in harnessing their labour .Example of developing countries that have shifted into manufacturers trade include China, Malaysia, Sri Lanka, Turkey, Mexico, Bangladesh, Hungary, Indonesia, Thailand and the Philippines.

#### **Recent Trends and Consequences:-**

The recent trends and consequences of globalization need to be understood in all aspects i.e. labour, investment, culture, education, agriculture, small scale sector, corporate sector, industries. Let us take a view on all the aspect one by one.

#### **Globalization and Indian Agriculture:-**

According to V.S. Vyas, "The move towards 'open frontiers' implicit in the policies of liberalization and globalization will undoubtedly affect the product mix and the input composition in agriculture sector in a significant way. Naturally, the impact will vary from region to region and will differ from one section of agricultural producers to other."

From above studies, following issues need to be study from the agricultural point of view, issues are as follows:-

- 1) Self sufficiency in production
- 2) Price Stability
- 3) Cropping Pattern

- 4) Adverse effects on weaker sections
- 5) New Technologies
- 6) WTO Commitments
- 7) Share of Agricultural Exports in GDP in India.

These issues are explained as follows:-

When country globalizes its agricultural sector, it can not achieve the objective of self sufficiency in production, because countries forced to concentrate on production of those commodities in which they have comparative advantage in production. Undue concentration on production of some agricultural commodities in the long term may create serious consequences.

- 1) For quality of land
- 2) Employment opportunities
- 3) Ecological balance

For example Punjab and Haryana these two states given undue specialization in the production of rice and wheat (ICAR 1998).

From the consequences we can conclude that entire globalization of this sector is not desirable. Second issue is about globalization is the likely instability in the domestic market due to the convergence of domestic prices with the international prices. Due to variations in crop production and speculative nature of market indicates that the high level of instability of commodity prices in the international market which adversely affect both the producers and the consumers. Again, because of dumping by countries, domestic prices are more volatile (Chand 1998) as well as trade barriers are also responsible for volatility of domestic prices and farm incomes (Nayyar and Sen 1994).

Therefore, precautions has to be taken in the case of large scale import of agricultural commodities.

As we discussed that because of comparative advantage in the production of commodities there is change in cropping pattern in the country. India has comparative advantage in production of commodities like rice, wheat, maize, sorghum, chickpea and cotton.(Gulati etal 1994), trade liberalization will increase their exports, which in turn may lead to expansion of area under these crops. At present, these crops are disprotected or indirectly taxed due to the restriction on exports. However, with liberalization of trade these commodities will be able to get higher prices and that may promote larger cultivation. In this case of oil seeds there is no comparative advantage so in future there may be slow down in expansion and they have been getting much higher level of incentives that what they are likely to get under a free trade scenario (Gulati and Sharma 1997). With liberalisatiopn of agricultural trade the country can import oil seeds at lower price than the domestic price. Hence, achieving self sufficiency in oil seeda production may not be possible.

Globalisation of the sector may have its adverse effects on certain areas, some crops and some groups of people. The benefits of globalization are accrued to only some areas which are well endowed in terms of resources, some crops which are having comparative advantage in production and some sections of the population who are producing the exporting commodities. Other areas, crops and people are not getting benefits from globalization process (Rao, 1994). Further, as globalization may raise the prices of some essential commodities, it will have adverse welfare consequences for the people who are not engaged in agriculture.

New technologies in agriculture will fundamentally affect farming everywhere and play a large part in the future of the small and marginal farmers. If the Terminator Technology which is a genetic technology designed to prevent farmers from saving seed is widely licensed, it means that the commercial seed industry (which is in the hands of MNCs) will enter entirely new sectors of the seed market, especially in self pollinating seeds like wheat, rice, cotton, soya bean, oats and sorghum. The Terminator Technology will drive millions of farmers out of plant breeding, and out of agriculture altogether. According to the Rural Advancement Foundation International (RAFI), half world's

farmers are poor and can not afford to buy seed every growing season, yet poor farmers grow 15-20% of the world's food and they directly feed at least 1.4 billion people – 100 million in Latin America, 200 million in Africa and 1 billion in Asia. The implications of such fancy technologies on the Right to livelihood of poor farmers, as well as on food security, are there for all to see.

The country's commitment to WTO, will may give benefits of globalization as well as some consequences. Recently, the commitment for reducing the import duty and also for increasing the quantum of imports are likely to increase imports and depress the domestic prices, especially of those commodities in which India does not enjoy comparative advantage.

Share of agricultural exports in GDP in India. (Percent Share)

	1970-71	1980-81	1990-91	1995-96	1998-99
a) % of Agri Exports in GDP (Total)	1.2	1.7	1.3	2.0	1.6
b) % of Agri Exports in GDP Agri.	2.9	4.8	4.5	8.0	5.9
c) % of Total Exports in GDP (Total)	3.9	5.5	6.8	10.6	8.8
d) % of Exports from the Rest of Economy in GDP Agri.	4.6	5.8	7.7	11.5	9.8

Source: 1. National Accounts Statistics, various issues, CSO, New Delhi.

2. Economic Survey, various issues, Government of India, New Delhi.

The share of agricultural exports in GDP would indicate three major aspects,

- 1) The degree of openness or outward orientation of the agricultural sector as regards export activity.
- 2) The nature of agricultural trade strategies adopted in the country.
- 3) Supply capacity of the agricultural sector as regards exports.

Above table indicates that after a marginal rise in the shares of agricultural exports in total GDP during seventies, the shares were on the decline in the eighties. However, since the beginning of the nineties there is perceptible rise in the shares: the share in the total GDP rose from 1.3% in 1990-91 to 2.0% in 1995-96 but since then it declined to 1.6% in 1998-99. In case of the share of agricultural exports in GDP originated from the agricultural sector, the rise was from 4.5% to 8.0% and then decelerated to 5.9%, during the above period.

From above observations, it can be concluded that the degree of openness or outward orientation of the agricultural sector, with regard to exports, has increased in recent times, albeit a marginal decline occurred since 1995-96. It reflects the effects of the liberalization of agricultural exports and improvement in the supply capacity of the economy in recent times. Table also reveals that agricultural sector is less outward oriented than the economy as whole. This is the evident from the share of total exports from India in GDP (total). The share was 8.8% in 1998-99, which is higher than the share of agricultural exports in GDP originated from the agricultural sector at 5.9%.

Some tasks can be taken by government to help Indian agriculture to adjust in globalization.

- 1) Food self sufficiency should be compulsory at national level so that the reliance on trade can be kept within limits.
- 2) Safety nets are needed to protect the interests of crops, people and region which are likely to be affected by globalization.
- 3) Precautions on imports in view of the removal of quantitative restrictions.
- 4) Regarding new technology should be sold by government.
- 5) In order to avoid prices fluctuations agricultural export policies should be revised.

#### **Globalization and FDI:-**

Foreign direct investment from rich countries goes to rich countries not to poor countries at all. In the late 1990s, roughly 80% of the stock of America's outward FDI was in Canada, Japan, and Western Europe and nearly all of the rest was in middle income developing countries such as Brazil,

Mexico, Indonesia and Thailand. The poorest developing countries accounted for 1% of America's outward FDI, it explains the following table:-

### Where the Money Goes?

America's stock of direct investment overseas, 2000.

Particulars	\$bn	% of Total
High Income Countries	982.8	81.00
Middle Income Countries	218.1	18.00
Low Income Countries	12.2	1.0
All Income Countries	1,213.1	100.00

Sources: Edward M. Graham, Institute for International Economics, The Economist.

The idea that outward FDI reduces the demand for labour in the sending country and increases it in the receiving country who needs it. It was based on the assumption that when rich country firms invest in poor countries, rich country exports are replaced by poor country domestic production. In fact evidence from the United States and other countries suggests that outward FDI does not displace exports, it creates them. FDI and exports are not complements. This is because of multinational trade with each other. For one reason or another, the inflow of capital may produce little or nothing of value, sometimes less than nothing.

We can say that economic integration may have added to the powerful pressures that were acting to increase inequality.

#### Globalization and Education:

Globalization has tremendous impact on the entire education system especially on higher education in the developing countries. The education system can not remain aloof, as there is integration in global economy. Education is important investment in building human capital that drives for technological innovation and economic growth.

Because of strong hold of English language in MNCs and corporate circles, the gap between rural and urban is almost complete in the field of education. Some foreign universities have also opened their centers of learning to Indian students while they are staying in India. But this process has also led to slow growth of low quality institutions without proper infrastructure and students are unable to compete in the open market system of employment. Before 1991 Govt. set up higher learning institution like Indian Institute of Management and Technology.

Commercialization of education is the order of the day. Commercial institutions offering specialized education everywhere. In the view of globalization many corporate universities, both foreign and Indian have made their entry. Once these institutions turn "self financing" their charges would be more against their global counterparts, which are affordable to the same top layer of the society, again the question has raised about the poor people. Poor people won't be able to afford this higher education and they will not get good employment opportunities. So, again we can say poorer will become poorer and richer will become richer.

#### Globalization and Culture:

As we discussed in the introduction that globalization is a process which creates transnational social relations and transnational social space, which upgrades local cultures and gives rise to new cultures. Because of globalization local culture upgrades and gives birth to new culture. In India at present all people from different religion celebrate their festivals, following their own culture but simultaneously they have accepted western culture as well e.g. clothing style has changed, eating habits has changed as well as in the case of festivals also there is change.

Besides their own festivals they are celebrating other's festivals as well. E.g. In India friendship day, valentine day, mother's day, father's day people never used to celebrate they were unaware about it but because of MNCs people aware about all these days and they are celebrating

these days .This is not Indian culture but still people are celebrating and at the same time spending the money, MNCs are earning the money and all profits goes to their countries. Besides these days we are having other days like World Heart Day, World AIDS Day, World Environment Day etc which are informative, but people are spending and running behind unnecessary things.

Because of greater migration of people from one country to another there is breakdown cultural barriers- but also leading to the spread of disease (e.g.AIDS) and international crime in drugs, prostitution and arms. We can conclude that, Indian people are giving more importance to other culture because of globalization.

#### **Globalization and Industry:**

Rao(2000) considered that freedom is necessary for industry to operate in economy. Degree of openness incorporated in the new policy framework is minimum. The real solution to the challenges faced by the industry is the shift in the basic character of the industries from less competition to more competition, less quality to the fair quality, primitiveness to modernity and above all from low ethics.

It was expected that globalization would open up a window of opportunity for the industries to become globally competitive and reach out for global market, which is much larger than the domestic market alone. In the last one decade of liberalization, it has not been so. To become competitive within a reasonably short period of time, the Indian industry will essentially need to upgrade and develop its own technology. In most areas of production, the Indian industry has indigenized the technology without improving it or has been following outdated or obsolete technology imported relatively cheap. The new world order of market driven economy has changed the Indian scenario drastically. In many sectors including textiles, Indian companies are not just forced to compete with each other, but also with foreign MNCs entering the huge Indian market in post WTO scenario. Progressive reduction of physical and fiscal barriers to import have made superior imported goods available to Indian customers, at a price lower than what is available from Indian manufacturers. This has happened already in capital goods, consumer durables and now it is the turn for consumer goods like textiles too.

Indian industry has traditionally been dominated by heavy industry. In the post independence period, there was great emphasis on building up India's capital goods and heavy industries. Uncompetitive and inefficient industries often were able to survive behind high tariff barriers and lack of private sector competition. Many of them, however, now face greater competition due to deregulation and lower tariff barriers. Competition has resulted in declining prices and profit margins. At the same time, however, these industries are held back by the limited reform measures undertaken thus far: they continue to be hampered by high input costs (often due to high tariff barriers on imports), infrastructure constraints, and an array of restrictive labour, land, and small scale restriction policies. The recent domestic slump, partly caused by over capacity in many industrial sectors, falling international commodity prices, and greater competition from Asia in third markets, has particularly hurt cement, steel, vehicles, and capital goods. The only heavy industry so far unscathed appears to be aluminum.

Again in this aspect also we can conclude that globalization is not at all helpful to poor country's industries.

#### **Globalization and Human Resource:**

Globalization has effect on human resource as well. Statistics from (ILO) International Labour Organisation reports document the fact that at least one third of the world's willing to work population is either under employed or unemployed.

Another fallout of globalization is the feminization of labour. As more and more women are forced to look out for employment, an overwhelming majority of this labour is being concentrated in low wage industries like textiles and footwear production. These industries are notorious for exploiting their workers by denying them job security and the right to organize, and subjecting them to long working hours without even the most basic of amenities. In real sense, workers in developing

countries lack the rights, legal protections and union representation enjoyed by their counterparts in rich countries. This is because of hiring workers by multinational. Lacking in bargaining power, workers do not benefit as they should from an increase in the demand for labour. Their wages not increasing. They may have no choice but to work in sweatshops, suffering unhealthy or dangerous conditions, excessive hours or even physical abuse. In the worst cases, children as well as adults are the victims.

Average Annual Wage Paid by Foreign Affiliates of U.S. MNCs and Average Annual Domestic Manufacturing Wage by Host Country, 1994.

	<b>All Countries</b>	<b>High Income</b>	<b>Middle Income</b>	<b>Low Income</b>
Average wage paid by affiliates/ thousands of dollars.	15.1	32.4	9.5	3.4
Average domestic manufacturing wage/ thousands of dollars.	9.9	22.6	5.4	1.7
<b>Ratio</b>	<b>1.5</b>	<b>1.4</b>	<b>1.8</b>	<b>2.0</b>

Source: Edward Graham, Fighting the Wrong Enemy, Institute for International Economics, Washington, DC, 2000.

Maximizing profits is the only thing that matters to MNCs. They search the globe for the cheapest labour when deciding where to locate factories. Most of the businessmen shifted their business to poverty wage factories in developing countries.

From above table we can conclude that MNCs are not at all exploiting workers, they are paying more compare to the domestic company. But because of this behaviour labour will think to join only MNCs and they will not work for domestic company as well as labour will put more demands for wages to domestic company and because of unavailability of labour and more demands for wages, domestic business will get closed in future of the developing countries.

Again, in this aspect also globalization is not at all helping to the developing countries.

#### **Reality of Globalization:**

Globalization includes,

- 1) Massive and reckless industrialization.
- 2) De-humanization of science, technology and industry.
- 3) Ineffectiveness of nation-states.
- 4) Newfangled consumerism.

Massiveness means mass production leading to mass surpluses, necessitating mass distribution and mass consumption through massive technologicalization, capitalization and monopolization. Though globalization has achieved stunning achievements in the establishments of a world market of trade and development that is threatened only by increasing environment pollution, international and intranational inequalities, exclusively regional blocs and the political upheavals that may result from those. It undermines the cultural integrity of other cultures and is therefore repressive, exploitative and harmful to most people in most places. Globalization replaces the image of separate individual societies with one world system in which everything – every society, every government, every company, every culture, every class, every household, every individual must insert and assert itself within a single division of labour.

Dehumanization implies total concentration of the industries on commercial; profit and economic power to a total exclusion of concerns for human health and happiness in term of physical, intellectual and economic well being. Foreign investors and MNCs have not come to India to create jobs, they have come to make profits. If they create new jobs, it is only for urban masses and elite



class and not for common rural masses. Year after year they have been getting rid of the staff in their own countries, in an effort to hike productivity and profits. There is hardly any MNCs which is not trimming its labour force.

Impact of globalization are also evident on the village life of India. Due to the irrational mechanization, which was mainly tractorisation relieved village men from arduous jobs of farming and they engaged themselves in playing cards and drinking. The political leadership of the states cleverly look advantage of this situation and exploited these idle people in organizing political rallies. Young men instead of engaging themselves in agricultural operations started looking for the white collar jobs. Sometimes these frustrated youth engage themselves in criminal activities.

Globalization has opened up the corridor of markets flooded with variety of consumer goods, forcing individuals to earn more, in order to acquire more, yet can never reach a point of contentment. In this consumerist society, the consumption in general and possession and display of certain objects in particular (like designer clothes, expensive cars, and other accessories) are used as recognition props for self-expression and self-gratification, reducing human essence to mere existence. Those who cannot have access to material things envy others. Envy has become a social transformation of aggression, in which self comparisons elicit the desire to have, or snatch or destroy that others have. The significance of man has lost its meaning and purpose and reduced to mere mechanical drudgery. The material progress beyond the requirement of the satisfaction of basic needs and comforts is causing deterioration in the inner self of man.

Unemployment, poverty, inequality and alienation are increasing, partly as a result of globalization. Crime, drugs, terrorism, violence, civil wars, diseases and environment destruction are becoming globalized. Capital, technology and advanced skills dominate the more reality dispensable factors: unskilled labour and the environment. Cost reduction are carried out and labour and nature suffer. Globalization is very uneven process, with unequal distribution of benefits and losses. This imbalance leads to polarization between the few countries and groups that gain and the many countries and groups in society that lose out or are marginalized. Globalization, polarization, wealth concentration and marginalization are therefore linked through the same process. A World Bank study finds that the poorest 40% of people in developing countries have seen their incomes fall since liberalization began. The rapid growth of the global economy in recent decades is perhaps most clearly shown by the fact that in 1970 the total no. of TNCs was about 700, but grew by 1998 to at least 53,607 TNCs that were contracted with at least 4,48,917 foreign subsidiaries. The forces of global integration and technological advance can and must be harnessed to serve the interests of poor people. In 2000, of the world 6 billion people, 2.8 billion live on less than \$ 2 a day and 1.2 billion on less than \$ 1 a day. Six infants of every 100 do not see their first birthday, and 8 do not survive to their fifth. Of those who do reach school age, 9 boys in 100 and 14 girls do not go to primary school. These conceal extraordinary diversity and variations.

Following are few suggestions can be implemented to overcome on globalization.

- 1) Importance should be given on the production of basic needs of the local population. Societies which are basically self sufficient in the production of basic needs can stand up to external imposition.
- 2) There should be regulatory regimes to control the inflow and outflow of foreign investments and the operation of MNCs.
- 3) All economic activity should be filtered through the screen of ecological soundness, social equity, cultural and gender sensitivity and economic stability.
- 4) The poor should be helped to establish producer and marketing cooperatives.
- 5) Water, air, soil, knowledge and biological diversity should not be privatized.
- 6) Land reform laws should be strictly implemented. Traditional rights of indigenous people over their ancestral domain and resources should be respected.

In the new millennium, it is we Indians who have to play the main role, it is we who have to save more, invest more, educate more, plan more and create a new world for those have been left behind in the development game. All paradigms from globalization to communism have failed to solve the basic problems of poverty, hunger and unemployment, on one hand and alienation, dehumanization, resource exhaustion, environment pollution, ecological threat violence and war on the other hand. Gandhi insisted on self development offered an alternative life style, alternative world vision and viable set of strategies and peaceful methods for eliminating dehumanized globalization which we should follow.

#### **Conclusion:**

Globalization of the world economy leading to a greater interdependence between countries of the world. Developing countries depend on developed countries for resource flow and technology, but developed countries depend heavily on developing countries for raw materials, food and oil, and as markets for industrial goods. The term globalization refers to all those forces operating in the world economy that increase interdependence and at the same time make countries more and more dependent on forces outside of their control, as time, space and borders diminish in importance. Foremost among these forces are:

- 1) The widening and freeing of trade. Over 20% of the world's output of goods and services is now traded.
- 2) More foreign direct investment (FDI) by giant MNCs with more power and assets than many national governments.
- 3) The greater movement of people than ever before, breaking down cultural barriers but also leading to spread of disease (e.g. AIDS) and international crime in drugs, prostitution and arms.
- 4) The spread of information technology (IT) which can exacerbate contagion in financial markets (e.g. the 1997 financial crisis in South East Asia)
- 5) New institutions, such as the WTO, with authority over national governments and new multilateral agreements on trade, services, intellectual property etc. which reduce national autonomy.

All these aspects of globalization and interdependence make countries more vulnerable to shocks such as : world recession and downturns in world trade; financial crisis, such as the Asian crisis of 1997 which became contagious and spread like a disease affecting not only the region of South East Asia, but other parts of the world too; and decisions by big MNCs to withdraw investment.

But globalization is not a panacea for the contemporary world crisis, globalization is deepening crisis. The remedy lies in the deglobalization of the dehumanized trade, investment and aid schemes. The answer for the 21<sup>st</sup> century lies in the rehumanization of science, technology and industry. If we want culture of peace and harmony, we must have a technology peace. Hence, 'small is beautiful' is an answer to 'gigantism mania', which has no rational basis. Gandhian model will bridge the gap between individual and society, city and town, local and global. So, if we want values on non violence, that is, the values of righteous conduct, truth, peace, love, dignity of labour, self reliance, self control, equality, swadeshi, sarvodaya, sacrifice, satyagraha and trusteeship then we have to "Think Globally And Act Locally" It is imperative and urgent that we should increasingly make use of Gandhian ideas and strategies.

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## Supply Chain Management for Designer Apparels

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### Abstract:

The fashion industry is characterized as a chain, in which profits derived from “unique combinations of high-value research, design, sales, marketing, and financial services that allow retailers, branded marketers, and branded manufacturers to act as strategic brokers in linking overseas factories” with markets. There are various types of fashion and each type has its own characteristics. e.g. Fast fashion is one of them which are used to describe clothing collections which are based on the most recent fashion trends, whereas classical fashion on the other hand describes those clothing collections which are evergreen. To meet this ever dynamic competition there is a strong need for the proper supply chain to cater to designer segment apparels.

**Key Words:** Supply Chain for designer Apparels, Basic Product, Designer Apparels, Indian fashion scenario.

### I. Introduction:

The 20th century witnessed the end of hype and created a more practical and pragmatic environment for the fashion business, thus increasing stability and respect. In the 50s, 60s and 70s, the Indian fashion scenario wasn't exactly colorless. It was exciting, stylish and very graceful. There were no designers, models, star or fashion design labels that the country could show off. The value of a garment was judged by its style and fabric and not by who made it.

It was regarded as ever so chic and fashionable to approach any unfamiliar tailor, who could make a garment for a few rupees, providing the perfect fit, finish and style. The high society lady, who wore it, was proud for getting a good bargain and for giving her name to the end result.

In 60s, tight 'kurtas', 'churidars' and high coiffures were a trend among ladies. It was an era full of naughtiness and celebration in arts and music and cinema, manifested by liberation from restriction and acceptance of new types of materials such as plastic film and coated polyester fabric. The fashion in that era was greatly influenced by movies and celebrities.

The 70s witnessed an increase in the export of traditional materials outside the country as well as within. Hence, international fashion arrived in India much before the MTV culture with the bold colors, flower prints and bell-bottoms. Synthetics turned trendy and the disco culture affected the fashion scenario.

This article provides insights into the changes which have happened over the time in the Indian fashion industry, and the trends changes which have taken place. To say that Indian fashion has evolved over time would be an understatement. In the last few decades, there has been a complete turnaround in the Indian fashion industry and it has become a global brand. Indian designers and Indian clothes have made their presence felt all across the globe.

### II. Literature Review:

**2.1:** The industry, currently pegged at Rs 720 crore, is seeing a growing popularity of boutiques selling designer, local wear showcasing finished and ready-to-stitch garments and trendy dresses. According to the recent survey conducted by Associated Chamber of Commerce and Industry of India ASSOCHAM, the Indian film industry and the West also have a huge influence on the ever-evolving fashion scenario in India.

Eyeing a huge consumer base, premiere foreign brands dealing in segments like designer wear and lifestyle consumer products are also making a beeline to enter the profitable Indian market amid fears of another economic slump in the United States and a debt crisis in the European markets.

According to D S Rawat, Secretary General, ASSOCHAM “Currently, India's share in the

global designer wear industry is a minimal 0.32 per cent, but is likely to reach about 1.7 per cent by 2020.”. The global designer wear industry is currently poised at over Rs 2.2 lakh crore and likely to cross Rs 6.1 lakh crore mark by the end of this decade, the report says.

The Chamber has called for removal of infrastructural and various logistical bottlenecks that are proving to be a bane for growth and development of the designer wear segment in India.

**2.2:** ASSOCHAM has suggested the government to sponsor exchange programmes between domestic and international fashion institutes to enhance Indian designers’ potential and bring India on the global fashion map, making it a prominent fashion capital of the world.

According to a recent ASSOCHAM survey, nearly 35 per cent of male and over half of female shoppers in urban India prefer shopping at retail outlets, which are one-stop shopping destinations, as one can find almost all the leading local and international brands under one roof. Besides, nearly 40 per cent of working couples prefer buying designer wear for their kids.

**2.3:** Even though the industry is regarded as a sunshine segment for the overall apparel market, it is grappling with issues like lack of strong brands and financing options for budding designers.

But what hinders this growth is the plagiarism as designs get copied and thus more and more fashion designers have started seeking copyright protection and are getting their designs registered.

**2.4:** Indian designers feel that the industry is still in a nascent stage, and though the numbers look unachievable, a few steps, if taken, would help the industry grow. **Puja Nayyar**, a well-renowned fashion designer, says, “Though the numbers in the report sound juvenile, the growth is surely slated as more and more people in India are now taking the fashion industry seriously, which also helps us in performing and delivering in a better way. Moreover, the changing trends are now becoming important for people and they are going out and buying stuff. A bright future can be expected if the industry keeps on maturing at this pace.”

Jattinn Kochhar, who has been in industry for almost 20 years now, says, “The strong media exposure has surely created awareness about our industry and fashion per se among people, but Indians are still not coming out and paying for designer wear. The fake still dominates the market, which, in my opinion, should go for the industry’s good.”

The two unanimously think that government intervention is important for the industry to flourish.

### **III. Objectives:**

1. To provide insights into the changes which have happened over the time in the Indian fashion industry, and the trends changes which have taken place.
2. The evolution of Indian fashion in last decade.
3. Impact of media and celebrities on Indian consumers for designer wear.
4. The future trends for the designer wear.

### **IV. Research Methodology:**

The study is based upon conclusions drawn from a pilot study and secondary data gathered from books, websites and journals, the data was analyzed logically to draw conclusions. The author interviewed 5 upcoming designers in the city of Mumbai and Navi – Mumbai. The experience of researcher with small manufacturers, whole sale apparels store owners, independent workers for different types of handworks and tailors.

### **V. Discussions and Analysis:**

#### **a) The evolution of designer wear:**

**5.1:** It was in the early 80s when the first fashion store ‘Ravissant’ opened in Mumbai. At that time garments were retailed for a four-figure price tag. The ’80s was the era of self consciousness and American designers like Calvin Klein became popular. In India too, silhouettes became more masculine and the ‘salwar kameez’ was designed with shoulder pads.

With the evolution of designer stores in Mumbai, the elegant fashion design culture was a trend among Indians along with their heavy price tags. No doubt that a garment with a heavy price tag was at the bottom stage of fashion. But clients immediately transformed into the high fashion fold where they were convinced that the word 'elegant fashion design culture' means, it had to have a higher price tag.

Garments were sold at unbelievable prices only because the designers had decided to get themselves noticed by making showy outfits and getting associated with the right shows, celebrities and events.

Later, fashion shows shifted to competitive events each attempting to out-do the other in theme, guest list and media coverage. For any newcomer, the fashion business was the number one professional art that time.

**5.2:** In the 90's, the last decade of the millennium, a move towards the drastic pairing down returned with ethnic wears (Today, ethnic wear market in India is accounted to Rs. 9000 crore). This led to the decline and the recession, the push to sell at any cost and keep staying in the limelight. With heavy cut throat competition and sound awareness of the client, the inevitable occurred. The price tags, which had once reached at a peak, began their downside journey.

The fun and party time in the Indian fashion scenario had not ended with this, but continued. It was a point, where it reached at a certain steady level and from there, in the beginning of the 21st century, with new designers and models and some sensible designing; the fashion hype accelerated its speed. For example, Fabindia, with 51 Indian destinations and delivering to 33 countries worldwide, is a specialty chain that markets diverse craft traditions in India. Their Endeavour is to provide customers with hand – crafted products which help, support, and encourage good craftsmanship. The product range consists of garments for men, women, children, and infants, garment accessories, home furnishings such as bed, bath, table, kitchen linen, upholstery fabrics, curtains, and floor coverings, and a range of non textile products such as furniture, lights, lamps, and stationary. In addition to hand – crafted clothing and home furnishings, Fabindia's product includes organic food and personal care products. Its home design centers offer a customized solution to suit the taste and décors of individual customers' home.

#### **b) Industry Speak:**

According to an ongoing unpublished study by the Fashion Design Council of India and audit firm KPMG, 'The designer-wear segment of the fashion industry is expected to boom as Indian companies rush to invest hugely in it.'

According to the study, the Indian fashion design industry is expected to grow to Rs 1,000 crore (Rs 10 billion) from the current Rs 180 crore (Rs 1.80 billion) within the next five to 10 years.

The Indian designer wear industry, according to a recent study by ASSOCHAM, is growing at a compounded annual growth rate (CAGR) of about 40 per cent. In the report titled 'Trends in Indian Designer Wear Industry', the booming industry in India is likely to cross the Rs 11,000 crore mark by 2020.

But, the study cautions, the segment will boom only if conscious efforts are made to develop it and initiatives like corporatization and developing pret or ready to wear clothing are taken.

The total apparel market in India is estimated to be worth around Rs 20,000 crore (Rs 200 billion). The branded apparel market's size is about a fourth of this or Rs 4,000 crore (Rs 40 billion).

Out the branded apparel market, the designer wear market is just about 0.2 per cent of the branded apparel market. The way for the designers wear to grow in the Indian market is to actively look for strategic tie-ups with large corporate in related industries to provide the necessary financial support and operation management expertise.

According to these designers the demand for designer wear has been increasing four folds over a period of time, the current impact of media and disposable income amongst upper middle class

segment consumers drives a strong need for dressing. The huge demand has been noticed amongst the females in the age group of 18 years upto 50 years most of these females are either students or are working executives.

**5.3:** On the operations side there still a huge gap in demand and supply chain for these upcoming segments of designers for various reasons, most of these designers are still dependent on independent small scale workers for various hand works and stitching which increases the cost per unit in turn the prizes tend to increase. Few of these designers have tie ups with many big retail giants, having tie – ups again has its pros and cons, the major disadvantage is the payment terms. The payment is been done almost after 35 to 40 days of the delivery of goods, again if in case the product couldn't get sold then the entire material is returned back, this makes it really difficult for disposing off the inventory which is returned back.

**d) The Road Ahead:**

**5.4:** According to the study, the Indian fashion design industry is expected to grow to Rs 1,000 crore (Rs 10 billion) from the current Rs 180 crore (Rs 1.80 billion) within the next five to 10 years.

There is potential for the designer wear market to grow because essentially people are shifting from unbranded to branded clothes and designers are looking at 'Pret' collections which are more affordable

Designers are currently limited to very small revenues of extremely high priced couture and diffusion line garments. While most have realized that the market potential for more affordable ready to wear is large and are starting to move into this segment to tap the opportunity, they lack the processes, systems, people and financial resources to rapidly scale up their operations.

However, the industry is currently dominated by small players who operate in an unorganized and highly fragmented set-up. The way for the designers wear to grow in the Indian market is to actively look for strategic tie-ups with large corporate in related industries to provide the necessary financial support and operation management expertise.

It is not just enough to get elite individual clients to buy your clothes. Designers have to cater to the pret and ready wear market to go global in the true sense. There are many foreign players entering into Indian market along with the strategy of flagship stores. For example Avirate an International high street fashion label announced their entry into India with the launch of their first flagship store in Bangalore. Trendy Divva has opened its 7<sup>th</sup> flagship store at DLF promenade, Delhi. There is a strong need in India to provide state of the art facilities for the proper supply chain management.

Need to build brand India: Building a strong brand in fashion capitals of the world like Paris, Milan and New York needs innovative designers, a seamless supply chain, control over retail and distribution and concentration on quality. Every stakeholder including designers, exporters, textile players and retail chains needs to come together to make sure that the position of Indian fashion is strong in the coming years.

**5.5:** Different models need to be tried: The Indian fashion industry has many views but only one model, wherein a designer creates a retail venture with his/her own brand through organized retail chains. There are many other models that can be explored. For example Ralph Lauren has made an agreement with Jones Apparel for producing and retailing various Polo brands.

Designer education & motivation: This can be done by sponsoring exchange programs with international schools, increasing participations in the fashion capitals of the world, motivating and offering business incubation to new designers and rewarding efforts through proper design awards.

**VI: Conclusions:**

**6.1:** Globalization has made the world a truly small place to live in. It has enabled the merging and inter-mingling of cultures, traditions and almost every other aspect imaginable.

**6.2:** The impact of globalization is most profound on fashion and clothes all across the world. What was hitherto unknown or only restricted to a small part of the world is now owned and flaunted by everyone everywhere. And this is more so when something was previously considered exotic or un-wearable.

**6.3:** Indian clothes were once considered a little difficult to wear. Imagine a non-Indian trying to drape a sari or wear a dhoti and you'll get the picture. They were also thought of as being loud or garish. Yet, in the past decade, all that seems to have changed. Indian designer wear such as the sari, kurta and sherwanis are now coveted and worn by people from all over the globe.

#### **VII: Recommendations:**

**7.1:** Designers are currently limited to very small revenues of extremely high priced couture and diffusion line garments. While most have realized that the market potential for more affordable ready to wear is large and are starting to move into this segment to tap the opportunity, they lack the processes, systems, people and financial resources to rapidly scale up their operations, there exist a need to tap this market by realizing the need of the consumer in working class segments who pose a lot of disposable income.

**7.2:** To fully exploit the potential inherent in designer wear, Indian companies need to invest in brand building and in developing efficient supply chains with broad distribution networks for the designers.

**7.3:** The fashion industry requires raw materials, assembly processes, distribution methods and product visibility just as any industry. And, much like any other industry, supply chain management involves the unified coordination and harmonious collaboration of resources in order to deliver the product to market. Moreover, the fashion industry must compete with strategic procurement plans coordinated with suppliers to support the product development, assembly and delivery plus management processes – each dedicated to the continuous and consistent development of new products (with greater frequency in “fast fashion”).

**7.4:** For specialty fashion retailers who operate globally - sourcing and procurement must operate on an international basis. Purchasing activities require rapid communication systems, such as electronic data interchange and Internet linkages to transfer specifications and time requirements. Much like other industries, these companies conduct operations concerned with obtaining products and materials from outside suppliers which in turn necessitates resource planning, supply sourcing, negotiation, order placement, inbound transportation, storage, materials handling and quality assurance, many of which include additional responsibilities centered on coordinating with suppliers on scheduling, supply continuity, risk management and hedging, and R&D.

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## Tourism in and around Panjim City

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### Introduction

This paper presents a brief knowledge of the study area (tourist's spots) their main attractions, their spatial scope and related key issues. It also provides a glimpse of the major attractions of these spots, and the type of tourism (beach tourism, heritage tourism, religious and cultural tourism, eco tourism etc.) Activity that is prevalent.

Goa is a tiny emerged land on the west coast of india. It's geological area is 3702 sq km, 25<sup>th</sup> state of india. East west distance is 65km and north south is 105km 12 talukas and 2 districts, 40 mla and 2 mp's. The population consists of 60% hindus, 30% catholics, 5% muslims and 5% others. Goa is the land of beauty, celebrations and the destination of hope and dreams. Goa's fame and glory is largely due to its beaches, temples and churches. Tourism as an industry of new century, offers unmatched potential for growth and diversification.

### Panaji

The capital of goa and headquarter of north goa district, panaji is a small and charming city on left bank of river mandovi. Panaji is famous for its natural scenic beauty, excellent greenery, attractive beaches, temples, churches and distinctive architecture. All these are a great source of attraction for the tourists.

Tourist places have been dealt on a little larger area in and around panaji (tiswadi taluka). The rationale for such approach is a number of tourists spots surrounds the city and panaji commands a strategic location in terms of accessibility, approach and infrastructure much further beyond the corporation boundary limit. This also is a holistic approach in terms of tourism planning. The places of tourist attraction in and around panaji may be sequentially divided into following heads. A detail inventory of various types of tourist spots are given in the following paragraphs:

- beach tourism
- heritage tourism
- religious and cultural tourism
- eco tourism

#### 1. Beach tourism

Goa has 105 kms long coastline dotted with some of the most beautiful beaches in the world. There are a total of 34 important beaches in north and south goa. Of these beaches north goa has 16 and south goa has 18. Of these panaji has two famous beach, i.e. Miramar and dona paula beach.

- **Miramar beach:** is approximately 1.5km long golden beach of soft sand girdled with palm trees facing the blue arabian sea.
- **Dona paula beach:** this is about 7km from panaji, located on northern bank of river zuari. This is an ideal picturesque spot with a fine view of zuari river and mormugao harbor. This beach offers water scootering, boating and other facilities

#### 2. Heritage tourism

Ruled by portuguese ruler, goa in general and panaji in particular has a number of churches. Most of these churches are date back to the 16th century and are best example of gothic architecture. Most of these churches have very intricate detailing and ornamentation. Most of the important churches are located in old goa. Old goa is located on east of panaji about a distance of 10km. Old goa was founded by adil shah.

Number of churches located in tiswadi taluka and some of these have already been declared as world heritage monuments by unesco. A brief description of some of the selected churches are given



in subsequent paragraphs:

### 3. Religious and cultural tourism

Temples in goa have a varried architectural look. Interiors of the temples are shown with carvings and paintings. Some of the important temples are given below:

- **Shree gomanteshwar devasthan:** situated near ela farm in old goa. Lord Mahadev was worshipped during the days of kadamba kingdom.
- **Shree mungesh temple:** built in 16<sup>th</sup> century, dedicated to lord shiva, the temple is situated at priol in ponda taluka. Its lofty white tower at the entrance is a landmark in the country side.
- **Shree hanuman temple:** located close to panaji city is a beautiful red coloured structure distinct from rest of the temples.
- **Shanti durga temple:** one of the richest temple dedicated to shanti durga, the goddess of peace. This is approximately 33km from panjim.
- **Shree mahalaxmi temple:** situated in bandode village. This temple is considered as the abode of the original goddess of the shakti cult.
- **Jamiya masjid:** situated on dr. Dada vaidya road, this is one of the important spot in panaji.

### 4. Eco tourism

Close to panaji located at the western tip of the island of choraol along mandovi river dr. Salim ali bird sanctuary is one of important eco tourism spot in goa. The sanctuary spreads over 1.78km<sup>2</sup> area and fully covered with mangrove species. Varieties of local and migratory birds frequently visit the place. Others places of interest in the state are as follows:

- Bhagwan mahavir wildlife sanctuary and mollem national park (240km<sup>2</sup>, molem, sanguem)
- Bondla forest (8km<sup>2</sup>, ponda)
- Cotiago wildlife sanctuary (105km<sup>2</sup>, canacona)

### Tourists arrivals in panaji

Goa is one of the most favorite destinations of tourist in india. The share of domestic as well as foreign tourists is increasing over a period of time. Table 1 and figure 1 shows the number of tourist arrivals in goa.

Table 1: tourists arrivals in goa

Year total	Foreign Tourists	Domestic Tourists	Total Tourists	Percentage Variation
1985	682545	92667	775212	-
1986	736548	97533	834081	7.6
1987	766846	94602	861448	3.3
1988	761859	93076	854935	-0.8
1989	771013	91430	862443	0.9
1990	776993	104330	881323	2.2
1991	756786	78281	835067	-5.2
1992	774568	121442	896010	7.3
1993	798576	170658	969234	8.2
1994	849404	210191	1059595	9.3
1995	878487	229218	1107705	4.5
1996	888914	237216	1126130	1.7
1997	928925	261673	1190598	5.7
1998	953212	275047	1228259	3.2
1999	960114	284298	1244412	1.3
2000	976804	291709	1268513	1.9

2001	1120242	260071	1380313	8.8
2002	1325296	271645	1596941	15.7
2003	1725140	314357	2039497	27.7
2004	2085729	363230	2448959	20.1
2005	1965343	336803	2302146	-6.0

Source: department of tourism, govt. Of goa

The above table shows that in all years the number of tourists have increased particularly after 1991. However, the year 2001 – 2004 register maximum growth of domestic tourists because of exposition of the sacred relics of st. Francis xavier in old goa. The foreign tourists visit india every year approximately 24% of them visit goa.

Table 9.4 shows month wise comparative statement of tourist arrivals in panaji (tiswadi taluka) and goa in 2004. As the following table shows there are 6,39,177 tourists visited panaji during 2004, which is about 30.6% of the total tourist arrivals in goa. Of these tourists the foreign tourists accounts for 75,456 and rest 5,63,721 are domestic. Graph 9.1 and graph 9.2 shows month wise variation of foreign and domestic tourists in tiswadi taluka (panaji).

Table 2: month wise comparative tourist arrivals in panaji and goa during 2004

Period	Tourist arrivals in tiswadi tauka			Total tourists	In goa state
	Total Tourists	Foreign Tourists	Domestic Tourists		
January	48231	7321	40910	174690	27.6
February	35738	6774	28964	121987	29.3
March	47203	6261	40942	164693	28.7
April	46224	3159	43065	166831	27.7
May	44723	2653	42070	164863	27.1
June	30174	1236	28938	83714	36.0
July	21923	976	20947	72643	30.2
August	32839	1916	30923	108518	30.3
September	48495	2793	45702	152361	31.8
October	45637	4821	40816	156923	29.1
November	63244	12119	51125	243674	26.0
December	174746	25427	149319	474832	36.8
<b>Total</b>	<b>639177</b>	<b>75456</b>	<b>563721</b>	<b>2085729</b>	<b>30.6</b>

Source: department of tourism, govt. Of goa



Year

Graph 1: month wise foreign tourist arrivals In tiswadi taluka (panaji)



year

graph 2: month wise domestic tourist arrivals in tiswadi taluka (panaji)

Month wise tourist arrival break-up data shows that november to february is the best period for foreign tourist and december to february is ideal season for domestic tourists. The past experience and the study conducted by the tourism department for average duration of stay in panaji is 5 days for domestic tourists and 9 days for foreign tourists. Foreign tourist data for ten years between 1994 to 2004 shows that maximum tourists come form u.k., followed by germany, sweden, switzerland, italy, finland, austria, france, usa and canada.

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## Corporate Houses and Education in India

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### Abstract

Corporate Social Responsibility (CSR) means the ethical principles followed by a corporation towards the society in which it functions. These principles can be observed in the society-oriented philanthropic programs undertaken by the corporations. Actually, Corporate Social Responsibility is not a new concept in India. There have been both private and public enterprises who are working for the betterment of the society in one way or the other. Though education is one of the most closely related and essential factors in the multifaceted development of human resources, unfortunately it has also been the most neglected area during both pre and post-independence periods in Indian history. The efforts on the part of educationists and social reformers supplemented by the policies of government have been very insufficient considering the huge number of learners at all levels. Naturally, it has received attention from the corporate sector.

The present paper, therefore, is an attempt to explore the role played by the corporate sector in the development of educational sector. In continuation of this, an attempt is also made to investigate if the corporate sector is 'really concerned' with the lives of the people? Even there are some educational institutes which themselves have become profit-generating companies. In such cases, it is interesting to note, what role are they playing to provide quality education at affordable 'price'? Or are they exploiting the 'customers' by the usual corporate tactics? In addition, this paper also tries to tackle the complex issue like is the government itself sincere in its efforts towards the education of the masses or is it trying to keep itself away from its constitutional responsibility?

### Introduction:

Corporate Social Responsibility (CSR) is defined as "the social responsibility of business (that) encompasses the economic, legal, ethical, and discretionary expectation placed on organizations by society at a given point in time." (Alkhafaji, 1996: P.295) It means a corporation has to follow certain principles which directly or indirectly affect the society in which it functions. These principles can be observed through society-oriented philanthropic programs or environmental related issues addressed by the corporations. While functioning in any society, the corporations are required to protect all the elements of environment like the air, water, land and forests, which directly or indirectly affect the well-being of the society. If the corporations fail to fulfill these responsibilities towards the society, sooner or later, they are destined to pay for their failure. In India, since the ancient times there has been much consciousness about the environment for the safe and healthy existence of the mankind. While speaking about the importance of environment, Dr. S. Kannan says:

"For the welfare of all human and other beings, the Vedas seek a sweet and pleasant environment consisting of sweet breeze, sweet flowing rivers, sweet and beneficial herbs, sweet day and night, sweetness of earth particles, sweet fruit bearing trees, sweet and beneficial Sun and sweet bearing cows." (Kannan: P. 129)

These words clearly indicate the awareness of the significance of environment among the Indian intelligentsias. However, primarily protection of the environment was considered to be the sole responsibility of the state. During the later years, however, private corporations entered into the arena and took over many of the natural resources resulting in handing over some of the responsibilities

from the state to the private parties. Still, the state controlled these corporations by forming certain policies that govern the corporate world and made them contribute for the betterment of the society. It means corporate social responsibility, though discussed on large scale only in recent years, is not a new concept in India. The history of India itself is a proof of the fact that there have been both private and public enterprises who are working for centuries for the betterment of the society in one way or the other. This approach was in line with the view of former UN Secretary General, Mr. Kofi Annan. While emphasizing the importance of the active involvement of corporations in social development particularly in the age of globalization, he says:

“If we cannot make globalisation work for all, in the end it will work for none. Thus it is essential to enlist the help of businesses in building the missing links in social infrastructure of the new global economy.” (Saswati Chanda)

Though education is both the means and the end and is also one of the most closely related and essential factors in the multifaceted development of human beings, during both pre and post-independence periods in Indian history, unfortunately, it has been the most neglected area as well. The efforts on the part of educationists and social reformers like Mahatma Jyotirao Phule, Rajarshree Chh. Shahu, Maharaja Sayajirao Gaikwad, Karmaveer Bhaurao Patil and others supplemented first by some of the policies of British government and later on by various educational commissions appointed by the Indian government have been very inadequate considering the huge number of learners at all levels. It is observed that the attitude of the government towards education has considerably changed during the last two decades as India has accepted the policy of liberalization, leading to the privatization of educational sector. Naturally, it requires much attention from the corporate sector.

The present paper, therefore, is an attempt to explore and analyze the role, if any, played by the corporate sector in the development of the educational sector in India during pre and post-globalized period. In continuation of this, an attempt is also made to investigate how far the corporate world has achieved its aim of educating the Indian people and helping them in their overall improvement and how long and how hard it is required to work further. The investigation in this direction leads us to observe if the corporate sector is really concerned with the lives of the people for whom it is working or is it only to fulfill the mandatory conditions laid down by the government that it is contributing to the educational sector in India. Even there are some educational institutes, particularly those run by politicians and big corporate houses, which themselves have become profit-generating companies. In such cases, it is interesting to note, what role are they playing to provide quality education at affordable ‘price’? Or are they exploiting the ‘customers’ by the usual corporate tactics? In addition, this paper also tries to tackle the complex issue like if the government itself is sincere in its efforts towards the education of the masses or is it trying to keep itself away from its constitutional responsibility?

Industrialization, in the modern sense, started in India during the 19<sup>th</sup> century with both native and foreign corporate houses entering into various industries. Since then, it is observed, that some corporations are involved with diverse social activities including education. Ramya Sathish underlines the contribution of corporate sector to social cause in these words:

“CSR has come a long way in India. From responsive activities to sustainable initiatives, corporates have clearly exhibited their ability to make a significant difference in the society and improve the overall quality of life. (Sathish)

It can be seen from the history of Indian corporate sector that how they have been playing their parts in social development. To begin with, Tata group, one of the largest and oldest in the country, is

contributing to the Indian society since its inception in the 19<sup>th</sup> century. Tata Steel, for example, in addition to bearing the expenses of health and education of all its employees, runs a 1,000-bed hospital and schools in Jamshedpur. Social responsibility of the Tatas has become quite evident by their efforts carried through the trusts like Sir Dorabji Tata Trust, Sir Ratan Tata Trust, JRD Tata Trust, Tata Education Trust, and Tata Social Welfare Trust. The efforts of these trusts have resulted in establishing some of the best institutions of the country like Indian Institute of Science, Tata Institute of Social Sciences, Tata Memorial Centre for Cancer Research and Treatment, Tata Institute of Fundamental Research, Tata Agricultural and Rural Training Centre for the Blind, etc. Along with Tatas, other corporations like Godrej, Dr. Reddy's Hindustan Unilever, Infosys, ITC, Bharti Airtel, Microsoft, Deutsche Bank, etc. are also working for the social cause. These efforts on the part of these companies are duly supported by their bosses because they firmly believe in the fact that

“in organization emphasizing on maintaining high ethical standards in their operation corporate leading must be openly and unequivocally committed to ethical and moral conduct.” (Srivastava, 1994: P.477)

These kinds of ethical and moral aspects in the behaviour of the corporate bosses have certainly positive effect on the overall image of their companies. However, though the efforts of these corporations have been beneficial for the development of one or the other social sector, like health and agriculture, unfortunately there is a lack of concentrated efforts towards the development of educational sector, which is, perhaps, the most important factor for the development of the society. This is so probably because of the gargantuan size of educational sector in India. Of course, there are some industries which have made some efforts to provide education to the children of their employees. For example, the educational institutions run by Bhabha Atomic Research Centre, Hindustan Organic Chemicals, Oil and Natural Gas Corporation, Tatas, Birlas and others look after the educational needs of the wards of their employees, yet their efforts are very limited as they fail to reach to the every household of the region in which they operate.

Another aspect of the contribution of industries for the development of educational sector is that some of them provide very limited and specialized kind of education. The companies like Infosys and TCS educate the graduates, particularly the teachers of English in developing language skills. This kind of education-cum-training helps the trained teachers to hand over these skills to their undergraduate students who will become employable force for the companies dealing in various service sectors. Such kind of approach towards the education on the part of industries is certainly disappointing, as in recent years some of them are advertising the efforts made by them in educational field as the part of their social responsibility.

This point further leads us to reflect on the activities of some of the educational institutions themselves which have been directly involved in imparting education to Indian masses. It is observed that the government both before and after independence has allowed private as well as co-operative entities to work in the area of education. Even these institutions were given special concessions like the disbursement of land at cheaper rate, accepting donations, relaxation in property and income tax, etc. They were also provided grants to meet their salary and non-salary requirements, to construct buildings and for their maintenance. These concessions immensely helped these institutions to grow rapidly. However, with passing of the time and arrival of globalization and privatization, many of these institutes have forgotten their mission of serving the society and have started to function like the big corporations which are run primarily to generate profit for their promoters and shareholders.

This enormous shift in the attitude of these institutions is perhaps the result of the cut-throat

competition in the field of education, wherein it is very challenging first to attract the 'customers' and then to retain and satisfy them. Naturally, every educational institute, these days, tries to bring as much (so-called) professionalism as possible by applying every trick of the trade. Like the corporations themselves, schools and colleges are controlled by the CEOs with their professional MBA degrees and academicians like the principals and teachers are kept on the back foot. These so-called institutes function more like the industries with their prime aim of amassing as much profit as possible rather than the centres of learning which enhance the knowledge of the learners. Naturally, in many cases, it has resulted in the deterioration of the quality of education, as more attention is paid towards the superficial aspects like the tall buildings with all their modern amenities, uniforms and the corporate look of the staff than the quality of teachers, rich and functional library, teaching aids and their effective use in the classroom.

This kind of lamentable situation in the field of education is the result of apathetic attitude on the part of government and its agencies who have miserably failed to control these institutions. Actually, the ambitious plan of the government during the post-independence period to increase the enrollment in schools and colleges has been successful to some extent; but it has resulted in considerable decline in the quality of education. On the one hand, there is an increase in the number of students in the schools and on the other there is a shortage of class-rooms and trained teachers to teach them. The government and its agencies have failed to tackle this issue effectively. While delivering his speech in University of Mumbai, Dr. Manmohan Singh expressed his disappointment over the miserable condition of education in these words:

“Our university system is, in many parts, in a state of disrepair...In almost half the districts in the country, higher education enrollments are abysmally low, almost two-third of our universities and 90 per cent of our colleges are rated as below average on quality parameters... I am concerned that in many states university appointments, including that of vice-chancellors, have been politicised and have become subject to caste and communal considerations, there are complaints of favouritism and corruption.” (Singh)

These words, none other than the Prime Minister of the country, clearly expose the pitiable condition of educational sector. That is why there is a great scope for the corporate sector to work in the educational field. Though at present the involvement of corporate sector in educational field is almost negligible, it can play a vital role as there is a huge scope in this field. Taking into consideration the immense significance of education and the necessary resources available with the corporate world, it can really make enormous positive changes in the lives of Indian masses by providing quality education to them. In their efforts, they can take assistance of some NGOs and private educational institutions like Rayat Shikshan Sanstha with its strong chain of 672 schools and colleges and more than 20000 highly qualified and dedicated staff who have been ceaselessly working for the enhancement of the standard of living by fulfilling educational needs of thousands of disadvantaged students. The importance of collaborative approach to overcome this issue is emphasized by Sathish when he says:

In the current social situation in India, it is difficult for one single entity to bring about change, as the scale is enormous. Corporates have the expertise, strategic thinking, manpower and money to facilitate extensive social change. Effective partnerships between corporates, NGOs and the government will place India's social development on a faster track.” (Sathish)

Such kinds of collaborative efforts on the part of corporations would certainly prove fruitful for the overall development of the educational sector. In addition, this philanthropic activity would certainly help these corporations

“in attracting today’s increasingly hard to please consumers, who like a company’s proven commitment to a worthy cause...(as) consumers these days prefer a brand that stands for something beyond just profits...(and happy customers means) increased sales, visibility, consumer loyalty, better company image and positive media coverage.” (Smile Foundation)

To conclude it can be said that though many of the businesses in India are involved in social activities, their presence in the educational sector is insignificant. Those who are involved in this field are far more profit-oriented than knowledge-oriented. Therefore, the commitment and dedicated efforts on the part of corporate world and better government policies to support and monitor their activities can be the master-key to solve the problem of education in India.

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## Challenges and Strategies for Microfinance in India

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### Introduction:

Microfinance refers to the provision of financial service to lowincome groups, providing the self-employed. Most of the poor people are deprived of access to basic financial services, and increasing their access to these services, particularly credit, has been the prime responsibility of all the states since the early years of the country's independence. One of the major steps in this direction was the review of the report of the All India Rural Credit Survey, which suggested that the state should partner the cooperatives. The decade of the 1960s also continued to focus on institutional credit sources including cooperatives. The decade of the 1970s was marked by directed lending following the nationalization of banks in 1969s and the introduction of the lead bank scheme. Since the early 1990s, there have been many significant state initiatives in the institutional and policy spheres to facilitate access to financial services by more poverty – stricken groups.

### The Evolution:

- κ The system of microfinance has been in vogue for ages (through informally).
- κ Legal framework for establishing the cooperative movement set in 1904.
- κ Reserve Bank of India Act, 1934 provided for the establishment of the Agricultural Credit Department.
- κ Nationalization of Banks in 1969.
- κ Regional Rural Banks created in 1975.
- κ National Bank for Agriculture and Rural Development (NABARD) was established as an apex agency for rural finance in 1982.
- κ Passing of Mutually Aided co-op. Act in AP in 1995.

### Prospects:

Traditionally, banks have not provided financial services to clients with little or no cash income. This is because banks have to incur substantial costs to manage a client's account, even if the amount involved is very small. Apart from this, most of the poor people have only few assets that can be secured by a bank as collateral. This means that the bank will have little recourse against defaulting borrowers.

Since there are difficulties in borrowing money from a bank, poor people mostly rely on moneylenders, who charge high interest rates. While money lenders are often demonized and accused of usury, their services are convenient and fast, and they can be very flexible when the borrowers run into problems. Attempts to putting them out of business have proven unrealistic, even in those areas where Microfinance Institutions (MFIs) are very active.

### Profile of microfinance in india

#### The profile of microfinance in India is:

- κ 350 million people come under the category of 'below poverty line' This translates to approximately 75 million house-holds.
- κ 850 million people living on less than \$2 (Rs.97) a day.
- κ MFI's overall reach in India is 15-20 million clients with only 35% of the 75 poor families being served.
- κ Annual credit demand by the poor in the country is estimated to be about Rs.60,000 cr.
- κ Only about 5% of rural poor have access to microfinance.
- κ The non-poor comprise 29% of the outreach.
- κ About 60% of the MFIs are registered as societies.

- ⋈ About 20% of the MFIs are trusts.
- ⋈ About 65% of the MFIs follow the operating model of SHGs.
- ⋈ Large concentration MFIs in South India

**Status:**

The government on its part is taking all the measures to strengthen the institutional rural credit system. The rural branch network of commercial banks has been expanded and certain policy prescriptions were imposed in order to ensure greater flow of credit to agriculture and other preferred sectors. Commercial banks are required to ensure that 40% of total credit is provided to the priority sectors, out of which 18% is to be in the form of direct finance to agriculture and 25% to priority sector in favour of weaker section besides maintaining a credit deposit ratio of 60% in rural and semi-urban branches. Further, the Integrated Rural Development Project (IRDP), introduced in 1979, ensures supply of credit and subsidies to weaker sections.

**The status of micro financing is :**

- There is a considerable gap between demand and supply for all financial services.
- Majority of poor are excluded from financial services.
- Nearly 56% of the poor still borrow from informal services.
- Around 70% of the rural poor do not have deposit account.
- Approximately 87% have no access to credit from formal sources.
- Less than 15% of the households have any kind of insurance.
- Very negligible numbers have access to health insurance (0.4%) and crop insurance (0.2%).
- Bankers feel that it is fraught with risks and uncertainties.
- Transaction costs are high.
- Unfavorable policies, like caps on interest rates which effectively limits the viability of serving the poor.
- Lacks of an appropriate legal vehicle.
- Limited access to equity market.

**Necessities**

The government should provide an enabling legal and regulatory framework which will encourage the development of institution and allow them to operate as recognized financial intermediaries, subject to simple supervisory and reporting requirement. Usury laws should be relaxed and MFIs should be given enough freedom of set interest rates and fees in order to cover operating and finance costs from interest revenues within a reasonable amount of time. Government can also facilitate the process of transition to a sustainable level of operation by providing support to the lending institution in their early stage of development through credit enhancement mechanisms or subsidies. One way of expanding the successful operation of MFIs on the informal sector is through strengthened linkages with their formal sector counterparts. A mutually beneficial partnership should be based on comparative strengths of each sector. Informal sector MFIs have a comparative advantages in terms of small transaction costs achieved through adaptability and flexibility of operations. They are better equipped to deal with loan processing. On the other hand, formal sector institutions have access to broader resource-base and high leverage through deposits mobilization. As far as the formal financial institution are concerned, there are commercial banks, Housing Finance Institutions (HFIs), Nabard Rural Development Banks (RDBs), Land Development Banks and Cooperative Banks (CBs). The informal financial sources generally include funds available from family sources or local moneylenders.

Microfinance is an important delivery mechanism and will continue to be so in the future also. It helps the poor in many ways like:

- Poor people need not just loans, but also savings, insurance and money transfer services and microfinance can play an important role in this regard.

- It helps them improve their level of income and cushion themselves against external shocks.
- Subsidies from donors and the government are scarce and uncertain and a tool like microfinance can help the poor when they are in need of any help.
- It means building permanent local institutions.
- It also means integrating the financial needs of poor people into a country's mainstream financial system.

**The Pitfalls:**

- The key bottleneck is the shortage of strong institutions and managers.
- Donors should focus on capacity building.
- Interest rate ceilings hurt poor people by preventing microfinance institutions from covering their costs, which chokes off the supply of credit.

It would be ideal to enhance the creditworthiness of the poor and to make them 'bankable'. Also, they should be made eligible for long-term credit from the formal sector. MFIs must make all the efforts to build financial discipline and educate the borrowers about repayment requirements. Microfinance can also be distinguished from charity. It is better to provide grants to families who are destitutes, or so poor they are unlikely to be able to generate the cash flow required to repay a loan.

**Challenges & Strategies :**

The success of microfinance can be attributed to the principal of solidarity lending, which happens through solidarity groups. Solidarity lending lowers the cost to a financial institution related to assessing, managing and collecting loans. The need of microfinance gains prominence owing to the wide gap between its demand and supply. Despite the success of MFIs, their overall reach in India is 15-20 million clients with only 35% of the poor families being served. The absence of a lending product to serve the needs of the very low income group can be attributed primarily to the perceived risks of lending to this sector. A large number of small loans are needed to serve the poor, but lenders prefer dealing with large loans in small numbers to minimize transaction costs. Bankers also tend to consider low income households a bad risk, imposing exceedingly high information monitoring costs of operation. So, MFIs starts where the formal sector ends and substitute the informal source of financing.

Although much progress has been made, the problem has not been solved yet, and the overwhelming majority of people in the country, who earn a very less amount, especially in the rural areas, continue to have no practical access to formal sector finance. The industry has been growing rapidly and it is estimated that the industry needs \$250 bn to be able to provide capital to all the poor people who need it. There have been concerns that the rate of capital flowing into microfinance is a potential risk, unless properly managed.

Microfinance on its own cannot address formidable challenges of underdevelopment, poor infrastructure and governance. There is still lot of policy focus on what activities are and are not allowed and not enough operational freedom has been given as yet for banks and financial institutions to design and deliver programs, and be responsible for their actions. Microfinance needs:

- Appropriate legal structures for the structured growth of microfinance operations.
- Ability to access loan funds at reasonably low rates of interest.
- Appropriate loan products for different segments.
- Ability to innovate, adapt and grow.
- Bringing out a compendium of small ad micro enterprises for the microfinance clients.
- Ability to attract and retain professional and committed human resources.
- Identification and preparation of a panel of locally available trainers.
- Ability to train trainers.
- Enough capacity to provide backward linkages or create support structures for marketing.
- To find adequate levels of equity for the new entities for leveraging loan funds.

**Conclusion:**

Microfinance calls for active, participating clients, as well as a skilled and efficient work force. Its main challenges remain recovering timely repayments, considering the unstable nature of the clients' cash flows, making efficient risk management critical to the success of an MFI. There is also a need for constructive collaboration between the formal sector, financial institutions and MFIs, in which the former provides funds and the latter extends savings and loan facilities to the urban poor. On the demand side, focus must be to organize and make clients more participative. They must be made accountable for the use of the credit provided. Savings habit must be encouraged. On the supply side, the concentration must be to transform MFIs into professionally managed, externally regulated entities. There must be uninterrupted supply of services to clients. The profitability and viability of the service must be given the importance. All MFI credit models lack and appropriate legal and financial structure and so there must be a more formal environment to regulate and coordinate the activities of MFIs.

Microfinance is not yet at the center stage of the Indian financial sector. The knowledge, capital and technology to address these challenges, however, now are available in India, although they are not yet fully aligned. With a more enabling environment and surge in economic growth, the next few years promise to be exciting for the delivery of financial services to poor people in India. Microfinance will continue to be an important delivery mechanism to reach out to the poor, achieve financial inclusion and empower women. Its role in enhancing human capital is considerable. The objective of the microfinance initiatives must be to upscale the bankable clients to creditworthy clients, thus making concerns about poverty irrelevant.

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## **Internet vs Mobile Banking: Comparing Customer Value Perceptions**

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### **Purpose**

The aim of the paper is to explore and compare customer value perceptions in internet and mobile banking. The purpose especially is to compare customer perceived value and value creation between internet and mobile bill paying service.

### **Design/methodology/approach**

A qualitative in-depth interviewing design was applied in order to ascertain the factors that create value perceptions in fund transfer service via personal computer and mobile phone. Means-end approach and laddering interviewing technique was used in order to reveal how different value creating factors are hierarchically structured and related to each other.

### **Findings**

The results indicate that customer value perceptions in banking actions differ between internet and mobile channels. The findings suggest that efficiency, convenience and safety are salient in determining the differences in customer value perceptions between internet and mobile banking.

### **Research limitations/implication**

The findings of the qualitative study, being more depth than wide in nature, deserve to be quantitatively measured in future studies in order to provide more generalisable results.

### **Practical implications**

The paper provides enhanced information for business managers about both positive and negative customer value perceptions in internet and mobile banking. By understanding how and what kind of value different service channels provide for customers service providers are better enabled to create actions to enhance internet and mobile banking adoption.

### **Originality/value**

The contribution of the paper lies in achieving a more profound understanding on consumer value perceptions to internet and mobile banking. It expands the literature on electronic and mobile commerce and on electronic banking especially.

**Keywords :** Electronic commerce, Internet, Value added, Banking

### **Introduction**

Financial services delivery and consumption has experienced major changes during the last years. Technological development has reshaped the business environment. The banking industry is among the leading sectors in adopting and utilizing the internet and mobile technology on consumer markets and consequently its service delivery has undergone changes unprecedented in its history. The development of electronic banking services via multiple electronic channels has made it possible to provide new kinds of added value for customers. Applying the internet with solely focusing on cost reduction may lead to high supply chain effectiveness while potential customer value opportunities may be ignored (Jonsson and Gunnarsson, 2005). Therefore, understanding service user behaviour and value perceptions is one of the fundamental requisites of service development. Customers have become less willing to visit traditional branches, less loyal, more receptive to new electronic channels and more sophisticated in demanding better service quality including 24 hour service availability (Coelho and Easingwood, 2003).

The simultaneous and increasing diffusion of mobile phones and especially WAP-enabled devices has made the transformation of banking applications to mobile devices a logical development in electronic banking (Pousttchi and Schurig, 2004). Indeed, mobile banking has emerged as a wireless

service delivery channel providing increased value for customers' banking transactions. However, despite its many advantages, the use of mobile phones in banking services is still in its infancy and the internet retains its position as the leading channel in electronic banking.

The aim of this paper, is to present the findings of a study on customer value perceptions to internet and mobile banking services. The focus is to explore the use of internet and mobile fund transfer services and to compare customers' positive and negative value perceptions of these two channels. The next section reviews the background of the study while the section Means-end approach presents the theoretical approach and method used. The penultimate section presents the results of the study and in the last section, the conclusions are drawn and topics for further research are discussed.

### **Background**

Electronic banking is seen as one of the most successful business-to-consumer applications in electronic commerce (Pousttchi and Schurig, 2004). Initially the research focused on the consumers' attitudes toward automated teller machines (ATM) (Rugimbana and Iversen, 1994; Rugimbana, 1995; Davies et al., 1996; Filotto et al., 1997; Moutinho and Smith, 2000). More recent studies have analysed the development of telephone banking (Lockett and Littler, 1997; Al-Ashban and Burney, 2001) and personal computer (PC) banking (Mols, 1998). Recent years, the research on electronic banking has focused on internet banking (Sathye, 1999; Polatoglu and Ekin, 2001; Black et al., 2002; Karjaluoto, 2002; Karjaluoto et al., 2002a, b; Mattila et al., 2003; Gerrard and Cunningham, 2003) which today includes the option for multiple service transactions conducted via internet.

Low fees, time savings and freedom from time and place (Karjaluoto et al., 2002a) have been found to be the most important elements of internet banking. Other factors contributing to its use include easiness-to-use of the service (Karjaluoto, 2002), speed of service delivery (Karjaluoto, 2002), convenience and compatibility with lifestyle (Black et al., 2002; Gerrard and Cunningham, 2003), while complexity of a service (Black et al., 2002), perceived financial cost of a product or service (Black et al., 2002), ignorance of electronic services (Sathye, 1999) and security risk (Sathye, 1999; Black et al., 2002) are found to inhibit the use of the service. However, contrary to previous studies, the findings of Karjaluoto et al. (2002a) showed that security concerns are not among the greatest obstacles to adopting internet banking.

Furthermore, some of the most recent studies have concentrated on mobile banking (Barnes and Corbitt, 2003; Brown et al., 2003; Lee et al., 2003; Suoranta, 2003; Luarn and Lin, 2005; Scornavacca and Barnes, 2004; Laukkanen and Lauronen, 2005). The mobile phone as a channel for service consumption offers enormous potential since today, a mobile phone is an integral part of customers' lives and a growing number of these devices are also equipped with internet connection. Currently mobile banking services enable consumers, for example, to request their account balance and the latest transactions of their accounts, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information.

Previous studies indicate, that factors contributing to the adoption of mobile banking are related to convenience, access to the service regardless of time and place, privacy and savings in time and effort (Suoranta, 2003). In spite of the advantages the use of the mobile phone in banking actions has remained small. There seem to be some inhibitors that slow down the use of mobile channels in banking transactions. Previous studies indicate that perceived financial cost (Luarn and Lin, 2005) and perceived complexity (Lee et al., 2003) inhibits the use and adoption of mobile banking services. Furthermore, security issues are argued to be among the greatest concerns in the adoption of mobile banking (Brown et al., 2003; Luarn and Lin, 2005). Contrary to previous findings, some

studies have argued that security issues are not perceived by customers to be major obstacles in banking transactions (Suoranta, 2003; Laukkanen and Lauronen, 2005).

These studies state that, mobile banking was found a secure way to conduct banking transactions by the users. However, Suoranta (2003) found that mobile services were not used since

they were perceived as impractical and not sufficiently diversified. Earlier literature has identified factors defining consumers' electronic banking behaviour but however, the factors seem to represent concepts in different level of abstraction. For example, 24 hour service availability, location free access and service access speed represent concrete attributes of electronic channels whereas concepts like time savings and easiness-to-use represent more the benefits or consequences deriving

from the use situation. Moreover, concepts like convenience, security and privacy represent more abstract desired end-states of consumers. Thus, these concepts should not be jumbled together but rather treated as different level constructs that are linked to each other hierarchically. In the light of consumer value perceptions value can be created on different levels of abstraction and can be an outcome of a combination of different factors at different levels of abstraction (Laukkanen, 2006). Thus, what is needed is an approach that is able to identify the concrete channel attributes and their linkages to customers' desired end-states in the consumption of electronic banking services. Huber et al. (2001) argue that a suitable approach which connects the consumption of products

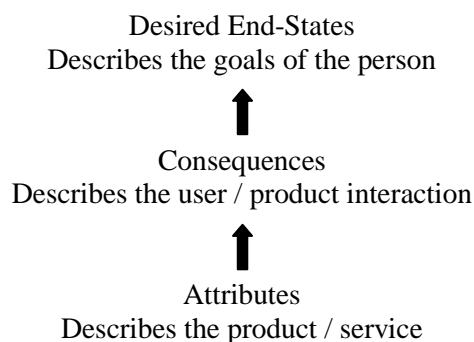
or services and personal values of an individual is the means-end theory.

#### **Means-end approach**

The means-end theory has its roots in cognitive psychology seeking to explain how consumer's choice of a product or service enables him to achieve his desired end-states (Gutman, 1982). Thus, it is seen as an umbrella term that refers to a set of methods for conducting customer interviews about the reasons for their choices and interpreting consumers' responses in terms of links between outcomes (Olson and Reynolds, 2001). The approach suggests a hierarchical representation of how customers view products and services (Woodruff and Gardial, 1996) (Figure 1).

The way the products and services relate to customers can be represented by three levels: attributes, consequences and desired end-states. Whereas attributes describe the product or service, and consequences describe the benefits that the customer derives or seeks as a result of product or service consumption, the desired end-states are seen as the ultimate ends that are served by the product or service means (Woodruff and Gardial, 1996).

The basic idea of the hierarchy is that the intensity of abstraction increases when moving from the lower to higher level. Peter and Olson (2005) argue that business managers and marketing practitioners should understand these three levels of consumers' product or service knowledge in order to develop effective marketing strategies.



**Figure1. Value hierarchy**

About 20 qualitative in-depth interviews were conducted with experienced electronic banking customers in Mumbai. About 19 respondents used internet-bill paying service and nine respondents had experience of paying bills via mobile phone.

A laddering interviewing technique was used for the data collection. It is basically a one-on-one semi-structured in-depth interviewing technique in which respondents describes freely why

something is important to them and researchers try to find linkages between the key perceptual elements across the range of attributes, consequences and desired end-states (Reynolds and Perkins, 1987; Reynolds and Gutman, 1988).

Traditionally the laddering probes begin with distinctions made by the respondent concerning perceived meaningful differences between brands of products (Reynolds and Gutman, 1988). In this case, the probes began with distinctions concerning perceived advantages and disadvantages of different electronic channels currently and previously used by the respondent for paying bills. After identifying the customer-perceived distinctions between different electronic channels the laddering process continued with questions such as “Why is that important to you?” after each response. The answers typically led from concrete attributes to consequences and finally to desired end-states of the respondent. The interview further continued until the respondents could no longer provide any further information. Each interview was carried out in a quiet and peaceful room. This enabled neutral environment for the interview and made possible a close and reliable connection with the interviewee. It is seen extremely important that respondents do not feel themselves threatened and are thus willing to be introspective and look inside themselves for the underlying motivations in a given context (Reynolds and Gutman, 1988). This was enhanced by telling to respondents in the introductory comments that there are no right or wrong answers and that the entire purpose of the study is simply to understand the ways in which the interviewee behaves. In that sense, the respondent was positioned as the expert who “educates” the interviewer. Permissions to use recorder were asked from the respondents and all the interviews were audiotaped and transcribed. In the analysis-phase, all the responded elements were classified into attribute-, consequence- and desired end-state-levels. The focus was to concentrate on the linkages between the elements, not on the elements themselves. The most commonly appeared linkages were summarised in the hierarchical value maps presented in the results section.

### **Results**

The results indicate that efficiency, convenience and safety are the most important desired end-states of bank customers determining the differences in customer value perceptions between internet and mobile banking. Efficiency mainly derives from service access locations. In case of internet-bill paying home access saves time by making needles to leave home or office for the service consumption. Similarly, location free access in internet and mobile bill paying is linked to the ability to use the service wherever wanted. However, the results do not provide more detailed reasoning in the case of internet service but the users of mobile fund transfer service claim that the ability to use the service wherever wanted enables immediate action (e.g. transfer money or pay a bill) which saves time and thus is perceived as efficient (Figure 2):

During the holiday at the country cottage, I really didn't bother to leave the cottage in order to find an ATM and pay the bill. I paid the bill on-the-spot via mobile phone. It saved time (Mobile user, respondent No. 13).

The results show that besides efficiency time saving is also related to convenience (Figure 3). Indeed, Yale and Venkatesh (1986) identified time utilisation, referring to effective use of the time available, as one of the six dimensions of convenience:

You can tell your child who calls and asks for money for a hamburger: “wait one minute, I'll transfer Rs500 to your account”. It saves time and is very convenient (Mobile user, respondent No. 9).

The other dimensions in the classification by Yale and Venkatesh (1986) were accessibility, handiness, portability, appropriateness and avoidance of unpleasantness. Whereas accessibility was seen to refer to spatial distance between the spot of need recognition and the optional spot of need satisfaction the handiness was seen to refer to saving or wasting physical effort. Portability resembled accessibility, e.g. consumer has an “online” opportunity to reach the service using for example, a mobile phone whereas appropriateness referred to the ability of a product or service to fulfil the



specific need of a consumer. Finally, avoidance of unpleasantness meant certainty that a product or service does not cause unpleasant surprises. While time utilisation seem to provide convenience both in internet and mobile banking, accessibility, handiness and

#### **Desired End-States**

portability seem to provide convenience especially in internet banking. This is derived from home access and round-the-clock ability enabling customers to use the service whenever they want to: Previously I purposely needed to go somewhere to pay the bills. Now it is much more convenient (Internet (PC) user, respondent No. 4). I don't have to think and schedule a point in time to pay a bill. I am totally free to pay my bills when ever I want to – usually on a whim (Internet (PC) user, respondent No. 1).

Moreover, Pousttchi and Schurig (2004) have argued, that the data input method needs to be simplified at least in situations where a large amount of data are entered. When paying bills electronically customer usually needs to enter passwords and access codes in order to log into the service. Furthermore, the customer needs to punch in the account numbers, index numbers, the sums and due dates, et cetera. This increases the burden on the customer, especially when the service is used via a mobile phone. The respondents claimed that the small keyboard of the mobile phone makes it difficult to use and inconvenient but also increases uncertainty in service consumption (Figure 4):

Once I paid some bills via mobile phone but it felt a bit slow to punch the buttons on a keyboard. I felt it was so clumsy (Mobile user, respondent No. 8)

The results indicate marked perceived differences between PC and mobile phone in bill payment service especially with display of the device. In the case of the mobile phone, the small screen with small amount of information makes the device very difficult to use in fund transfer. The respondents claimed that the visual display is insufficient and they are not able to see the entire bill on the screen. Therefore, they need to browse while using the service. This was perceived inconvenient and to increase the feeling of uncertainty in service consumption

Smaller buttons without a real keyboard makes the mobile phones' technical features pretty limited. The keyboard makes it slower to enter the information and therefore it feels more uncertain (Mobile user, respondent No. 12).

It is much easier [via computer] to get the whole picture, the sums and index numbers et cetera. Somehow it is easier to check the information on the computer screen instead of the mobile phone, which gives you one piece of information at a time (Mobile user, respondent No. 8)... since you cannot see the entirety, you need to check the information entered and remember it while browsing through the in putted information. If I suddenly doubt whether I put the correct account number, I need to browse back and check. On the other hand, on a big screen [computer] you can check the information entered immediately and continue. It is the feeling of safety (Mobile user, respondent No. 12).

However, the feeling of uncertainty differs from perceived security issues. Some previous studies indicated that security is not perceived as a major obstacle in mobile banking transactions by customers (Suoranta, 2003; Laukkanen and Lauronen, 2005).

The findings of this study support the argument since the issue for the respondents was not related to data security or other security issues but instead they were worried about their own errors made while using the service:

I trust the WAP -technique as much as the internet, but the thing is that you cannot see the whole picture (Mobile user, respondent No. 12).

#### **Conclusions and future research**

The general focus of this paper was to provide more understanding on business managers decision making about customer behaviour in the electronic banking context. The results describe customer perceived positive and negative value perceptions to fund transfer via internet and mobile

phone. The most noteworthy differences between these two channels are related to the location free access to the service and the display of the device. The most important contributor to mobile banking seems to be the ability use the service wherever wanted, which is related to the capability for immediate actions and time savings in service consumption. The keyboard and the display of the

device seem to be the clearest inhibitors to the use of mobile bill paying service whereas in the use of the PC the case seems to be the opposite. Technological development in the mobile sector, like 3G and improved displays of the devices, will likely change the current situation and improve wireless service consumption. However, data input may still be a bottleneck in the consumption of

some mobile financial services without improvements like in-built barcode readers. The barcode readers could be used to reduce the burden and perceived uncertainty of the customer and increase convenience in mobile bill paying by copying the account numbers, index numbers, the sums and due dates from the printed bill into the mobile phone. The customer would only need to accept or reject the payment. Future research could focus on more convenient data input methods in mobile bill paying.

Moreover, the study showed that theoretically it seems that efficiency and convenience are somehow overlapping concepts in electronic service consumption. The relation between convenience and efficiency seems to be somewhat obscure also in the current literature. Berry

etal. (2002) have defined efficiency as an aspect of convenience. On the contrary, Holbrook (1994, 1999) has placed convenience under the concept of efficiency.

However, the authors agree that efficiency refer to the perceived benefits customers receive in relation to the sacrifice or costs. This efficiency perception means that consumer perceives cognitively the ratio of benefits and sacrifice. For example, when a consumer perceives that mobile bill paying saves time compared to his earlier way of paying, the perception of efficiency is formed. Based on the results of the study and current literature it seems that whereas convenience is a multi-dimensional construct including cognitive appraisals and more hedonic emotions efficiency, in its part, is purely related to economic ratio between benefits and sacrifice. However, the relation between convenience and efficiency concepts needs more attention in future studies. The use of mobile banking is still in its initial stage and more research in the field is needed. This paper compared internet and mobile banking using a qualitative in-depth interviewing method. The objective of qualitative studies is not to find results that can be generalised but instead to gain a deeper understanding of the phenomenon explored.

On the one hand, the results of the paper form a basis for more generalisable quantitative studies. On the other hand, since the results seem to indicate that the usability of the devices and services is essential for customers, multidisciplinary research focused on usability issues in electronic services could be beneficial.

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## **Career Guidance Services in Academic Libraries: A Study of College Libraries in Mumbai**

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### **Abstract:**

Choosing a right career is a crucial task in the modern world as multidisciplinary professional paths are available in today's job market. There is need to make an awareness among the college students about the different array of paths available to them to make a right choice. College libraries should perform this function for the youth. As they are serving the young generation. This paper mainly focuses on the status of the services provided by college libraries concerning career guidance.

### **Introduction:**

In modern society, most people spend major part of their lives working in some capacity. Throughout history, both philosophers and psychologists have noted that the ability to successfully integrate working into your life is an important aspect of fitting into a society and maintaining mental health. Not only to obtain economic benefits from working but also to meet psychological needs. Such as developing sense of competency and finding meaning in your life. Therefore, choosing a career means more than just getting and working at a job. Choosing the right career can be a very daunting task especially in a world, which offers an array of paths, all of which seem to be leading to a golden goal. Careers can actually make or break one's life, so it is important to make the right choice. Career guidance can help students in pursuing the right courses, in the right colleges or institutes and can guide them in choosing a suitable career.

Choosing a career can be very satisfying if you have made the right choice. Like, the famous adage goes, if you choose the job you love, you don't have to work a single day in your life. On the other hand, a wrong decision can leave you wishing that you had trodden a different path.

Education, of course, plays an important role in getting you the right job in your chosen field. The stepping-stones or pre-requisites for choosing own dream career are of course, the qualifications required to achieve it. With the right qualifications, the top careers are open to and the power of choice would be wide spread. Career counseling can guide students in selecting the courses suitable for them. The choice of faculty, colleges and university is vital as well, as each one differs in its outlook and approach. Each profession needs different knowledge and skills. The choice offered by various universities is also vast; with some of them offering Associate Degrees and online degrees, which make pursuing the requisite qualifications that much easier. This is especially so, if you are already in a job, and looking for a career change. The same is also helpful, if you are planning to pursue multiple courses at the same time. With proper career coaching, a job search would be easier and you would be able to bridge the gap between job-availability and your qualifications. Whether one is looking for a new career or a career change, career guidance can help in smoothening out this important path of transition.

Due to major transformations in the structure of work and careers student's decisions on careers have become more complex. While doing a career search it is imperative to have the correct career information. An informed choice is always a better bet than an uninformed one. The right career advice can help person to choose a career to suit individual personality as well as his aspirations. According to Sinz, "It is extremely important for colleges to offer career guidance aimed to help students make more informed and consequently better educational and career choices." A similar view given by Sharma states, "At the time of admission to the college, if educational guidance is provided to the pupils, many of them can be diverted towards more useful activities. This will

reduce the burden on university education too. Guidance helps the pupils in selecting their subjects or specialization, which help later in choosing their vocation.

College libraries can play a vital role in career guidance. Libraries ought to extend their support in all spheres of knowledge and by providing career information in the library; it will be helping the users to have an aim in their lives. As a quality career resource centre, library can play a major role in guiding and directing students in making more suitable career choices. Many libraries in Western countries are much ahead of us in providing career information to their users. At present, many of the universities and college in India are having their own websites to provide career information.

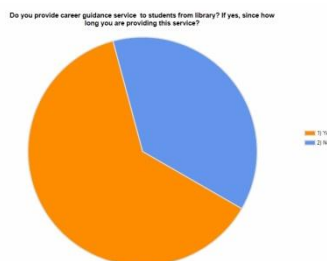
**Objectives of study:**

- 1) The objective of this paper is to study the present status of career information services provided by the college libraries in Mumbai.
- 2) To find out innovative practices adopted by the libraries in providing career guidance services.
- 3) To provide suggestions to librarians to facilitate career guidance services more effectively.

**Methodology:**

- 1) The present study has used exploratory research design to find the present status of career guidance services provided by the libraries.
- 2) A survey was conducted to obtain information through questionnaire. 20 college libraries were constituted as sample size for present study.
- 3) The data was analyzed by using statistical tools of simple averages, percentages, graphical methods and charts used for presenting data.

**Analysis of data:**

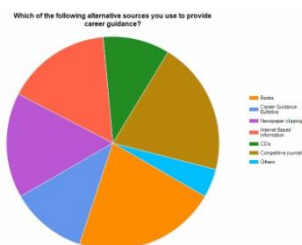


1.1 Career guidance services provided by libraries

The analysis shows that 62.5% college libraries within Mumbai provide career guidance services.

Sr. No.	Particulars	Percentage
1	Libraries having special collection on career related information	93.8
2	Libraries don't have special collection on career related information	6.3

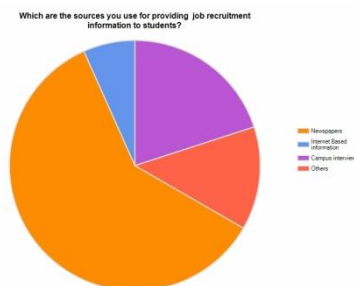
It shows that 93.8% libraries have special collection on career related information. Out of which 43.8% college libraries have career guidance sources in print form. And 56.3% libraries have collection in both the forms i. e. print and non-print.



1.3 Forms of information sources on career related information

Sr. No.	Sources in forms	Percentage
1	Books	100
2	Career Guidance Bulletins	53.3
3	Newspaper clippings	73.3
4	Internet Based information	73.3
5	CD's	46.7
6	Competitive journals	93.3
7	Others	20.0

The chart indicates that books and competitive journals are the chief sources used by librarians for providing career sources. It was observed that all libraries acquires on an average 4 to 5 journals related to career information and general knowledge.



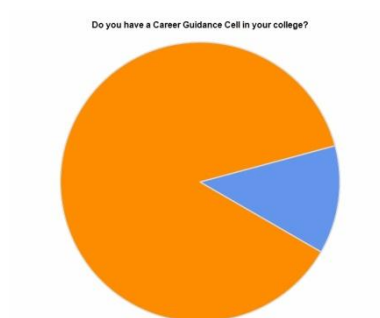
1.4 Sources used for job alerts

Sr. No.	Sources for job alerts	Percentage
1	Newspapers	60
2	Internet based information	6.7
3	Campus interviews	20
4	Others	13.3

Newspaper is a major source used by maximum librarians to inform students about job alerts.

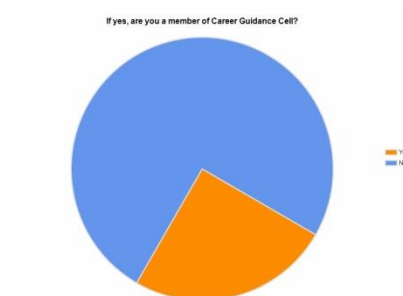
Sr. No.	Grants for Collection dept. on career guidance	Percentage
1	Colleges receiving UGC Grants	50
2	Not receiving UGC Grants	43.8
3	Others grants	6.3

From the studied samples 50%, college libraries are receiving UGC Grants for Career related collection development as shown above.



#### 1.5 Colleges having Career Guidance Cells

It is shown that 87.5% libraries have Career Guidance Cells in their colleges. That means 12.5% colleges do not have Career Guidance Cells.



#### 1.6 Involvement of Librarian in UGC

Even though 87.5% of colleges having Career Guidance Cells, still only 25% librarians are the members of Career Guidance Cells.

Sr. No.	Particulars	Percentage
1	Colleges providing info about CG services on websites	31.3
2	Colleges not providing info about CG services on websites	68.8

Only 31.3% college libraries are providing information on their websites about career guidance service provided by library. Not even single colleges have an individual blog or portal on WWW for providing career related information.

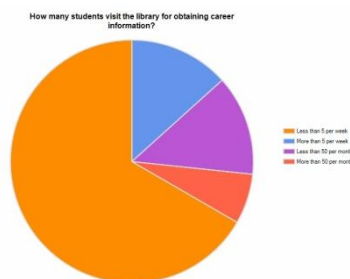
#### **Records of services provided by libraries regarding Career Guidance (in Percentage)**

Sr. No.	Particulars	Percentage
1	College organize career Fairs & Workshops	75
2	College organize Book Exhibitions on CG	31.3
	Colleges provide personal assistance or guidance to students	81.3
3	College organize mock interviews	12.5
4	Colleges provide and put information about job recruitments on library notice board	81.3

The records above are showing that 75 % libraries organize career fairs and workshops in

colleges. But only 31.3% libraries organizing books exhibitions on career sources. Only 12.5% college organize organizes mock interviews for students. 81.3% colleges provide and put information about job recruitments on library notice boards. Out of which 69% college libraries update this information on monthly basis and 31% libraries update this information on weekly basis.

Only 12.5% college libraries maintain written records or statistics of career guidance services provided by them to students.



1.7 students visit the library for obtaining career information

Sr. No.	Students visit the library for obtaining career information	Percentage
1	Less than 5 per week	66.7%
2	More than 5 per week	13.3%
3	Less than 50 per month	13.3%
4	More than 50 per month	6.7%

#### Faculty wise statistics of students:

Sr. No.	Faculty of students	Percentage
1	Arts	20
2	Commerce	73.3
3	Science	6.7

It was seen that commerce students visit more in the library to obtain career guidance. Both career related information and job recruitments related information is equally in demand from all the faculty of students.

#### Librarians view about usage of CG services

Sr. No.	Use of Career Guidance services	Percentage
1	Extensive	12.5
2	Fair	75
3	Non-satisfactory	12.5

As per librarian's view 75% librarians feel that the usage of career guidance services made by students is fair.

#### Conclusion and Suggestions:

On the basis of above observation, one can conclude that even at the present situation college libraries does not play a satisfactory role in providing career information. It shows that almost all libraries have special collection on career related information still only few college libraries within Mumbai provide career guidance services. Many colleges have established career guidance cells, still very few librarians are actually involve in career guidance cell.

Use of ICT is not at all satisfactory in providing career services. All libraries have internet facilities, still it was seen that internet is not used satisfactorily for providing career services by many

libraries. Very few colleges provide information about Career services on their websites. Not even a single college has an individual blog or portal on WWW for providing career related information. Therefore, nobody is providing FAQ on career queries of students.

Most of the colleges provide and put information about job recruitments on library notice boards but very few libraries organize Book Exhibitions on career related sources.

Hardly 2 to 3 colleges organize mock interviews for students, whereas such preparation will be in more demand from students to face a competitive job market. The statistics of students visit to the library clearly shows that very few students visit library for obtaining career information even though almost all libraries have ample collection on career guidance.

#### **Suggestions:**

- Librarians should organize Book Exhibitions on career related sources on regular basis, i. e. at least once in a year. In addition to book exhibitions career talks and lectures can be organize at the same time, in libraries to attract and inform more students. Many students who are not aware of such services given by library will also get an awareness of availability of such services form library thought these types of events.
- Digital displays can also be helpful to make students aware. Such types of digital displays can be put on all floors of the college building. As well as digital displays will have an ease in updating frequently.
- Librarian can gather career data from print, audio/visual, electronic and web-based sources and maintain special files/folders for easy access by students.
- Colleges can help students by organizing aptitude tests, Mock interviews, counseling sessions, seminars, discussion groups, etc.
- If a college has established Career Guidance Cell, the librarian should be an active member of the same.
- College librarian has a definite role to play in the career guidance, as he is the source of all information and holds the key to the world of knowledge. Therefore, librarian can be the leader or can collaborate with other members in the guidance cell by helping them to get the necessary information. If possible, career counselor can be appointed to guide students under Career Guidance Cell. University should have a special committee to see the proper functioning of career guidance cell in the colleges affiliated to them.
- Colleges should provide information about Career services on their websites. College should build a blog or portal on WWW for providing career related information. Hyperlinks should be provided to other career and recruitment related websites.

At present most of the academic libraries are providing career information informally, but only few are interested in providing proper guidance. As information organizer and provider librarian can play a major role in selecting appropriate career path especially in a world, which offers an array of paths. It is a need of time to improve the quality of services provided by libraries with regard to career guidance to cope up with the changing scenario of academic and professional education as well as dynamic job market.

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## Use of Languages in Writing Examination by a Non-English Medium Students at College Level: A Case Study

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Research Scholar, J.J.T. University, Rajasthan

### Abstract

This article is a case study done in an attempt to find the difficulties faced by a Vernacular Medium student, in written examination, when he/she goes to college where the medium of instruction is completely English. Students use different tactics to tackle examination. The aim of this paper is to find out whether such tactics help student and does this difficulty due to lack of fluent English writing skills effect the self confidence of the student.

### I. Introduction

English education in India was introduced in nineteenth century. Thomas Babington Macaulay's education minute of 1835 – which recommended to the

Governor General in Council that Britain officially supports English education in India – is generally regarded as a crucial document in the history of Indian English. The disciplinary formation of English as a branch of knowledge and the early history of colonialist interventions in Indian education, language and literature has established English as the medium of instruction in educational institutions.

But in the multilingual India, various other languages are used as medium of instructions in schools - Indian languages as well as English. But at college and university level, English becomes the medium of instruction. This becomes a major problem for those coming from non-English medium schools. Therefore, perhaps, some universities permit students to answer their subject papers in examination in English and in the language, which was the medium of instruction in school.

The aim of this paper is to study the problems faced by a non-English medium student and to see what strategy they use to tackle written examination. The informant for this project answered her subject papers in two languages (English and Kannada ) in Junior College and all subject paper in one language (English ) in Degree College.

The researcher was interested in this particular paper because over the years, the researcher has seen the difficulties and the agony in which the informant had undergone due to her lack of proficiency in English. The informant used to struggle very hard to understand the lectures, which were conducted in English in college. She also used to feel very inferior when she could not speak in English.

This particular problem is not unique only to the informant. But this is a problem common to many non-English medium students. As this is a very interesting phenomenon and, something, which is rarely talked or recognized, the researcher decided to take up this topic as the subject for the researcher project.

### II Methodology

The informant chosen for this research paper has gone to kannada medium school and had English as the medium of instruction in college. So she attempted two subject papers in Kannada in Junior College. But in Degree College she attempted all her subject papers in English.

To find out why two languages were used to while attempting subject papers in examination in Junior College and how all subject papers were attempted in English in Degree College, the researcher has used two main approach – questionnaire and interview.

#### 2.1 Questionnaire.

Questionnaire had 60 questions, which the subject answered in space of one hour, in researchers presence. The questionnaire had profile questions, general questions and specific questions. Only one questions, regarding syllabus in 12<sup>th</sup> standard, was not answered.

### **2.2 Interview.**

Interview lasted 14 minutes and 52 seconds. It had mostly specific questions and few general questions. The questions had to be made very simple and re-framed many times. Also, researcher had to prompt a few times to get the answers.

### **III Analysis**

The informant is nervous and not at all confident while using English. English is not her first language. In fact English is not even her second language but becomes her third language. This is because Tulu, which is her mother tongue, is a dialect. So she has gone to a Kannada medium school and there she had English as her second language subject.

In school, informant was comfortable with her limited knowledge of English. But once she joined college, she realized her lack of proficiency in English. The lectures were conducted in English. She also had to deal with students from English medium school. This made her insecure. But she wanted to learn English. So she decided to attempt two subject papers in English and two subject's papers in Kannada in Junior College and later when she was more confident, attempted all subject paper in English in Degree College.

To understand this strategy used by the non-English medium students, two approaches were used- 1) Questionnaire and 2) Interview.

#### **3.1 Analysis of Questionnaire.**

The informant's percentage in English in 10<sup>th</sup> standard was 30%, in 12<sup>th</sup> standard 35% and in T.Y.B.A. 40%. In spite of this, she has attempted two subject papers in English and two subject papers in Kannada, in Junior College and all subject papers in English in Degree College. And yet she managed to get 52% in 12<sup>th</sup> standard and 57% in T.Y.B.A.

In Junior College, she attempted sociology and political science in English and economics and history in Kannada. This is very surprising because all the subjects are difficult. The reason given by the informant, as to why she wrote two subject papers in English, is that she wanted to learn English. But she admitted that it was difficult during her first attempt. When asked why she attempted all her subject papers in English in Degree College, she said that she was confident about her English then.

The informant used to by-heart the answers in English in Junior College. But in Degree College, she could understand and write in English to some extent. Luckily for her, and others like her, question papers were both in English and Kannada. Also teachers used to give notes and translate the lectures from English to Kannada.

Over the years, the informant has improved her English marks. She got 30 out of 100 in 10<sup>th</sup> standard but in T.Y.B.A. she has got 42 out 100, a great achievement for her. But her marks in Kannada have dropped in college. In Junior College, she attempted two papers in English and two in Kannada and yet in 12<sup>th</sup> standard she has got 52%. In Degree College, she attempted all her papers in English and has got 57% in T.Y.B.A. This improvement in her marks shows her improvement in her understanding and skills in English.

To improve her proficiency in English, she joined English-speaking course. But even now she has no confidence and has problems with grammar and making long sentences. Now she is planning to do her B.Ed., where again the medium of instruction is English. She admits that she uses Kannada more than English in her educational life.

She wants to put her children in English medium schools because she feels that been given a choice, she would have liked to go to an English medium school. She feels that English has become very important in today's life. In the end, she feels that the future of Kannada is not as bright as it used to be.

### **3.2 Analysis of Interview.**

The subject admitted that giving two subject papers in English was hard for her. She had to learn all the answers by-heart. Her teachers in college gave the notes. If still she had problems, she would write her notes in Kannada and then translated her notes into English. But elaborating an idea in English was difficult for her. She could sometimes do it but not always. Teachers used to teach in English first and then translate again in Kannada. Among friends, they used to talk only in Kannada or Tulu. So they did not get to practice English.

In school, alphabets were started from third standard. But they did not have examination in English at third. Proper lessons and examinations were started in sixth standard. She was comfortable in school environment. But when she joined college, first few days were tough for her. The informant used to feel insulted when she could not speak in English like some of her classmates.

The informant feels that even though Kannada is important, English has gained more importance. She wants her children to study in English medium school, even if it is far and children have to travel far. If she can't teach them, she could send them to tuitions. She feels the Kannada can be taught and improved at home. She could not go because English medium schools were far and also, her parents could not send her. Now she plans to become a teacher and teach in a English medium school.

### **3.3 Analysis of informant's situation.**

The informant lacks confidence in speaking skills in English. She is afraid that she will not be able to fit in without good proficiency in English. So she tries very hard to improve her English-by joining English-speaking course or attempting her subject papers in English even when it is very hard for her. But yet she is afraid to converse with anyone in English. She unconsciously, is worried that others will laugh at her and her language. But then the only way to learn any language is to make mistakes and yet continuing to practice in that language.

### **IV. Findings.**

The informant had to face lot of troubles due to her lack of proficiency in English. She had to by heart her answers in junior college to attempt two subject papers in English. But as she went to Degree College her English had improved to certain extent and could attempt all her subject papers in English. Sometimes she also used to write her answers in Kannada and then translate it to English. Sometimes she also used to write her answers in Kannada and then translate it to English, so that she could understand what she is studying. Now she is planning to do her B.Ed., and wants to teach in an English medium school.

She feels that English has gained more importance than Kannada and so she wants to send her children to an English medium school. If given a chance she could have liked to go an English medium school. She had joined an English-speaking course to improve her English. But yet her confidence level is very low. She rarely speaks in English and when she does speak it is mostly in monologue.

### **V. Conclusion**

This research paper as shown how difficult it is for a non- English medium student in college and especially while attempting their examination. So these students use several techniques to tackle their written examination. This paper deals with only one such case, but there are many more such students.

As this is a vast topic, researcher decided to do a case study of a student who was known to her and has seen that student struggling to get her footing in the English-speaking environment. As the researcher knows the informant and they speak in Tulu with each other, speaking in English with each other was very difficult for both of them. Also English speaking was already hard for the informant. So the researcher had to make the questions as simple as possible and also she had to prompt the informant to answer. As this was the researcher's first interview, the questions asked in interview was

not very coherent.

Questionnaire also should have been in a little better order. Researcher also feels that, she should have asked a few more vital questions like- about the nature of problems faced by informant's friends; about informant's reaction to her marks in English and subject papers written in English; did informant join in group discussions and extracurricular activities in the college; etc. The researcher feels that the transcription is also not completely accurate, as this the first time that the researcher is transcribing.

To collect more data, the researcher visited the college where the informant did her Junior College and Degree College (Vijaya College, Mulky, Udupi District, Karnataka). But as it was Diwali vacations, many staff members were absent and remaining uncooperative. And since the informant lives and has studied in Karnataka, the researcher could not go and visit the college again to collect the data. The notes written by the informant was also studied. But since teachers dictated it, it was perfect and so not considered to be included in the data.

Researcher has tried to project the problems faced by a non-English medium student while attempting written examination in college. But due to time constraints, the researcher could not explore the issue more deeply. Also the informant is not an exceptional case, but there are many more such students. This particular field could be full of opportunity, for researcher interested this kind of

Unfortunately magnitude of the problem and trauma these students undergo are rarely acknowledged. And thus, hundreds of such students and their problems are ignored. But the question we need to ask our self is whether in multilingual India, we can afford to ignore this problem?

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## **Bajaj Allianz Insurance Company Ltd - A New Hope in Insurance Sector**

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**Abstract:** Article shows importance of Insurance in today's world as well as tries to solve various queries of customer towards performance of private insurance company .To solve these queries performance of Private insurance company ie Bajaj allianz is taken in respect to its market scenario, claim settlement and solvency margin.

### **Introduction**

In India, Insurance is a national matter, in which life and general insurance is a booming sector with huge possibilities for different global companies, as life insurance premium account to 2.5% of India's (GDP).The introduction of private players in insurance has added up the color to dull insurance industry. The once initiatives taken by these players are very competitive and have given immense competition to the monopoly of the insurance market. Bajaj Allianz is one the top most private player in today's insurance industry.

**Keywords:** IRDA,Bajaj Allianz life insurance

### **Importance of Insurance**

The process of insurance has been evolved to safeguard the interests of people from uncertainty by providing certainty of payment at a given contingency. The insurance principle comes to be more and more used and useful in modern affairs. Not only does it serve the ends of individuals, or of special groups of individuals, it tends to pervade and to transform our modern social order, too. The role and importance of insurance, here, has been discussed in three phases: 1) uses to individual 2) uses to a special group of individuals i.e. business or industry and 3) uses to the society. The insurance provides safety and security against the loss on a particular event. In case of life insurance payment is made when death occurs or the term of insurance is expired. The loss to the family at a premature death and payment in old age are adequately provided by insurance. In other words, security against premature death and old age sufferings are provided by life insurance. Similarly, the property of insured is secured against loss on a fire in fire insurance. In other insurance, too, this security is provided against the loss at fire, against the loss at damage, destruction or disappearance of property, goods, furniture and machines, etc. The security wish is the prime motivating factor. This is the wish which tends to stimulate to more work, if this wish is unsatisfied, it will create a tension which manifests itself to the individual in the form of an unpleasant reaction causing reduction in work. The security banishes fear and uncertainty, fire, windstorm, automobile accident, damage and death are almost beyond the control of human agency and in occurrence of any of these events may frustrate or weaken the human mind. By means of insurance, however, much of the uncertainty that centers about the wish for security and its attainment may be eliminated. The life insurance Sector has small market and cover Approx 3% of population in India. After reading this research paper everyone will come to know importance of insurance.

### **Company profile**

Bajaj Allianz Life Insurance is a union between Allianz se one of the largest insurance company and Bajaj Finserv.Allianz se is a leading insurance conglomerate globally and one of the largest assets managers in the world, managing assets worth over a Trillion cover INR 55, 00,000 Cores) Allianz Se has over 115 years of financial experience and is present in over 70 countries around the world. At Bajaj Allianz life insurance, customer delight is the guiding principle .Their business

philosophy is to ensure excellent insurance and investment solution by offering customized product supported by the best technology. Bajaj Allianz life insurance company limited (“the company”) was incorporated on 12<sup>th</sup> March 2001 as a company under the Companies Act, 1956. The Company obtained a license from the Insurance Regulatory and Development Authority (IRDA) for carrying on the business of life insurance on 3<sup>rd</sup> August 2001. The registration certificate granted by IRDA is valid and the same has been renewed for the year 2011-2012. (1)

#### **Market scenario in the insurance industry**

Life insurance industry that had seen rapid growth from the opening up of the sector till 2009-2010 has witnessed a minor slowdown in 2010-2011 financial year. During the year life insurance had a new business growth of 15% as against 25.5% in the year 2009-2010. The 23 life insurers have mobilized a first year premium of Rs. 1285.2 billion in 2010-2011 compared to Rs. 1092.9 billion in previous year.

#### **Objectives of Research Paper**

- 1) This Research Paper’s aim is to understand Bajaj Allianz Life insurance company.
- 2) Through this research paper attempt is made to remove various concerns of investors in private insurance company.
- 3) Most of the people of India have always seen life insurance as a tax saving device. This research paper helps them turning to Bajaj Allianz life insurance companies to snap up the new innovative product offer.

#### **Research Methodology**

Both Primary and secondary data are used. Survey Method was followed for the study. Primary data was collected with the help of questionnaire with open ended and closed ended questions posed on insurance policy holder. For the purpose of sampling, the Mumbai city is divided into three strata, namely south Mumbai, western Mumbai and eastern Suburb. On the basis of population of Mumbai the sample size of 250 policyholders were randomly selected and are proportionately divided as 75 from south Mumbai, 75 from eastern suburb and 100 from western suburb.

Note:\*(1) from annual Reports of Bajaj Allianz life insurance co ltd.2010-11

#### **Hypothesis**

- 1) Bajaj Allianz life insurance is safe to invest money for secure future.
- 2) Bajaj Allianz life insurance co ltd is giving good service in claim settlement ratio.
- 3) Bajaj Allianz life insurance co ltd is very competitive and has given immense competition to the monopoly of the insurance market.

#### **Solvency Margin**

It indicates how solvent a company is, or how prepared it is to meet unforeseen exigencies. It is the extra capital that an insurance company is required to hold to meet all the claims which arise. In other words, *Solvency margin* refers to the excess amount of asset the insurance company has to maintain over its liabilities. Basically, it is the amount the insurer has to slash away in order to pay the claims during emergency. IRDA requires the insurance companies to maintain a particular level of solvency margin for their smooth functioning. That the reason, Solvency margin comes into picture; the excess margin maintained by the company provides that extra cover which may be required in case something totally unexpected happens.

Current Solvency Margin is at 150% for Life Insurance Companies. It means for every Rs 100 insured the Insurer should have 150 with them. This is solvency margin, if we understand this concept then we will understand our money with proper company. As per Annual Report of Bajaj Allianz life insurance co ltd 2010-2011 their total funds infused by the shareholders in the Company remain Rs. 12.11 billion, with no fresh infusion of capital during the year 2010-11. The solvency ratio as at 31st March 2011 stands at 366% as against the required of 150%. The required solvency margins have been maintained as required by the IRDA regulations. Above mentioned statistic shows solvency margin of

Bajaj Allianz company is more by 216 % against expected margin of 150% as per IRDA regulation and because of this Bajaj Allianz is capable for settlement of claims.

In life insurance, there can number of criteria based on which people select which insurance plan to go for. Some of them include premium payable, the benefits offered, features and flexibility offered and objectives / purpose for which the plan is being bought etc. One important thing that lot of people take into consideration nowadays is the claim settlement ratio of the insurance company and the time frame taken to settle the claim. It makes sense for people to invest in a plan of a company that has a good claim settlement ratio and a company that has a good track record of settling the claim in a reasonable timeframe of filing the claim with the company. After all what good is an insurance plan during your lifetime if your beneficiaries are not able to settle the claim with the insurance company within a reasonable time in your absence.

Particular	2010-2011	
	No of policies	Amount (Rs.crore)
Claims Intimated / Booked	25,511	515
Claims Settled	23,980	478
Repudiated	1,913	47

Note-\*(2) from annual Reports of Bajaj Allianz life insurance co ltd.2010-11

Period	2010-2011	
	No. of Claims	Amount
Less than 30 Days	505	1013
30 days to 6 months	484	836
6 months to 1 year	235	387
1 year to 5 years	571	1216
5 years and above	5	7
<b>Total for the Period</b>	<b>1800</b>	<b>3459</b>

As Per these figure we saw satisfactory claim settlement track record of Bajaj Allianz life insurance along with settling claim in reasonable timeframe.28% claim is settle in less than 30 days, 26% claims is settle in 30days to 6 months, 13% claim is settle in 6 months to 1 year, that means 67% claims are solve in 1 year which is a good track record of company. Claim settlement figure of 1 year to 5 year is 31 %.This figure is little high but these all cases are quite complicated like wrong information given by customer at the time of purchasing policy. In this cases company is going to check all details like medical reports, family history etc. so this procedure take time to solve the query and result it will delay. But overall Bajaj Allianz life insurance co ltd is giving good service in claim settlement ratio. Hence second hypothesis is proved here.

Companies have Assets and Liabilities. In some adverse situation, Assets are used to pay off all the Liabilities. Suppose there is company which has assets of 100, and liabilities of 100. In ideal case it would be able to pay back the liabilities. But what if some adverse situation occurs and liability increases unexpectedly. In that case company will be declared Insolvent (Bankrupt). This will be a bad situation which every customer does not want to experience.

**According to Bajaj Allianz annual report 2010-2011, company's Net Assets is greater than Liabilities. So obviously there is no possibility to declared Insolvent.**

**Balance Sheet as at 31st March 2010-2011**

CURRENT ASSETS	2010-2011	2009-2010
Cash and bank balances	4,385,098	2,186,908
Advances and other Assets	3,832,457	3,111,630

Sub-Total (A)	8,217,555	5,298,538
<b>Less: Current Liabilites and Provisions</b>		
Current liabilities	9,500,915	10,518,711
Provisions	1,068,189	660,226
Sub-Total (B)	10,569,104	11,178,937
<b>Net Current Assets (C) = (A-B)</b>	<b>(2,351,549)</b>	<b>(5,880,399)</b>

Note-\*(3) from annual Reports of Bajaj Allianz life insurance co ltd.2010-11.

### Conclusion

As per this study I like to conclude that Bajaj Allianz Insurance company is Safe for Investor and shows as A new Hope in sector of Insurance.

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## Impact of Urbanization on Nature

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As a species we lived in wild nature for hundreds of thousands of years and now suddenly most of us live in cities - the ultimate escape from nature says Peter Kaliva chief scientist at the nature conservancy. It has been estimated by the united nation that in 2007, for the first time in history half of the world's population were living in urban areas. This increase has been particularly in low and middle income countries.

Urbanization refers to a process in which an increasing proportion of an entire population lives in cities. This is the process by which a society acquire urban characteristics - have survived over a few thousand years, but their scope, pace and complexity have increased overtime, some centrally or strategically located towns grow in size and complexity to become cities. The growth of urbanization is very fast. Urban life with all amenities and comforts is artificial rather than natural.

**Urbanization is a Worldwide Phenomenon.** At the beginning of 21<sup>st</sup> century, half the world's population is living in urban areas. As recently as 1970, this share was a little over one third and by 2015 it will rise to nearly 55%. The world development report 2003 states urban population are expected to increase by 60 million a year over the next three decades. The speed of urbanization makes it one of the major developmental challenges of the 21<sup>st</sup> century.

India lives in its villages but gradually, rural India is moving towards the town and the city. The 2001 census showed that about 286 million- nearly 28% of the population live in urban areas. By 2020 half the country population is expected to be city based.

The critical issues in urban areas accompanying their growth since 15th century have been the steady increase in crowding and congestion, problems of sanitation, drainage, water availability and supply and solid waste management, pollution of water, air and soil leading to environmental health stress, problems of traffic and transport, degradation and loss of public open spaces, greenery, wooded areas, water bodies and other natural environmental assets.

Cities and towns have become cement concrete jungles. These are urban heat island, besides as observed by the US assistant secretary of agriculture, Cutler, "Asphalt is the lands last crop when productive cropland is lost to non-farm use, it is hardly used again to produce crops, worldwide about million hectares of farmland disappear under housing and mines, roads, railways, reservoirs, industries, power plants, amusement parks etc. every year.

The cumulative effect of this is seen in the form of global warming and climate change, acid rain and destruction of forest, lake, water bodies, soils and monuments, ozone layer depletion and desertification, loss of biodiversity and ecological disequilibrium.

The Indus valley civilization was the first to address the environmental problems of managing urban sanitation and hygiene. Harappa, Mohenjo-Daro, Lothal and other cities, dotting a vast area across today's Pakistan and North western India, had covered drainage channels along their streets to remove waste water and sewage from their houses. This is a key contribution of that civilization but also teaches another environmental lesson. Some scholar believes that its decline was due to the excessive exploitation of natural resources.

Urbanization has given rise to the following environmental problems which are responsible for bringing drastic changes in our nature:

1. Air Pollution
2. Ozone Depletion
3. Water Pollution
4. Deforestation

5. Desertification
6. Flood
7. Nuclear Accidents
8. Industrial Accidents
9. Solid waste management
10. Problems of slums
11. Pressure on Infrastructure
13. Problem of overpopulation

**Impact of Urbanization on Air:** Cities suffer from severe air pollution which reduces its capacity to transmit radiation and heat. The abundance of dust and other pollutants in the air forms a dust dome -an envelope of dirty air, the dust dome back scatters solar radiation and reduces solar energy. At the same time heat and radiation flowing sky words are slowed by polluted air, in addition to this heat is also released from heated buildings, factories and automobiles. The urban area stands out as heat island surrounded by cooler rural area.

**Impact of Urbanization on Water :** Use and misuse of water in urban areas: a pathetic seen which is common in urban areas. Once the water supply is ensured through the local government authority like Municipal Corporation, the people in the urban areas generally get water in sufficient quantities. They have not to go far off places to collect water due to the tap water scheme developed in towns.

In spite of this facility, the behavior of urban dwellers from both the rich and poor section is habituated to use more water than necessary. At many places the taps are kept open and the water is allowed to let out carelessly. This is a misuse of amenity due to urbanization, the water get polluted.

The lack of sanitation and sewage treatment is the biggest factor regarding water pollution. Local water bodies are used as a dumping ground for untreated water from urban areas or industries. Many rivers in developing countries are more like open sewers than river.

**Urbanization and Loss of Biodiversity:** “biodiversity is disappearing at an alarming rate and we have to act quickly to slow and prevent extinction crises” said Julia Marton Lefevre Director General of the international union for conservation of nature.

**Urbanization and Noise Pollution:** A rising tide of man-made noise is disrupting the life of marine animals. The animals use sound to find food and mates, to avoid predators and to communicate. They face a growing problem: manmade noise is drawing them out. “For many of these animals it is as if they live in cities”, says marine scientist Braden South hall, former Director of national oceanic and atmospheric administrations.

**Urbanization and Problems of Slums:**

In the urban informal sectors slums are beehive of activity. They provide important but undervalued services to the city; slums are often seen as parasite on the fabric of a city. A common perception is that slums grow because the rural poor migrate to cities. This was true in the early stages of urban growth which accompanied industrialization in large cities such as Kolkata, Mumbai, Chennai, etc. Today the growth of slums is due to natural increase in the local population than it is to migrants. The slums are overcrowded with a degraded environment; inadequate sanitation and lack of basic amenities.

**Urbanization and Flood:** with growing urbanization more and more areas flood plains is being reclaimed for growth of cities. Faulty town planning is one of the factors. Housing colonies often come up in low lying areas which are easily submerged even with moderate rains. Drainage system are either absent or often not adequately developed or maintained in urban localities, hampering quick clearance of rain water specially during heavy rains. In many Indian cities storm water drains are usually clogged with garbage leaving no space for rain water clearance. With nowhere to go the rain water flows on the road.

Wetland which stores or have huge potential to store rain water or excess water from the rivers are also increasingly being encroached upon and reclaimed due to urban growth.

**Floods in Mumbai.....Unavoidable!!**

For 21 days in this rainy season

Mumbai experiences floods even though it is not situated on the banks of a river. This is a different type of flooding due to rise in sea water coupled with rain water

**Urbanization and Change of Land Use:** As city grows, urban area spread into adjacent rural area, consuming cropland for building and roads. Thus agriculture lands, dynamic by nature due to their reusability get converted forever to static urban use. It is not only the land which changes; even the livelihoods and life styles of the inhabitants are disrupted as an area urbanizes. With agriculture becoming more difficult, farmers tend to sell their land.

**Urbanization and Pressure on Infrastructure:** Population density in urban centre has been increasing more rapidly than the infrastructure and services needed to sustain it, such as housing, water supply, garbage disposal and sanitation. This has led to polluted, overcrowded and unhealthy living condition for many urban dwellers, and its effect the quality of life rich and poor alike.

**Urbanization and Dumping Ground:** Urbanization has given rise to big dumping grounds. The Deonar dumping ground is one of the oldest and biggest dumping ground of Mumbai. The garbage at the Deonar dumping ground has already climbed to about 18mtr high and more dumps is being dumped.

Unplanned garbage disposal is a major cause of pollution in urban areas with serious public health implications. Solid waste disposal is a challenge for urban authorities.

New landfills sites are needed as old ones get filled up overtime. The new sites are usually far from the cities, the waste has to be transported over longer distances, using more fuel and adding to vehicular air pollution. There is also possibility of spillage enroute.

**Urbanization and e-waste:-** E waste engines as major problem in state and will pose major environmental rise by 2015.

Mumbai has no system to manage E waste, in enviably finds its way to dumping grounds, where rag pickers handle it to remove metals like gold, copper and aluminum. The extractions are carried out in crude and unrefined conditions. According to Anjali Parsnes of the energy and resources institute a Delhi based NGO.

**Urbanization and Nuclear Accidents :** When a nuclear explosion occurs in the atmosphere a large quantity of long life radio nuclides are released to the atmosphere which get distributed through wind current. These radionuclide's usually settle down with rain and mixed with soil, water, vegetation. Once deposited in human body through food, they are sure to radiate internally for almost the whole life span of an individual.

From a study conducted in Norway, it was found that people living in concrete and brick houses receive about 30 percent more radiation than those living in wooden houses.

**Urbanization and Transport :** Transport modifies natural landscape and disturb ecosystem. Increasing urbanization led to a variety of problems. The most damage is cost by land transport. The rising number of flyover, bridges, railway station and canals damage the natural landscape. Traffic congestion on city roads is a daily nightmare in faced by commuters in urban area. Too many vehicles on the roads especially at morning and evening peak hours retard the speed and reduce the efficiency of automobile transport. It is mainly an outcome of bad planning of urban transport which failed to meet the demand of rising road traffic in metropolitan areas.

**Urbanization & Marine Ecosystem :** Development of sea ports destroys marine ecosystems. The modern sea vessels like tankers carrying oil and chemicals frequently pollute sea water by spilling them during transportation.

**Urbanization and Climate Change :** The very presences of cities affect the local climate. Urban development alters the landscape as a result of land use activity. The rural areas have a natural landscape so temperature remains lower due to soil moisture and vegetation. These materials absorb solar radiations, conduct heat and exchange energy with atmosphere. Natural vegetation's are replaced by buildings and bricks in urban areas. These artificial structures act as solar collectors and emit heat. They also change the thermal property of land so that temperature rises. The absence of vegetation and limited moisture content in dry air in cities further increase the temperature. The temperature does not rise as much as in rural areas because heat is transmitted to air by vaporization of water from plants, soil and water features.

**Planning For Urban Areas:** Unregulated and rapid urban growth causes unintended and undesirable natural environment condition which cannot be remedied by a fire fighting approach. Comprehensive planning is crucial to make urban areas make more livable and sustainable. Traditionally urban planning consist of developing master plan which lay down broad guideline as aspects such as land use (residential, commercial, industrial, institutional, recreational etc.) and densities of number of household or persons per unit area. Assuming that these guidelines will be followed exactly, the plans provide for infrastructures such as roads, main lines or water supply and storm water drainage and for sewage and its end- of the line treatment in recent years the management of urban solid waste has also begun to rate greater attention than before.

**Management of Urban Areas:** Local government bodies such as Municipal Corporation, municipalities, nagar panchayats, cantonment board and special area development authorities are responsible for the administration and upkeep of an urban area. Their functions may include some or all of the following:

**Essential or core functions:**

1. Public amenities including street lighting. Regulation of land use and construction of buildings.
2. Construction of roads and bridges.
3. Provision of water supply for domestic, industrial and commercial purpose.
4. Public health, sanitation, conservancy and solid waste management.
5. Provision of urban amenities and facilities such as parks, gardens, play grounds.
6. Burials and burial grounds, cremations, cremation grounds, electric crematoriums.
7. Cattle pounds, prevention of cruelty to animals.
8. Vital statics including registration of births and deaths.

Thus the problem of urbanization cannot only be solved by proper planning and management of urban areas but also by making villages livable in natural surroundings. The cultural theory suggest that there are four primary "nature myths"(Holling 1986;Schwarz and Thompson, 1990) these describe nature as- fragile, robust, resilient or capricious.

Nash (1989) in 'The Rights of Nature' mention recent emergence of the idea that human nature relationship should be treated as a moral issue. Nobody can doubt the role of morals; ethics, philosophy and principles have become much more prominent and pertinent in recent decades.

Smart growth is a new concept suggested by urban planners. This is based on efficient and effective use of land resources and existing infrastructure.

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## **Consensus of Opinion: A Decisive Authority in Development of Islamic Jurisprudence**

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### **Abstract:**

Islamic system established by ‘Quran’\* and corroborated by ‘Sunnah’\* i.e whatever Prophet Mohammad (PBUM)\* said, done and impliedly consented during his life. The Prophet (PBUM)\* during his life was the proof and point of reference in temporal and legislative matter. After his sad demise and with the expansion of Islamic influence, comprehensive nature of civilized society and complex Islamic system, numerous problem arose, which could not be decided by reference to only Quran and ‘Hadith’\*. The need began to be felt for binding principle which would ratify the problem faced by community at large, the solution of the referred problem was seen in agreement of the people. The religious Caliph\* paid their reliance to the consensus of the people in the light of Quran and Hadith. It is alleged that in Islamic Jurisprudence the door of interpretation is closed, which resulted stagnation in the growth and development of Islamic law. In Principle there is nothing like that, it is due to political and social reason. Even Muslim still do consider themselves bound by older views while Letter of law allows them liberty to develop their system of jurisprudence, An inbuilt mechanism is available within Islamic system itself. The consensus of people and scholars (Ijma)\* can be used as potent weapon to face the ugly challenges and can be used as an effective machinery to bring the legislative reforms.

### **Conceptual Analysis:**

The term Ijma (consensus of opinion) is used to designate the unanimous agreement of community or rather the scholars of Islam. In broader sense Ijma means the general agreement on any principle of those leaders and scholars who are recognized as having the right to hold opinion. This argument rest on the theory “that the Muslim people are protected by Allah against error.”<sup>1</sup>

Literally Ijma means collecting, gathering or assembling of learned doctors of Islam on any issue in a given time

Imam Shafii, the founder of Shafii school of thought defines Ijma that the “unanimity of all Ummah (people) on any matter and then agreement on the consensus of their predecessors in regard to an issue on which no clear verdict is to be found in the Quran or Hadith”<sup>2</sup>

Thus when the majority of recognized scholars of the community of Prophet (peace and blessing be upon him) have agreed on a certain point to solve the dispute in a particular age such consensus is called Ijma, provided that the opinion of recognized scholars should not infringe the basic teaching of Quran and Hadith.

The concept of Ijma must have following component

If any matter has not been clearly dealt with the Quran or the Hadith or if a dispute or doubt arises as to the application of Quranic principals, the community recognized jurist may decide the matter and their decision would be accepted by public at large in changed circumstances. Quran being the paramount source of Islamic jurisprudence contains provisions, dealing with temporal sphere, but it is well accepted fact that in certain areas its provision are in the form of formula and detail is not given. This is the basic reason that through the interpretation and its application, the need of time is to

be satisfied and for the guideline, the Quranic material can be rapidly obliged till the Day of Judgment (doomsday). However in case of non-availability of the direct material on any specific issue in the primary source of shariah (Jurisprudence), the deliberation, interpretation and consensus is the only remedy. Historically speaking consensus has served as remedy in past and in a given situation same can be relied upon, in future too.

Truly speaking, Islamic legal system did not directly derive the authority solely from The Quran. It developed from some practice which often diverged from Quran intention, even from its explicit wording. It is fact that a number of institutions, particularly in a Law of family relations and of inheritance not to mention cult and rituals, were based on the Quran from the beginning. But apart from the most elementary rules and norms derived from the Quran were introduced into Islamic Law almost invariably at the secondary stage. Some branches of Law such as contract and torts are not covered in detail by Quranic legislation. "In the first phase the religious and ethical body dealt the matter in the light of Quranic maxims. The interpretation and application started later on."<sup>3</sup>

#### **Justification**

The consensus of opinion (Ijma) has been justified on the basis of Quran, Sunnah and Reason:

The jurists almost agree that the Quranic verses which are adduced to justify Ijma denotes clearly its authority. It is believed that it was Imam shafii who justified the doctrine of Ijma for the first time on the basis of Quranic verses, when he was asked by someone to give argument in support of Ijma. He recited the following verse of Quran.<sup>4</sup>

"If any one contends with the Apostle even after  
guidance has been plainly conveyed to him, and  
follows a path other than that becoming to the men  
of faith" we shall leave him in the path he has chosen,  
and land him hell what an evil refuge"

It can be concluded from the above verse that the Quran makes adherence to the way of Muslims binding on the people and forbidden to diverge from it. This proves the authority of their agreement because Allah commands to follow the truth.

#### **Hadith:**

The basis of Ijma is traceable in the treasure house of Prophet (PBUM) tradition. He himself supported and approved the doctrine of Ijma. Some notable Ahadith can be quoted.

"My community will never agree what is wrong"

"Whatever the Muslims hold to be good is good before Allah"

"A section of my community will continue to follow the truth. And who feel hostile to them will do no harm until the divine decree comes down"

The above Ahadith are clear, specific and keep consensus in high esteem and had done a lot in establishing the Islamic jurisprudence.

#### **Reason:**

It is explicit that people in general cannot ignore the tradition of prophet (PBUM) and similarly, people in general cannot agree on a point which contradicts Sunnah. There are instances in Islamic Jurisprudence which has been defined as transmission of legal knowledge by Prophet(PBUM) himself such as number of obligatory prayers and fixation of Zakat (Tax) @2.5% were established. It is noteworthy that the doctrine is justified on the basis of logic.

The guidance from Almighty in the shape of Quranic Revelation came to an end on the demise of Prophet (PBUM) Imperfection and infallibility of human being generally in individual capacity is a well established fact so as to protect the shariah as to get the solution from this rich store, collective understanding was imperative, because it is approved by Prophet (PBUM) that "community at large will not agree on erroneous point".

#### **Role Analysis:**

Retrospection reveals that through the agency of consensus, tangled issues of `Islamic common wealth` were settled down. Election of caliph (Head of state) after the death of Prophet (PBUM), the collection of Quranic verses and its compilation after a furious storm of apostasy, recognition of custom and usage of people which were not repealed during the life of Prophet (PBUM), changing the rate of Taxation like Kharaj, Jaziya, Zakat and quantum of punishment for crime and its implementation and execution by lashes, shoes and flogs.

It is one of the prime objectives of Islam to get it self Perpetuated and transmitted through a well integrated pattern of social institution. "Shah waliallah observed that if Islam had contended itself with the reward and punishment hereinafter only and it had not provided check and balances in this world, the social system would have been melted away. In the absence of immediate anticipation of punishment, the entire institutional structure stands on weak footing."<sup>5</sup> Quran however has prohibited the same and has not described the specific punishment on different occasion. This was adjudged by consensus of opinion.

There is a famous Hadith that the knowledge of share allotted to various heirs is equivalent of one half of all the human knowledge. The problems of inheritance were settled by consensus, such as the question of giving share to the utrine kindred were settled by consensus of scholars. The doctrine of representation i.e "nearer in the degree excludes more remote" was severely criticized by the orient list, that when grandfather suddenly dies and could not find time to make gift or will in favor of grandson or daughter. "To mitigate the hardship of the rule, Pakistan enacted sec.4 of Muslim Family Law ordinance 1961 of Pakistan where by lineal descendants were held as integral part of inheritance and after the death of grandfather. Son and daughters of the propositus claims the equal share as the share of their father from the property."<sup>6</sup> The countries like Turkey, Egypt, Syria and Morocco have also evolved a system of "Obligatory Bequest". The legislation reported in the above countries are the result of consensus of jurist/scholars.

There are several problems which were recognized and settled by consensus of people and jurist.

- 1- Prohibition of marrying a woman and her aunt together
- 2- Prohibition of marrying a woman and her daughter together
- 3- The time limit for impotent husband for the purpose of annulment of marriage
- 4- Unlawfulness of the fat of Pig
- 5- Disusing of oil of sesame and liquid juice of fresh ripe dates, if a mouse fall in them.
- 6- Religious head of Islam, collection and compilation of Quran, determining principle to test the authenticity of Ahadith, rule of fast during travel, payment of zakat, additional prayer during the month of Ramzan, and several other religious and worldly affairs.

Above instances are the proofs that so many problems had been settle down by the consensus in the early days of Islam. In some part of India the Islamic legal principles was being shadowed by the local customary Laws prevailing in different part of India among Muslims. The scholars therefore launched movement to uproot the customary Laws they explained that Islam does not permit them to follow the non Islamic Law, in this way they invited the public opinion and at the same time approached the Government for statutory provision for the enforcement of shariah. The ulema (scholar) with the motivating force of unanimity of consensus of the people got success to convince the Government and brought a number of local and central secretarial legislation to abrogate the non Islamic custom, non Islamic rule of inheritance and certain matrimonial affairs practiced by Muslim in different part of India.<sup>7</sup> The first sectarian legislation was passed by Madras legislation known as Mapilla succession Act 1918. This Act is still applied in Tamil Nadu, Kerala and Mysore. Numbers of other local Acts were enacted on the invitation of ulema to do away the unislamic customary Laws.

1. Cochin Cutchi Memon Act,1106F (Act iv of 1106)
2. Tranvancore Ctchi Memon 1117F (Act xiv of 1117)
3. Mysore Cutchi Memon Act (Act I of 1943)

4. Punjab Law Act 1873
5. The Central Province Act 1875
6. NWFP Law and justice regulation 1901

The aforesaid circumstances drew the attention of leading scholars of the country and eventually Muslim Personal Law (shariat) Application Act 1937 came into being.

In Pre-Independent India, shariat was protected against the adverse judicial views, Regarding the wakf the privy council decision <sup>8</sup>, doing away institution of wakf Al-al-awlad, caused great resentment among the Muslims, Eventually Mussalman wakf validating Act 1913 was passed. In post Independent India also, the supreme Court decision<sup>9</sup> regarding maintenance to Muslim woman and definition of wife under section 125 of Cr.P.C also became the matter of great concerns of Muslims in India which was pacified by passing the Muslim woman (Protection Right on Divorce) Act,1986

The classical theory of Islam is based on the Principle of Quran and sunnah and every Muslim is under mandatory obligation to shape the inner and outer behavior pattern accordingly, and mere deviation from the principle is a great sin. The method of legislation and reforms in Islamic legal system in the countries like India and Sri Lanka and others where the Muslims are in minority facing the problems like unilateral divorce, polygamy, the issues of heritability, and transferability of widows right to her deceased husband property in lieu of unpaid dower, certain presumption of legitimacy where period of gestation appears too long, under Sec.112 of Evidence Act 1872, wife definition as provided under section 125 of Cr.p.c. Family planning in Islam, Insurance of life and property, Loan and Bank interest, Television and Islam etc. are rather difficult in comparison of the countries where the Muslims are in ruling. They would certainly face rather difficult task in legislation and reforms of Muslim personal Law in comparison of later. The most important enactment among legislative measure in India relating to Muslim Personal Law, where Islamic principle get reformed is dissolution of Muslim marriage act 1939. The Muslim scholars became bound to rethink for the ways and means to restrain wide spread of apostasy among the Muslim female due to the harsh principal of unilateral power of divorce to the male.

“Those who think to secure uniform civil code for citizens throughout the India in accordance to art. 44 of the constitution should note the peculiar secular character of Indian constitution. India is known for its diversities and this is based on religion and culture. The other Socialist countries of the world are opposed to all religion, while they don't deny the right to religious freedom to their citizen, on the other hand, Indian Constitution gives equal protection to all religion and belief without any discrimination this great objective has been re-enforced by several provision of the constitution.”<sup>10</sup> The Constitution of India in spirit and word protect reformative measure by whatever means to religious minorities.

All India Muslim Personal Law Board, Ulema Council and All India Ulema and Mashahik Board time and again holding seminar and very recently on 23<sup>rd</sup> April 2012 in Mumbai, AIMPLB secretary Abdul Rahim Qureshi opposed various aspect of legislation that are about to become law or have already become. Amongst the prominent one that was under fire are Right to Education, Direct Tax code, Waqf Bill, Marriage Act and personal law. The codification, reformation and legislation are only possible if Islamic Organization and Islamic Seminaries' create congenial atmosphere of consensus of the scholars and people.

#### **Conclusion:**

In the fast growing modern time Muslims in India are facing several socio-economic, Political religious, ethical problems in comparison of other communities. Since the Islam does not admit the possibility of further revelation after the death of Prophet (PBUH). In this grave situation consensus can provide remedy to thrash out problems and for this purpose the recognized scholars of different school of Islamic thought should make Joint sitting to discuss and chalk out the systematic plan. They should create the public opinion to form the consensus on a given question in a given time in the light



of Quran and Hadith. The procedure was successful during the British India. All central and provincial legislation were initiated by recognized scholars and with the force of consensus of the people ultimately they got success in bringing the legislation of Shariat Act 1937. The criticism that Islamic Law is rigid and incapable to meet modern challenges of the society is baseless. The Islamic Law allows the Muslims to develop their system of jurisprudence keeping in mind that the real spirit of Quran and Hadith must not be allowed to be infringed. Therefore there is a need to take the bold steps the consensus of the scholar supported by the consensus of community must be used as a legislative and reformative measure in the development of Islamic jurisprudence.

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- 11-

**Abbreviation :**

- Quran: Holy book revealed by Almighty upon prophet Mohammad (PBUM)
- Sunnah: The model structure of prophet life (PBUM)
- Hadith: Islamic tradition containing saying of Prophet (PBUM)
- Caliph: The democratic leader of the state. Hazrat Abu Bakar, Hazrat Umar, Hazrat Usman And Hazrat Ali
- PBUM: Peace And Blessing Be Upon Him
- Ijma: Consensus of opinion, the third source of Islamic law

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## **The Complex Dynamics of the Indian Pharma Sector**

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### **The Evolving Indian Pharma Sector**

The pharma sector has been amongst India's most dynamic sectors. In its own way, it has been contributing its mite to the economic development of the country – it has been creating jobs; it has been generating income for the government, State and Central, in the form of taxes, levies, etc. It has done the country proud by setting up shop in other countries. The sector's performance across the globe has proved to the world at large that Indian pharma players are second to none when judged against the relevant parameters. The sector has seen several giants emerge, spreading their wings across the globe and becoming household names in those markets, in the process. Some Indian giants took over pharma businesses abroad, enlarging their investment portfolio and achieving risk diversification in the process.

The other side of the story is interesting too. Pharma players from other countries have always been a force to reckon with in the Indian market for reasons historical and technological, amongst other things. Many multinational pharma companies, particularly of US and UK origin, have been prominent players in the Indian market.

The government's foreign direct investment (FDI) policy in respect of the pharma sector has been liberal with FDI being permitted up to 100 percent and changes are being witnessed in the domestic market as a result. A few Indian pharma businesses have been taken over by foreign players. Similarly, some leading Indian pharma players have taken over a few pharma businesses abroad. In a growing sector, such actions and counteractions in the form of takeovers or other corporate restructuring exercises are to be expected and the pharma sector can be no exception. The sector therefore is susceptible to any policy changes that the government or for that matter, the regulators may attempt, for various reasons.

### **Corporate Restructuring Exercises in the Pharma Sector**

The past two decades have witnessed a slew of changes in India - liberalization, privatisation, technological advancements, globalization, and sustainable development, to name only a few. Mergers and acquisitions (M&A) have turned out to be the commonest corporate restructuring exercise. Takeover has been a permanent feature in the corporate sector, though. But takeovers used to involve stable and profitable industries like steel, automobiles and banks. Over the past few years we have seen the trend shifting towards newer and more competitive sectors. The onset of the 21<sup>st</sup> century initiated a drift toward unexplored territories like the pharmaceutical sector.

In the last year of the decade, the world saw the biggest merger of this industry in the form of

the Pfizer buyout of Wyeth for a staggering USD 68 bn. The combined entity created one of the most diversified companies in the global health care industry. Operating through patient-centric businesses that match the speed and agility of small, focused enterprises with the benefits of a global organization's scale and resources, the combined entity will respond quicker and better to meet the changing health care needs. The combined entity will have product offerings in numerous growing therapeutic areas, a strong product pipeline, leading scientific and manufacturing capabilities and a premier global footprint in health care.

Further, takeovers -- such as the US drug maker Abbot Laboratories' takeover of Solvay Pharmaceuticals; mergers -- such as the merger of Novartis AG with Alcon Inc; acquisitions -- such as Japan's Takeda acquiring Nycomed were well received by the market. Other major global takeovers in the pharmaceutical sector are furnished in the following Table.

**Table-1: Major Global Takeovers in the Pharma Sector**

Sl No	Company (Acquirer)	Company (Target)	For Amount	Segment Involved
1.	Roche (Swiss)	Genentech (USA)	USD 46.8 bn	R&D, Cancer Drugs
2.	Daiichi Sankyo (Japan)	Ranbaxy (India)	USD 4.2 bn	Generic Drugs
3.	Fresenius Kabi (German)	Dabur Pharma (India)	INR 1000 Cr.	Oncology
4.	Abbot (USA)	Wockhardt (India)	USD 22.5 mn	Nutrition
5.	Merck (USA)	Schering Plough (USA)	USD 41.1 bn	Cardiovascular Meds

#### **The Flip Side of Global Takeovers**

Though global mergers have implications for markets, profitability and consumer base, they have their flip side too. Takeovers may lead to stifling of competition thereby leading to market monopoly. Patented drugs become available to the acquirer and the R&D concerning those drugs may also suffer in the process.

#### **Why the Indian Pharma Industry is a Favoured FDI Destination**

The Indian pharmaceutical industry is a favourite of M&A hunters. This is because takeovers represent beneficial in-house, quick growth strategies. The desire to gain a foothold in the market of another country is another major reason behind such mergers. Such transactions help the company save itself from the painstaking procedure of establishing a new entity in an alien country. Easy entry into a new market is a key driver of cross-border mergers. It helps companies save the significant time that may be needed to build a green-field business on a similar scale. At times M&A also serve as ego-enhancers of MNCs. Other factors associated with such transactions include lack of research and development, productivity, expiring patents and generic competition. The Indian pharmaceutical industry is known for its generics, cost effectiveness and competitiveness. The nature of diseases in India is varied and the market is ever expanding. Large global pharmaceutical companies aim towards establishing a low-cost base out of the country.

#### **Outward FDI**

Post the 100 percent FDI permit in pharma sector in India, a lot of inward FDI was witnessed. However the reverse, viz., outward FDI, has been abysmal, even with giants like Ranbaxy, Dr Reddy's and Sun Pharmaceuticals around. Some of the major outward FDIs are furnished in the following Table.

**Table-2: Outward FDI**

Sl.	Company	Company	For Amount	Segment
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No.	(Acquirer)	(Target)		Involved
1.	Biocon	Axicorp (German)	USD 30 million	Biosimilars
2.	Dr. Reddy's Labs	Trigenesis Therapeutics (USA)	USD 11 million	Speciality Drugs
3.	Wockhardt	Esparma (German)	USD 11million	Branded Generics
4.	Wockhardt	C. P. Pharmaceuticals (UK)	INR 83 crore	Healthcare Products
5.	Wockhardt	Negma Laboratories (France)	USD 265 million	R&D
6.	Wockhardt	Morton Grove Pharma (USA)	USD 38 million	Liquid Generics
7.	Zydus Cadilla	Alpharma (France)	5.5 million Euros	Formulation Business
8.	Ranbaxy	RPG Aventis (France)	USD 70 million	Generic Drugs
9.	Nicholas Piramal	Biosyntech (Canada)	USD 4.85mn	Regenerative-Heel Pain
10.	Sun Pharma	Taro (Israel)	USD 500mn	Generics and speciality therapy
11.	Cadila Healthcare	Quimica E Farmaceutica Nikkh	USD 26mn	Generic drugs

#### **FDI Inward – Driven by Synergies or Expediency?**

More MNCs have been acquiring Indian pharmaceutical companies, as already explained. They do so mainly to gain access to the generic drug market. Earlier, the lack of patent protection made the Indian market undesirable to the multinational companies that had dominated the pharmaceutical market. Once the multinational companies streamed out of the Indian market, the Indian domestic companies stepped in. They carved a niche for themselves in both the Indian and world markets with their expertise in reverse-engineering new processes for manufacturing drugs at low costs. Now the Indian companies face the threat of takeover under the new IPR regime which makes the product patents finally available to the Indian pharmaceutical industry. The advent of pharmaceutical product patent recognition in January 2005 changed the ground rules for Indian companies. In the run-up to the new post-patent era and since, the Indian industry has been evolving. R&D departments are moving away from reverse-engineering in favour of developing novel drug delivery systems and discovery research. This has resulted in the need for new investments and R&D. It also provides for compulsory licensing which allows countries to import cheaper generic versions of patented drugs in the interest of public health. This reduces the profitability of the Indian drug companies. A few more takeovers in the generic industry will lead to neutralization of India's generic revolution which in itself is a stumbling block to the Indian economy. The reason for such interest of foreign companies in the generic market is the strategy of the innovators to retain the innovation potential while acquiring huge generic potential.

The year 2009 saw the biggest merger in the generic market when Japan's third largest drug maker Daiichi Sankyo took over India's Ranbaxy Laboratories. Daiichi purchased 63.9 percent of the stake in Ranbaxy's for USD 4.2 billion. This was done by way of a tender offer, private placement of shares and purchase of outstanding shares from the founding family. The Japanese firm bought Ranbaxy, seeking to secure revenue over the longer run amidst intensifying competition and price pressure in the branded drug market globally.

According to Sarabjit Kaur Nangra-VP Research, Angel Broking, the deal was speculated to be a win-win for Ranbaxy and Daiichi Sankyo. Daiichi Sankyo would be able to leverage the low cost advantage offered by India complemented by a world-class infrastructure while Ranbaxy would benefit from the product pipeline of Daiichi. Frost and Sullivan remarked that Daiichi Sankyo would be amongst the largest generic manufacturers globally after the merger. The company would be a strong contender in the generic as well as innovator space.

However the Daiichi-Ranbaxy merger has sent out alarms in the pharmaceutical industry. In a letter to the department of pharmaceuticals, the Indian Pharmaceutical Alliance said that lack of available funding was the main reason for the recent spurt in the sale of stakes in domestic companies. It urged the government to fund R&D activities of the pharmaceutical companies in order to safeguard their businesses from takeovers.

Daiichi Sankyo's acquisition of Ranbaxy Laboratories Ltd was followed, two years later, by US-based Abbott Laboratories buying the healthcare solutions business of Mumbai's Piramal Healthcare Ltd for USD 3.72 billion. Abbott became India's largest pharmaceutical company in the process. Also, Aventis Pharma, which is headquartered at Mumbai but part of the Sanofi Group of France, signed a deal to acquire a unit of Mumbai-based Universal Medicare that markets and distributes branded health and nutritional products in India.

### **The Flip Side of FDI Inward**

Taking over of Indian companies by foreign firms will have an impact on the pricing of essential drugs, which will affect the poor people in rural areas. Though India had traditionally imposed controls on the cost of life-saving medications, the number of regulated drugs has come down from 347 in the 1970s to around 70 now. If largely multinational corporations are left in the industry, they could opt to collectively withdraw certain drugs from the market unless they are allowed a price hike. Secondly, Indian companies are concentrating their research on diseases that are of greatest concern to the Indian population. If multinationals take over, the thrust could well shift to Western lifestyle diseases.

For all these foregoing reasons and more the takeover trend has worried the Indian government and it has been imposing special restrictions through the regulations which affect the Indian pharma sector.

### **Regulatory Aspects of the Pharma Industry**

The regulatory regime in respect of mergers and acquisitions can be attributed to following laws:

1. The Companies Act, 1956.
2. The Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 1997
3. The Foreign Exchange Management Act, 1999.
4. The Competition Act, 2000

### **How the Law Hobbles the Restructuring Exercises through the Various Stakeholders**

While the Indian Companies Act 1956 usually governs mergers in India, international deals additionally involve compliance with the rules laid down under FEMA (Foreign Exchange Management Act, 1999) and the associated laws. Further, listed companies are also subject to the rules and regulations laid down by SEBI (The Securities and Exchange Board of India). In case of cross-border mergers, the Foreign Exchange Management (Transfer or Issue of Security by a Person Resident outside India) Regulations 2001 will be applicable. Although compliance with these rules and regulations seems easy, a lot of practical difficulties are faced during the actual application of those rules and procedures and a lot more if the merger is a cross-border one. According to Mr. Diljeet Titus, Titus and Titus Co., Delhi, there are often occasions when the interplay between SEBI regulations and those of FEMA can make it difficult for deals to be structured. There are numerous challenges faced by companies during cross-border mergers. A major obstacle is the legal disparity

between the two merging entities, since these companies follow statutes of different countries. Hence even if the merger is a friendly one, the legal disparity creates a major roadblock in structuring and finalizing the deal. Another issue is that of the complex legal set-up especially in the financial sector of any of the merged entities, thereby causing a problem in the decision-making processes.

Misuse of supervisory powers by the shareholder of the merged entity may also put the new business model at risk. There are other barriers like lack of funds, economical imbalance at the time of execution, political interference, shareholders' reluctance, labour issues, etc. Apart from this, there are extra costs which are incurred, like off-costs and on-going costs during any cross border merger which are absent in domestic mergers. Consumer protection rules, differences in employee legislations, different accounting systems, data protection directives and cross-border business policies employed in different countries could cause obstructions to cross border M&A and can escalate the cost. The share exchange mechanism also proves to be more expensive in case the two merged entities are listed in different stock exchanges. These fundamental intricacies of the cross border M&A make it a Byzantine deal. Cross-border mergers place Indian companies on the global map. Being a significant part of the global pharmaceutical sector will help the Indian companies to take further steps in maintaining the global pharmaceutical standards which would be beneficial for them in all segments including exports, increased profitability, increase in the R&D laboratories, funding received by the companies, increased number of patented products, expansion of their market share, etc. This in turn will be beneficial to the global pharma players as well since the cost effective techniques used by Indian companies and the huge market India provides to this sector can help enhance research and creation of newer and improved drugs. Although there always remains the risk of losing individual identity for such companies or exposing the industry to a threat of rampant takeovers, on the whole, mergers elevate the economic graph of the country.

#### **Help Desk on M&A Issues**

The technicalities involved in an M&A transaction are humongous and often fall apart midway. If SEBI and RBI (Reserve Bank of India) establish an effective legal cell to respond to questions raised by the parties to a merger on a timely basis, it can help make the M&A exercise less painful. Cross-border mergers in the Indian pharmaceutical industry are healthy only as long as they do not take away the innovation revolution ushered in by the Indian players.

#### **Regulatory Changes impacting the pharma industry**

The regulatory environment of India is undergoing significant changes. Indian companies could expect a massive phase of consolidation in the regulatory environment under which they operate. Introduction of new guidelines by the Competition Commission of India (CCI) and Securities and Exchange Board of India (SEBI), could ring in radical changes in the M&A dynamics.

#### **The New Takeover Code**

The government and the regulators have revamped the takeover code, technically called, the "Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 1997". The revamp was based on the recommendations submitted by the Committee headed by Mr. C Achuthan, former Chairman of the Securities Appellate Tribunal. The committee submitted its recommendations to SEBI on July 19, 2010. Some of the recommendations of the committee have been accepted in toto and some partly. Yet some have been rejected / ignored.

#### **Accordingly:**

- ✓ Threshold limit for open offer trigger raised from 15% to 25%. This enables acquisition of a higher stake without having to comply with the open offer process.
- ✓ Minimum open offer size increased to 26% from 20%. This provides an exit to higher number of shareholders.

#### **Modification of the Pharma FDI Regime**

Earlier, 100% FDI was permitted in the pharmaceutical sector without any Government approval

being required. This has been changed as follows:

- ✓ FDI up to 100% is permitted for greenfield investments in the pharmaceuticals sector, without approval.
- ✓ FDI up to 100% is permitted for brownfield investments (i.e. investments in existing companies), under the Government approval route.

#### **Withdrawal of the Requirement of Prior Approval under Press Note 1 of 2005 (2011)**

Earlier, prior FIPB approval was required where the foreign investor had an existing joint venture, technology transfer or trade mark agreement in the same. Typically an NoC from the existing Indian partner was required. This has now been removed.

#### **Impact of the New Regulations on the Pharma Sector**

Clearly, all the foregoing regulations have impacted the market sentiment. The Indian M&A landscape is witnessing some key trends in recent times, which are set out below:

- ✓ While the total M&A deal value was USD 62 billion (971 deals) in 2010, it was USD 54 billion (1026 deals) in 2011. In the first four months of 2012, deals worth USD 23 billion (396 deals) were signed. This goes to show that the new regulations have been well received by the M&A hunters in the sector.
- ✓ A clear trend that is emerging now is the strategic shift in the behavioural pattern of Indian entrepreneurs. They are now more willing to sell a part or whole of their stake to exit their businesses in favour of foreign players. Attractive valuations from foreign players, given the significant growth opportunity in India, are prompting Indian entrepreneurs to evaluate exits. This trend is expected to continue. Successful exits by the Indian promoters of Daiichi-Ranbaxy and Abbott- Piramal are good examples.
- ✓ Given the significant levels of M&A deals in the pharma sector in the last four years, the Maira Committee was constituted to examine the FDI Policy in pharma. The committee recommended giving more teeth to the CCI in allowing M&A in the pharma sector and not changing the FDI limit. The Indian government has accepted the recommendations and this is a positive step. This will streamline the foreign acquisition of Indian pharma companies. Hence FDI in pharma sector is subject to approval of Competition Commission of India (“CCI”) now.

#### **Compulsory Licensing and its Impact on the Indian Pharma Sector**

Compulsory licensing has been in the news in the country for all the wrong reasons. Under compulsory licensing, the owner of a patent or copyright can use the patent without seeking the patent holders consent by paying the patent holder a set fee for the license. In many countries the compulsory license is specified by the local law but may be subject to negotiation.

#### **Compulsory Licensing Provisions in India**

In India, compulsory licensing is covered by Section 84 of the Indian Patents Act, which states that after expiration of three years a patent holder can make an application to the Controller for grant of compulsory license on patent on any of the following grounds:

- (a) Reasonable requirements of the public with respect to the patented invention have not been satisfied, or
- (b) Patented invention is not available to the public at a reasonably affordable price, or
- (c) Patented invention is not worked in the territory of India

#### **India's First Attempt at Invoking Compulsory Licensing Provisions**

In March, India, for the first time, invoked the provisions of the compulsory licensing regime. It allowed Natco Pharma to legally make and sell a low-cost version of the cancer drug *Nexavar* at 3 percent of the original medicine's price on grounds that the INR 2.8 lakh charged by the German drug maker Bayer, for a month's dosage was too high for patients in India.

The order was logically sound. After a three-day hearing, the Controller General (CG) ruled in

favour of Natco on all counts and issued a license in the company's favour. Natco is free to manufacture and sell the generic version of *Nexavar* (a kidney/liver cancer drug that goes by the generic name of *Sorafenib Tosylate*), but will have to pay a six percent (6%) royalty on net sales to Bayer. Further, it can charge only INR 8,800 for a monthly dose of the drug.

This case might become a trend-setter in the country. As a result, generic players can make copies of patented products while global giants might sulk over it. Generic companies will benefit and so will the laity. This landmark judgment may affect the M&A activity in the pharma sector because global pharma companies will be concerned over the protection of their intellectual property. One must wait and watch.

### **Looking Forward**

The growing Indian pharma sector has offset the continuing concern posed by regulatory challenges and intellectual property rights. This has given confidence to international pharma companies to seek opportunities in the country. As the pharma industry enters its next and possibly the defining phase of growth, it should look for improvement in the following areas:

- ✓ There is no mechanism to regulate the prices of new, imported patented drugs. International price benchmarks should be used in such cases to limit the price of the imported drug by comparing its price with the price of the same drug in other countries. This will check the huge profits made by importers by selling imported molecules in the country.
- ✓ The in-house manufacturing capability of the pharma companies in the country must be exploited. The government should make all-out efforts to arrest the trend of unfair acquisition of domestic pharma companies by foreign investors.
- ✓ During the next five-year period (2010-2014), revenues from drugs whose patents will expire are about USD 89.5 billion. Pharma companies should be helped through the policy mechanism to manufacture cost-effective and quality generic drugs. This will help in meeting the requirements of the country's public health sector. It will also make the pharma units less vulnerable to takeovers.
- ✓ It is well known that lower wage outflows, lower salary payouts and lower overheads in general have rendered the Indian pharma industry cost-effective. But it is seldom recognised that technology-driven strategies have also been helping the Indian pharma sector to achieve cost-effectiveness.
- ✓ Some players have succeeded in developing novel delivery systems although they are only a few in number. However, a beginning has been made and given the competition, it is likely to spur other players into action.
- ✓ However, discovery research is one area where the Indian pharma sector is yet to make its presence felt. Most players have not taken it up with the seriousness it deserves and often they tend to make do with low-end products which generate wafer-thin margins. Such products could adversely affect the operations of the unit in question at the slightest provocation. For example, even a slight appreciation in the home currency, viz., the INR, could make all the difference between profit and loss in the case of the said pharma units.
- ✓ To catalyse investment in their R&D efforts, the pharma sector should not expect too much from the government. While the government has to contribute its mite in the form of fiscal sops, etc., the pharma units should also stick their neck out to some extent given that they are into entrepreneurial activities. There is nothing wrong with their demand, amongst other things, that their intellectual property should be adequately protected by the government of the day or that the government should invest heavily in the enabling infrastructure. However, when it comes to investment in R&D, it is the units themselves which should take the lead and expect the government to supplement their R&D efforts in the only way it can.



- ✓ Compulsory licensing has not particularly displeased the pharma industry. However, the industry hopes that the compulsory licensing regime would be motivated only by genuine reasons.

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### नालन्दा: ऐतिहासिक शिक्षण पध्दति का गौरव

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प्राचीन शिक्षा संस्थाओं और केन्द्रों के सुव्यवस्थित सुनियोजित एवं सुविकसित स्वरूप ने ही शोधकर्ता को अपनी ओर आकर्षित किया है। इसी आकर्षण को लेकर वह उन प्राचीन शैक्षिक तथ्यों को ढूढने का प्रयत्न करता है जिसमें प्राचीन भारतीय समाज एवं उनके समृद्धि के सम्बर्धन में अविस्मरणीय योगदान दिये थे।

प्राचीन शिक्षण संस्थाओं एवं केन्द्रों की वस्तुस्थिति को प्रकट करने के लिए उसका ऐतिहासिक विवेचन आवश्यक हो जाता है। इसके अभाव में शैक्षिक तथ्यों का ज्ञान तो अवश्य प्राप्त किया जा सकता है, किन्तु शैक्षिक घटनाक्रमों का क्रमबद्ध ज्ञान नहीं प्राप्त होता। इसी क्रमबद्ध ज्ञान के उद्देश्य से ही प्राचीन शिक्षा संस्थाओं एवं केन्द्रों के इतिहासपरक विवेचन का आयाम किया गया है।

#### नालन्दा :

मगध में नालन्दा का महाविद्यालय शिक्षा का बहुत ही ख्यातिलब्ध केन्द्र था। यह बिहार प्रान्त के अन्तर्गत पटना से लगभग पचास मील की दूरी पर है तथा राजगीर से सात मील उत्तर की तरफ स्थित है। अत्यन्त प्राचीन काल में नालन्दा बौद्ध धर्म का प्रमुख केन्द्र था। नालन्दा के प्रमुख वन में रहकर भगवान बुद्ध ने अनेक धर्मोपदेश दिये थे। बुद्ध के प्रमुख शिष्य सारिपुत्र का जन्म यहीं पर हुआ था। नालन्दा महाबिहार की स्थापना गुप्तवंशी सम्राट कुमार गुप्त (४१५-४५५ ई०पू०) ने की थी। यथापि कुमारगुप्त से पूर्व ही नालन्दा शिक्षाका केन्द्र था।

कुमार गुप्त के बाद के अन्य गुप्तवंशीय सम्राटों ने भी नालन्दा में बहुत से भवन बनवाये तथा शिक्षकों एवं विद्यार्थियों के लिए व्यय हेतु विपुल सम्पत्ति अर्पित की। कहा जाता है कि सम्राट अशोक जब सारिपुत्र का चैत्य देखने नालन्दा आए तो उन्होंने एक विशाल बनवाया था। जिससे अशोक को नालन्दा का प्रथम संस्थापक भी माना गया।

विद्या केन्द्र के रूप में नालन्दा का इतिहास लगभग ४५० ई. से प्रारम्भ होता है, क्योंकि चार सौ दस में फह्यान ने इसका वर्णन शिक्षा केन्द्र के रूप में नहीं किया है। किन्तु अन्य विद्वानों ने नालन्दा को विद्या केन्द्र के रूप ४०० ई. से माना है। श्री बारानाथ के अनुसार नालन्दा के आचार्य अर्थदेव नार्गाजुन के शिष्य थे नागार्जुन का समय यद्यपि निश्चित नहीं हुआ है, फिर भी इतिहासकार इनका समय ४०० ई. मानते हैं।

नालन्दा विश्वविद्यालय का भवन :

उत्खनन द्वारा ज्ञात हुआ है कि नालन्दा विश्वविद्यालय में भवनों की स्थिति अत्यन्त भव्य थी। इसका विस्तार लगभग एक मील लम्बा तथा आधा मील चौड़ा था। नालन्दा में बने बौद्ध बिहार का निर्माण एक योजनानुसार, पूर्व निश्चित धारणनुरूप पंक्तिबद्ध ढंग से किया गया था।

विद्यालय से सम्बद्ध सात बृहदाकार व्याख्यान कक्ष तथा सामान्य रूप के लगभग ३०० अन्य कक्ष थे। इन कक्षों में भी अध्यापन का कार्य होता था। एक यात्री हवोई - लो ने अपने वृत्तान्त में लिखा है कि नालन्दा के भवन इतने उंचे थे कि आकाश के बादलों का परिवर्तन कोई भी व्यक्ति उस पर चढ़कर आसानी से देख सकता था। विद्यालय भवन के अतिरिक्त छात्रावास, अध्यापकावास तथा पुस्तकालय का भवन १० मंजिला था, जिसकी उंचाई लगभग ३०० फुट थी। (फलक क्र.१, चित्र सं.१)

#### पुस्तकालय :

नालन्दा के पुस्तकालय भवन की भव्यता ही उसके महत्व का प्रतिपादित कर देता है। नालन्दा में विविध ज्ञान विज्ञान में रत्न अन्वेषक अध्यापको तथा छात्रों के लिए एक विशाल पुस्तकालय था। पुस्तकालय के स्थल का नाम धर्मगंज रखा गया था। विशालता के कारण पुस्तकालय को तीन भागों में विभाजित कर दिया गया था। (१) रत्न सागर (२) रत्नोदधि (३) रत्नरंजक अकेला रत्नोदधि मान अपनी नौ मंजिलों में धर्म ग्रन्थों के संग्रह से भरा हुआ था 'इत्सिंग द्वारा नालन्दा में रहकर यहां से धर्म का प्रामाणिक पुस्तकों की एकत्रित कर चीन ले जाने का विवरण प्राप्त होता है। नालन्दा में उसने लगभग चार सौ ग्रन्थों का संग्रह किया जिनके श्लोकों की संख्या पांच लाख थी। इन पुस्तकों को वह चीन ले गया।

#### छात्रावास :

आवासीय लगभग १३ विहार उत्खनन में प्राप्त हो चुके हैं। छात्रावास के भवन दो मंजिल के अवश्य थे। इनमें बने कक्षों में एकल तथा युगल आवासीय व्यवस्था थी। प्रत्येक छात्रावास में जलकूप की पृथक व्यवस्था थी। भिक्षुओं को प्रवेश क्रमानुसार छात्रावासों में रहने के लिए कक्षों का आवंटन किया जाता था। आवंटन की प्रक्रिया प्रतिवर्ष प्रवेशानुसार पूर्ण की जाती थी। चीनी यात्री इत्सिंग (६७५ ई.) के नालन्दा निवास के समय नालन्दा में ३००० विद्यार्थी छात्रावास में रहकर अध्ययन करते थे।

#### भोजन :

छात्रों की इतनी बृहद संख्या से यह सहज अनुमान लगाया जा सकता है कि छात्रावास में पाठशाला की अच्छी व्यवस्था रही होगी। छात्रावास में भोजन पकाने के लिए विहार की ओर से निर्धारित कर्मचारी रहते थे। नालन्दा में विद्यार्थियों को भोजन के लिए दाल तथा चावल मिलता था। ह्वेनसांग ने लिखा है कि जब तक वह नालन्दा में रहा, उसे प्रतिदिन मधुशाली चावलों का एक निश्चित परिणाम २० युग एक सौ बीस जम्बीर मिलते रहे। इसके साथ ही तेल, घी और अन्य पदार्थ भी निश्चित मात्रा में उसे प्रतिमास दिये जाते रहे। (फलक क्रमांक २, चित्र सं. २)

#### स्वरूप एवं संगठन :

नालन्दा विश्वविद्यालय बौद्ध धर्म का प्रसिद्ध केन्द्र था। इस विश्वविद्यालय में एक भव्य बौद्ध मंदिर था, जिसमें २४ मी० उंची विशाल बौद्ध प्रतिमा थी। चीनी यात्री ह्वेनसांग ने उसे देखा था नालन्दा विश्वविद्यालय का शैक्षिक स्वरूप अत्याधिक व्यवस्थित था। यहां के नियम अत्यन्त कठोर थे और यहां के निवासियों को इसका पालन करना अनिवार्य था।

नालन्दा में सम्पूर्ण प्रबन्ध करने वाले भिक्षु को महास्थविर कहा जाता था। इसके सहयोग के लिए शैक्षिक एवं सामान्य प्रबन्ध विषयक दो परिषदें हुआ करती थी। नालन्दा का प्रबन्ध प्रशासन धार्मिक सहिष्णुता से परिपूर्ण था। इत्सिंग के अनुसार नालन्दा महाविहार का प्रबन्ध लोकतंत्रीय आधार पर निर्धारित था। छात्रों को सम्पूर्ण शैक्षिक नियमों को पूर्ण आस्था के साथ

समान रूप से स्वीकार करना पड़ता था।

#### विद्यार्थी :

नालन्दा महाविहार में इत्सिंग के समय लगभग ३००० विद्यार्थी थे। युवाङ्गच्यांग के जीवनी लेखक ने सातवीं शताब्दी के मध्य विद्यार्थियों की संख्या दस हजार बताया है। किन्तु युवाङ्ग गच्यांग ने केवल इतना ही कहा है कि नालन्दा में कई हजार विद्यार्थी थे। ह्वेनसांग के विवरण में भी यहां के आचार्यों एवं विद्यार्थियों की संख्या मिलकर दस हजार से अधिक का उल्लेख है।

नालन्दा में ज्ञान-विज्ञान का विशेष केन्द्र होने के कारण देश विदेश से अनेक छात्र यहाँ शिक्षा प्राप्त करने के लिए आते थे। ह्वेनसांग एवं इत्सिंग के अतिरिक्त अन्य विदेशी विज्ञान नालन्दा में आकर शिक्षा ग्रहण किये। भ्रमण हियेनविन सातवीं सदी में नालन्दा आकर तीन वर्ष रहा, उसका भारतीय नाम प्रकाशमणि था। कोरिया के एक भिक्षु “आर्यवमन” तथा चीनी भिक्षु “चैहांग” ने अनेक वर्षों तक नालन्दा में रहकर अध्ययन किया। नालन्दा में विदेशी विद्यार्थियों की यह परम्परा बहुत समय तक जारी रही।

#### प्रवेश :

नालन्दा में प्रवेश के लिए छात्रों को बहुत कठोरता का सामना करना पड़ता था। स्थिती बृद्धि के कारण नालन्दा में प्रवेशार्थियों की विशाल प्रशिक्षण विद्यार्थी होती थी। यहां प्रवेश के लिए द्वार पंडित परीखा लेता था। विद्यार्थी के प्रवेश के प्रथम शर्त इसमें उत्तीर्णता थी। ह्वेनसांग के अनुसार ३० प्रतिशत से अधिक छात्र इस परीक्षा में उत्तीर्ण नहीं हो पाते थे।

#### शिक्षण पद्धति एवं पाठ्यक्रम :

नालन्दा में शिक्षण की मुख्य पद्धति व्याख्यान थी। आचार्य लोग व्याख्यान देते थे एवं उसी से शिष्य ज्ञानार्जन करते थे। इसके अतिरिक्त मौखिक तथा पुस्तक विधि एवं व्याख्या विधि का भी प्रयोग शिक्षण के लिए किया जाता था। एक अन्य प्रभावशाली शिक्षण विधि अध्ययनाध्यापन में प्रचलित थी, जिसे शास्त्रार्थ विधि के नाम से जाना जाता है। कुछ विशेष विषयों पर शास्त्रार्थ का आयोजन होता था।

नालन्दा में ब्राह्मणीय एवं बौद्ध दोनों प्रकार की शिक्षाओं का अध्यापन होता था। सम्पूर्ण अध्ययन उच्च श्रेणी के थे, इनके अतिरिक्त वेद, हेतू विद्या, शब्द विद्या, चिकित्सा विद्या, संख्या विद्या, मंत्रविद्या, योगशास्त्र आदि का भी अध्यापन होता था। ह्वेनसांग ने नालन्दा में रहकर योगशास्त्र का अध्ययन किया था।

#### नालन्दा के शिक्षक :

नालन्दा के विद्वान अत्याधिक ख्यातिलब्ध थे। यहां के आचार्यों के पंडितत्व की ख्याति दिग दिगन्त तक प्रसारित थी। युगाङ्गच्यांग के अनुसार यहां के प्रगाढ विद्वान विनय के अहर्निश तल्लीन रहते थे। विश्वविद्यालय में पंडितों और विद्वान पंडितों के नाम प्रवेश के मुख्य द्वार पर श्वेताक्षरों में लिखित होता था। स्वयं नालन्दा के कुलपति जिन्हे महास्थिविर कहा जाता था अपने पाण्डित्य के लिए विख्यात थे। इनके अतिरिक्त धर्मपाल, इन्द्रपाल, तथागत शिक्षाओं के प्रसिद्ध विद्वान थे।

आठवीं शताब्दी के एक लेख से ज्ञात होता है कि शास्त्र प्रगाढ पंडितों के कारण नालन्दा तत्कालीन सभी नागरिकों का उद्धार करती थी। जावा और सुमात्रा के राजा बलपुत्रदेव ने यहां के विद्वानों से प्रभावित होकर विपुल सहयोग प्रदान किया था।

#### नालन्दा की ख्याति :

भगवान बुद्ध के ही समय से नालन्दा एक प्रिय नगर था। यहां महावीर स्वामी का जैन तीर्थ का भी स्थान था। अशोक का तृतीय संगीति के अवसर पर बहिष्कृत सर्वास्तवादियों का प्रमुख केन्द्र नालन्दा बन गया था। धार्मिक सहिष्णुता के कारण नालन्दा सभी धर्मों के लिए समान आदरणीय था। महावीर स्वामी, भगवान बुद्ध दोनों का आना जान नालन्दा में देखा गया। अन्य विदेशी विद्वानों ने नालन्दा की ख्याति से प्रभावित हो यशोवर्धन किया है। फाहियान ने यद्यपि नालन्दा चर्चा नहीं की है। अपने

लगभग सात सौ वर्ष के स्वर्णिम इतिहास में इस शिक्षा केन्द्र ने विद्या देवी की सेवा कर कितनी ख्याति अर्जित की होगी इसका अनुमान स्वतः लगाया जा सकता है।

#### नालन्दा विश्वविद्यालय का पराभव :

ग्यारहवीं शताब्दी में विक्रमशिला विश्वविद्यालय की स्थापना हो जाने के कारण नालन्दा की कीर्ति कुछ मन्द पड़ने लगी एवं उसमें हास के चिन्ह उभर आये। बाद में मोहम्मद वियखित्चार खिलजी द्वारा बिहार पर आक्रमण किये जाने के कारण यह शिक्षा केन्द्र सम्पूर्णतः नष्ट हो गया। उसने या तो भवन जला दिया गया एवं पुस्तकालय जला कर राख कर दिया। इस प्रकार नालन्दा शिक्षा केन्द्र सम्पूर्ण रूप से समाप्त हो गया। विद्वानों ने इस विश्वविद्यालय की तुलना विश्व के महान विश्वविद्यालयों से की।

इस तरह ज्ञान प्रयोगों जो युगों तक प्रकाशित रहा, अध्यात्मिक पवित्र एवं योग्य मानव जीवन को प्रोत्साहन प्रदान किया तथा अनेक छात्र जो इसके चरणों में रहकर इसकी पदधूलि पाकर ज्ञानी बन गौरव रक्षा करते रहे सदैव के लिए झुक गया।

#### आधुनिक स्थिती :

भारतीय इतिहास और बुद्ध शिक्षा के महत्व को देखते हुए पूर्व एशिया ने नालन्दा विश्वविद्यालय के उत्थान के लिए एक संगोष्ठी स्थापित की तथा इसमें प्राचीन चाइना, प्राचीन भारतीय शिक्षा व बुद्ध शिक्षा को महत्व देने के लिए नालन्दा विश्वविद्यालय को पुनस्थापित किया जा रहा है। जिसमें भारत, चाईना, थाईलैण्ड आदि देशों ने सहायक राशि प्रदान की है।

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**फाटलेक प्रशिक्षणाचा १२ ते १४ वयोगटातील खो-खो खेळाडूंच्या गती,दमदारपणा,  
दिशाभिमुखता व कौशल्य क्षमता यांवर होणाऱ्या परिणामाचा प्रायोगिक अभ्यास**

डॉ. मनोहर म. माने: व्याख्याता, शारीरिक शिक्षण विभाग, मुंबई विद्यापीठ, मुंबई.

सौ. प्रणाली प्र.चुरी: शारीरिक शिक्षण शिक्षक,मुंबई.

**Abstract :**

खो-खो खेळात गती,दमदारपणा व दिशाभिमुखता या शारीरिक क्षमतांच्या घटकांची गरज ही महत्वाची असते यावरच खेळाचा विकास अवलंबून असतो यासाठी खालील काही विशिष्ट उद्दीष्टे डोळ्यासमोर ठेवून हा अभ्यास पूर्ण करण्यात आला. संशोधकाने या अभ्यासासाठी एकलव्य रेसिडेन्शन स्कूल, डहाणू येथील 12 ते 14 वयोगटातील 40 खो-खो मुलांची निवड केली.घटकांना दोन सारख्या (20-20) गटात विभागून एका गटाला आठ आठवड्यांचे निवडक फाटलेक व्यायाम प्रकाराचे प्रशिक्षण देण्यात आले. दोन्ही गटाच्या pre test व post घेऊन तथ्य संकलन करून 'टी' टेस्ट द्वारे तथ्यांचे विश्लेषण केले. आठ आठवड्यांच्या या प्रायोगिक अभ्यासामध्ये अंतर्भूत करण्यात आलेले फाटलेक प्रशिक्षण व्यायाम प्रकार हे खो-खो खेळाडूंची गती, दमदारपणा व दिशाभिमुखता या योग्यतांचा विकास करण्यास उपयुक्त आहेत. खो-खो खेळाडूंच्या रिंग गेम ह्या कौशल्य क्षमतेचा विकास करण्यासाठी हे निवडक फाटलेक प्रशिक्षण व्यायाम प्रकार उपयुक्त आहेत.

**प्रस्तावना :**

आज अनेक खेळ शालेय स्तरापासून आंतरराष्ट्रीय स्तरावर खेळले जातात. या खेळांचा प्रसार करण्यासाठी व खेळांच्या विविध स्पर्धा मधून आपले, आपल्या राज्याचे व देशाचे श्रेष्ठत्व सिद्ध करण्यासाठी व खेळ शास्त्रशुध्द व तंत्रशुध्द होण्याकडे प्रत्येकाचा कल वाढला आणि विविध प्रशिक्षण पध्दती ह्या खेळाच्या विकासासाठी अस्तित्वात आल्या. या विविध प्रशिक्षण कार्यक्रमाद्वारे त्या त्या खेळासाठी लागणाऱ्या शारीरिक क्षमतांच्या घटकांत व क्रीडा कौशल्याचा विकास केला जातो व खेळाची प्रदर्शन क्षमता वाढविली जाते. खो-खो हा भारतीय खेळांमधला सर्वश्रेष्ठ वेगवान खेळ आहे खो-खो हा संपूर्ण शरीराला व्यायाम देणारा असा खेळ आहे. या खेळात वेगाबरोबरच ताकद,जोम,चपळता,उत्साह, निर्णयक्षमता,संघभावना आणि आनंद असे सर्व प्रकार अनुभवायला मिळतात. या खो-खो खेळाची गरज फार मोठी नाही. थोडी मोकळी जागा, दोन लाकडी खुंट व खेळण्यासाठी खेळाडू अशी तुटपुंजी आवश्यकता असणारा हा खेळ भारताच्या कानाकोपऱ्यात,खेडोपाडी मोठ्या

उत्साहाने खेळला जातो.

खो-खो सांघिक खेळ असल्याने सांघिक खेळाचे सर्व फायदे या खेळापासून मिळतात. खो-खो खेळामुळे विविध शारीरिक घटकांचा विकास तसेच क्रिडा कौशल्यांचा विकास बरोबरच या खेळामुळे खेळाडूंच्या अंगी विविध चांगल्या गुणांचाही विकास होतो. जसे शिस्त,खिलाडूवृत्ती,सहकार्य भावना, संघभावना, नेतृत्वगुण इ.

**संशोधनाशी निगडीत काही संकल्पना :** फाटलेक प्रशिक्षण,गती,दमदारपणा,दिशाभिमुखता,कौशल्य

**समस्या कथन :** खो-खो हा गतिमान खेळ आहे. या खेळात गती हा घटक अत्यंत महत्वाचा असतो. त्याचबरोबर दमदारपणा, दिशाभिमुखता व कौशल्य क्षमता हे घटकही खेळाच्या उच्च प्रदर्शनासाठी व खेळाच्या विकासासाठी तितकेच महत्वाचे असतात म्हणून,संशोधकाने

“फाटलेक प्रशिक्षणाचा 12 ते 14 वयोगटतील खो-खो खेळाडूंच्या गती,दमदारपणा, दिशाभिमुखता व कौशल्य क्षमता यांवर होणाऱ्या परिणामाचा प्रायोगिक अभ्यास“, हा अभ्यास विषय निवडला आहे.

**गरज व महत्व :**

खो-खो खेळात गती,दमदारपणा, दिशाभिमुखता व कौशल्य क्षमता या शारीरिक क्षमतांच्या घटकांची गरज ही महत्वाची असते. या घटकांवरच या खेळाचा पाया उभारलेला आहे. शारीरिक क्षमतांच्या या घटकांबरोबरच विविध कौशल्य चांगल्याप्रकारे करण्याच्या खेळाडूंच्या क्षमतेवर या खेळातील यश अवलंबून असते. फाटलेक प्रशिक्षण कार्यक्रमाद्वारे या घटकांच्या विकासात व क्रीडा कौशल्यात काय फरक पडतो हे पाहण्यासाठी या विषयावर संशोधन करण्याची गरज आहे असे वाटते. फाटलेक प्रशिक्षण पध्दत शिक्षक, प्रशिक्षक व क्रीडा मार्गदर्शक खो-खो खेळाच्या विकासासाठी प्रभावीपणे उपयोगात आणू शकतील.

**समस्येची उद्दीष्ट्ये:**

- १) फाटलेक प्रशिक्षणामुळे खो-खो खेळाडूंच्या गती,दमदारपणा व दिशाभिमुखता या शारीरिक क्षमतांच्या घटकात झालेल्या विकासाचे परिक्षण करणे.
- २) खो-खो खेळाडूंच्या कौशल्य क्षमतेवर झालेल्या परिणामांचा अभ्यास करणे.
- ३) खो-खो खेळाडूंच्या शारीरिक क्षमतांच्या घटकांत व कौशल्य क्षमतेत वाढ करण्यासाठी फाटलेक प्रशिक्षण कार्यक्रमाची आखणी करणे.

**समस्येची स्वयंमर्यादा:**

या अभ्यासाची व्याप्ती ही खूप विस्तृत आहे. परंतु अल्पकाळात व्याप्तीच्या सर्वच क्षेत्राचा अभ्यास करणे संशोधकाना शक्य नाही. म्हणून संशोधकाने हा अभ्यास खालील घटकांपुरता मर्यादित केला होता.

- १) हा अभ्यास गती,दमदारपणा, दिशाभिमुखता व खो-खो कौशल्य क्षमता या घटकांच्या विकासात्मक परिणामापुरता मर्यादित होता.
- २) हा अभ्यास 12 ते 14 वयोगटातील खो-खो मुले यापुरता मर्यादित होता.
- ३) हा अभ्यास निवडक फाटलेक व्यायामांच्या प्रशिक्षणापुरता मर्यादित होता.
- ४) हा अभ्यास आठ आठवड्यापुरता मर्यादित होता.

**समस्येची मर्यादा:**

- १) प्रायोगिक गटातील खेळाडूंच्या आहार,सवयी,दैनंदिनी यावर नियंत्रण ठेवणे अशक्य असते.
- २) प्रयोगात सहभागी झालेल्या खेळाडूंचा नियमितपणा, शिस्त व प्रमाणिकपणा यावर नियंत्रण ठेवणे अशक्य असते.

- ३) प्रशिक्षण कार्यक्रम दरम्यान हवामानातील निरनिराळ्या बदलांवर नियंत्रण ठेवणे कठीण असते. जसे तापमान, वातावरणातील दाब, हवेतील आद्रता इ.

#### गृहितकृत्ये :

- १) फार्टलेक प्रशिक्षणामुळे खो-खो खेळाडूंच्या गती,दमदारपणा, दिशाभिमुखता व शारीरिक क्षमतेच्या घटकात प्रगत बदल होणार नाही.
- २) फार्टलेक प्रशिक्षणामुळे खो-खो खेळाडूंच्या रिंग गेम या क्रीडा कौशल्यात प्रगत बदल होणार नाही.

#### संशोधन पध्दती :

खो-खो खेळात गती,दमदारपणा, दिशाभिमुखता व कौशल्य क्षमता यांच्या विकासामध्ये फार्टलेक प्रशिक्षणाची उपयुक्तता स्पष्ट करण्यासाठी शास्त्रीय प्रमाण गोळा करणे हा या अभ्यासाचा हेतू होता.

#### संशोधनाचा आराखडा

या अभ्यासासाठी संशोधकाने प्रायोगिक पध्दत वापरली होती. यादृच्छिक पध्दतीने दोन समान गटात घटकांची विभागणी करून एक प्रायोगिक व दुसरा नियंत्रित गट मानण्यात आला. स्वतंत्र व परायत्ता चलांची निवड करून प्रायोगिक गटाला आठ आठवड्यांचे फार्टलेक ट्रेनिंग देण्यात आले.

#### नमुना निवड

या अभ्यासासाठी संशोधकाने खो-खोचा नियमित सराव करणाऱ्या व शाळेतील अंतर्गत खो-खो स्पर्धेत भाग घेणाऱ्या एकलव्य रेसिडेन्शाल स्कूल,डहाणू येथील 12 ते 14 वयोगटातील 40 मुलांची यादृच्छिक पध्दतीने नमुना म्हणून निवड केली. हा वयोगट निवडण्याचे मुख्य कारण म्हणजे शारीरिक दृष्ट्या हा वयोगट सज्जान असतो.

#### चलांची निवड ( Selection of Variables)

उपलब्ध मासिके, पुस्तके, संशोधन प्रबंध आणि मुंबई विद्यापीठाच्या शारीरिक शिक्षण विभागाचे ग्रंथालय येथील संबंधित संदर्भ साहित्यांचा अभ्यास करून, तसेच या क्षेत्रातील तज्ञ व मार्गदर्शक यांच्या सल्ल्याने स्वतंत्र व परायत्ता चलांची निवड करण्यात आली.

#### स्वतंत्र चल (Independent Variables)

फार्टलेक प्रशिक्षण पध्दतीच्या सात व्यायाम प्रकारांचा एक संच या अभ्यासासाठी स्वतंत्र चल म्हणून निवडण्यात आला. या संचातील व्यायाम प्रकारांची निवड ही तज्ञ व मार्गदर्शकांच्या सल्ल्याने करण्यात आली. ती खालील प्रमाणे.

- १) एकाच नियमित गतीत धावणे
- २) जलद चालणे
- ३) सुलभ धावताना वेगात धावणे
- ४) स्लो जॉगिंग
- ५) हील रनिंग
- ६) चालणे
- ७) एकाच गतीत वेगात धावणे

#### परयत्ता चल ( Dependent Variables)

या अभ्यासासाठी संशोधकाने शारीरिक क्षमतेच्या व कौशल्य क्षमतेच्या खालील घटकांची निवड केली.

- १) गती
- २) दमदारपणा (हृदयनाडी क्षमता)



- ३) दिशाभिमुखता  
४) खो-खो कौशल्य क्षमता

### कसोट्यांची निवड

उपलब्ध संदर्भ साहित्यांचा अभ्यास करून, मार्गदर्शक व तज्ञांच्या सल्ल्याने परायत्ता चलांच्या मापनासाठी खालील कसोट्यांची निवड करण्यात आली.

<b>परिक्षण घटक</b>	<b>शारीरिक योग्यता कसोटी</b>
गती	30 मीटर डॅश टेस्ट
दमदारपणा (हृदयनाडी क्षमता)	12 मिनिट रन अॅण्ड वॉक टेस्ट
दिशाभिमुखता	4 × 10 मीटर शटल रन टेस्ट
<b>परिक्षण घटक</b>	<b>खो-खो कौशल्य कसोटी</b>
खो-खो कौशल्य क्षमता	रिंग गेम टेस्ट

### ★ संशोधन प्रक्रिया

या अभ्यासासाठी संशोधकाने एकलव्य रेसिडेन्शियल स्कूल, डहाणू येथील 40 खो-खो मुलांची निवड केली. नमुना निवडीनंतर सर्व घटक दोन समान गटात (20-20) विभागले. त्यातील 'अ' गट प्रायोगिक व 'ब' गट नियंत्रित म्हणून मानण्यात आला.

फाटलेक प्रशिक्षणामुळे खो-खो खेळाडूंच्या गती, दमदारपणा, दिशाभिमुखता व शारीरिक क्षमता यावर होणारा परिणाम अभ्यासण्यासाठी प्रायोगिक गटाला आठ आठवडे असे आठवडयातून तीन दिवस निवडक फाटलेक व्यायाम प्रकारांचे प्रशिक्षण देण्यात आले. त्या दरम्यान नियंत्रित गटाला खो-खो च्या नियमित सरावा व्यतिरिक्त इतर कोणतेही प्रशिक्षण दिले नाही.

प्रशिक्षण सत्राच्या सुरवातीला व प्रशिक्षण सत्राच्या समाप्ती नंतर प्रायोगिक व नियंत्रित गटाची Pre test व Post test घेऊन तथ्य संकलन करण्यात आले.

### ★ तथ्य संकलनाची पध्दत

प्रत्यक्षात परिक्षण कसोट्यांची सुरवात करण्यापुर्वी दोन्ही गटातील घटकांस कसोटी प्रक्रिया स्पष्ट करण्यात आली. निवडलेल्या घटकांकडून अपेक्षित निकाल मिळवण्यासाठी त्याच शाळेतील शारीरिक शिक्षण शिक्षकाची मदत घेण्यात आली. तसेच तथ्य संकलनापुर्वी या सहकार्यांना स्वतः संशोधकाने प्रशिक्षण दिल्यामुळे तथ्यांचे अचूक संकलन करण्यास मदत झाली.

ह्या अभ्यासाची विश्वसनियता वाढविण्यासाठी संशोधकाने निवडलेल्या घटकास देण्यात येणाऱ्या प्रशिक्षणामुळे व कसोट्यांमुळे त्यांचे कोणत्याही प्रकारचे शैक्षणिक नुकसान होणार नाही याची खात्री करून दिली.

### ★ तथ्यांचे विश्लेषण व निर्वेचन :

या प्रकरणामध्ये शारीरिक व कौशल्य क्षमता घटकांची घेऊन प्रायोगिक पध्दतीने संकलित केलेल्या तथ्यांचे सादरीकरण व विश्लेषण केले आहे.

तथ्यांचे पध्दतशीरपणे सारणीकरण करून आलेखाद्वारे त्यांचे सादरीकरण करून आणि शास्त्रीय मुल्य विचारात घेऊन तर्क दृष्ट्या निर्वेचन केले आहे. पुढे दिलेल्या सारणी क्र. 1 ते 4 मध्ये या अभ्यासाचा निकाल सादर केला आहे.

याठिकाणी प्रायोगिक गटातील  $n = 20$  आणि  $df = 19$ , नियंत्रित गटातील  $n=20$  आणि  $df=19$ .

गृहीत परिणामाचा स्तर (Significance Level) = 0.05. निर्णय निकष : जर  $t > 1.729$  असेल तर गृहीत परिणाम आहे (Significance) आणि जर  $t < -1.729$  (No Significance) असेल तर गृहीत परिणाम नाही.

★ नियंत्रित गटाच्या शारीरिक व कौशल्य क्षमता घटकांच्या Pre आणि Post Tests च्या मध्य मुल्यांची तुलना

नियंत्रित गटाच्या विषयांची शारीरिक व कौशल्य क्षमता घटकांमधील मध्य मुल्ये खालील सारणी क्रं 1 मध्ये सादर केली आहेत.

सारणी क्र.1

चल	Pre Test		Post Test		MD	SEM	't'	Significance
	Mean	SD	Mean	SD				
30 मीटर डॅश	5.58	0.25	5.58	0.28	0.00	0.05	0.14	P>0.05
12 मिनिट रन	1931	93.4	1931.2	93.9	0.29	2.31	0.13	P>0.05
अॅण्ड वॉक								
शटल रन	11.07	0.49	11.15	0.56	0.08	0.07	1.03	P>0.05
रिंग गेम	28.15	2.04	29.15	3.35	2.56	1.00	1.46	P>0.05

Significance at 0.05 level, where df = 19, 't' = 1.729

★ प्रायोगिक गटाच्या शारीरिक व कौशल्य क्षमता घटकांच्या Pre आणि Post Tests च्या मध्य मुल्यांची तुलना

प्रायोगिक गटातील विषयांची शारीरिक व कौशल्य क्षमता घटकांमधील मध्य मुल्ये खालील सारणी क्रं 2 मध्ये सादर केली आहेत.

सारणी क्र.2

चल	Pre Test		Post Test		MD	SEM	't'	Significance
	Mean	SD	Mean	SD				
30 मीटर डॅश	5.58	0.38	5.25	0.37	0.21	0.05	4.12	P>0.05
12 मिनिट रन	1959.1	86.6	2242.3	44.6	283.2	93.8	3.02	P>0.05
अॅण्ड वॉक								
शटल रन	11.04	0.40	10.93	0.47	0.11	0.06	1.76	P>0.05
रिंग गेम	27.13	1.63	24.57	1.37	2.56	0.27	9.31	P>0.05

Significance at 0.05 level, where df = 19, 't' = 1.729

★ नियंत्रित व प्रायोगिक गटाच्या शारीरिक व कौशल्य क्षमता घटकांच्या Pre Test च्या मध्य मुल्यांची तुलना

नियंत्रित व प्रायोगिक गटातील विषयांची शारीरिक व कौशल्य क्षमता घटकांच्या Pre Test ची मध्य मुल्ये खालील सारणी क्रं 3 मध्ये सादर केली आहेत.

सारणी क्र.3

चल	Pre Test		Post Test		MD	SEM	't'	Significance
	Mean	SD	Mean	SD				
30 मीटर डॅश	5.58	0.25	5.28	0.38	0.11	0.08	1.29	P>0.05
12 मिनिट रन	1931	93.4	1959.1	86.6	28.2	30.8	0.91	P>0.05
अॅण्ड वॉक								
शटल रन	11.07	0.49	11.04	0.40	0.03	0.12	0.22	P>0.05

रिंग गेम 28.15 2.04 27.13 1.63 1.01 0.60 1.67 P>0.05

★ नियंत्रित व प्रायोगिक गटाच्या शारीरिक व कौशल्य क्षमता घटकांच्या Post Test च्या मध्य मुल्यांची तुलना

नियंत्रित व प्रायोगिक गटातील विषयांची शारीरिक व कौशल्य क्षमता घटकांच्या Post Test ची मध्य मुल्ये खालील सारणी क्रं 4 मध्ये सादर केली आहेत व त्याच मध्य मुल्यांचे सादरीकरण आलेखाद्वारे केले आहे:

सारणी क्र.4

चल	नियंत्रित		प्रायोगिक		MD	SEM	't'	Significance
	Pre Test Mean	SD	Post Test Mean	SD				
30 मीटर डॅश	5.58	0.28	5.25	0.37	0.32	4.38	4.12	P>0.05
12 मिनिट रन	1931.	93.9	2242.3	46.2	311	102	3.04	P>0.05
अॅण्ड वॉक	2							
शटल रन	11.15	0.56	10.93	0.47	0.21	0.10	2.18	P>0.05
रिंग गेम	29.15	3.35	24.57	1.37	4.58	0.77	5.94	P>0.05

निष्कर्ष:

या प्रायोगिक अभ्यासावरून खालील निष्कर्ष काढण्यात आला.

- १) आठ आठवड्यांच्या या प्रायोगिक अभ्यासामध्ये अंतर्भूत करण्यात आलेले फार्टलेक प्रशिक्षण व्यायाम प्रकार हे खो-खो खेळाडूची गती, दमदारपणा व दिशाभिमुखता या योग्यतांचा विकास करण्यास उपयुक्त आहेत.
- २) खो-खो खेळाडूंच्या रिंग गेम ह्या कौशल्य क्षमतेचा विकास करण्यासाठी हे निवडक फार्टलेक प्रशिक्षण व्यायाम प्रकार उपयुक्त आहेत.

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## **Woman Empowerment through Self-Help Groups in Kolhapur District**

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### **Introduction**

Self-Help Group (SHG) in its present form of development orientation, owed its origin to the starting of the Grameen Bank, founded by Mohamed Yunus of Bangladesh, the Noble Prize Winner for Peace for the year 2006. The experience of Bangladesh had proved to the world, the banking wisdom in helping the women and the poor people to improve their economic condition and to overcome their problem of poverty.

Women represent fifty per cent of the population of the world, makeup for thirty percent of the world's official labour force, work for sixty percent of all the working hours, receive ten percent of the world's income and own less than one per cent of the world's property (Sushama Sahay, 1998.)

Women, in general, face different types of discrimination and it gets fully reflected in the mortality rates, births, basic needs, opportunities, employment status, property ownership and in the living conditions (Jean Dreze, 1995).

Emancipation of women is one of the indicators of economic development and social change. The position of women in a society is an index of its level of civilization. Women constitute one half of the India's population that is one half of the country's human resources. Apart from the fact that they constitute one half of the country's 'man power' resources women play an important role in shaping the personalities of the nations young human resources (Ranimoses, 1992).

The present study tries to analyse the women empowerment through self-help groups in Kolhapur district.

### **Statement of the Research Problem**

Since 1950, the Government of India had been implementing various programmes aimed at alleviating poverty. Various studies had shown that the programmes, implemented through the banking institutions have not been very successful in meeting their social and economic objectives.

The concept of 'Self-Help Groups (SHG)' appeared to be a good alternative strategy to involve the people in the developmental process. Under these circumstances, it is felt important and necessary to study the SHG concept, its pattern of functioning, its present status in India, the role of the NGOs related to the SHGs, and the socio-economic changes that had been effected among the rural poor people.

### **Methodology**

#### **Tools for Data Collection**

The data for this study had been collected from both primary and secondary sources. Secondary data had been collected from the annual reports of NGO, NABARD report, journals and published materials.

A simple interview schedule as a tool for collecting primary data to measure the perception of respondents, towards empowerment of women through SHGs, was used at method for primary data collection.

#### **Sampling Design**

In the present study, six NGOs have been selected for the study, on the basis of those NGOs which helped to start maximum number of Self-Help groups in the area. The criterion adopted for selecting the self-help groups was that they should be working for 3 years and above. On the basis of this 1051 SHGs had has been operating in the study area in the year 2011. Out of these, 868 SHGs were functioning in the rural areas and 183 SHGs were operating in the municipality areas.

From the list of the SHGs, 35 percent of SHGs were selected from six NGOs. After selecting the sample SHGs, the number of members in each SHG had been complied. From each groups, two members were selected for the purpose of this study by applying the lottery method. Thus for 300 groups, 600 members were selected for the purpose of this study.

### **Objective**

To measure the impact and socio-economic upliftment of women and their empowerment through the self-help groups in the study area.

### **Analysis**

The statistical tools like kruskal-Wallis, MCNCMER test and sign Test, Chi-square have been used in the analysis of the study.

### **The Concept of Empowerment through Decision-Making**

The meaning of the concept of empowerment varies widely with different people giving different definition. The dictionary meaning of the word empowerment is "to give power, to give capacity to perform some physical or mental activity to delegate authority to give a legal right" and so on. Therefore, empowerment must be quantified and measured depending on the particular context in which it is used. In the context of women and development, the definition of empowerment should include the expansion of the choices for women and an increase in women's ability to exercise those choices.

### **The Analytical Frame work**

The empowerment of women in the present study had been measured in terms of their decision-making capacity, which had been classified into three aspects, namely on the basis of her own self; both are equal; and husband alone. These three aspects are applicable for eight variables which are identified for measuring the decision making power of women. The identified variables were

- iv. Preparation of the family budget
- v. Education of Children
- vi. Health and medicine
- vii. Purchase of assets
- viii. Purchase of home appliances
- ix. Gifts to others
- x. Personal needs such as jewels and
- xi. Purchasing of cloth.

The responses had been obtained from the sample members of self-help groups on three aspects for each variable. The responses obtained for each variable have been scored. To secure the total empowerment score of the self help group members, three points were given for 'self'; two points were for given for "both are equal" and one point for 'husband alone' responses. The total empowerment score of a members was obtained by adding up the scores for all the eight variables.

The level of empowerment had been classified into three categories: namely low level, medium level and high level, for analytical purposes, while the score value of  $\geq X + SD$  and the score value of  $\leq X - SD$  had been classified as high level empowerment and low level of empowerment respectively, the score values that were between  $X + SD$  and  $X - SD$  had been classified as falling into the category of medium level empowerment,  $X$  and  $SD$  are the Arithmetic mean and the Standard deviation calculated from the score values.

— In order to examine the relationship between the level of empowerment and the socio economic factors, the Chi-square test was used. It was calculated by adopting the formula (Kothari, 1978).

$$\text{Chi-square } \sum \frac{(O - E)^2}{E}$$

Where

O = Observed Frequency

E = Expected Frequency

E =  $\frac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}}$

R= Number of rows

C= Number of columns

MCNEMER Test

In order to test whether there was any significant difference in self worth among the sample members before and after joining the SHGs, the following null hypothesis was framed.

'There is no significant difference in self worth among the sample members before and after joining the SHG.' To test the above hypothesis, the McNemer test was applied. The results of the test had been presented in Table-1.

**Table 1 : Results of MCNEMER Test for Self Worth**

S.No.	Measures of Self Worth	Calculated Value of X <sup>2</sup>	Table Value at 1 percent level
1	Gaining confidence	359.003*	6.635
2	Confidence to face financial crisis	299.003*	6.635
3	Helping neighbours	358.003*	6.635
4	Decision on important matters	357.003*	6.635
5	Treatment in the family	178.006*	6.635

Source : computed value. \*Significant at 1 percent level.

Table-1 reveals that the calculated values of the Chi square test for self worth were found to be more than the table value (6.635) at the one percent level of significance and hence the null hypothesis was rejected. Hence it could be concluded that here was a significant difference in self worth among the sample members before and after joining the SHGs.

#### **McNemer Test for Reaction to Social Evils**

To test whether there was any significant difference in the reaction to the social evils among the sample members and after becoming members, the following null hypothesis was framed. "There is no significant difference in the reaction to social evils among the members before and after joining the SHGs".

The McNemer test was used to test the above hypothesis. The result are presented in Table-2.

**Table 2: Results of McNemer Test for Reaction to the Social Evils before and after Joining the SHGs**

S.No.	Protesting	Chi-square Value	Table value
1	Abuse of women in films	180*	6.635
2	Husband beating the wife	239*	6.635
3	Gambling	177*	6.635
4	Child labor	178*	6.635
5	Demanding dowry	118*	6.635

\*Significant at 1 percent level

Table-2 reveals that the calculated values of the Chi square for all kind of social evils before and after joining the SHGs were found to be higher than the table value (6.635) at the one percent level of significance. Therefore the null hypothesis was rejected. There was a significant difference in the reaction to social evils among the sample members before and after their joining of the SHGs as members.

In order to test the null hypothesis there is a significant difference in the behavioural changes

of the members in problematic situation before and after joining the SHGs. The sign test was used to prove this. Table-3 presents the results of the 'sign test' on the reactions of the members to behavioural changes before and after their joining the SHGs.

It is evident from Table-3 that the calculated values of Z for all the various types of abuses were found to be higher than the table value (2.58) at the one percent level. Hence the null hypothesis had been rejected. Hence it could be concluded that there was some difference in the reactions of the members to behavioural changes before and after their joining the SHGs. McNemer test for availing of the amenities by members before and after their joining the SHGs was applied.

**Table 3 : Results of 'Sign Test' on Reaction of Members to Behavioural Changes before and after becoming members of the SHGs**

Problematic Situation	Z value	Total Value at 1 percent level
Verbal abuse	7.753*	2.58
Physical violence	17.234*	2.58
Ignoring	12.596*	2.58
Psychological and emotional abuse	17.263*	2.58

\*Significant at 1 percent level

**Table-4 : McNemer Test for availing of amenities by members before and after their joining the SHGs**

Particulars	Calculated Chi-square value	Table Value at 1 percent level
Health care facility	358*	6.635
Sanitary facility within the house	298*	6.635
Sanitary facility within the village	118*	6.635
Water supply in the house	178*	6.635
Water supply within the residential locality	177*	6.635
Educational facility	237*	6.635
Market facility	117*	6.635

\*Significant at 1 percent level

Table-4 reveals that the calculated value of the Chi-square for all the facilities acquired by the sample members before and after their joining the SHGs was higher than the table value at the one percent level. Therefore the null hypothesis was rejected. Hence, it could be concluded that there was a significant difference in availing the facilities by the member before and after their joining the SHGs as members.

#### **Political Participation**

In order to test the null hypothesis that there was no significant difference in the attitude of the members to political participation before and after their joining in the SHGs, the McNemer test was applied.

**Table 5 : McNemer Test for studying the attitude of the members towards their political participation**

Particulars	Calculated Chi Square value	Table Value at 1 percent level
Willingness to contest in the elections	360*	6.635
Willingness to assume leadership	178*	6.635
Attitude towards voting in the elections	58*	6.635

\*Significant at 1 percent level

Table-5 reveals that the calculated values of the Chi-square for studying the attitude of the



members in respect of all three factors were found to be more than the table value 96.635 at one percent level and hence the null hypothesis was rejected. It could be concluded that there had been a significant difference in the attitude of the members towards political participation before and after joining the SHGs as members.

### **Conclusion**

For analyzing the social impact, six variables, such as their self-confidence, communication skills, awareness against social evils, behavioural changes, access to amenities, political participation and economic empowerment were identified. For each variable, the impact on the members before and after their becoming members of the SHGs had been analyzed. The economic empowerment had been measured by the improvement in the member's participation in group activities which was quantified through a comparison of the different parameters before and after they had joined as members of the SHGs.

The statistical tools such as the McNemer and the sign tests were applied to analyze the levels of significance of each of the variables before and after the individuals had joined the SHGs. The analysis had shown that all the six variables measuring the social impact had found out a significant impact. It could conclude that the entire social variable had made a significant impact on the members of the SHGs.

The involvement in the group had contributed significantly towards improving the self-confidence and the communication skills of the respondents. As a result of group activities, members could meet more than one official during the reference year of the study.

This study had also disclosed the positive impact of the SHGs on members in resisting social evils. The association with SHGs had also helped the members to be patient and to lodge complaints with the groups and their relatives against the adverse effects faced by them.

This study had further shown that there was a positive improvement in their access to facilities after their joining the SHGs as members.

It could also be understood that there was a significant difference in their self confidence, level of communication. number of officials met, reaction to social evils and to adverse problematic situations, number of officials met, reaction to social evils and to adverse problematic situations, access to facilities and political participation before and after joining the SHGs, since the calculated value was found to be more than the table value in all the cases.

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## Survey of Medicinal Plants from Khundalapur (Dhanagarwada) commonly used in Preparation of Ayurvedic Drugs

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### Abstract

Survey was carried out during 2008-2010 to collect information on the use of medicinal plants from ayurvedic practitioners, vaidus and local people of khundalapur. A total 25 plants have been recorded here which are used in formulation of different ayurvedic drugs for curing diseases like jaundice, piles chronic ulcer, bone fracturing, fever, skin diseases, joint pain etc. In present attempt medicinal plant with botanical name, local name, family and part(s) used, active principle, medicinal uses and name of ayurvedic drug is recorded.

**Key words:** - medicinal plant, ayurvedic drugs, Khundalapur.

### Introduction

Medicine is a new addable part of human life in a young generation because of increase in pollution, alcoholism, smoking, tobacco chewing etc. All these factors decrease our lifespan. Many medicines are available in market for allopathic, homeopathic and ayurvedic therapy (10, 11, 12). But the ayurvedic medicines are more usable because it does not produce a reaction or side effects. Ayurvedic importance is good blessed of the nature. It occurs naturally in the plant. It is more useful to medicine and demand in market because it has been estimated that about 2000 drugs used in curing human ailment in India and out of that 1500 are of plant origin and remaining are of animal and mineral origin (1). Out of total flowering plant reported from the world more than 50,000 are used for the medicinal purpose. (2,3,6)

In the present paper the survey of medicinal plant was carried out in Khundalapur during 2008-2010 with respect to their botanical name, local name, family, part(s) used, active principle, medicinal uses and name of the ayurvedic drugs. (7,4,5,8,9,12) Such study would help to develop database of medicinal plant and conservation for posterity.

### Material and Method

Information regarding medicinal plant was collected by local peoples, ayurvedic practitioners and vaidus from Khundalapur. Then survey of ayurvedic medicines was carried out with respect to their contents. Later on information regarding medicinal plant, their botanical name, local name, family, part(s) used, active principle, medicinal uses is collected from various books.

### Results

The survey of medicinal plant was conducted between 2008-2010 in Khundalapur. It is a site of important medicinal plants diversity due to its great variation in climate and topography. 15 plants were selected for the study and recorded with respect to their botanical name, local name, family, part(s) used, active principle medicinal uses and name of the ayurvedic drugs are given in Tabular form.

Sr . No .	Botanical name	Local name	family	Part(s) used and Active Principle	Medicinal uses	Ayurvedic Drugs
1	<i>Adhatoda zeylanica</i> Medik.	Adulsa	Acanthaceae	Leaves Alkaloid vasicine, vasic-	Fever, asthma, bronchitis, Bleeding piles.	Adulsa syrup, APDYL-H, Vaidya

				inol.		patankar kadha,Swasari.
2	<i>Aloe barbadensis</i> Mill	Korphad	Liliaceae	Leaves and roots. Barbaloin, Emoclin, Aloin.	Pain killer, bronchitis, asthma,diuretic.	Kumariasav, Arshmukti, Aloe vera juice (Dietary food supplement)
3	<i>Emblica officinalis</i> Gaertn.	Amla	Euphorbiaceae	Fruit Phyllembin, Gallic acid, vit-c,pectins.	Acidity, Anaemia,night blindness, Increases sperm count.	Triphalachurna, Arjunarishta, Normolox Tablets, Bonnisan,Livomyn syrup.
4	<i>Withania Somnifera</i> Dunal	Ashwagandha	Solanaceae	Dried roots Withniloides	Improves memory, cough, sterility, cancer.	Vatrajherbal syrup, Meghavit syrup, Ashwagandharishta, Ashwashila capsule, peedantak vati.
5	<i>Terminalia bellarica</i> (Gaertn.)Rox b.	Beheda	Combretaceae	Fruit Chebulic myrobalan	Chronic ulcers, constipation, indigestion, toothache.	TriphalaChurna, NormoloxTablets, DivyaSheelajit Rasayan vati, Swasari ras.
6	<i>Bacopa monnieri</i> (L.) Penn.	Brahmi	Scrophulariaceae	Whole plant Glycosides, Saporins, Bramhine.	Blood purifier, Nervous disorder, diuretic, antinflammatory, constipation.	Shankhpushpi syrup and capsule, Cebrovin, Bramhidan.
7	<i>Boerhavia diffusa</i> L.	Punarn-ava	Nyctaginaceae	Whole herb Punarnava, Punarnavine.	Diuretic, Jaundice, Asthma , Anaemia.	Peedantak vati, Punakshur.
8	<i>Tinospora cordifolia</i> (Willd)Hook. f.th	Gulvel	Menispermiceae	Stem Giolin,tinosporon, tinosporic acid .	Dysentery, diarrhoea, tonic, Antiperiodic.	Gulvel satva, Bonnisan, M2-Tone, VaidyaPatankar kadha, Rhinoff tablets.
9	<i>Terminalia arjuna</i> Wight and Amott	Arjun	Combretaceae	Fruit	Fever,Fracture,cardiac tonic.	Pushvanug churna,Arjunarishta,Bonnisan.
10	<i>Azadirachta indica</i> A.Juss	Nim	Meliaceae	Stem,Leaves,root. Nimbine, nimbidine, azadirachtin.	Astringent, Antiperiodic,skin diseases, Fever (Malaria).	Divyaarsh kalpvati,Dantkanti,Kailasjeevan cream.

### Conclusions

There was a remarkable uniformity in the identification and use of the plants recorded in the survey .The Khundalapur is rich in medicinal plants of important therapeutical value and main resources of many ayurvedic drugs such as *Adhatoda zeylanica* Medik. , *Bacopa monnieri*(L.)Penn,

*Terminalia arjuna* Wight and Amott etc. are important medicinal plants used by both local people and Ayurvedic practitioners from Khundalapur.

#### **Acknowledgements**

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## Gender Differences in Personality Characteristics of Collegiate Kabaddi Players

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**Key Words :** Psychoticism, Extraversion, Neuroticism, Gender

### Abstract :

The aim of the study was to find out the gender difference in Personality traits of Inter collegiate male and Female Kabaddi players with regard to psychoticism, neuroticism, extraversion, and Lie score. For this present study, 50 male and 50 female Kabaddi players were selected as a subject.

The Eysenck Personality Inventory (E.P.I.) was used to measure Psychoticism, extraversion and neuroticism of Kabaddi players, t-ratios has been used to compare the significantly gender difference between male and female kabaddi players who were participated in Inter collegiate Kabaddi tournament held at R. P. College, Osmanabad. Gender differences on Psychoticism was found between male and female Kabaddi players (  $t = 2.87$ ;  $P < .05$  )where female players more phychotic than male.. While analyzing the differences of Personality characteristic of male and female Kabaddi players, gender differences on neuroticism was found between male and female Inter collegiate Kabaddi players ( $t=3.52$ ,  $P < .01$ ), where the male Kabaddi players was found to have less score on neuroticism. So, far extraversion was concerned, significant gender difference was found to the male and female Inter-Collegiate Kabaddi players ( $t=2.56$ ,  $P<.05$ ), male Kabaddi players has lower extraversion. Hence, a female Kabaddi player was more extravert.

### Introduction

Kabaddi is the most popular Indian game in Marathwada region of Maharashtra. The Indian games are simple in nature, easy to organize and less expensive. Hence Kabaddi reach to common people and both sex. Sports performance has been found to be related to some personality variables. Psychoticism, Extraversion and neuroticism are among the variables which influence by sports performance with addition to many other personality variables. Psychoticism is the tendency in a person to be not caring for people, troublesome insensitive and not fitting in any where lacking in feeling and empathy. Neuroticism is a minor mental disorder, characterized by inner struggles and discordant social relationship. According to Eysenck "Neuroticism refer to emotionality, initiated by the inherited differences in liability and excitability of autonomic nervous system. The extroversion is a personality traits. The extrovert persons orientation is towards the external world. He deals people intelligently in social situation. He is conventional, outgoing, social. Friendly and face from worries. In Eysenck's term, extraversion stands for central excitatory / inhibitory level and sociability. Lie scale is refer to social desirability measures a tendency on the part of some individuals take good. Majority of the investigator have indicated that male Kabaddi players differ from female Kabaddi players on a number of personality traits and several investigator have tried to find personality differences between male and female Kabaddi players, but not many studies have been made about personality characteristics of inter collegiate male and female with regards to psychoticism, neuroticism and extroversion, So the attempt has been made to conduct the study regarding neuroticism psychoticism and extroversion of inter collegiate male and female Kabaddi players.

### Hypotheses of the Study

There would be no significant gender difference with regard to (i) Psychoticism (ii) Neuroticism (iii) Extroversion (iv) Lie Score of the Male and Female inter collegiate Kabaddi players.

### Significance of the Study

To find out the gender differences in personality characteristics of inter collegiate male and

female Kabaddi players with respect to Psychoticism, neuroticism, extraversion and Lie scale.

#### **Delimitations of the Study**

The present study was delimited to only Four psychological variables. (1) Psychoticism (2) Neuroticism (3) Extraversion and (4) Lie Scale.

Secondly, the study has been delimited to male and female inter collegiate Kabaddi players only.

#### **Methodology**

In this section, Selection of subject, Administration of the test, and Statistical Analysis procedure have been described.

#### **Selection of Subjects**

Total 50 male and 50 female Kabaddi players from different college. Who were participating in Collegiate tournament held at R. P. College, Osmanabad-2009 were randomly selected as a subjects for the present study.

#### **Administration of the test**

EYSENCK'S Personality Inventory (1985) were distributed to the males and females Kabaddi players, before filling the EPI, instruction were given by the investigator to the players.

#### **Statistical analysis**

t-ratio was computed to compare, the significant differences between inter-collegiate male and female Kabaddi players. The data were analyzed in basic language of the computer Centre, Aurangabad, Maharashtra. All the analysis used were based on "Standard Statistical Packages"

#### **Results and Discussion**

The results of the present study in statistical form are presented in Table I and IV.

**Table – I Mean scores, Standard Deviations and t-ratio of Psychoticism for Male and Female Kabaddi players.**

Sr. No.	Kabaddi players	No.	Mean	S.D.	t-ratio
1.	Male	50	11.09	3.22	2.87*
2.	Female	50	12.62	4.01	

**\*Significant at .05 Level.**

The findings of Table-I, reveals that there was significant gender difference between male and female inter-collegiate Kabaddi players. ( $t=2.87$ ,  $R<.05$ ), in psychoticism diminution of personality. The female having more psychotic as compared to males, which means that the male Kabaddi player having less psychotic than female Kabaddi players. Thus the hypothesis was not accepted. This may be due to nutritional habits, interest to participate in sports activities and parental motivation to involve sports activities of male and female Kabaddi players.

**Table – II Mean scores, Standard Deviations and t-ratio of Neuroticism for Male and Female Kabaddi players.**

Sr. No.	Kabaddi players	No.	Mean	S.D.	t-ratio
1.	Male	50	9.88	2.38	1.88*
2.	Female	50	11.01	3.52	

**\*Not significant**

As Table-II shows no significant gender difference was found out in the extraversion of the inter-collegiate Kabaddi players. ( $t=1.88$ ).

**Table – III**  
**Mean scores, Standard Deviations and t-ratio of Extraversion for Male and Female Kabaddi players.**

Sr. No.	Kabaddi players	No.	Mean	S.D.	t-ratio
1.	Male	50	13.17	2.01	3.75*
2.	Female	50	14.90	2.56	

**\*Significant at .01 Level.**

As Table – III shows a significant gender difference was found of in the extraversion of the inter-collegiate Kabaddi players. ( $t=3.75$ ,  $P<.01$ ), the female having more extrovert as compared to males, which means that the male Kabaddi players less extrovert than female Kabaddi players. Thus the hypothesis was not accepted. There difference is probably due to emotional, biological and social difference between the male and female Kabaddi players.

**Table – IV**  
**Mean scores, Standard Deviations and t-ratio of Lie Scale for Male and Female Kabaddi players.**

Sr. No.	Kabaddi players	No.	Mean	S.D.	S.E.	t-ratio
1.	Male	50	10.07	3.09	.45*	1.85 NS
2.	Female	50	11.28	3.36		

**\* Not Significant**

The findings of Table-IV, that there is no significant gender difference between male and female inter-collegiate Kabaddi players. ( $t=1.85$ ). It may be due to similarity of the nature of game. Thus the hypothesis was accepted.

**Conclusions**

1. There was significant gender differences in psychoticism of inter-collegiate Kabaddi players, the males having less psychotic than female Kabaddi players.
2. There was no significant gender differences in neuroticism of inter-collegiate Kabaddi players, the males having less neurotic tendency than the females.
3. There was significant gender differences in extraversion of inter-collegiate Kabaddi players. The males are found to be less extrovert than the females.
4. There was no significant gender differences in Lie-score of inter-collegiate Kabaddi players.

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## **Relation of Obesity with Self-Concept and Scholastic Achievement of Obese Girls**

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### **Abstract**

**OBJECTIVE:** To examine the relationship of Obesity, with Self-concept and Scholastic achievement of Obese girls from Pune city. **STUDY DESIGN:** A total of 860 girls, aged 10 to 14 years were tested, out of which 332 girls were obese (body fat % >32). Body weight, height and fat percentage was measured, and a self-concept questionnaire was given to the girls. To measure the scholastic achievement preceding year annual examination marks were considered. The main outcome measure was obesity, defined as body fat percentage more than 32 and total score from self-concept questionnaire. **RESULTS:** Comparing the obesity and self concept score, using Spearman Rank Order Coefficient of correlation, obese girls showed low self –concept. Obesity and scholastic achievement showed positive relation but not significant.

### **Introduction:**

In the recent times rising incidence of childhood obesity has been reported from many parts of urban India such as Pune, Chennai and Delhi. Not only the incidence of obesity in childhood is rising but also it is seen at a younger and younger age. The increase in childhood overweight and obesity is a global trend and is of concern as overweight or obese children are at higher risk of experience a range of health problems in the immediate short and long term. Diabetes, hypertension and other obesity-related chronic diseases that are prevalent among adults have now become more common in youngsters. The percentage of children and adolescents who are overweight and obese is now higher than ever before. Poor dietary habits and inactivity are reported to contribute to the increase of obesity in youth and children.

In 1997, it stated that the incidence of obesity in India is 7-9 %, though the percentage is less as compared to America and the other countries, but it is also a significant due to the sheer size of the population in India. With such large numbers, India has been requested to join the International Congress on Obesity (ICO) for further study on the risk and management of the overweight in a developing economy. With this, India would be one of the first nations from the developing countries in Asia to be put on the obesity map.

Review of literature showed that prevalence of obesity in school children has steadily increasing in India too. According to survey done by WHO India will be famous for obese people both overweight and underweight are likely to have negative effects on health. Consequently, it is desirable to reach and maintain a desirable body weight, and therefore to achieve energy balance. Computer games and videos further contribute to inactivity in children and together with television watching has been identified as one of the most important determinants of childhood and adolescent obesity. Further, studies have been made to find the effect and relationship of obesity with psychological aspects and also fitness of the obese.

**The objective of the present study was to find out the relation of obesity with self-concept and scholastic achievement of obese girls.**

### **Methodology:**

The population of the study was the adolescent school going girls aged 11 to 15 years in Pune city. In the present study out of school going girl's age ranged 11 to 15 (Standard 6<sup>th</sup> to Standard 10<sup>th</sup>) in Pune city schools, 860 girls were tested randomly, out of which 332 girls were obese (body fat % >32). These 332 girls were the sample of study.

The data was initially analyzed for descriptive statistics, the normality of the data was assessed using SPSS (17.0 version) and to establish normality outliers were deleted from the respective variable



using the Box plots. Mean, Median. Standard deviation, Kurtosis and Skewness were calculated to find out the normality of score.

**Table 1** give brief description of test items selected and the respective variable measured.

**Table 1 Test Items Selected for the Study**

Sr. No.	Name of the test	Variable	Trait measured	Unit
1	Body Mass Index	Morphology	Body Composition	Kg/m <sup>2</sup>
2	Standing height	Morphology	Height	Cm
3	Body Weight	Morphology	Body weight	Kg
4	Fat percentage	Morphology	Fat percentage	%
5	Self Concept Questionnaire	Psychology	Personality traits	Total Score
6	Preceding Years Annual Examination Marks		Scholastic Achievement	Total Percentage

As this is analytical study, researcher analyzed data applying comparative and correlation test. **Spearman's Correlation** was taken into consideration for finding relationship between different variables. A statistical software SPSS (17.0 version) was used for the data analysis.

**Table 3** shows the relation of Obesity with self-concept and scholastic achievement variable using Spearman Rank Order Coefficient of correlation.

**Table 3 Relationship of obesity with tested variable**

Components	$\rho$	Obesity
Self –concept	Correlation coefficient	-0.179
	Sig. (2-tailed)	0.001
	N	320
Scholastic Achievement	Correlation coefficient	0.091
	Sig. (2-tailed)	0.104
	N	323

#### Results:

- Coefficients of Correlation between Obese girls (% Body Fat >32) and Self Concept is negative ( $\rho=-0.179$ ) and statistically significant at 0.01 level of significance. ( $p=0.001$ ). This helps to interpret that Self Concept and obesity are associated with each other of obese girls.
- Coefficients of Correlation between Obese girls (% Body Fat >32) and Scholastic Achievement is positive ( $\rho=0.091$ ) and statistically not significant at 0.05 significance level. ( $p=0.104$ ). This helps to interpret that Scholastic Achievement and obesity are positively associated with each other of obese girls.

#### Conclusion:

Keeping limitations of the study in mind it permits the conclusion as follows:

- Coefficient correlation between obesity and self concept is negative and statistically significant, ( $\rho=-0.179$  and  $p> 0.01$ ). This scores show that obesity has significant relationship with self concept.

- Coefficients of Correlation between Obese girls (% Body Fat >32) and Scholastic Achievement is positive ( $\rho=0.091$ ) and statistically not significant at 0.05 level significance level. ( $p=0.104$ ). This helps to interpret that obesity affects positively scholastic achievement of obese girls.

#### Discussion:

Various reviews and studies advocates that physical activities and fitness are associated with overall well being and negatively associated with depression and anxiety which establishes existence of negative self concept. **Kirsten (2000)** study, examined the relationship between weight status and self-concept of preschool-aged girls and whether parental concern about child overweight or restriction of access to food are associated with negative self-evaluations among girls. Girls with higher weight status reported lower body esteem and lower perceived cognitive ability than did girls with lower weight status. Lower self-concept is noted among girls with higher weight status. In addition, parents' concern about their child's weight status and restriction of access to food are associated with negative self-evaluations among girls. In the present study also higher weight status showed low self concept among the girls. **Viner (2006)** investigated weight perception, dieting and emotional well being across the range of body mass index (BMI) in adolescents 11-14 years of age from three highly deprived regional authorities in East London. The result showed that obese young people had a higher prevalence of psychological distress except among Bangladeshi teenagers. This result matched the result of present study. The study conducted by **Sharad Aher (2008)** showed no correlation of obesity with psychological aspect (Mental Health). But the present study shows relationship between obesity and psychological aspect (Self Concept). This may be attributed to the basic difference in kind of population of the study. The previous study dealt with obese boys and the latter study deals only with obese school going obese girls. In another reviewed study done by **Schmidt & Steins (2008)** showed the obese had a lower self-esteem (Self-esteem as one aspect of the self-concept is measured) for the public living areas "school" and "leisure time", but not for the private area "family". **Jennifer (2006)** did research on eighty girls aged 12.8 (0.6) years, completed self-concept, depression and anxiety scales over three years and had their height and weight measured. All nine self-concept domains were lower in the Highest BMI group, compared to the Lower BMI group and this trend was stable over three years. Several aspects of early adolescent girls' self-image were adversely influenced by a heavy weight status. This result matched the result of present study. **Datar & Sturm (2006)** studied the relationship between childhood overweight and elementary school outcomes. Result showed that change in overweight status during the first 4 years in school is a significant risk factor for adverse school outcomes among girls but not boys. This finding do not matches the results of this study.

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## **A Study of Impact of IT on Efficiency Management in R.T.O. in Western Vidharbha Region**

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### **Introduction:**

We are moving in world of improved technologies from the being of the days. Being are very used to Mobile phones, P.C. , T.V. Loptop, Camaras and improved devices , which help to connect peoples from various locations. Now a days in every sector people use I.T. ( Informaiton Techology ). It is used in various offices like , Railway, BSNL, MSEB etc. It is used for calculation , Manipulation data storage, automation etc. By using , I.T. we can do any work within limited time or period. I.T. is more efficient and effective.

Now I.T. is also being used mainly highlights on the study of impact of I.T. on efficiency management in R.T.O. in Western Vidharbha Region .

I.T. ( Information Technology ) is the out growth of the micro electronics revolution and is one of the advanced and fast growing technology of the world. The computer became more central to business operations with evolution of the microprocessor's invention which casued immdiate and radical changes in the appearence, capacity and availability of computer.

Major development in the 1970 induded micro - computers interactive display devices , price tags on different items , user friendly software and improvements in data base technology, Personal computer or PC as microcomputers have came to be known are now common in offices, factories, home schools and just about every where.

Edwards ( 2001 ) defines it that “ Efficiency is minimum utilization of resources without wasting time or energy . Efficiency means compatibility between inputs and outputs . It saves time money and efforts ”

In other words efficiency of a production unit means a comparison between the observed and the optimal values of its output and input.,Daft ( 1999) argues that the term productivity is commonly used as a synonym for efficiency. However , productivity specifically refers to the efficiency of human resources Productivity improves when fever worker's are required to produces same amount of output or alternately, when the same number of worker's produces a large number output.

So to conclude, It can be said that since managers deal with input resroures that are sacramentally peoples, money and equipment they are concerned with the efficient use of these resources Management therefore is concerned with mininizing resources costs. Management efficiency. There fore is the degree to which organizational resources contribute to productivity .The proportion of total organizational resources used during the production process measures the efficiency. Higher this proportion is the more efficient is the management.

### **Importance Of The Study :**

Today the speed driven revolution is experience by each and every earthing to a great No one in this pace - loving world desires to lag behind at any cost. The modern and advance inventions in the field of transpotion and communication have made all of us awestruck. The ever increasing prodcution and consumption of all types of vehicles have become the talk of the town. No one can remain aloof from these things and every one tries to became a part and parcel of this revolution.

With incresing numbers of two, three and four wheelers on the Indian roads, the present position of traffic seems to be in doldrums and in direstates. Here the role of R.T.O. comes into existance for smooth and swift traffic on Indian roads. The R.T.O. is the sole authority for keeping the misbehaving and unruly traffic under control with the help of traffic rules that guide every person

seated on the driver's seat. The heaps of files, maintaining records and storing official documents have become a great problem for the authorities. But slowly the emergence of I.T. in the offices have brought things under control.

The Officers and employees of R.T.O. are facing numerous problems to deal with the current and prevailing situation. The role of I.T. in this field will make a cake walk for all the employees and the officers. The offices are slowly getting fully computerised giving a great help and support to all the employees.

The use of I.T. in R.T.O. has boosted the efficiency of the employees and has helped in procuring high yields.

**Objectives :**

- 1] To determine the sources of work efficiency in the R.T.O. in order to deal with the sources effectively.
- 2] To study the work culture in R.T.O. with special reference to efficiency management.
- 3] To determine what extent the level of work, efficiency is influenced by the modern technology i.e. computer technology
- 4] To study the problems of employees working in R.T.O. and practical suggestions to overcome the efficiency.
- 5] To study the role of Computer in increasing the efficiency.
- 6] To determine various benefits, facilities, usages of computer in day to day office work.

**Research Methodology :**

In Present research work descriptive study method used. Purpose sampling technique used to select R.T.O.'s for the study purpose. The chosen R.T.O.'s are in different areas of Western Vidharba Region and named as follows; Akolo, Buldhana, Amravati, Yavatmal and Washim.

**Primary Data :** The primary data collected from the Interview Method, Observation Method and Questionnaire

**Secondary Data :** The researcher collected secondary data from the Books, Journals and Magazines

Newspapers and Internet.

**Analysis And Interpretation Of Data :**

**Table No. 1**

Sr. No.	Particulars	No of Respondents	Percentage
A	100 % Computerization		
	Yes	60	40 %
	No.	90	60 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
B	Computer Training under taken		
	Yes	114	76 %
	No	36	24 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
C	Personal use of computer		
	Yes	53	35 %
	No	97	65 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>

The above table illustrates about computerisation in various offices of R.T.O. in Western Vidarbha region. 40 % respondents opined that their offices are fully i.e. 100 % computerised. All the advance and modern facilities are provided in their offices for smooth transactions. Whereas 60 % respondents stated that their offices are not completely computerised and they still work manually with the traditional and old gadgets that are outdated and out fashioned.

We can draw conclusion that most of the offices are not yet fully computerised and till date only few offices are 100 % computerised

The above table clearly indicates that the knowledge and use of modern gadget like computer is utmost essential now a days. Surprisingly 76 % respondents have undertaken proper and advance training of IT (Computes applications.) Where as 24 % employees of various offices haven't undertaken any sort of training like MS-CIT , MS-Office etc.that clearly indicates the sorry state of the offices.

We can conclude that Computer training has affected the working in the various offices of R.T.O in Western region.

The above table shows that ,35 % respondents use computers and other modern gadget in their day to day office work. But 65 % respondents still are reluctant and do not use the modern technology in their routine office work.

The disintecstadness shown by the employees regarding the use of IT and the use of traditional techniques is hampering the work culture in these offices.

**Table No. 2**

Sr. No.	Partiuculars	No of Respondents	Percentage
A	Completion of work on time		
	Yes	70	47 %
	No	80	53 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
B	Satisfaction of People		
	Yes	65	43 %
	No.	85	57 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
C	Performance evaluation by the officer's		
	Yes	124	83 %
	No	26	17 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>

The above table describes the use of IT helps and boosts the working in various offices of R.T.O.

47 % respondents have affirmatively responded that the use of IT helps in completion of the given tasks and assignments on time. It avoids delay and postponement of work.

Whereas 53 % resposnemen of work. Whereas 53 % respondents are still reluctant to use the IT as it delays and creates numerous hassles in the working process.

Trully ,the employee's unwillingness in the use of IT has severaly affected the smooth working in the officers of R.T.O .

The above table illustrator's the effectiveness of the use of computers in the offices of R.T.O. 43 % respondents opined that the use of computers have highly benifitld the people to a

great extent. It helps in minimising their problems and providing them satisfaction in a true sense. Still 57 % respondents have opined that people are satisfied with the modern technology and face numerous problems ,delay and postponement of their work, and not user friendly to it.

The people's dissatisfaction ,completion work in a slow pace and the non- users of computers have made the situation worse to a great extent.

The above table shows that the performance of the employees escalates when their officers do unbiased evaluation..

83 % respondents stated that their officers regularly observe and evaluate their performances . This helps the employees to perform better in future. 17 % respondents stated that their performances are not observed and evaluated by their officers resulting in poor and under performance of the employee It clearly reveals that periodic evaluation by the officers enable the employees to produce high yields.

**Table no. 3**

<b>Sr. No.</b>	<b>Partiulars</b>	<b>No of Respondents</b>	<b>Percentage</b>
A	Satisfaction of Officers		
	Yes	130	90 %
	No	20	10 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
B	Utility of 100 % efficiency		
	Yes	110	70 %
	No	40	30 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
C	Help of Computers for measuring the efficiency		
	Yes	58	39 %
	No	92	61 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>

The above table reveals that, 90 % respondent's performance and working is improved with the help of IT (computer etc.) and the officers are satisfied and contented with their office staff . 10 % respondents feel that due to lack of use IT, the work consumes time and energy and the officers and not satisfied with their employees.

It can be concluded that the judicial use of IT in the offices of R.T.O saves time and energy and gives good result.

The above table indicates about the cent-percent utility of efficiency of employees in the offices of RTO in Western region.

70 % respondents stated that their 100 % (i.e. cent-percent ) efficiency is utilised with the help of IT. the use of IT helps to meet the requirement of office, people employees and the officer. There is a win-win situation seen in the office with the all modern gadgets in the office .Still 30 % respondents have opined negatively as they feel that the 100 % utility or use of efficiency can't be done with the help of IT.

Thus we can conclude that IT system helps in meeting the requirements of all the persons related to the office (RTO).

The above table clearly reveals that the computers are a blessing in disguise for each and

every person. It helps in all the fields and provide accurate and guaranteed results.

39% respondents have responded affirmatively that the computers help in measuring the efficiency of the employees. They test the performance of the employees and also help them to sort but their problems.

60 % respondents didn't feel the need and importance of IT and stated that computers can't assess the efficiency of employees perfectly.

It means that the majority of employees do not feel the need and necessary of the computers in their offices as they feel satisfied with the traditional means only.

**Table no. 4**

Sr. No.	Partiulars	No of Respondents	Percentage
A	Increase in efficiency due to computerisation		
	Yes	100	67 %
	No.	50	33 %
	Total	150	100 %
B	Computerization and time saving		
	Yes	113	75 %
	No	37	25 %
	Total	150	100 %
C	Training given by office		
	Yes	116	77 %
	No	34	23 %
	Total	150	100 %

The above table represents that, 67 % respondents feel that their efficiency and performance have increased only due to computerisation. Use of computers in their routine office work have given them great results.

But 33 % respondents believed that the efficiency can't be increased only by computerisation as there are many other factors that influences in the rise of efficiency.

It means that if proper training is provided to learn the computer skills then the performance of every employee will increase to the maximum limit.

The above table states that, 75 % of the respondents feel that computerisation have helped in saving the time and giving 100 % results. 25 % respondents opined that the computerisation does not save time but it takes more time and is not totally error free.

It means that the computerisation done by Govt. helps every one and satisfies every person in a real sense.

The above table indicates that, 77 % respondents have received their computer training from their office. Whereas 23 % respondents didn't get training from the office i.e. inservice training or special training course for Govt. employee etc.

It means that the training provided by office or by Govt. is essential and helpful for the employees for better results

**Table no. 5**

Sr. No.	Partiulars	No of Respondents	Percentage
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A	Computerization and quality of work		
	Yes	98	65 %
	No.	52	35 %
	<b>Total</b>	<b>150</b>	<b>100 %</b>
B	Computerization and adoption by employees		
	Yes	150	100 %
	No	0	0
	Total	150	100 %
C	Satisfaciton with the role Govt		
	Yes	150	100
	No.	0	0
	Total	150	100 %

The above table illustrated about the importance of computerisation in Govt. offices especially (R.T.O) Computerisation helps in improving the quality of work in each and every office.

65 % respondents stated the computerisation helps in improving the quality of work which satisfies everyone. Whereas 35 % respondents still believed that the quality of work can't be improved merely by computerisaiton as other factors. too are important.

IT means that computerisation is a must in every office that result in high quality o work

The above table states that, 100 % i.e. all the respondents have agreed and accepted the significance of the use of IT in the offices. All the employees have started becoming comuter friendly for high output . Not a single respondent have declined this particular fact

It clearly means that today computerisation and becoming computer friendly have become the need of the hour.

The above table represents that, 100 % i.e. all the respondents are satisfied with the role of Govt. for making the offices computerised. It helps in increasing the performance , saving time is energy and making everyone satisfied.

It cleary means that the role of Govt. in this regard is gerneous and visionary. The Computersation in all the officers of RTO will result in great performance from the employees and the officers.

**Table No.6**

Sr. No.	Partiuclars	No of Respondents	Percentage
A	Use of Computer in solving problems		
	Yes	120	80 %
	No	30	20 %
	Total	150	100 %

The above table describe that, 80 % respondents were in positive frame of mind for using computers in their day to day routine work. As they solves their problems in split of second and the in problems in split of second and the result is always great.



Still 20 % respondent believed that computers can't solve all their problems and they have to solve their problems with other's help.

It means that computers are helpful in solving problems of the employees officers and people. One can't deny the fact that computer have lessened our burden to a great extent.

**Conclusions :**

- 1] Computerisation is the need of the hour.
- 2] Computerisation is a must in each and every Govt. Office.
- 3] Computerisation in all all the offices of RTO in Western Region will be a boon for every one.
- 4] Computerisation helps in boosting the performance and efficiency of the employees
- 5] Use of IT can change the complexion of the each and every office to a great extent
- 6] Computerisation helps to cater the needs of employees, officers and the people.
- 7] It helps in satisfying the employees and the officers.
- 9] It helps in solving the problems in no time.
- 10] It creates a win-win situation
- 11] Every employee should become computer friendly to achieve great results.

**Suggestions :**

- 1] Need to make every office Computerised.
- 2] Proper training should be given.
- 3] Every employee should become computer friendly
- 4] There should be harmonious relation between the employee and the officers
- 5] Employees performance should be assessed unbiasedly i.e. by computer
- 6] Officers should encourage the employees to use computers
- 7] Error free work should be done.
- 8] Govt. should plan various training refresher and orientation programmes for employees and officers to hone their skill and officers to hone their skills.
- 9] All Work to be done through computers

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## **A Diagnostic Study of Development of Endurance in Athletes by Using Continuous Training Method along with Pranayama**

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### **Abstract**

- The samples of this study will be Athletes ranging between 18 to 25 years of age and are studying in undergraduate and postgraduate college. In all 75 athletes will be selected for the study in which 15 Athletes will be imparted continuous endurance training method along with pranayama, 15 Athletes will be imparted with only continuous training, 15 Athletes will be imparted with interval training along with pranayama, 15 Athletes will be imparted with only interval training and remaining 15 Athletes will not be provided with any endurance training but are made to practice their event regularly without any specific training. It is evident that significant changes are observed in the values of Mean of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Median of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Mode of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Standard Deviation of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Mean of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Median of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Mode of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Standard Deviation of Canadian Fit Test and Cooper Test for  $VO_2$  max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Mean of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Median of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Mode of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics; it is evident that significant changes are observed in the values of Standard Deviation of Metabolic Equivalent, 800 meters run

for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

### **I.1 - Introduction:**

**Training:** The word 'Training' has been a part of human language since ancient times. It denotes the process of preparation for some task. This process invariably extends to a number of days and even months and years. The term 'training' is widely used in sports. The regular and systematic use of physical exercise, however, does not guarantee maximum improvement in performance. The effect of these exercises is increased or decreased by a multitude of factors. Some of these factors, if ignored, lead to a drastic reduction in the efficacy of physical exercise. The complex nature of sports training involving physical exercise along with other means becomes obvious when one looks at the training of advanced sports persons. The training of advanced sports persons is significantly supported by means and measures from several sports science disciplines e.g., sports medicine, sports physiology, nutrition, physiotherapy, sports psychology, sports biomechanics and so on. The training for specific sports is based on motor abilities viz. strength, speed, endurance, flexibility and coordinative abilities. Few sports are dominated by specific motor ability along with all other in supportive action. In this study the scholar is specified to only endurance ability, which is dominated in running athletic events.

**Endurance:** Endurance is a very important ability in sports. Endurance is the product of all psychic and physical organs and systems. No other motor ability depends so much on the working capacity of complete psycho-physical apparatus of humans as endurance. All other performance factors depend on one or more parts of this psycho-physical apparatus and as a result are directly or indirectly affected by endurance.

**Track and field** (also known as **track and field sports**, **track and field athletics**, or commonly just **track**) is a sport comprising various competitive athletic contests based around the activities of running, jumping and throwing. The name of the sport derives from the venue for the competitions: a stadium which features an oval running track surrounding a grassy area. The throwing and jumping events generally take place within the central enclosed area.

Track and field is one of the sports which (along with road running, cross-country running and race walking) make up the umbrella sport of athletics. It is under the banner of athletics that the two most prestigious international track and field competitions are held: the athletics competition at the Olympic Games and the IAAF World Championships in Athletics. The International Association of Athletics Federations is the international governing body for track and field.

Track and field events are generally individual sports with athletes challenging each other to decide a single victor. The racing events are won by the athlete with the fastest time, while the jumping and throwing events are won by the athlete who has achieved the greatest distance or height in the contest. The running events are categorized as sprints, middle and long-distance events, relays, and hurdling. Regular jumping events include long jump, triple jump, high jump and pole vault, while the most common throwing events are shot put, javelin, discus and hammer. There are also "combined events", such as heptathlon and decathlon, in which athletes compete in a number of the above events.

**Pranayama:** In simple terms pranayama may be called the control of the breath. Its essence lies in the modification of our normal process of breathing. Breathing is an act in which we take air from the atmosphere into our lungs, absorb the oxygen from it into our blood, and expel the air again into the atmosphere together with carbon-dioxide and water vapors. This act of inhalation and exhalation is repeated every four to five seconds. Thus normally we breathe about fifteen times every minute. Every modification of this normal breathing process would not count as pranayama. Pranayama consists of modifications of the breathing process which we bring about deliberately and consciously. The process of breathing is modified in three different ways: (1) by inhaling and exhaling rapidly, taking shallow breaths, (2) By inhaling and exhaling slowly, taking long and deep breaths and

(3) by stopping the act of breathing altogether. Many names are given to the variations to the breathing processes and are carried out along with two different endurance training methods for the development of endurance in athletes.

**Pranayama** (Devanagari: प्राणायाम, *prāṇāyāma*) is a Sanskrit compound.

V. S. Apte provides fourteen different meanings for the word *prana* (Devanagari: प्राण, *prāṇa*) including these:

- Breath, respiration
- The breath of life, vital air, principle of life (usually plural in this sense, there being five such vital airs generally assumed, but three, six, seven, nine, and even ten are also spoken of)
- Energy, vigor
- The spirit or soul

**I.2 - Emergence of the Problem:**

Development of any particular motor ability requires training and training only does not fetch the required results in sports. The various training means adopted are: (1) Principal training means – Physical exercises: General, Specific and Competition, (2) Additional means of training are: (a) Pedagogical measures, (b) Medical and physiotherapeutic means, (c) Psychological means, (d) Biomechanical means, (e) Natural means, (f) Material objects etc.

Here the research scholar is in pursuit to adopt pranayama as one of the additional means with conventional methods of development of endurance. Pranayama is said to develop the lung capacity in turn developing, catalyzing and supporting the conventional endurance developmental methods. The researcher has considered continuous endurance training method along with pranayama to enhance the performance of the athletes at a very fast pace.

Considering the effect of pranayama will enhance the endurance among the athletes, it may also establish a strong support to adding pranayama as one of the training means along with the other training means.

**I.3 - Statement of the Problem:**

The training methods which are already established gives a conventional lookout and any other mean supporting these established systems will definitely enhance the pace of development of prerequisites among the players. The researcher has considered pranayama, an age old traditional cardio-respiratory manipulative systems combined with latest training methods for development of endurance with faster pace and also to investigate the best endurance training method which will establish best combination with pranayama, hence the title “A Diagnostic Study of Development of Endurance in Athletes by Using Continuous Training Method Along With Pranayama” is considered for the study.

**I.4 – Need of the Study:**

Any competitive sports demands results and the need to establish any innovative and fast developing ability is always invited in any field, sports being no exception to it. The researcher scholar is associated with the game of athletes and is always in pursuit to establish the best possible methods in developing the sport to its best. The latest trend of pranayama for health along with other benefits which are popular because of media has created the need to study the topic.

Considering the research will enhance and establish a scientific based training methodology in development of certain motor ability which is a prerequisite and the ability dominated in athletic events.

**I.5 – Objectives of the Study:**

1. To find out, access and analyze the developments taking in endurance ability among college athletes at particular age group.
2. To understand if any specific endurance development method is helpful for the college athletes.

3. To understand various parameters of endurance ability associated with pranayama in certain age group of certain sport.
4. To understand scientific base for methods of training in endurance for athletes along with the traditional means of pranayama.
5. To understand how the endurance ability will enhance with any specific training methods of endurance.

**I.6 – Hypothesis:**

**H3:** According to the researcher, there may be significant difference of development of endurance through continuous method supplemented with pranayama in experimental group of athletes when compared to the control group.

**I.7 – Delimitations:**

1. The study is delimited to the male students only.
2. The study is further delimited to the age group between 18 to 25 years.
3. The study is delimited to students from Nashik District, Maharashtra.
4. The study is delimited to the standard endurance training and tests applicable for specific age groups and sex.
5. The study is further delimited to the college going students.
6. The study is delimited to few types of pranayama.

**I.8 – Limitations:**

1. Diet and rest of the college students was a limitation.
2. Involvement of students during endurance training and endurance test is a limitation.
3. Involvement of students during pranayama training during the sessions is a limitation.
4. Physical, mental, weather, college, house and surrounding conditions is a limitation.
5. The present research work had various limitations which are beyond the control of researcher and will be considered as one of the major limitations of the study.

**Methodology****ii.1 – Sample:**

The samples of this study will be Athletes ranging between 18 to 25 years of age and are studying in undergraduate and postgraduate college. In all 75 athletes will be selected for the study in which 15 Athletes will be imparted continuous endurance training method along with pranayama, 15 Athletes will be imparted with only continuous training, 15 Athletes will be imparted with interval training along with pranayama, 15 Athletes will be imparted with only interval training and remaining 15 Athletes will not be provided with any endurance training but are made to practice their event regularly without any specific training.

The initial tests will be administered on each individual considering all the required conditions for the standard tests. All the subjects will be regularly trained according to the weekly training scheduled prepared considering the science of training. In all 5 groups of 15 will be trained regularly according to their experimental groups and control group.

After every month the same tests will be administered on all the subjects for noting the development accordingly. In all 7 times the tests will be conducted and the results will be noted for statistical calculation and analysis.

**ii.2 – Variables:****Dependent Variables:**

College Students

**Interweaving Variables:**

- (1) Sex: Boys
- (2) Age: 18 years to 25 years
- (3) Criteria: Athletes
- (4) Times: Initial and Final.

**Independent Variables: Development Of Endurance:**

- (1) Canadian fit test (for VO<sub>2</sub> max and Metabolic Equivalent MET)
- (2) Harvard Step Test.
- (3) Coopers Test.

**iii.3 - Tools And Means:**

All the selected endurance tests used will be standard tests with specification according to age, sex or category and the coefficient of the reliability and validity are already proved.

Hence research scholar will use some of the selected motor ability tests which are applicable to the selected age group and samples and are universally accepted and established standard tests for assessing development of motor abilities.

**MEANS:**

**Personal data bank:** It will be used to collect the information of an individual. Personal data bank will consist of the following aspect: Full name, date of birth and age, diet (vegetarian/ mix), sportsman / non-sportsman, height and weight.

**Motor ability tests:**

- (1) Canadian fit test (for VO<sub>2</sub> max and Metabolic Equivalent MET)
- (2) Harvard Step Test.
- (3) Coopers Test.

**iii.4 – Procedure:**

The subjects will be selected randomly from the athletic group of the college. Overall 75 subjects will be divided into 5 equal groups of 15 each ranging between 18 to 25 years of age group. The tests will be administered with all specified and standard conditions starting with warming up exercises, optimum active rest periods in between and cooling down at the end. The condition of the subjects will be observed normal and motivated to take part in the tests. An introductory talk will be arranged regarding the initial day's workout assessment for confirmation of tireless and recovered state.

**iii.5 - Collection of Data:**

The subjects selected randomly from the athletics group of undergraduate and postgraduate classes will be made to undergo regular training under expert supervision. Periodically the tests will be conducted to assess the development in the endurance with different training means and methods adopted along with their specific events. In all 5 groups viz. (1) Experimental Group Continuous Endurance Training Method only, (2) Experimental Group Continuous Endurance Training Supplemented with Pranayama, (3) Experimental Group Interval Endurance Training Method only, (4) Experimental Group Interval Endurance Training Method Supplemented with Pranayama and (5) Control Group will be imparted training according to standard weekly training schedule.

The subjects will be made to undergo standard tests every month and in all 7 times tests will be organized in 6 months of training. The initial test and the final scores of the tests will be compared to assess the development of difference in endurance when imparted with different methods.

**iii.6 – Statistical Methods:**

To analyze the collected data the scores will be arranged according to the comparison and in sequential order so as to find out the statistical values. The following statistical variables will be selected for comparing, analyzing and interpretation of numerical values and basing on which the findings will be discussed.

- (1) Mean will be computed by adding all the scores and then dividing by the number of scores involved. The mean will be used in the study to measure the average in growth and development.
- (2) Standard Deviation will be computed in the study for the measures of variability. Standard deviation reflected the magnitude of the deviations of the scores from their mean.
- (3) For testing the null hypothesis for the difference between various samples means the t-Test is used at significance of .05 levels.

**Results and Discussions**

The results and discussions will be made based on experiment, collection of data, and statistical treatment.

**TABLE – IV.1:**

**The Test Results of Height and Weight (Pre, Post And Difference) of the Subjects Undergoing Continuous Endurance Training along with Pranayama and Athletics**

CODE	AGE	HEIGHT- PRE	HEIGHT- POST	HEIGHT- DIFF	WEIGHT- PRE	WEIGHT- POST	WEIGHT- DIFF
101-CTP	19	170	171	1	65	64	-1
102-CTP	20	175	175	0	62	63	1
103-CTP	18	165	166	1	59	61	2
104-CTP	19	171	171	0	65	64	-1
105-CTP	19	174	174	0	67	67	0
106-CTP	18	174	175	1	65	64	-1
107-CTP	18	165	167	2	60	62	2
108-CTP	19	164	165	1	62	64	2
109-CTP	19	169	169	0	60	62	2
110-CTP	20	170	170	0	58	61	3
111-CTP	21	178	178	0	69	70	1
112-CTP	24	180	180	0	65	63	-2
113-CTP	18	165	166	1	60	62	2
114-CTP	19	168	168	0	59	60	1
115-CTP	18	169	169	0	58	61	3
MEAN	19.26667	170.4667	170.9333	0.466667	62.26667	63.2	0.933333
MEDIAN	19	170	170	0	62	63	1
MODE	19	165	171	0	65	64	2
S.D.	1.579632	4.897035	4.558613	0.63994	3.494213	2.569047	1.579632
CORRELATION				0.993393			0.908692

- From table number IV.1 it is evident that insignificant changes are observed in the values of Mean of height and weight (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.1 it is evident that insignificant changes are observed in the values of Median of height and weight (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.1 it is evident that insignificant changes are observed in the values of Mode of height and weight (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.1 it is evident that insignificant changes are observed in the values of Standard Deviation of height and weight (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

- From table number IV.1 it is evident that insignificant changes are observed in the values of Correlation of height and weight (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

**Table – iv. 2**

**The test results of canadian fit test and cooper test for vo<sub>2</sub> max (pre, post and difference) of the subjects undergoing continuous endurance training along with pranayama and athletics**

CODE	AGE	CFT- VO2M AX- PRE	CFT- VO2MAX- POST	CFT- VO2MAX- DIFF	COP- VO2-PRE	COP-VO2- POST	COP-VO2- DIFF
101-CTP	19	47.6	50.6	3	38.57	43.53	4.96
102-CTP	20	44.6	47.6	3	38.34	41.25	2.91
103-CTP	18	50.6	56.6	6	41.25	43.49	2.24
104-CTP	19	38.6	50.6	12	33.58	36.78	3.2
105-CTP	19	41.6	47.6	6	35.88	38.9	3.02
106-CTP	18	50.6	59.6	9	41.43	44.16	2.73
107-CTP	18	53.6	56.6	3	43.37	44.71	1.34
108-CTP	19	47.6	47.6	0	36	38.99	2.99
109-CTP	19	53.6	59.6	6	41.38	43.71	2.33
110-CTP	20	44.6	47.6	3	33.63	37.45	3.82
111-CTP	21	47.6	53.6	6	39.91	41.38	1.47
112-CTP	24	38.6	53.6	15	34.32	38.34	4.02
113-CTP	18	41.6	50.6	9	33.58	37.81	4.23
114-CTP	19	41.6	47.6	6	36.78	40.36	3.58
115-CTP	18	41.6	47.6	6	36.67	39.91	3.24
MEAN	19.266 67	45.6	51.8	6.2	37.646	40.718	3.072
MEDI AN	19	44.6	50.6	6	36.78	40.36	3.02
MODE	19	41.6	47.6	6	33.58	39.60	6.02
S.D.	1.5796 32	5.0284 9	4.507137	3.839643	3.254243	2.678209	0.986626
Correla tion				0.680749			0.963191



- From table number IV.2 it is evident that significant changes are observed in the values of Mean of Canadian Fit Test and Cooper Test for VO<sub>2</sub> max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.2 it is evident that significant changes are observed in the values of Median of Canadian Fit Test and Cooper Test for VO<sub>2</sub> max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.2 it is evident that significant changes are observed in the values of Mode of Canadian Fit Test and Cooper Test for VO<sub>2</sub> max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.2 it is evident that significant changes are observed in the values of Standard Deviation of Canadian Fit Test and Cooper Test for VO<sub>2</sub> max. (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

**Table – iv.3:**

**The test results of metabolic equivalent, 800 meters run for endurance and harvard step test for physical fitness index (pre, post and difference) of the subjects undergoing continuous endurance training along with pranayama and athletics**

CODE	AGE	MET- PRE	MET- POST	MET- DIF	800M- PRE	800M- POST	800M- DIFF	HST- PRE	HST- POST	HST- DIFF
101-CTP	19	13.6	14.5	-4.5	162	145	17	64	69	5
102-CTP	20	12.7	13.6	-6.4	150	133	17	62	67	5
103-CTP	18	14.5	16.2	-1.8	175	158	17	67	75	8
104-CTP	19	11	14.5	-4.5	165	157	8	58	64	6
105-CTP	19	11.9	13.6	-5.4	180	167	13	59	65	6
106-CTP	18	14.5	17	-1	143	129	14	65	71	6
107-CTP	18	15.3	16.2	-1.8	145	126	19	69	78	9
108-CTP	19	13.6	13.6	-5.4	160	151	9	65	75	10
109-CTP	19	15.3	17	-2	140	129	11	73	79	6
110-CTP	20	12.7	13.6	-6.4	166	142	24	63	69	6
111-CTP	21	13.6	15.3	-5.7	172	154	18	64	70	6
112-CTP	24	11	15.3	-8.7	184	163	21	59	65	6
113-CTP	18	11.9	14.5	-3.5	175	171	4	62	69	7
114-CTP	19	11.9	13.6	-5.4	176	161	15	63	68	5
115-CTP	18	11.9	13.6		179	164	15	61	69	8
MEAN	19.26	13.02	14.80	-4.464	164.8	150	14.8	63.6	70.2	6.6
MEDIAN	19	12.7	14.5	-4.95	166	154	15	63	69	6
MODE	19	11.9	13.6	-5.4	175	129	17	64	69	6
S.D.	1.57	1.44	1.282	2.197	14.442	15.076	5.212	3.960	4.61	1.502
CORRE LATION				-0.08			0.938			0.950

- From table number IV.3 it is evident that significant changes are observed in the values of Mean of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.3 it is evident that significant changes are observed in the values of Median of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for

Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

- From table number IV.3 it is evident that significant changes are observed in the values of Mode of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.
- From table number IV.3 it is evident that significant changes are observed in the values of Standard Deviation of Metabolic Equivalent, 800 meters run for endurance and Harvard Step Test for Physical Fitness Index (pre, post and difference), on the players undergoing continuous endurance training along with pranayama and athletics.

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## **Influence of Sowing Dates on Mineral Constituents in Leaves of Safflower Variety Nira**

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### **Abstract**

Effect of three different sowing dates was analyzed with respect to different mineral constituents in safflower variety Nira. The biochemical analysis of leaves revealed that during early stage of growth, leaves can be used as a rich source of minerals, vitamin c & consumed as a leafy vegetable. As the maturity increases depletion in the level of different mineral constituents is observed. The plants raised during September, October were found rich in phosphorus. Potassium, Magnesium and iron as compared to the November sown plants.

**Key words** : Safflower, minerals ,sowing dates.

### **Introduction**

Safflower (*Carthamus tinctorius* L.) is an important rabi oil seed crop of India. Maharashtra and Karnataka are the most important safflower growing states. (Reddy and pati, 1995) The oil is rich in polyunsaturated fatty acid, linoleic acid, having effective role in reducing blood cholesterol level (Vidyarthi, 1943) Young leaves are properly consumed as a vegetable (Aykroyd, 1951)

It has been reported by Ganga *et. al.* (1981), that yield of crop and harvest index are significantly influenced by seeding dates. The recommended seeding time for west Maharashtra and Marathwada is last week of September to mid October. (Reddy and Pati 1995).

In the present study an attempt has been made to select the best sowing dates in Maharashtra as well as to select the best nutritional value of safflower leafy vegetable for variety Nira. The seeds were sown in September, October and November. Various mineral constituents in the leaves growing under influence of different sowing period were determined after first and second month of growth.

### **Materials and methods**

The seeds of safflower variety Nira were obtained from Nimbkar Agricultural Research Institute, Phaltan, It is a spiny variety adapted to irrigated areas of Maharashtra. The seeds were sown in different field plots of equal size on 25<sup>th</sup> day of September, October and November. The tender leaves were collected after completing first month and second month of growth and used for biochemical analysis. Different mineral constituents were analyzed by using following methods.

Nitrogen was estimated by method of Hawk *et. al.* (1948) Phosphorus was estimated by method of Skein (1965). Potassium sodium, calcium were estimated flame photo metrically using a mediflame photometer while magnesium and iron were analyzed using atomic absorption spectrophotometer (Perkin-Elmer 3030 model)

### **Result and discussion**

The tender shoots of safflower are commonly sold as a green vegetable and consumed as a salad. Nutritional value of leaves is determined by various biochemical constituents in leaves during early stage of growth has been discussed.

#### **• Mineral Constituents**

The variations observed in the content of different minerals in the leaves during the first and second month of growth were analyzed and are discussed with respect to the sowing period.

**i) Nitrogen** – Nitrogen content was found affected by the sowing period. The October sowing resulted in increasing the Nitrogen content (Table 3).A maximum value was recorded for October-sown plants and the content was more or less constant in both months. In November-sown plants Nitrogen content was reduced than the October-sowing but it was greater than the September - sown plants.

ii) **Phosphorus** – Phosphorus content was reduced with late sowing period. The maximum values were recorded in September sown plants. Further the amount was higher during the first month and then declined to half during the second month of growth.

The Study indicated nutritional richness during the first month with respect to phosphorus. The late sowing affected Phosphorus metabolism reducing its level in the leaves.

iii) **Potassium** – The Potassium content was maximum in September & October - sown plants and was reduced by November - sowing (Table 3). The content was also dependent upon the growth stage and young leaves had a higher level of Potassium. The late sowing affected and reduced the level of Potassium.

iv) **Sodium** – Na-content was found slightly reduced in November sown plants. The maximum value was recorded for October sown plants. The values were higher in the first month as compared to the second month.

The ratio of Na : K declined during the second month indicating a decrease in both the elements during later growth stage. The ratio did not fluctuate much with respect to the date of sowing.

v) **Magnesium** – Magnesium content in the leaves was higher during the first month and declined with advance in growth (Table 3). The amount did not vary much in September and October -sown plants and was slightly reduced in the November sown plants.

vi) **Calcium** – Calcium content shown similar trend with Mg, content. It was slightly fluctuated by sowing period. During the second month the level of Ca was reduced to about half observed in the first month.

vii) **Iron** – Iron content was maximum in October- sown plants in both the months and the level reduced with the progress in growth exhibition higher amount during the early stage.

The analysis of leaves revealed that during the early stage of growth i.e. after about a month the leaves can be used as a rich source of minerals and consumed as a vegetable. As the maturity increases depletion in the level of different mineral constituents is observed. The plants raised during September, October were found rich in P, K, Mg and Fe as compared to the November-sown plants. Analysis of young leaves of safflower was carried out by Aykroyd (1951) who reported a fair amount of iron and quite appreciable amount of carotene in safflower leaves. A comparative analysis of safflower vegetable with three common vegetables namely Methi, Chuka and Kothimbir had also provided by Sahasrabuddhe (1925). He observed that that safflower leaves compared very favorably with most of the common leafy vegetables. He has reported higher nitrogen content and less fiber in safflower than other vegetables. However the content of other minerals was not reported.

**Table : Effect of sowing dates on Mineral constituents in the leaves of Safflower variety Nira.**

Sr. No.	Minerals (g100 <sup>-1</sup> g dry wt.)	September		October		November	
		I month	II month	I month	II month	I month	II month
1	Phosphorus	2.73	3.10	3.75	3.80	3.33	3.44
2	Pottasium	3.96	3.78	4.02	3.67	3.37	3.02
3	Sodium	0.47	0.37	0.51	0.35	0.44	0.32
4	Na : K	0.12	0.097	0.13	0.095	0.13	0.106
5	Magnesium	1.40	0.78	1.39	0.80	1.36	0.92
6	Calcium	0.57	0.20	0.70	0.49	0.68	0.37
7	Iron	0.09	0.02	0.10	0.06	0.06	0.01

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## A Comparative Study of Adjustment and Aggression of Volleyball Players of Nashik District

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### Abstract :

The samples of this study will be selected from Nashik District those who have represented in the recognized official competition at district, state or All India in Volleyball from 2005-2006 till 2009-2010. The selected subjects will then be provided with the adjustment and aggression questionnaire for administration and they will be instructed for the faithful response towards the questionnaire for appropriate interpretation and judgment. Total 80 subjects will be assessed for their adjustment qualities and aggression in Volleyball players of Nashik District. The selected subjects will be only boys' teams. The subjects will then be provided with a code for their identification.

The results as per the years 2005-06: there is no much difference in the percentiles of the adjustment at home and social whereas a slight more adjustment is seen in the volleyball players at emotional and health, the overall adjustment is seen slightly higher in the volleyball players. 2006-07: there is no much difference in the percentiles of the adjustment at home, social and emotional whereas a slight more adjustment is seen in the volleyball players at health, the overall adjustment is seen slightly higher in the volleyball players. 2007-08: there is no much difference in the percentiles of the adjustment at home and social whereas a slight more adjustment is seen in the field hockey players at the emotional and health side, but the overall adjustment is seen well in volleyball players. 2008-09: there is no much difference in the percentiles of the adjustment at social and in the remaining home, emotional, health and overall adjustment of the volleyball players. 2009-10: there is no much difference in the percentiles of the adjustment at home, social and health whereas a slight more adjustment is seen in the volleyball players at emotional side; the overall adjustment is seen equal in all the volleyball players.

### I.1 – Introduction:

Sport psychology is the study of the psychological factors that affect participation and performance in sports. It is also a specialization within the brain psychology and kinesiology that seeks to understand psychological/mental factors that affect performance in sports, physical activity, and exercise and apply these to enhance individual and team performance. It deals with increasing performance by managing emotions and minimizing the psychological effects of injury and poor performance. Some of the most important skills taught are goal setting, relaxation, visualization, self-talk, awareness and control, concentration, confidence, using rituals, attribution training, and periodization. Sport psychology defined in laymen's terms: There are many psychology tools you can apply in sports. Some of the psychology tools are mentioned above, but most successful sport psychologists will analyze each individual to determine their learning style. The latest and most effective psychology used in sports today is neuro-linguistic programming (NLP). NLP categorizes each individual's learning style whether it's visual learning, auditory (hearing) learning, or kinesthetic (hands on or emotional) learning. For example, if you learn from hearing, you would benefit from imagining in your mind the sound of the crowd cheering your name after you have won a competition. The emotional experience you receive from imagining the sound of the crowd cheering your name is then enhanced by using NLP techniques, also you will be taught to recall this emotion at will while in competition to motivate yourself to perform at a higher level. This type of psychology is popular in sports involving extreme mental situations.

**Adjustment:** In psychology, adjustment is studied especially in abnormal psychology and also in social psychology. In our daily life there has been a continuous struggle between the needs of the

individual and the external forces, since time immemorial. According to Darwin's theory of evolution those species which adapted successfully to the demands of living survived and multiplied while who did not died. Therefore adaptation or changing of if one self or one's surroundings according to the demands of external environment became the basic need for our survival. It is as true today with all of us as it was with Darwin's primitive species.

**Sports and Aggression:** Aggression is a term that is used extensively in sport. If coaches were surveyed and asked to identify the characteristics of successful athletes, aggression would be high on the list. What is meant by aggression in sport? Aggressive plays are used in football, for example when the defense executes a fierce tackle. In basketball, good re-bouncers, good defensive players, and the players who consistently drive to the basket are all described as aggressive. Aggressive tennis players rush to the net at every opportunity. The volleyball player who dives to the floor to attempt an apparently impossible save is playing aggressively. In these and other examples from sport, aggressive acts can be defined as those in which the athlete (1) is highly motivated, (2) demonstrates a great release of physical energy, and/or (3) is not inhibited by fear of potential failure or injury.

**Volleyball** is an Olympic team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.

The complete rules are extensive. But simply, play proceeds as follows: A player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. They may touch the ball as many as three times. Typically, the first two touches are to set up for an *attack*, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

The rally continues, with each team allowed as many as three consecutive touches, until either (1): a team makes a *kill*, grounding the ball on the opponent's court and winning the rally; or (2): a team commits a *fault* and loses the rally. The team that wins the rally is awarded a point, and serves the ball to start the next rally. A few of the most common faults include:

- causing the ball to touch the ground outside the opponents' court or without first passing over the net;
- *catching and throwing* the ball;
- *double hit*: two consecutive contacts with the ball made by the same player;
- four consecutive contacts with the ball made by the same team.
- net foul: touching the net during play.

The ball is usually played with the hands or arms, but players can legally strike or push (short contact) the ball with any part of the body.

A number of consistent techniques have evolved in volleyball, including *spiking* and *blocking* (because these plays are made above the top of the net the vertical jump is an athletic skill emphasized in the sport) as well as *passing*, *setting*, and specialized player positions and offensive and defensive structures.

### **I.2 – Objectives of the Study:**

6. To study the adjustment qualities of Volleyball players of Nashik District.
7. To study the aggression qualities of Volleyball players of Nashik District.
8. To find out the relation of adjustment and aggression with the achievement of Volleyball players of Nashik District.

### **I.3 – Hypothesis:**

H-01: The research scholar hypothesize that there is no significant difference of adjustment quality and aggression between the Volleyball players of Nashik District.

### **I.4 – Delimitations:**

7. The study is delimited to the male player only.
8. The study is delimited to the Volleyball players of Nashik District.
9. The study is delimited for a period of last 5 years players who has participated in recognized official district, state or all India Volleyball Competitions for Nashik District.

#### **I.5 – Limitations:**

6. The sincere response of the Volleyball players to the adjustment questionnaire is a limitation.
7. The sincere response of the Volleyball players to the aggression questionnaire is a limitation.
8. The performance and achievement at various competitions and its record from the players is the limitation of the study.
9. Availability of all the players in a place for the response to the questionnaire is a limitation of this study.

#### **Methodology**

##### **II.1 – Sample:**

The samples of this study will be selected from Nashik District those who have represented in the recognized official competition at district, state or All India in Volleyball from 2005-2006 till 2009-2010. The selected subjects will then be provided with the adjustment and aggression questionnaire for administration and they will be instructed for the faithful response towards the questionnaire for appropriate interpretation and judgment. Total 80 subjects will be assessed for their adjustment qualities and aggression in Volleyball players of Nashik District. The selected subjects will be only boys' teams. The subjects will then be provided with a code for their identification.

##### **II.2 – Variables:**

###### **Independent Variables:**

1. Bell's Adjustment Inventor;
2. The Aggression Questionnaire (AQ), Authors: Arnold H. Buss and W. L. Warren

###### **Interweaving Variables:**

1. Age: 19 to 25 years.
2. Sex: Boys

###### **Dependent Variables:**

1. Performance of the Volleyball players due to their adjustment qualities
2. Performance of the Volleyball players due to their aggression

##### **II.3 - Tools And Means:**

There is lot of psychological qualities which are responsible for the sports performance. Few qualities play a vital role to be stable and act maturely in the competition to keep up the motives clear. The few of them as the research scholar selected is the adjustment quality and the aggression, which are major contributors of the sports performance. The following are the few tests which are selected to observe the psychological qualities prerequisites for the optimum performance and achievement.

###### **Aggression Questionnaire:**

This test is constructed and standardized by Buss, A. H., & Warren, W. L. (2000). The test consists of 34 questions, this highly reliable and valid tool, used for measuring aggression and its complex form.

###### **Adjustment Inventory**

This inventory has been devised by Bell. This inventory is self administering. It has no fix time limit it may take out thirty minutes to answer.

All these questionnaires and tests are standardized and may be utilized on the selected samples from various colleges but are part and parcel of the Volleyball and Basketball teams of Nashik District. These tests are useful for determining the specified qualities of adjustment and aggression.



**Means Used:**

1. **Personal data bank:** It will be used to collect the information of an individual. Personal data bank will consist of the following aspect: Full name, name and address of the college, date of birth and age, gender, diet (vegetarian/ mix), training age, height and weight.
  - **Psychological tests: Aggression Questionnaire:** This test is constructed and standardized by Buss, A. H., & Warren, W. L. (2000). The test consists of 34 questions. This highly reliable and valid tool, used for measuring aggression and its complex forms.
  - **Adjustment Inventory:** This inventory has been devised by Bell. This inventory is self administering. It has no fix time limit it may take out thirty minutes to answer.

**II.4 – Procedure:**

The subjects will be selected from different colleges representing the Volleyball boys' teams of Nashik District. In all two testes will be selected for evaluating the adjustment qualities and aggression of the subjects between 19 to 25 years. The subjects will be tested initially for their adjustment qualities and then for aggression. While organizing the tests the following things will be observed strictly for objectivity, reliability and validity of the findings:

1. The sequence of tests will not cultivate fatigue in the subjects.
2. The condition of the subject before undergoing / performing the test is normal and motivated.
3. Proper and comfortable kit while administering the test.
4. Sufficient time was allotted for instructions.
5. Instructions regarding the performance of the specific tests are passed before the test.

In each group 16 subjects will be tested in 02 variables in adjustment qualities and aggression, 2 hours will be allotted in a day for two tests on a team.

**II. 5 - Collection of Data:**

The subjects will be selected from different colleges those who have been selected for different official recognized competitions to represent Nashik District. The boys selected will be between the age group of 19 to 25 years approximately. The subjects will be tested in adjustment quality questionnaire and aggression questionnaire. Much of the samples will be collected from the regions of Nashik District. The scores will then be entered individually in the forms provided accordingly. For identification of variables different codes will be used.

**II.6 – Statistical Methods:**

To analyze the collected data the scores will be arranged according to the sequential order so as to find out the statistical values. The following statistical variables will be selected for comparing, analyzing and interpretation of values and basing on which the findings will be discussed.

Percentile will be computed in the study for the measures of variability.

**Results And Discussions:**

CODE V1 to V16	HOME	SOCIAL	EMOTIONAL	HEALTH	TOTAL
<b>2005-06</b>	6.25	4.9	6.063	4	21.3
<b>Percentile</b>	75	90	65	80	85

1. During the year **2005-06:**
  - The volleyball team showed the adjustment at home with the mean value is **6.25** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at social with the mean value is **4.9** which is equivalent to **90<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at emotional side with the mean value is **6.063** which is equivalent to **65<sup>th</sup>** percentile.

- The volleyball team showed the adjustment at health with the mean value is found to be **4** which is equivalent to **80<sup>th</sup>** percentile.
  - The volleyball team showed the total with the mean value of adjustment is found to be **21.3** which is equivalent to **85<sup>th</sup>** percentile.
2. From the above statements it can be concluded that there is no much difference in the percentiles of the adjustment at home and social whereas a slight more adjustment is seen in the volleyball players at emotional and health, the overall adjustment is seen slightly higher in the volleyball players.

<b>CODE: V17 to V32</b>	<b>HOME</b>	<b>SOCIAL</b>	<b>EMOTIONAL</b>	<b>HEALTH</b>	<b>TOTAL</b>
<b>2006-07</b>	6.38	5.2	6.5	4.38	22.3
<b>Percentile</b>	75	90	65	80	85

3. During the year **2006-07**:
- The volleyball team showed the adjustment at home with the mean value is **6.38** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at social with the mean value is **5.2** which is equivalent to **90<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at emotional side with the mean value is **6.5** which is equivalent to **65<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at health with the mean value is found to be **4.38** which is equivalent to **80<sup>th</sup>** percentile.
  - The volleyball team showed the total with the mean value of adjustment is found to be **22.3** which is equivalent to **85<sup>th</sup>** percentile.
4. From the above statements it can be concluded that there is no much difference in the percentiles of the adjustment at home, social and emotional whereas a slight more adjustment is seen in the volleyball players at health, the overall adjustment is seen slightly higher in the volleyball players.

5.

<b>CODE: V33 to V48</b>	<b>HOME</b>	<b>SOCIAL</b>	<b>EMOTIONAL</b>	<b>HEALTH</b>	<b>TOTAL</b>
<b>2007-08</b>	5.94	5.1	6.313	5	22.4
<b>Percentile</b>	75	90	65	75	85

6. During the year **2007-08**:
- The volleyball team showed the adjustment at home with the mean value is **5.94** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at social with the mean value is **5.1** which is equivalent to **90<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at emotional side with the mean value is **6.313** which is equivalent to **65<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at health with the mean value is found to be **5** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the total with the mean value of adjustment is found to be **22.4** which is equivalent to **85<sup>th</sup>** percentile.

7. From the above statements it can be concluded that there is no much difference in the percentiles of the adjustment at home and social whereas a slight more adjustment is seen in the field hockey players at the emotional and health side, but the overall adjustment is seen good in volleyball players.

CODE: V49 to V64	HOME	SOCIAL	EMOTIONAL	HEALTH	TOTAL
2008-09	6.88	4.6	6.875	7.13	25.6
Percentile	70	90	60	60	75

8. During the year **2008-09**:
- The volleyball team showed the adjustment at home with the mean value is **6.88** which is equivalent to **70<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at social with the mean value is **4.6** which is equivalent to **90<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at emotional side with the mean value is **6.875** which is equivalent to **60<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at health with the mean value is found to be **7.13** which is equivalent to **60<sup>th</sup>** percentile.
  - The volleyball team showed the total with the mean value of adjustment is found to be **25.6** which is equivalent to **75<sup>th</sup>** percentile.
9. From the above statements it can be concluded that there is no much difference in the percentiles of the adjustment at social and in the remaining home, emotional, health and overall adjustment of the volleyball players.

CODE V65 to V80	HOM E	SOCIAL	EMOTIONAL	HEALTH	TOTAL
2009-10	5.63	5.1	5.313	5.13	21.2
Percentile	75	90	70	75	85

10. During the year **2009-10**:
- The volleyball team showed the adjustment at home with the mean value is **5.63** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at social with the mean value is **5.1** which is equivalent to **90<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at emotional side with the mean value is **5.313** which is equivalent to **70<sup>th</sup>** percentile.
  - The volleyball team showed the adjustment at health with the mean value is found to be **5.13** which is equivalent to **75<sup>th</sup>** percentile.
  - The volleyball team showed the total with the mean value of adjustment is found to be **21.2** which is equivalent to **85<sup>th</sup>** percentile.
11. From the above statements it can be concluded that there is no much difference in the percentiles of the adjustment at home, social and health whereas a slight more adjustment is seen in the volleyball players at emotional side, the overall adjustment is seen equal in all the volleyball players.

**From all the above statement the hypothesis is accepted.**

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That makes 'em' hungry  
Don't Bulgin give you anything?

This is the opinion of Mrs. Yeo who with others is suffering from misery in the cold days. The strike resulted to starve the families of workers. Not only this but also the impact of strike resulted on the bread and butter of labourers. Even they had no fire in the house of Roberts. It caused the wives and children of the workers have to go without food for many days. The problem be gotten by strike is told by Mrs. Bulgin and Yeo, that they keep their children in bed and do not allow them to run about. By forcing her children in bed she can keep them away from the pangs of hunger, though they full restless. At this Mrs. Yeo tells her that the latter is lucky in the sense that her children are small and can be managed. But her own children have to go to school and going to school makes the hungry which puts her and her children to greater misery and suffering one hand we can agree with the opinion of Mrs. Yeo, but is it good for the children to keep away them from school? if they are not feeding their children, then how are a nation can be a strong? Thus all the problems are resulted from the decisions of strikers with David and Anthony. The very last lines of *strife* deals with the message that for a peaceful and healthy settlement of all conflicts the life should not take recourse to extremism. All the ideas, lastly remain ideas but in the course of time is told by Harness as .

Harness :       D' you know, Sir – these  
                      Terms, they are the very some  
                      We drew up together, you  
                      And I , and put to both  
                      Sides before the fight began ?  
                      All this all this and for what?

Thus, the idea that begets the problem in *strife* seems to be more moving one. Mrs. Roberts is a lady who was already facing the problem of heart. But, though she was notable to work properly for she had participated in the strike, the decision of Robert impels him to become careless about his wife. He didn't wish to take her hospital or to give her proper treatment. This idea of Robert takes him for the death of Mrs. Roberts, his wife. Moreover at the end Robert David, the leader or party of workers gets banished and Anthony leader of the director of industry also gets banished. But what remains critical problem are the death of Mrs. Roberts and the buffering of workers.

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## New Trends in Sports Management

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### 1. Introduction

Sport has an important role in the society. For the individuals, it enhances fitness, improves general health and enables a person to be self-confident. At the national level, sport and physical education contribute to economic and social growth, improves public health, and bring different communities together. It is an important component of human capital development. At the global level, sports and physical education can have a long lasting positive impact on development of poor countries through various linkages like development of tourism sector. It helps to maintain international peace and promotes cordial international relations through international sporting events. Under the Constitution of India, "sports" is in the State list along with entertainment and amusement. Thus, the responsibility for the development of sports primarily lies with each state government. The state-level focus on sports has the advantage that it allows the development of sports at the grass-root level.

#### 1.1 Origin and Growth of Sports

The global demand for sports goods is driven by sports apparel which constitutes around 50 per cent of the total demand. According to the Sports Goods Export Promotion Council of India, the size of the global sports market increased from \$267 billion in 2006 to \$278.4 billion in 2007. It is growing at the rate of 4 per cent. Worldwide sales of sports equipment, apparel and footwear sales was \$284 billion in 2008. Most studies have shown that the industry was growing at the rate of 4 per cent before the recent global slowdown.

**Table 1**

**Growth Rate of Global Sports Industry in 2007 (in per cent)**

	Total sports	Sports market without bicycles	Sports footwear	Sports apparel	Sports related equipment	Bicycles & related accessories
World	4	4	5	4	2	6
Americas	4	4	3	4	3	4
Europe	2	1	4	1	0	7
Middle East and Africa	14	14	15	15	12	12
Asia	6	6	8	7	3	6

*Source:* SGEPC (2008).

The US is the largest market for sports products i.e. equipment, apparel, footwear and accessories and accounts for around one-third of the global market. However, the fastest growing markets are South and Central Asia, the Middle East and Central and Eastern Europe. Although Asian countries like China and India have a large population base, the sports market in Asia is currently less than 25 per cent.

The percapita consumption of sports goods in developing countries is low for three reasons:

- (1) the per capita purchasing power is lower than that in developed countries

- (2) sports is treated as a luxury commodity; and,
- (3) the government's priority is to provide basic necessities, such as infrastructure, water and sanitation, healthcare and education rather than development of sports.

### **1.2 Sports in India**

Traditionally, the Indian society is education-oriented and sports is treated as a deviation from education. The focus has been on education and not sports. Nevertheless a large number of sports are played in India and they have evolved overtime. In the past, royalty and wealthy Indians played sports like polo, golf and cricket, but the involvement of the general public in these sports was limited.

In fact, rich and royalty got connected to sports like cricket during their education abroad and brought the game to India. At present, cricket is played by all sections of the society. Sports such as kabaddi, kho kho, gilli danda and pehlwani and chess are said to be originated in India.

Over time, the status of different sports has changed. Cricket has become the most popular sport, and the performance of the Indian team and individual players in international events has helped popularise this sport. In contrast, the popularity of hockey, which is India's national sport, has decreased. Although, India is not a major sporting country and neither does it win a significant number of medals in international events, it actively participates in international sporting events such as the Olympic Games, Commonwealth Games, Asian Games and Cricket World Cup. The main support for Indian sports has come from public sector organisations such as the Ministry of Railways, Air India and Indian Airlines, and the Indian Defence Services, especially after Indian industries were nationalised in the 1960s. There were only a few private sponsors like the Tata Group. These organisations reserved jobs for sportspersons and also provided training and other facilities. Post-liberalisation, private sector participation in sports promotion, training and infrastructure has increased. Entry of private sector has led to commercialisation of sports. Federations such as BCCI have been working closely with private sector for team ownership, team and event sponsorship, etc. With the increase in level of education, international travel and exposure through cable television, the internet, etc., the Indian consumers are changing and the level of awareness is rising. Educated Indian youth prefer a western lifestyle and are health conscious as is evident from the growing number of health clubs, gymnasiums and fitness centres. Also, with global integration, the culture of the workplace is changing. For instance, many IT and multinational companies now have in-house gymnasiums or sponsor their employees for fitness activities like gymnasiums, golf, and yoga.

The size of the sports retail market in India is small. There are no clear estimates on the size of the sports sector alone. However, the sports, equipments, books and entertainment sector together constituted around 2.7 per cent of the total retail market in 2006-07 while in the organised retail market its share is around 10 per cent. Over the years, India has developed as a sports good sourcing hub and the sports goods industry has been growing at an average annual rate of around 10-12 per cent in the past five years. The focus of the industry has been on exports. However, of late the sports market in India is growing rapidly with the continued growth of GDP, a young and educated population, higher disposable income, urbanisation, awareness and exposure to international markets, the presence of foreign brands, corporate entry into sports, technological developments, and good performance of the country in some international events.

The country has been hosting a series of international sporting events which is likely to boost the industry and increase sports awareness. Also, sports promotion, training and infrastructure, and exports of sports goods are now the focus areas of the Indian government. India actively participating in international sporting events such as Olympic Games, Commonwealth Games and Asian Games. Although India's global ranking is much lower than countries like China in Olympic Games India did well in the Common Wealth Youth Games, in 2008 and won the highest number of medals (76 medals) followed by Australia and England. In the 11th South Asian Games, 2010 in Dhaka (Bangladesh), India won a large number of medals. India's international ranking is good in sports like



cricket, chess, shooting, boxing and golf.

### **1.3 Importance of Sports**

There are very few official studies on the sports sector and it is difficult to estimate the size of the industry, its contribution to GDP (gross domestic product) and employment. Moreover, the available statistics are outdated. This is because sports can be defined differently in different countries. The number of sports is large and each can be played in different formats (i.e., volleyball can be played on court, grass, or beach). The distinction between sports, recreation and fitness activities is also unclear.

Hence, it is difficult to track developments in the sports sector. Most research in this segment is based on tracking consumer profiles and discussions with industry experts. In most countries the contribution of the sports sector to the GDP is small and usually less than five per cent of GDP.

### **1.4 Sports Management**

Sports management is a global industry that affects many different segments of business. The sport industry is amongst the world's largest industries and places importance on business relationships in order to maintain its competitiveness. The changing business environment has meant that businesses involved in sport need to constantly change and innovate in order to compete better. As sport has a global appeal it is particularly important in today's global economy.

The evolution of sports management reveals the necessity of a radical change in organizing that activity. The substantiations for that new approach are related to the unilateral training of those authorized to manage the sports activities, to the confusions produced by misunderstanding the general interest and the specific interest of one compartment or field and, not at least, the conservatism of most leaders of sports activities.

## **2. Review of Literature**

There is significant amount of literature on sports and its linkages with tourism, peace.

Vanessa Ratten, Sports Management: Current trends and Future Development, Thunderbird International Business Review pointed out that sports management is a global industry that affects many different segments of the business. The sport industry is amongst the world's largest industries and places importance on business relationships in order to maintain its competitiveness.

Mukherjee Arpita Sports Retailing in India: Opportunities, Constraints and Way Forward, Draft working paper Indian council For Research On International Economic Relations concluded that sports retailing is a niche segments of retailing in which government, federations, manufacturers, sponsors and consumers play an important role. In India, retailing of sports products is growing due to rise in per capita income, increasing health awareness and brand consciousness, entry of corporate retailers in this segment among others. India has been a manufacturing hub for sports products and the number of brands sourcing from India has increased after liberalization.

## **3. Objectives of the Study**

**The following are the objectives of the study:-**

- 1) To understand the need and importance of sports.
- 2) To study the growth of sports in India.
- 3) To highlight the current trends those are occurring in sports.
- 4) To suggest measures to improve sports activities in India.

## **4. Research Methodology**

As the study is descriptive and analytical, survey method is followed for the study.

The data are collected through secondary sources. Secondary Data were collected through journals, research reports, newspapers and websites. The data were tabulated and analysed for drawing conclusions. A few suggestions are made at the end.

## **5. Data Analysis**

The popularity of and participation in different sports tend to vary across years but some

sports like cricket, badminton, chess, football seems to be popular across all years. The top ten sports by participation are given in Table 2. There have not been any major changes in the status of sports in 2008 with cricket still having the most prominent position. Sports like boxing and shooting have gained popularity in 2008 after India won medals at the Beijing Olympics in 2008. However, the participation is low. With increasing health consciousness, running and fitness seem to have gained popularity and participation has increased. In a tropical country like India, swimming is a popular sport but it suffers from lack of infrastructure. Also, swimming in many parts of India is seasonal.

**Table 2 Top 10 Sports by Participation ( %)**

Sports	2009
Cricket	8.8
Chess	4.5
Badminton	3.5
Volleyball	2.0
Cycling	2.0
Football	1.6
Bowling	1.6
Running	1.4
Fitness	1.4
Swimming	1.3

Source: Ministry of Youth affairs and Sports 2009

The above table reveals that Cricket is the most popular sports activity in India followed by Chess and Badminton. Other sports are not much popular in the country. The developed countries are popular in other sports.

Annual spending on recreational products and services in India are as follows.

**Table 3  
Annual spending on recreational products and services**

Year	Urban	Rural	Total(Rs. Bn)
1985	25	29	54
1995	35	21	56
2005	32	18	50

Source: Mc Kinsey report2007.

Above table reveals that the annual spending on sports activities has increased from 1985 to 1995 but again decreased in the year 2005. The trend in spending is more in urban areas as compared to rural areas. Growth of sports industry worldwide is shown in following table.

**Table 4 Growth of sports industry worldwide Billion Pounds**

Year	Major events	Ongoing Events	Major events as % of total revenue
2005	36.2	35.6	0.6
2006	40.7	37.7	3.0
2007	40.7	40.3	0.4
2008	46.8	43.1	3.7
2009	45.4	44.8	0.6

Source Kerney Analysis

The worldwide sports industry has grown steadily, despite cyclical nature of major events. Major events are more than on going events. Major events as a % revenue has increased to 3.7% in

2008 and again reduced to 0.6% in 2009. This indicates that the sports industry has grown steadily during the period 2005 to 2009.

## 6. Conclusions

The sport industry is one of the fastest growing sectors worldwide, including India. With the increasing disposable income and broader range of sporting activities combined with the growing awareness for the needs of healthy and balanced lifestyle, consumers are spending more time and money to enjoy sports and leisure activities.

The activities and value of the global sport industry indicate tremendous growth. In response to the era of green economy modernisation will continue. Globally, there is a transition from traditional to modern retailing and as India develops and globalise this will be a natural trend in the country. The government can help the traditional sector to have a smooth transaction and upgrade itself.

Since this sector faces financial crunch, government owned banks and micro-credit institutions can have innovative packages for meeting the specific requirements of this sector. Some banks have already started micro-financing for the small retailers. The government can work with small retailers' associations to streamline the procurement process and encourage them to do bulk purchases through associations. Government can work closely with them in up gradation of technology, training of manpower, investment in infrastructure.

## 7. Suggestions

The following suggestions are made for the improvement of sports in India.

- 1) The Government spending on sports activity should be increased.
- 2) Government should work closely with sports industry in up gradation of technology, training of manpower, investment in infrastructure.
- 3) The government should work with retailers' associations to streamline the procurement process and encourage them to do bulk purchases through associations.
- 4) More importance should be given for Olympic games rather than Cricket and other games.

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## **A Study of Skill Test & Actual Match Performance of Handball Players**

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### **Abstract**

Even though the player is physically fit and skillful, he may not perform well in the actual match because execution of skill in the match situation is totally different ability (Barrow). Due to the small duration of competition and hectic schedule of the matches, most of the time it is difficult to conduct the standardized test battery for the selection of the players. In such situations if performance is measured with the help of Rating Scale it could be helpful. But still there is confusion that the skill performance measured with standardized test battery and rating scale is same? The present research aimed at finding out the answer of this question. The players of different School district level from Wardha under 19 age group playing Handball were the population of the study. (N=60). All the players from participating teams were tested and rated. Thus the incidental sampling method was used for selecting the sample (n=31). Survey method was used for this research. With the help of tools such as skill test battery and rating scale, data was collected. Pearson Correlation was used for analysis. It was found that there is no correlation between skill performance of handball players measured with Skill Tests and Actual Match Performance rated by Rating Scale.

Although Rating scale is a subjective tool, it can be used to assess the proficiency in execution of skills per se when is not feasible to administer standardized skill tests.

### **Introduction**

Team handball is a team game and is played popularly by the worldwide nations and is recognized by the International Olympic Association. It is also played professionally in many European countries. In Asia, including India this game has become significant among other popular games in early seventies, Handball started in India and field version (11 a side) was played in its infant days in India. Soon it spread all over the country but states like Punjab, Hariyana, Jammu-Kashmir, Andhra Pradesh and Maharashtra have edge over other states as far as standard and popularity of handball in India is concerned.

For the better performance of the team, the most important factor is selection of the players in the team. When players are selected through proper criteria, it helps team in boosting its performance.

In the case of Handball, no such "Selection Criteria" was available in India. As well In Maharashtra also the selection procedure was traditional i.e. a player, who score more was selected. But Dr. Sopan Kangane had worked very hard in this area and developed a new test battery for the selection of Junior Handball players.

### **Analysis of Skill Performance in Handball**

In team handball, the performance of the team totally depends on the individual performance of each player. Therefore selection of the player plays an important role. Standardized test battery, developed by experts helps the selectors to select the players. With this battery one can check only the fitness level and skill talent of the players. But even though the player is physically fit and skillful, he may not perform well in the actual match because execution of skill in the match situation is totally different ability (Barrow 1988). Also the highest scores on some physical and skill tests are not always the best player in game situation (Barrow1988). Also due to the small duration of competition and hectic schedule of the matches, most of the time it is difficult to conduct the standardized test battery for the selection of the players. In such situations if performance is measured with the help of Rating Scale it could be helpful. But still there is confusion that the skill performance measured with standardized test battery and rating scale is same?

**Methodology**

The study was confined for the male junior level Handball players, aged between 15 to 19 years (i.e., under 19 years) from Wardha therefore all the players of different School of this age group playing Handball was the population of the study. (N=60)

Data was collected in the Wardha District Association’s, School level junior handball championship was held at Wardha on 10<sup>th</sup> to 15<sup>th</sup> dec 2011 Every player, playing in this match was considered as a sample. Total four teams had participated at school Level Handball tournament. All the players from participated teams were tested and rated. Thus the incidental sampling method was used for selecting the sample (n=31) Skill tests from Standardized handball test battery developed by Sopan Kangane were used to measure skill performance. Rating scale was used to measure skill performance during match. The following points were considered for designing the rating scale (Barrow1988) i. e. Determination of the purpose for rating, Determination of Traits and Definitions, The traits or skills selected should be significant, Division of Traits into sub traits, Selections of categories, Use of number values for the point on the scale, Preparation of the rating sheet etc.

The rating scale itself is actually a tool or and to be used by the teacher in evaluating the performance of Players district level school championship was held at Wardha from 10<sup>th</sup> to 15<sup>th</sup> dec.2011. On the same days, the skill tests were conducted and the rating of the players was done during the matches. For each match, there were two experts one for each team, who were rating the players during the match. Data was collected using following tools

**Table 1 Test Items of the Test Battery**

<b>Tool</b>	<b>Name of Test Items</b>	<b>Recommended Measures</b>	<b>Method Used for Data collection</b>
<b>Handball Skills Tests Battery</b> Kangane (2000)	Front Shoot	Shooting ability	Standard field measurements
	Speed Pass	Passing ability	
	Accuracy Throw	Throwing ability	
	Agility Dribble	Dribbling ability	
	Foot Work	Defensive foot work	

**Table 2 Test Items of the Rating Scale**

<b>Tool</b>	<b>Name of Test Items</b>	<b>Recommended Measures</b>	<b>Method Used for Data collection</b>
<b>Rating Scale</b>	Shoot	Shooting ability	Observations by Experts
	Pass	Passing ability	
	Dribble	Dribbling ability	
	Dodge	Dodging ability	
	Defense	Defensive foot work	

Test Retest reliability was conducted to establish the Subject’s reliability (Vincent 1995). Test-retest reliability coefficient of samples on the skills i.e. Shoot, Pass, Dribble, Dodge, Defense were calculated .90, .82, .81, .91 and .88 respectively.

**Results:** Table 3 Correlation of rating scale Performance and skill test performance

	Front shoot	Speed pass	Accuracy throw	Agility dribble	Foot work	Foot work	Significance
Rating scale shoot	- .307(*)						<b>0.017</b>
Rating scale pass		.009					<b>0.958</b>
Rating scale pass			-.098				<b>0.465</b>
Rating scale dribble				-.015			<b>0.927</b>
Rating scale dodging					-.069		<b>0.623</b>
Rating scale defense						.108	<b>0.409</b>

After using the Pearson Correlation on collected data it was found that there is no correlation between skill performance of handball players measured with Skill Tests and Actual Match Performance rated by Rating Scale.

**Discussion**

With the help of conclusions made, it can be said that the method of using skill test battery for the selection of the player can not be replaced with the rating scale method. Although Rating scale is a subjective tool, it can be used to assess the proficiency in execution of skills per se when is not feasible to administer standardized skill tests.

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## On the Spherical Trigonometry

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### Abstract :

In this paper, I show that use of Napier's analogies. We get Delambore's analogies. This proof is giving in the main result.

### Indroudtion :

**1. Geometry of the sphere :** We know that the section of a sphere by a plane passing through its centre is called a *great circle* and any other section is called a *small cricle*.

Through any tow points on the surface of a sphere (Which are not the extremities of a diameter) one and only one great circle can be drawn.

**2. Axis and pole :**The axis of any circle of a sphere is that diameter of the sphere which is perpendicular to the plane of the circle. The extremities of the axis are called the **pole** of the circle.

A pole of a circle is equidistant from any point on its circumference i.e. the chord PD (or arc PD) of the great circle PDP' is always constant. (Fig.1) The arc PD of the great circle PDP', is called *the spherical radius of the circle AB*.

**3.** The Shortest distance between any two points on the surface of a sphere is the smaller arc of the great circle passing through these points.

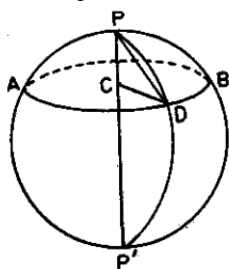


Fig. 1

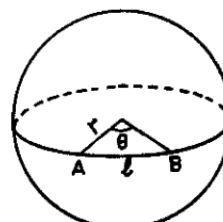


Fig. 2

The length of a great circle arc on a sphere of radius unity is equal to the angle which this arc subtends at the centre of the sphere. [  $\therefore l = r \theta = \theta$ , when  $r = 1$  ].

In practice, whatever be the radius of the sphere, every great circle drawn upon it is regarded as divided into 360 equal parts and each of these parts is called a degree. Thus the length of the arc AB is equal to the number of degrees in (fig .2)

The arc of a great circle which is drawn from a pole of the great cricle to any point in its circumference is a quadrant.

**(4) Angle between two great circles.** The angle of intersection of two great circles is the angle between the planes of two circles. It is aslo known as *the spherical angle*.

The angle between any two great circles is measured by the arc the subtend on the great circle to which they perpendicular i.e. the angle between the planes PAP' and PBP' is equal to the arc AB of the great circle ABC to which POP' is perpendicular (Fig.3)

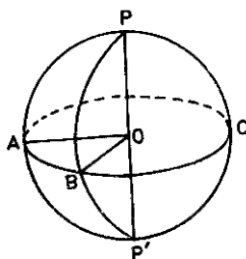


Fig. 3

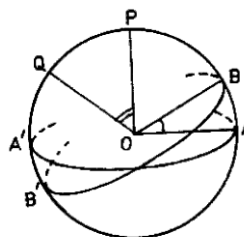


Fig. 4

The angle of intersection of two great circles is equal to the angle subtended at the center of the sphere by the arc joining the poles of the great circles, i.e. the angle subtended at  $O$  by the arc of a great circle joining  $P$  and  $Q$  - the poles of the two great circles  $AA'$  and  $BB'$ , is equal to the inclination of the planes of the two circles  $AA'$  and  $BB'$  (Fig. 4.)

**5. Length of a small circle arc :**

Consider a small circle arc  $A'B'$  with centre  $O'$  and pole  $P$ . Let the great circle arcs  $PA'$  and  $PB'$  meet the great circle of which  $P$  is a pole in points  $A$  and  $B$  (Fig. 5) Then it can easily be shown that

$$\text{Arc } A'B' = \text{arc } AB \times \cos BB'$$

i.e. length of the arc  $A'B'$  is equal to the arc  $AB$  multiplied by the cosine of the angular distance of arc  $A'B'$  from the arc  $AB$

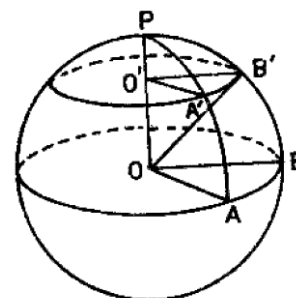


Fig. 5

**6. Latitude and Longitude :**

Let the sphere with centre  $O$  represent the earth having  $PP'$  as its polar axis then  $P$  called north pole and  $P'$  the south pole of the earth.

The great circle  $TR$  of which  $P$  and  $p'$  are poles, is called the *terrestrial equator*. All great circles through  $P, P'$  are called the *meridians*. The meridian  $PGP'$ , is by international agreement, called the *prime meridian*.

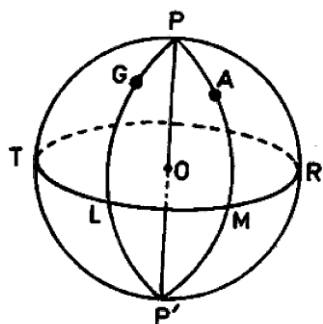


Fig. 6

To specify the position of any point  $A$  on the earth's surface, we take equator as the fundamental circle and define the **latitude** of  $A$  as its angular distance  $MA$  from the equator. Latitude is measured from  $O$  to  $90^0$  north or south of the equator.

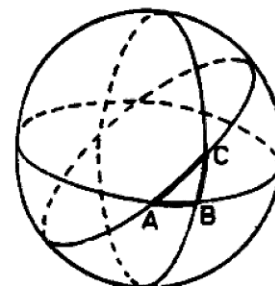
The Longitude of  $A$  is defined as the angular distance  $LM$ , measured along the equator from the point of intersection  $L$  of the prime meridian and equator. Longitude is measured from  $O$  to  $180^0$  east or west of the prime meridian.

Thus  $A$  has east longitude  $LM$  and north latitude  $MA$ .  $PA$ ,

the complement of  $MA$ , is called the **colatitude**.

**7. Spherical triangle:** Let  $A, B, C$  be any three points on the surface of a sphere. Join  $AB, BC$  and  $CA$  by great circle arcs each of which is less than  $180^0$  Then  $ABC$  is called a *spherical triangle*. (Fig. 7)

The sides  $BC, CA$  and  $AB$  are respectively denoted by  $a, b,$  and  $c$ . The spherical angles  $BAC, CBA$  and  $ACB$  are called the angles  $A, B$  and  $C$  of the triangle  $ABC$ . The three angles  $A, B, C$  and the three opposite sides  $a, b, c,$  are called the six elements of a spherical triangle and are measured in angular units.



(Fig. 7)

Each angle of a spherical triangle is less than  $180^0$

**Theorem 1 : Napier's analogies. in a spherical triangle ABC**



$$\tan \frac{1}{2}(A + B) = \frac{\cos \frac{1}{2}(a-b)}{\cos \frac{1}{2}(a+b)} \cot C/2$$

$$\tan \frac{1}{2}(A - B) = \frac{\sin \frac{1}{2}(a-b)}{\sin \frac{1}{2}(a+b)} \cot C/2$$

$$\tan \frac{1}{2}(a + b) = \frac{\cos \frac{1}{2}(A-B)}{\cos \frac{1}{2}(A+B)} \tan c/2$$

$$\tan \frac{1}{2}(a - b) = \frac{\sin \frac{1}{2}(A-B)}{\sin \frac{1}{2}(A+B)} \tan c/2$$

$$\begin{aligned}
 &= \frac{\tan \frac{1}{2} A \tan C + \tan \frac{1}{2} B \tan \frac{1}{2} C}{1 - \tan \frac{1}{2} A \tan \frac{1}{2} B} \\
 &= \frac{\sin(s-b) + \sin(s-a)}{\sin s - \sin(s-c)} \\
 &= \frac{2 \sin \frac{1}{2} (2s-a-b) \cos \frac{1}{2} (a-b)}{2 \cos \frac{1}{2} (a+b) \sin c/2} \\
 &= \frac{\sin \frac{1}{2} C \cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} (a+b) \sin c/2} \quad [\because 2s = a + b + c]
 \end{aligned}$$

Hence  $\tan \frac{1}{2} (A + B) = \frac{\cos \frac{1}{2} (a-b)}{\cot \frac{1}{2} (a+b)} \cot \frac{1}{2} C$

b) Proceeding as above, we have

$$\tan \frac{1}{2} (A - B) \tan \frac{1}{2} C = \frac{\sin(s-b) - \sin(s-a)}{\sin s + \sin(s-c)} = \frac{\sin \frac{1}{2} (a-b)}{\sin \frac{1}{2} (a+b)}$$

whence follows (b)

(c) We know that

$$\tan \frac{1}{2} a = \sqrt{\left\{ \frac{-\cos S \cos(S-A)}{\cos(S-B) \cos(S-C)} \right\}}$$

and  $\tan \frac{1}{2} c = \sqrt{\left\{ \frac{-\cos S \cos(S-C)}{\cos(S-A) \cos(S-B)} \right\}}$

$\therefore \tan \frac{1}{2} a \cot \frac{1}{2} C = \frac{\cos(S-A)}{\cos(S-C)}$

Similarly,

$$\tan \frac{1}{2} b \cot \frac{1}{2} C = \frac{\cos(S-B)}{\cos(S-C)}$$

and 
$$\tan \frac{1}{2} a \tan \frac{1}{2} b = \frac{-\cos S}{\cos(S-C)}$$

$$\begin{aligned} \therefore \tan \frac{1}{2} (a + b) \cot \frac{1}{2} C &= \frac{\tan \frac{1}{2} a \cot \frac{1}{2} c + \frac{1}{2} b \cot \frac{1}{2} c}{1 - \tan \frac{1}{2} a \tan \frac{1}{2} b} \\ &= \frac{\cos(S-A) + \cos(s-B)}{\cos(s-C) + \cos S} \\ &= \frac{2\cos \frac{1}{2}(2S-A-B) + \cos \frac{1}{2}(B-A)}{2\cos \frac{1}{2}(2s-C) \cos \frac{1}{2}C} \\ &= \frac{\cos \frac{1}{2} C \cos \frac{1}{2}(A-B)}{\cos \frac{1}{2}(A+B) \cos \frac{1}{2}C} \quad [\because 2S = A + B + C] \end{aligned}$$

Hence 
$$\tan \frac{1}{2} (a + b) = \frac{\cos \frac{1}{2}(A-B)}{\cot \frac{1}{2}(A+B)} \cot \frac{1}{2} c$$

Proceeding as in (c) we can prove (d)

**Theorem 2.**

Delambre's analogies. In a spherical triangle ABC,

a) 
$$\frac{\sin \frac{1}{2} (A+B)}{\cos \frac{1}{2} C} = \frac{\cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} c}$$

b) 
$$\frac{\sin \frac{1}{2} (A-B)}{\cos \frac{1}{2} C} = \frac{\cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} c}$$

c) 
$$\frac{\cos \frac{1}{2} (A+B)}{\sin \frac{1}{2} C} = \frac{\cos \frac{1}{2} (a+b)}{\cos \frac{1}{2} c}$$

d) 
$$\frac{\cos \frac{1}{2} (A-B)}{\sin \frac{1}{2} C} = \frac{\cos \frac{1}{2} (a+b)}{\sin \frac{1}{2} c}$$

**Proof (a)**

We Know that

$$\sin \frac{1}{2} (A + B) = \sin \frac{1}{2} A \cos \frac{1}{2} B + \cos \frac{1}{2} A \sin \frac{1}{2} B$$

Substituting the values of sines and cosines of half-angles on R.H.S.,

$$\begin{aligned} \sin \frac{1}{2} (A + B) &= \sqrt{\left\{ \frac{\sin(s-b)\sin(s-c)}{\sin b \sin c} \right\}} \sqrt{\left\{ \frac{\sin S \sin(s-b)}{\sin C \sin a} \right\}} \\ &+ \sqrt{\left\{ \frac{\sin S \sin(s-a)}{\sin b \sin c} \right\}} \sqrt{\left\{ \frac{\sin(s-c) \sin(s-a)}{\sin C \sin a} \right\}} \\ &= \frac{\sin(s-b) + \sin(s-a)}{\sin C} \sqrt{\left\{ \frac{\sin S \sin(s-c)}{\sin a \sin b} \right\}} \\ &= \frac{2 \sin \frac{1}{2} (2s-a-b) \cos \frac{1}{2} (a-b)}{2 \sin \frac{1}{2} c \cos \frac{1}{2} c} \cos \frac{1}{2} c \end{aligned}$$

$$\text{Or } \frac{\sin \frac{1}{2} (A+B)}{\cos \frac{1}{2} c} = \frac{\sin \frac{1}{2} c \cos \frac{1}{2} (a-b)}{\sin \frac{1}{2} c \cos \frac{1}{2} c} \quad [ \because 2s=a+b+c ]$$

$$\text{This } \frac{\sin \frac{1}{2} (A+B)}{\cos \frac{1}{2} c} = \frac{\cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} c}$$

In the same way, we can write (b), (c) and (d)

**Main Result :-**

Napier's analogies follows from Delambore's analogies

$$\frac{\sin \frac{1}{2} (A+B)}{\cos \frac{1}{2} C} = \frac{\cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} c} \quad 1.$$

$$\frac{\cos \frac{1}{2}(A+B)}{\sin \frac{1}{2}C} = \frac{\cos \frac{1}{2}(a+b)}{\cos \frac{1}{2}c} \quad 2.$$

Dividing 1, by 2 we get

$$\frac{\sin \frac{1}{2}(A+B) / \cos \frac{1}{2}C}{\cos \frac{1}{2}(A+B) \sin \frac{1}{2}C} = \frac{\cos \frac{1}{2}(a-b) / \cos \frac{1}{2}c}{\cos \frac{1}{2}c(a+b) / \cos \frac{1}{2}c}$$

$$\tan \frac{1}{2}(A+B) \tan \frac{1}{2}C = \frac{\cos \frac{1}{2}(a-b)}{\cos \frac{1}{2}c(a+b)}$$

$$\tan \frac{1}{2}(A+B) = \frac{\cos \frac{1}{2}(a-b)}{\cos \frac{1}{2}c(a+b)} = \frac{1}{\tan \frac{1}{2}C}$$

$$\tan \frac{1}{2}(A+B) = \frac{\cos \frac{1}{2}(a-b)}{\cos \frac{1}{2}c(a+b)} = \cot \frac{1}{2}C$$

Similarly we can prove that.

$$\tan \frac{1}{2}(A-B) = \frac{\sin \frac{1}{2}(a-b)}{\sin \frac{1}{2}(a+b)} \cot \frac{C}{2}$$

$$\tan \frac{1}{2}(a+b) = \frac{\cos \frac{1}{2}(A-B)}{\cos \frac{1}{2}(A+B)} \tan \frac{c}{2}$$

$$\tan \frac{1}{2}(a-b) = \frac{\sin \frac{1}{2}(A-B)}{\sin \frac{1}{2}(A+B)} \tan \frac{c}{2}$$

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## Back Fitness Test of College Student with Upward Lifting of Upper Body Portion

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### Abstract

Fitness is working capacity of person with efficiency and the physical fitness is the ability to carry out daily task with vigor and alertness with ample energy. Total fitness means to have muscular strength along with stamina and agility. Exercise always help in maintaining good health by increasing strength and efficiency of the muscle of ribcage and diaphragm. It keeps the neck, back and joint supple and the posture right.

In the present research work the back fitness of 100 college male students was analyzed by upward lifting of upper body portion. Out of that only 28 % college student were with excellent back fitness. 26 % were with very good back fitness, 22 % were with good back fitness. 16 % were with fair back fitness. 8 % were with poor back fitness due to obesity, back of exercise and very poor flexibility in back bone. These students were advised to do special exercise for improvement in back fitness.

**Key words:** - Back fitness, Upward lifting, Upward body portion, College student.

### Introduction

A working capacity of person with efficiency but without fatigue is called as fitness (Thwe.2003.). The physical fitness is the ability to carry out daily task without vigor and alertness with ample energy (Wangwad, Teewari.1995) Physical fitness includes physical strength, agility, and capability of the body to wok balancing of body. Physical bending, speed and response the strength and endurance of the muscles strength of the heart muscle. Total fitness means to have muscular strength along with stamina and agility. Food, air, sleep with balancing exercise always maintains good health. Exercise increases the strength and efficiency of the mu muscles of ribcage and diaphragm. It keeps the neck, back and joints supple and posture right. It delays aging and increases the life span (Reddy, 1999).







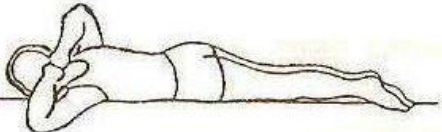
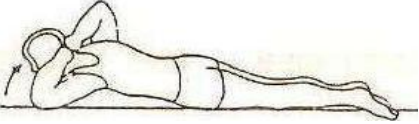
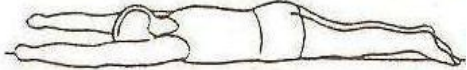
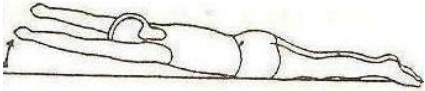
Role of college student is very important in all physical activities and sports programme. The physical activity and sports programme increases muscle size, muscle strength and speed of muscle contraction, joint flexibility, cardio respiratory, endurance and vital capacity (Rao, 1988).

So in this research paper, the potential of college student is analyzed by back fitness test with upward lifting upper body portion.

### Material and Methods

About 100 college student with age group 20 to 25 years were selected for this work. The back fitness of college student was analyzed with upward movement of hand head and shoulder. This test appears very easy in first sight but it is quite difficult when done scientifically with full attention.

The detail information of this test was given to the selected college student and then fitness ability of back was analyzed with the method of Gala *et. al.* (2000) as per shown in following chart.

		Zero Mark
		One Mark
		Two Mark
		Three Mark
		Four Mark

### Result

For this test 100 college student were selected as per performance of the test. Students obtain different grades or mark which is discussed as follows.

1. 28 % College students successfully performed test by lifting hands, head and shoulder in proper position. These students got 4 marks.
2. 26 % College students successfully in lifting only head by folding hand behind neck. These students got 3 marks.
3. 22 % College students successfully in lifting only head by taking hands behind waist. These students got 2 marks.
4. 16 % College students successfully in lifting head without movement of hands. These students got 1 mark.
5. 8 % College students are not success in lifting in lifting head. These students got zero mark.

### Discussion

The student between the ages of 20 to 25 years was selected because this group shoes more capability. Depending upon performance of the fitness of back is discussed as follows.

1. 28 % student who got 4 marks shows strong muscles of back and waist and excellent back fitness. It may be due to regular exercise that result more muscles and less fat (Reddy, 1999).
2. 26 % student who got 3 marks shows healthy muscles of back and waist which indicates very good back fitness.
3. 22 % student who got 2 marks shows weak muscles of back and waist which indicate good back fitness. It is very essential to increase the efficiency of these muscles.



4. 16 % student who got 1mark shows very weak muscles of back and waist which indicate fair back fitness. For increasing the efficiency of these muscles some exercises will be suggested as early as possible.
5. 8 % student who failed in this test and got zero mark indicates poor performances of back and waist muscles. This is may be due to obesity, lack of exercise and poor flexibility in back bone.

This back fitness test is quite easy. Generally every person can perform it easily and get good marks. For this test abdomen muscles needs to be strong and flexible. At the same time back and waist muscles also should be too flexible. While playing or practicing the games, our back and waist muscles can keep our buttock in balanced position is shone through this test. Students who are successful in performing the test will suffer from back ache. (Gala *et. al.*).

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## महिला सक्षमीकरण : एक दृष्टिक्षेप

डॉ. संतोष एम. खंडारे : मातोश्री नगर, मुर्तीजापुर रोड, कारंजा (लाडे) ता. कारंजा जि. वाशिम.

श्रीमती शकुंतलाबाई धाबेकर : महाविद्यालय, कारंजा जि. वाशिम (महा.)

### प्रस्तावना :

स्वातंत्र्योत्तर काळात महिलांच्या विकासासाठी जाणीवपूर्वक प्रयत्न करण्यात आलेले आहेत. समाजात महिला घटक उपेक्षित, दुर्लक्षित असण्याआधी, भारतीय संस्कृतीत महिलांना लक्ष्मी मानले जात होते. आदिशक्तीचे रूप म्हणजे स्त्री! मध्यंतरीच्या काळात स्त्रीचा प्रवास क्षीण झाला. म्हणून स्त्री-पुरुष समानतेवर आधारीत समाजव्यवस्थेच्या निर्मितीसाठी, आर्थिक, सामाजिक, राजकीय निर्णय प्रक्रियेत महिलांचा सहभाग वाढविण्यासाठी व समाजाचा महिलांमध्ये बघण्याचा दृष्टीकोन बदलण्यासाठी आज महिला सक्षमीकरणाची आवश्यकता आहे. म्हणून प्रस्तुत शोध निबंधामध्ये महिलांच्या आर्थिक व सामाजिक दृष्टीने संक्षिप्त विवेचन करण्यात आले आहे.

### प्रस्तुत शोध निबंधाचा उद्देश :

१. महिलांच्या सक्षमीकरणाची संकल्पना स्पष्ट करणे.
२. महिला सक्षमीकरणातील आर्थिक व सामाजिक सहभाग तपासून पाहणे.
३. शासन स्तरावरून महिलांच्या विकासासंदर्भात जाहिर झालेल्या योजनांचा आढावा घेणे.

### तथ्य संकलन :

या शोध निबंधासाठी तथ्य संकलित करण्यासाठी तथ्य संकलनाच्या द्वितीय स्रोतांचा उपयोग केलेला आहे. (पुस्तके, मासिके, साप्ताहिके इ.)

### विश्लेषण :

महिलांची सामुदायिक शक्ती वाढत आहे. अनेक महिला आपल्या नेतृत्वात हुंडाबंदी, दारूबंदी, आरोग्य सुधारणा व कौटुंबिक हिंसा या सारख्या प्रकरणात हात घालत आहेत. परस्परांच्या सहकार्याने महिलांची संघटीत शक्ती, आत्मविश्वास वाढत आहे. आजच्या महिला नुसत्या जागृतच नव्हे तर उद्योजक, व्यावसायिक क्षेत्रात अग्रेसर आहेत. मात्र हे प्रमाण अल्प आहे. कारण आजही आदिवासी, ग्रामीण महिलांना संपूर्ण घराची जबाबदारी पेलावी लागत आहे. शेती व तत्सम कामात दिवसभर राबवावे लागते. शारिरीक श्रमाचे काम करावे लागते. दारिद्र्य, गरीब कुटूंबातील पुरुषसत्ताक मनोवृत्तीमुळे व महिलांवर लादल्या जाणाऱ्या नियंत्रणामुळे तीच्यात आरोग्य विषयक समस्या निर्माण होतात. तसेच कौटुंबिक जबाबदाऱ्या पुरुषांच्या बरोबरीने पार पाडावी लागते.

भारतीय महिलेला अबलेतून-सबलेकडे आणण्यासाठी म.फुले ते डॉ.बाबासाहेब आंबेडकरापर्यंतच्या समाजसुधारकांचे प्रयत्न या समाज व्यवस्थेत महिलांच्या सक्षमीकरणाचे कारण ठरते.

महिलांच्या सक्षमीकरणाची पहिली वैचारिक मांडणी करण्याचे श्रेय फ्रेंच महिला सी.मॉड द बिबर या महिलेला जाते. त्या महिलेने महिलांच्या जागृतीबद्दल पहिल्यांदा आपले क्रांतीकारक विचार सेकंड सेक्स या पुस्तकाच्या रूपाने मांडले. म.गांधीनी दांडीयात्रा काढून मिठाचा सत्याग्रह केला, त्यात जेवढ्या स्त्रीया सहभागी झाल्या होत्या की तेवढ्या कोणत्याही अन्य संघर्षात महिलांचा सहभाग दिसत नाही.

डॉ.बाबासाहेब आंबेडकरांनी स्त्री मुक्तीचा विचार राजकीय विचारपीठांवरून मांडला (उदा.हिन्दु कोडबील)

बांगलादेशातील चितगाव विद्यापीठातील अर्थशास्त्राचे प्रपाढक व जगप्रसिध्द ग्रामीण बँकेचे प्रणेते डॉ.महमंद युनूस यांनी सन १९७५ साली स्वयंसहाय्यता गटाची स्थापना केली. रविंद्रनाथ टागोर यांनी असे म्हटले . भारताचे माजी राष्ट्रपती मा.अब्दुल कलाम यांनी-२०२० साली भारत महासत्ता होण्याचे स्वप्न बघितले आहे. त्यात महिलांच्या सक्षमिकरणाला विशेष महत्व राहणार आहे.

सबलीकरण म्हणजे ही एक आव्हानात्मक प्रक्रिया असून अस्तित्वात असलेल्या अधिकारांच्या संबंधातील आणि अधिकारांच्या साधनांवर नियंत्रण प्राप्त करण्याची प्रक्रिया आहे याचे प्राथमिक ध्येय महिलांना आत्मनिर्भय बनविणे सबलीकरणाचा संबंध संपूर्ण सामाजिक आर्थिक अभिवृत्तीमध्ये परिवर्तन घडवून आणण्यासाठी जोडला जातो.

१९८७ युनोने जगातील महिला स्तरावरील कार्यशाळेत व्हिनेसा ग्रिफेनने केलेली व्याख्या- महिला सक्षमीकरण म्हणजे स्त्रीच्या अंगी निर्णय घेण्याची,नियंत्रण करण्याची, संघटीत करण्याची क्षमता, मतप्रदर्शन करणे, कृतीशील घडवून आणणे लोकसंपर्क, संस्थासंपर्क आर्थिक व्यवहार इ.करण्याची क्षमता व आवड निर्माण होणे त्यास महिलांच्या सक्षमीकरण म्हणतात. सर्व अधिकारापासून वंचित असलेल्या महिलांना आपल्या स्वतःच्या जीवन शैलीप्रमाणे वागण्याची मुभा असलेली परिवर्तनीय व्यवस्था आणि सामाजिक,राजकीय,आर्थिक,शैक्षणिक क्षेत्रात तसेच स्वयंजीवनात व कुटूंब व्यवस्थेत स्त्रियांचे पूर्णतः नियंत्रण किंवा प्रभाव असणे म्हणजे सक्षमीकरण होय.

१०डिसेंबर १८४८ मध्ये संयुक्त राष्ट्रसंघाने मानवधिकारांची घोषणा केली. त्यामुळे एकूणच प्रत्येकाला योग्य तो सन्मान व जगण्यासाठी उचित संधी मिळावी असे वाटू लागले.

स्त्रियांच्या उन्नतीसाठी जगभरातून प्रयत्न होत आहेत. ८ मार्च हा आंतरराष्ट्रीय महिला दिन मोठ्या उत्साहाने साजरा होत आहे. राज्य घटनेने बहाल केलेला समानतेचा मूलभूत हक्क हा महिला व बाल विकासाचा पाया आहे. महिला सक्षमीकरणासाठी आर्थिक सोबतच सामाजिक बदलाची गरज आहे.

कौटुंबिक छळ हा शारिरीक शाब्दीक,लैंगिक, मानसिक आर्थिक छळ असू शकतो.

पुरूष प्रधानता असलेल्या समाजात स्त्रियांची दडपणूक करून त्यांचे शोषण, अत्याचार व अन्याय हे प्रकार सातत्याने होत होते. महिलांना त्यांचा मुलभूत हक्कांपासून जीवनाच्या सर्वच श्रेयांत वंचित ठेवले गेले होते. विवाह,घटस्फोट, कौटुंबिक याबाबत इच्छा, मत व्यक्त करण्याचे स्वातंत्र्य नव्हते. महिलांच्या अशा अनेक समस्यांतून स्त्रीवाद विकसीत झाला. स्त्रीवादी सामाजिक विचारांची मांडणी करण्यात आली. जसे की-अँग्लो- अमेरिकन स्त्री चळवळीने उदारमतवादाला जन्म दिला. मार्क्सवादाने-महिलांमध्ये लढाऊ जाणीव विकसीत होणे महत्वाचे मानले. महिलांच्या मुक्तीसाठी नवीन तंत्रज्ञानाचा विकास व काही सुविधा उपलब्ध होणे आवश्यक असल्याचे मत जहाल स्त्रीवाद्यांनी मांडले.

भारत सरकारने स्त्रियांवरील अत्याचार दूर करण्यासाठी १९९०साली स्त्री हक्क आयोगाची स्थापना केली. महाराष्ट्र शासनाने १९९३ साली राज्य महिला आयोगाची स्थापना केली. १९९४ साली महिला धोरण करून २०००साली महाराष्ट्र शासनाने शाळेच्या दाखल्यावर विद्यार्थ्यांच्या वडिलांच्या नावाबरोबर आईचेही नाव लावण्याची सक्ती केली.

दुर्बल घटकांच्या विकासासाठी आरक्षण हा एक मार्ग म्हणून संविधानात नमूद केले आहे. आवश्यक तेथे, राज्य शासन या मार्गाचा अवलंब करील.

महिलांच्या सक्षमीकरणाच्या पार्श्वभूमीवर लोकसभेत आणि विधानसभेत महिलांसाठी १/३ जागा आरक्षित करणारे ८१व्या घटना दुरुस्तीचे विधेयक १२ सप्टें १९९६ला लोकसभेत मांडण्यात आले. या विधेयकाच्या कलम २९३ नुसार १/३ आरक्षणामधील १/३ जागा SC, ST महिलांसाठी राखीव ठेवण्याची तरतूद करण्यात आली. परंतु विधेयकाला तीव्र विरोध केला गेल्यामुळे विधेयक मागे घ्यावे लागले. पुन्हा चढउतार धोरणाने विधेयक भीजत राहले. नंतर ९ मार्च २०१० रोजी १८६ १ अशा मत फरकाने १०८व्या घटना दुरुस्तीने ते पारित होऊन एक ऐतिहासिक घटनेची नोंद झाली. या विधेयकामुळे महिलांसाठी लोकसभेत ५४३ पैकी १८१ जागा वर २८ घटक राज्यांच्या विधानसभेतील एकूण ४१०९ पैकी १३७० जागा महिलांसाठी आरक्षित राहतील.

शासनाने वेळोवेळी महिलांसाठी विकास योजना जाहिर केल्या. महिलांचा आर्थिक, राजकीय, शैक्षणिक, सांस्कृतिक इ. क्षेत्रांपुरताच विकास मर्यादित न ठेवता सर्वांगीन दृष्टीकोनातून महिलांचा विकास व्हावा म्हणून सरकार प्रयत्नशील आहे. मात्र महिला सक्षमीकरणाची गरज आजही का आहे? हा प्रश्न नेहमी भेडसावत असतो. याचे प्रमुख कारण असे असावे की – अंमलबजावणी यंत्रणेतील उणीवा.

२६ जाने. २००३ रोजी संपूर्ण महाराष्ट्रात ऐतिहासिक घटना घडली ती म्हणजे ९७०० गावांत महिला सरपंचांच्या हस्ते ध्वजारोहन करण्यात आले.

#### निष्कर्ष :

१. खेड्यातील बहुतांश महिला अद्याप निरक्षरतेच्या ओश्यासपासून मुक्त होवू शकलेल्या नाहीत.
२. महिलांना विकासप्रक्रियेत सहभागी करून घेतल्याशिवाय देशाचा विकास शक्य नाही.
३. महिलांच्या सामाजिक सहभागातील मर्यादा दूर करून त्यांचा सामाजिक स्तर उंचावण्याच्या दृष्टीकोनातून साक्षरतेचे प्रमाण वाढवावे लागेल.
४. जागतिकीकरणाच्या प्रक्रियेत महिलांची सकारात्मक भूमिका.
५. आदिवासी, ग्रामीण भागात दारिद्र्यामुळे निरक्षर, अज्ञानी, अंधश्रद्धाळू, दैववादी समस्या निर्माण झाल्यास त्यातून मार्ग काढण्यासाठी आवश्यक असणारे मोठ्या प्रमाणात स्वयंरोजगार निर्माण व्हावे.
६. आज महिलांमधील नेतृत्व गुणाचा विकास होत आहे. त्यांचा राजकारणात, अर्थकारणात प्रवेश होत आहे हे आशेचे पाऊल आहे.

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६. महिला स्वयंसहाय्यता बचत गट – प्रा. एम. यू. मुलाणी प्रकाशन डायमंड पब्लिकेशन, पुणे ३०
७. महिला सक्षमीकरण – स्वरूप व समस्या – डॉ. शुभांगी गोटे

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## सामाजिक शास्त्रांमधील संख्याशास्त्राची उपयोगिता

डॉ. कल्याण विठ्ठल मोरे : समाजशास्त्रविभाग, वाडीभोकर महाविद्यालय देवपूर, धुळे, ता.जि.धुळे.

**सारांश :** नैसर्गिक शास्त्रात ज्याप्रमाणे प्रायोगिक अभ्यास पध्दतीचे अनन्यसाधारण महत्त्व आहे. त्याचप्रमाणे सर्व मानवशास्त्रात संख्या, मान किंवा संख्याशास्त्रीय अध्ययन पध्दतीचे महत्त्व आधुनिक काळात विशद केले जाते. एवढेच नव्हे तर मानवशास्त्रांतर्गत अभ्यास विषयांना विज्ञानाचा किंवा शास्त्रांचा दर्जा प्राप्त करून देण्यात संख्याशास्त्राचे योगदान सर्वात महत्त्वाचे मानले जाते. सामाजिक शास्त्रांमधील विकासाला संख्या शास्त्रीय पध्दतींमधील प्रगती सहाय्यभूत ठरली आहे. सामाजिक शास्त्रांच्या गरजेनुसार संख्याशास्त्रीय पध्दती विकसित होऊ लागल्या आहेत. सामाजिक संशोधनात श्री.गिडींगज यांनी सामाजिक वास्तवता सिध्द करण्यासाठी संख्याशास्त्राचा प्रथम पुरस्कार केला. त्यांच्या मते घटनेच्या किंवा समस्येच्या संदर्भात संकलित केली जाणारी आकडेवारी म्हणजेच संख्यामान पध्दत होय. राजकीय किंवा सामाजिक संशोधनात अभ्यासाविषयीच्या संदर्भात निरीक्षण, प्रश्नावली, मुलाखत इत्यादी तंत्रांचा अवलंब करून जी शाब्दिक स्वरूपातून माहिती संकलीत केली जाते त्याचे आकडे शास्त्रात रूपांतर करण्याची जी पध्दत त्यास त्यांनी संख्या शास्त्रीय पध्दत अशी संज्ञा दिली आहे. वर्तमान कालखंडात सांख्यिकीचे क्षेत्र दिवसेंदिवस अतिशय व्यापक झाले आहे. सर्वच क्षेत्रात सांख्यिकी हे शास्त्र सहाय्यकारी शास्त्र म्हणून कार्य करते. संशोधनातील तथ्य संकलन कोणत्याही पध्दतीने (प्रश्नावली, अनुसूची आणि सर्वेक्षण) केलेले असले तरी, संशोधन सामग्री आकाराने विस्तृत गुंतागुंतीची असली तरी या सामग्रीला व्यवस्थित रूप देण्यासाठी अभ्यासात अचूकता व वस्तुनिष्ठता आणण्यासाठी, सामाजिकशास्त्रांच्या अभ्यासात सांख्यिकी तंत्र मोठ्या प्रमाणात उपयुक्त ठरते. कोणत्याही शास्त्राची प्रगती ही त्या शास्त्रात अनिश्चित व गुणात्मक स्वरूपाची माहिती जमा करण्याऐवजी सांख्यिकी स्वरूपाची माहिती व वैज्ञानिक तंत्राचा वापर किती प्रमाणात होतो यावर अवलंबून असतो. म्हणूनच संशोधन विषयाचा अभ्यास जास्तीतजास्त काटेकोर, निश्चित व वस्तुनिष्ठ करता यावा यासाठी सामाजिकशास्त्रात सांख्यिकी पध्दतीचा अवलंब केला जातो

**प्रस्तावना :** सामाजिकशास्त्र संशोधनातील अभ्यासाविषयी निसर्गविज्ञानातील विषयांपेक्षा वेगळे असल्यामुळे, ज्याप्रमाणे संख्याशास्त्रीय पध्दती वैज्ञानिक क्षेत्रात सर्रासपणे लागू केल्या जातात. तितक्या सहजतेने त्या सामाजिकशास्त्रात लागू ठरणार नाहीत. तरीही आज सामाजिकशास्त्रात देखील संख्याशास्त्रीय उपयोजनाचा आवाका विस्तारला आहे व या मापनात्मक पध्दतीचा नेमका वापर वाढावा यासाठी प्रयत्नशील राहिले पाहिजे. सामाजिक शास्त्रांतर्गत संशोधन करतांना संशोधकास सांख्यिकीचे ज्ञान असणे आवश्यक आहे. कारण आशय विश्लेषणातील सांख्यिकी विश्लेषण ही एक महत्त्वाची अवस्था आहे. वस्तुस्थितीविषयक ज्ञान अवगत करण्यासाठी व त्याचा वापर करण्यासाठी सांख्यिकीय पध्दतीचा उपयोग केला जातो ज्या वेळेस व्यावहारिक परिस्थिती अनिश्चित स्वरूपाची असते. त्यावेळेस संशोधकास निष्कर्षाप्रत पोहचण्यासाठी तथ्यांचे संकलन व विश्लेषण करणाऱ्या सांख्यिकीय पध्दतीचा आधार घ्यावा लागतो.

तथ्यांचे स्वरूप विशद करतेवेळी संख्यात्मक स्वरूपाची तथ्य व गुणात्मक स्वरूपाची तथ्य अशा दोन घटकांवर भर देण्यात आलेला आहे. शाब्दिक स्वरूपातल्या प्रक्रियेच्या आधारावर जी वस्तुनिष्ठ तथ्य संकलित केली जातात. त्यांना तथ्यांची गुणात्मकता अशी संज्ञा दिली जाते. परंतु या गुणात्मक तथ्यांचे विशिष्ट संख्येत किंवा प्रमाणात रूपांतर केले जाते. तेव्हा त्या तथ्यांना तथ्यांची संख्यात्मकता किंवा प्रमाणात अशी संज्ञा दिली जाते. तथ्यांच्या संख्यात्मकतेत

रुपांतर केल्यामुळेच घटनेची परिणामकारकता अधिक स्पष्ट होवू शकते. निष्कर्ष किंवा सिध्दांत निर्मितीच्या प्रक्रियेत संख्याशास्त्रीय अध्ययन पध्दतीचे महत्व राजकीय संशोधनात विशेष करुन वाढत चालले आहे. कोणत्याही क्षेत्रातल्या प्रगतीचे अथवा अधोगतीचे मूल्यमापन करतेवेळी संख्याशास्त्राचा आधार जास्तीतजास्त घेतला जातो. एवढेच नव्हे तर संख्याशास्त्राचा अवलंब केल्याशिवाय संशोधनात्मक अध्ययनाला पूर्णत्व प्राप्त होत नाही.

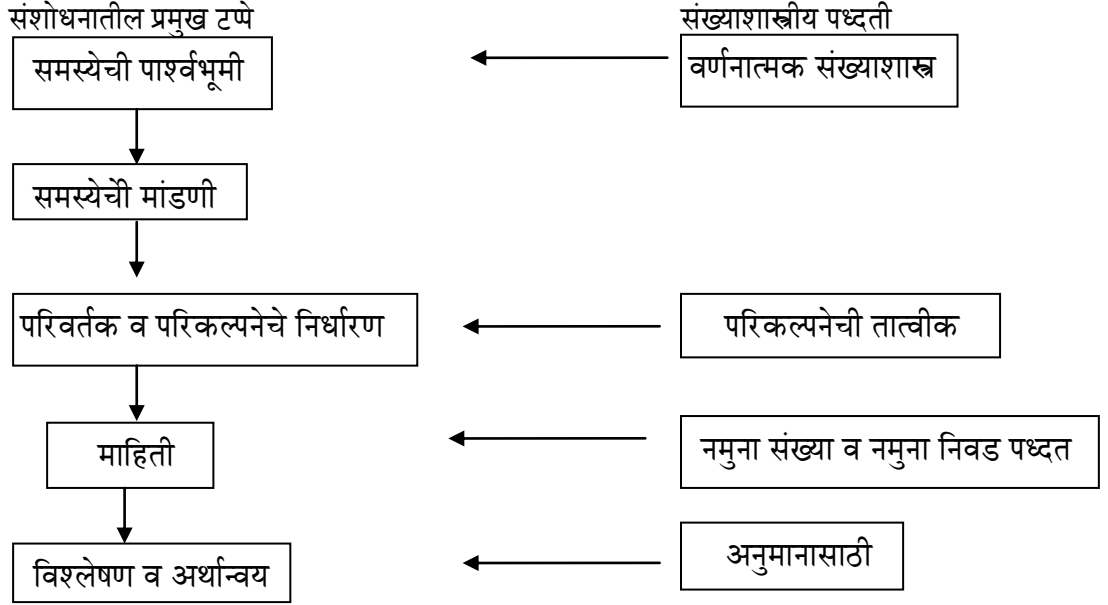
मिश्र देशात इ.स.पूर्व ३०५० पिरेमिडची निर्मिती करण्यासाठी देशाची संपत्ती आणि लोकसंख्येसंबंधी आकडे संकलित केल्याचे उल्लेख आहेत. इंग्रजीत Statistics हा शब्द दोन अर्थाने वापरला जातो. ज्यावेळी तो एकवचनी वापरला जातो तेव्हा त्याचा अर्थ "संख्याशास्त्र" असा होतो. त्यामध्ये संख्यात्मक तथ्यांचे संकलन, सादरीकरण, वर्गीकरण, सारणीयन, विश्लेषण इत्यादी तत्वे समाविष्ट होतात. हाच शब्द अनेकवचनी वापरला तर त्याचा अर्थ संख्या, अंक, संख्यांचे संकलन, तथ्यांचे संख्यात्मक सादरीकरण असा होतो. सांख्यिकी हे सामाजिक विज्ञान आणि नैसर्गिक विज्ञानात अभ्यासल्या जाणाऱ्या कोणत्याही घटनांच्या संदर्भातील संख्यांशी संबंधित असते. तथ्य आणि संख्या कोणतीही असो. उदा. लोकसंख्या, राष्ट्रीय उत्पन्न, कुटुंबाचा आकार, उत्पादन, वनस्पती जीवन, जीवाणू इत्यादी स्वरूपात असलेल्या बाबी सांख्यिकीद्वारे गणना करण्यात येतात. जर्मन विचारवंत (Gottfried A chenwall) गॉट्टफ्राईड ए. चेनवॉल यांनी सर्वप्रथम सांख्यिकीचा उपयोग केला. सांख्यिकीच्या व्याख्या तीन खालीलप्रमाणे

- १) **लॉवीट (Lovitt)** - "सांख्यिकी विज्ञानाचा संबंध तथ्य संकलनाशी असून संख्यात्मक तथ्यांचे वर्गीकरण, सारणीकरण, स्पष्टीकरण, सादरीकरण व तथ्यांचे निर्वचन याचबरोबर व्यापक क्षेत्राची चौकशी करण्याशी संबंधित आहे जे आकड्यांचे अभिव्यक्त रूप असते."
- २) **बेवस्टर (Bewastar)** - कोणत्याही देशातील जनतेच्या स्थिती संबंधीची जी माहिती वर्गीकृत पध्दतीने मुख्यतः संख्येत किंवा संख्येच्या तक्त्यात किंवा कोणत्याही तारणीयन किंवा वर्गीकृत पध्दतीने मांडता येते तिला सांख्यिकी असे म्हणतात.

संख्याशास्त्रात दोन प्रमुख घटकांचा अंतर्भाव केलेला आहे. आकडे आणि पध्दत गणितीशास्त्राचा ज्या प्राचीन काळात शोध लागला. तेव्हापासून गणितीशास्त्राबरोबरच संख्याशास्त्राचा हळूहळू विकास होवू लागला. एकम्, दहम्, शतम् या संख्येच्या पद स्थानांवरून मोठमोठ्या आकड्यांचे विवरण अनेक शास्त्रात करण्यात येवू लागले. इतकेच नव्हे तर घन, द्रव व वायू पदार्थांचे मोजमाप करण्यासाठी सेंटीमीटर, इंच, फूट, फ्लॉग, यार्ड, गुंज - मासा, तोळा, शेर, खंडी, मण, पावशेर, अर्धाशेर, वार इत्यादी परिमाणांचा भूतकाळात अवलंब करण्यात येत असे. मात्र आधुनिक काळात जगातील सर्व राष्ट्रांत मापन पध्दतीत एकसारखेपणा यावा. या उद्देशातून ज्या दशमान पध्दतीचा अवलंब केला जातो. आकडे शास्त्रात आणि गणितीशास्त्रात संख्येचे जरी विवरण केले जात असले तरी सत्र पध्दत, प्रमाणपध्दत, आलेखपध्दत या आकडेमोड पध्दतीचा विशेष करुन अवलंब केला जातो. सर्व नैसर्गिक शास्त्राचा मूलभूत पाया गणितीशास्त्रावर बराच अवलंबून आहे. मात्र पदार्थ विज्ञान, खगोलशास्त्र, रसायनशास्त्र, भिंगशास्त्र या शास्त्रांतील परिमाणे वेगळी आहेत. गणितीशास्त्राची जसजशी प्रगती होवू लागली तसतसे गणितीशास्त्रापासून संख्याशास्त्र वेगळे करण्याचे प्रयत्न केले जावू लागले. आकडेमोडीच्या आधारावर एखादया सामाजिक किंवा मानवनिर्मित स्वरूपाच्या घडामोडींचे नेमके विश्लेषण करण्यासाठी संख्याशास्त्राचा आधुनिक काळात अवलंब करण्यावर भर देण्यात येवू लागला. मानवी समाजात घडणारी कोणतीही घटना इष्ट, अनिष्ट, चांगली अथवा वाईट अशा दोन्ही स्वरूपातून परिणामकारक ठरत असते. परंतु हा परिणाम शाब्दिक स्वरूपातून व्यक्त करण्यात व आकडेशास्त्रात व्यक्त करण्यात बराच फरक

आढळतो. संशोधनाच्या अनेक टप्प्यांवर अनेकविध संख्याशास्त्रीय संकल्पना व उपाय अवलंबिले जावू शकतात (पहा आकृती)

### संशोधन प्रकल्पाच्या विविध टप्प्यांवर लागू होणाऱ्या संख्याशास्त्रीय पध्दती



वरील आकृतीच्या डाव्याबाजूला सामाजिकशास्त्र संशोधनातील पायाभूत टप्पे उल्लेखले आहेत. तर उजवीकडील बाजूला त्या त्या टप्प्यांना, जेथे कुठे शक्य असेल तेथे लागू होणारी संख्याशास्त्रीय पध्दती नोंदविली आहे. वरील आकृतीवरून स्पष्ट होते की संशोधनाच्या पहिल्या टप्प्यात जेथे विषय आणि त्याचे महत्व विशद केले जाते. तेथेही सोपे तक्ते, आलेख व आकृती यांच्या रूपात वर्णनात्मक संख्याशास्त्राचा आधार घेतला जावू शकतो. यामुळे प्रकल्पाची पार्श्वभूमी चांगल्या प्रकारे उभी राहू शकते. कोणतीही परिकल्पना पडताळण्यासाठीच्या संख्याशास्त्रीय तत्वानुसार परिकल्पनेची रूपरेषा मांडली जाते. वेळ व अन्य साधनांच्या कमतरतेमुळे, माहितीसाठी एकूण लोक समूह (Universe) शोधता येत नाही. त्यामुळे प्रातिनिधिक नमुन्याद्वारे माहिती गोळा करावी लागते योग्य नमुना ठरविण्यासाठी तीन घटकांची आवश्यकता असते. १) नमुना निवड (Sampling) चौकट ठरविणे. २) नमुना संख्या (Sample Size) ठरविणे आणि ३) नमुना एकक ठरविण्याची निवड पध्दत ठरविणे.

नमुना निवडीच्या मार्गदर्शक तत्वानुसार ही कार्ये नियमबद्धपणे पार पाडता येतात. अंतिमतः संग्रहित केलेल्या माहितीच्या विश्लेषणातून निष्कर्ष काढण्यासाठी अनुमान संख्याशास्त्रातील (Inference Statistics) एक किंवा अधिक पध्दतीचा वापर केला जावू शकतो. साध्या कोष्टकापासून ते निर्देशसूची तयार करणे ते बरेच गुंतागुंतीचे बहुपरिवर्तकीय विश्लेषणापर्यंत या पध्दतीचा विस्तार असू शकतो. सेलींगमन यांच्या मते आकडेप्रधान स्वरूपाची माहिती गोळा करण्यापर्यंतच्या ज्या ज्या घटना घडत असतील त्यांचे वर्गीकरण करून तुलनात्मकदृष्ट्या त्या घटनांचे विवरण केले जात असेल तर त्यास संख्यामापन पध्दत अशी संज्ञा देता येईल असे मत स्पष्ट केले आहे. सांख्यिकीय स्वरूपाची माहिती गोळा करणे व त्यांची आकडेमोड करून घटनेच्या संदर्भात संख्याशास्त्रीय अनुमान काढणे आणि संख्याशास्त्रीय

वर्णन करणे या दोन बाबींवर भर दिला जातो. संख्याशास्त्रीय पध्दत ही फक्त तथ्य संकलनासाठीच वापरली जात नसून तथ्यांच्या वर्गीकरणासाठी व विश्लेषणासाठी अंगीकारली जाणारी अध्ययनाची पध्दत अशा दोन्ही स्वरूपातून संख्यामानाचा आधुनिक काळात अवलंब केला जातो.

‘केऊल’ या विचारवंतांनी गणन किंवा मापन पध्दतीने संकलित केलेल्या तथ्यांचे विश्लेषण म्हणजेच संख्याशास्त्रीय पध्दत होय. गणन पध्दतीचा जास्त वापर करून सामाजिक संशोधनात अवलंब केला जात आहे तसेच वाढ व घट, व्यस्त व विषम प्रमाण दर्शविण्यासाठी काही वेळा गुणोत्तर पध्दतीचा सामाजिक व राजकीय संशोधनात अवलंब केला जातो. त्यामुळे टक्केवारी व गुणोत्तर या परिमाणाशिवाय समाजमिती परिमाण कितपत अवलंबिता येईल याचा आधुनिक काळातील विचारवंत अभ्यास करीत आहेत.

समाजशास्त्रात सांख्यिकीचा आज मोठ्या प्रमाणात वापर करण्यात येवू लागला आहे. समाजशास्त्र हे सामाजिकशास्त्रातील एक महत्वपूर्ण शास्त्र आहे. ज्यात मानवी समाजाच्या मूलभूत संरचनांचा शोध घेतला जातो व समूहांच्या मुख्य साधनांना निश्चित करून सामाजिक जीवनाच्या परिवर्तीत स्थितीचे आकलन केले जाते. समाजशास्त्रज्ञ हे विशेषतः सामाजिक संघर्ष जेव्हा नागरी तणाव, दहशतवाद, गुन्हेगारी या सामाजिक समस्यांचा दारिद्र्य, बेरोजगारी यांच्याशी सहसंबंध जोडतात. तेव्हा समाजशास्त्रीय संशोधन करण्यासाठी सांख्यिकी तथ्य आणि संख्यात्मक पध्दती यांची त्यांना अत्यंत गरज भासते. म्हणूनच समाजशास्त्रात संशोधन पध्दतीशास्त्र आणि सामाजिक सर्वेक्षण पध्दतीबरोबरच सांख्यिकीवरही भर दिली जातो. समाजशास्त्रज्ञ सांख्यिकी साधनांचा अवलंब करून कुटुंबाचा आकृतीबंध, गुन्हेगारी, वेश्या, व्यवसाय, मूलतत्त्ववाद, भिक्षावृत्ती तसेच समाजातील सांस्कृतिक परिवर्तनाचा अभ्यास करत असतो म्हणूनच सांख्यिकी हे समाजशास्त्रीय अभ्यासात अत्यंत उपयुक्त स्वरूपाचे साधन ठरते.

आपल्या अभ्यासविषयाच्या संदर्भात आपल्या संशोधनाचे महत्व विशद करण्यासाठी लाईन, दंडीकाकृती (Bar Diagram) पायाकृती (Pie Diagram) सारख्या संख्याशास्त्रीय तक्त्यांचा व आलेखांचा उपयोग होवू शकतो. अशा आधारासहीत केलेली मांडणी संशोधनार्थ समस्येला नवीन परिणाम व अर्थ देवू शकते उदा. एका विशिष्ट जिल्ह्यातील गरीबीचे विश्लेषण करायचे असेल तर योग्य तक्ते व आलेखाद्वारा त्या जिल्ह्यांची इतर राज्याच्या जिल्ह्यांच्या तुलनेत लोकसांख्यिकीय व सामाजिक व सामाजिक-आर्थिक वैशिष्ट्ये देवून सद्याच्या परिस्थितीवर आवश्यक दृष्टीकोन व प्रस्तावित कार्याच्या उद्दीष्टांना ऊर्ध्वमुख करता येईल.

संशोधनात्मक अभ्यासात शास्त्रीय विश्लेषणात विशेष महत्व असल्याने सांख्यिकीच्या वाढत्या ज्ञानाचा त्यात विशेष उपयोग करून घेण्यात आला आहे. संशोधनाची प्रक्रिया लक्षात घेतल्यास असे दिसून येईल की, समस्येची निश्चिती झाल्यावर समस्येचे निराकरण उपयुक्त अशा संभाव्य उत्तरातून जास्त समर्पक वाटणारे उत्तर परिकल्पना म्हणून निवडले जाते. हे समस्येचे निश्चित उत्तर नसते. असे संशोधनकर्त्यास वाटते परिकल्पनेच्या अनुरोधाने तो आपल्या संशोधनाचा अभिकल्प निवडतो कोणत्या पध्दतीचा अवलंब करावा. कोणत्या साधनांनी कोणती माहिती गोळा करावी याची तो योजना तयार करतो. त्यानंतर माहिती संकलित करून व त्या पुराव्याचे विश्लेषण करून तो आपल्या परिकल्पनेचे परिक्षण करतो. त्यावरून तो अभ्यासाचा निष्कर्ष काढतो. या सर्व प्रतिनिधीत्वाची त्याला संकलित माहितीची नोंद करावी लागते. वारंवारिता पत्रकावरून विविध गटांची मध्यवृत्ती (Central tendency) गुणांची विचलनशिलता (Cariability) ठरवावी लागते. आपल्या आदर्श (Sample) जनसंख्येचे (Population) योग्य प्रतिनिधीत्व करणारा आहे किंवा नाही, दोन चलात (Variables) कोणत्या प्रकारचा संबंध आहे, विशिष्ट सांख्यिकी



(Statistic) सार्थक आहे किंवा नाही ती पहाण्याकरीता कोणत्या परिवेक्षकांचा वापर करावा. परिकल्पनेचे परिक्षण कसे करावयाचे इत्यादी अनेक प्रश्नांची उत्तरे मिळविण्याकरिता संशोधनकर्त्याला पदोपदी सांख्यिकीय संज्ञा, तत्वे, नियम, सूत्रे यांचा उपयोग करावा लागतो. सांख्यिकीशिवाय त्याला योग्य, परिशुद्ध नेमके आणि सुस्पष्ट वर्णन करता येणार नाही व काढावयाच्या निष्कर्षात शास्त्रशुद्धता ठेवता येणार नाही. सांख्यिकीमुळे मोजक्याच पण सुस्पष्ट शब्दांत वर्णन करता येते. सांख्यिकीत विविध संकेत, चिन्हे, संख्या इत्यादींचा उपयोग होत असल्याने संक्षेप व सूत्रबद्धता पाळून नेमके करता येते. सांख्यिकीमुळे विचारात आणि प्रतिवधीत निश्चितपणा आणि परिशुद्धता येते. विश्लेषणाचे उपगमन शास्त्रीय रहाते. संकलित माहितीचे विश्लेषण आणि अर्थनिर्वचन करण्याकरिता सांख्यिकीय तत्वांचा उपयोग होतो. शून्य परिकल्पनेचा त्याग किंवा स्वीकार करतांना, भाकीते करतांना, निष्कर्ष काढतांना सांख्यिकीचा उपयोग होतो.

थोडक्यात सांख्यिकीमुळे जटील स्वरूपाच्या तथ्यांना सुव्यवस्थित रूप देता येऊन तथ्यांचे तुलनात्मक स्वरूपाचे अध्ययन करता येणे शक्य होऊ शकते. व त्याद्वारे निष्कर्ष काढता येऊन भविष्याबाबतचे पूर्वानुमान करता येणे शक्य होऊ शकते. त्यामुळे समाजांतर्गत असलेल्या सामाजिक समस्यांची सोडवणूक करण्यातच सांख्यिकी सहाय्य करते. याच बरोबर तथ्यांनी संख्यात्मक रूप दिले गेल्यामुळे संशोधनासाठी योग्य गृहीतकृत्यांची निर्मिती करता येवू शकते. संकलित केले गेलेल्या तथ्यांचे वर्णन करण्यासाठी व त्यांना सारांश रूपाने मांडण्यासाठी सांख्यिकी पध्दतीचा उपयोग केला जातो.

#### निष्कर्ष :

सामाजिकशास्त्रांतर्गत संशोधन करतांना संशोधकास सांख्यिकीचे ज्ञान असणे आवश्यक आहे. कारण आशय विश्लेषणातील सांख्यिकी विश्लेषण ही एक महत्वाची अवस्था आहे. संख्याशास्त्रीय पध्दत ही फक्त तथ्य संकलनासाठीच वापरली जात नसून तथ्यांच्या वर्गीकरणासाठी व विश्लेषणासाठी अंगिकारली जाणारी अध्ययन पध्दत होय. तथ्यांचे स्वरूप विशद करते वेळी संख्यात्मक स्वरूपाची तथ्ये व गुणात्मक स्वरूपाची तथ्ये अशा दोन घटकांवर भर देण्यात आलेला होता. तथ्यांच्या संख्यात्मकतेत रुपांतर केल्यामुळेच घटनेची परिणामकारकता अधिक स्पष्ट होवू शकते. संख्याशास्त्राचा अवलंब केल्याशिवाय संशोधनात्मक अध्ययनाला पूर्णत्व प्राप्त होत नाही. कोणत्याही सामाजिक घटनांचे यथार्थ अध्ययन करण्यासाठी सांख्यिकीय स्थितीचा, पध्दतीचा व्यापक प्रमाणात उपयोग करतात. म्हणूनच त्याला सामाजिक सांख्यिकी असे म्हणतात. समाजशास्त्रज्ञ सांख्यिकी साधनांचा अवलंब करून कुटुंबाचा आकृतीबंध, गुन्हेगारी, वेश्याव्यवसाय, मूलतत्त्ववाद, भिक्षावृत्ती तसेच समाजातील सांस्कृतिक परिवर्तनाचा अभ्यास करत असतो. कोणत्याही शास्त्राची प्रगती ही त्या शास्त्रात अनिश्चित व गुणात्मक स्वरूपाची माहिती जमा करण्याऐवजी सांख्यिकी स्वरूपाची माहिती व वैज्ञानिक तंत्राचा वापर किती प्रमाणात होतो यावर अवलंबून असतो. म्हणूनच संशोधन विषयाचा अभ्यास काटेकोर, निश्चित व वस्तुनिष्ठ करता यावा यासाठी सामाजिकशास्त्रात सांख्यिकी पध्दतीचा अवलंब केला जातो.

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## गांधीजींचे आर्थिक व्यवस्थेविषयी विचार

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अर्थव्यवस्था हा वाढत्या प्रमाणावर वाचला चर्चिला जाणारा विषय आहे. त्यामुळे त्याला आधुनिक उच्च शिक्षणात महत्व प्राप्त झाले आहे. राजेशाही असो की, लोकशाही अर्थव्यवस्था हा त्याचा मुख्य घटक आहे.

लोकशाहीच्या अंतरंगात व्यक्तिवादी भांडवलशाही दिसून येत आहे. रशियातील साम्यवादी हुकूमशाही ही आर्थिक समता प्रस्थापित करू शकली नाही. त्याठिकाणी साम्यवाद लयाला गेला आज समाजावर भांडवलशाही व्यवस्थेचे विविध दुष्परिणाम दिसून येत आहे. अशा भांडवलशाहीला पुरक औद्योगिक व जागतिकीकरणाच्या काळात आपण गांधीजींच्या आर्थिक विचारांचे अध्ययन करित आहोत.

१९९१ पासून मुक्त अर्थव्यवस्थेचा स्विकार आणि आर्थिक नियोजनामधून नियंत्रण यामधून शासनाची माघार समाजवादी सोव्हियत युनियनचा पाडाव झाल्यानंतर जागतिक पातळीवर भांडवली शक्तीची आक्रमकता वाढली. याचा धडका भारतासारख्या सर्वच देशांना बसला. भारतामधल्या बाळसे धरलेल्या खाजगी भांडवलाला व मध्यम वर्गाला त्याचे आकर्षण वाटले आणि डावे पक्ष सोडून सर्व संसदीय राजकीय पक्षांचे मुक्त भांडवलशाही या आर्थिक धोरणावर एकमत झाले. ते धोरण केवळ नरसिंह राव सरकारचे नव्हते तर सर्व भांडवली पक्षांचे होते त्याला समाजातल्या सर्व वर्गांच्या थरांचा एकमुखी पाठींबा होता केवळ पाठिंबाच नव्हे तर असे आर्थिक धोरण आणावे यासाठी त्यांचा मोठा दबाव होता.

या सर्व पार्श्वभूमीवर गांधीजींच्या आर्थिक विचारांचे अध्ययन करणे उचित वाटते. गांधीजींचे अर्थकारण हे मानवतावादावर आधारलेले होते. अर्थकारणात त्यांनी स्वावलंबी जीवनावर भर दिला आहे. गांधीजी म्हणत की, जगाची अर्थव्यवस्था अशी असावी की, कोणालाही अन्न व सखाची कमी पडू नये. प्रत्येकाच्या प्राथमिक गरजा पूर्ण होतील याकडे ते लक्ष देतात. गांधीजींच्या मते मी अर्थशास्त्राला नीतिशास्त्राहून वेगळे मानीत नाही. आर्थिक समानता स्थापित करणे हा गांधीजींच्या आर्थिक विचारांचा गाभा होता आर्थिक समानतेसाठी प्रयत्न करणे म्हणजे भांडवल व श्रम यामधील सनातन संघर्ष नष्ट करणे होय. गांधीजींच्या मते खरे अर्थशास्त्र म्हणजे न्यायाचे अर्थशास्त्र होय. लोक जितके न्यायाने व सदाचाराने वागायला शिकतील तितके त्यांना सुख लाभेल बाकी सर्व व्यर्थच आहे नव्हे अनर्थकारी आहे. भल्याबुऱ्या कोणत्याही मार्गानी श्रीमंत व्हा असे लोकांना शिकविणे म्हणजे त्यांना फार मोठा अपकार करणे होय.

गांधीजींचे विचार व्यापक आहे. गांधीजी तत्वज्ञान वैचारिक सिध्दांत किंवा वाद ही मांडत नाही, गांधीजी तत्वज्ञान वैचारिक सिध्दांत किंवा वाद ही मांडत नाही, गांधीजी प्रयोग करतात कृती करतात, समाज व्यवस्थांचा अभ्यास करतात. मानवी वृत्ती प्रवृत्तीचा अभ्यास करतात आणि समाज वास्तवाचे मूल्यमापन मानवी सांस्कृतिक मुल्याधारे करतात. गांधीजींच्या मते भौतिक वासनांना नैतिक प्रेरणांची जोड नसल्यामुळे ही चिंताजनक परिस्थिती निर्माण झाली आहे. श्रीमतांनी लोभ मोह सोडला आणि गरिबांनी मत्सर सोडला तर शांतता आणि समता यांचा मधुर संगम होऊन समाजव्यवस्था प्रसन्नतेने चालेल सेवा प्रधान अर्थव्यवस्थाही स्पर्धा प्रधान भांडवलशाही पेक्षा आणि शक्तीप्रधान समाजवादापेक्षा श्रेयस्कर आहे.

आज समाजव्यवस्था गुंता-गुंतीच्या झाल्या आहेत. त्यामुळे व्यक्तीच्या कार्यव्यवहाराचे सामाजिक स्वरूप व व्याप्ती पटकन सामान्य माणसांच्या लक्षात येत नाही. शेतकरी आत्महत्या दारू पिऊन पती-पत्नी मारहाण, नापास

विद्यार्थी आत्महत्या, व्यक्तींचे हे कार्य व्यक्तिगत दोषाबरोबरच आर्थिक, शैक्षणिक, सामाजिक, राजकीय व्यवस्थांचे परिणाम असतात. सामाजिक व्यवस्थांचा परिणाम माणसांवर व्यक्तीवर होतो तसेच व्यक्तीच्या कार्यव्यवहारातून समाजव्यवस्था तयार होतात गांधी विचारांचा केंद्र बिंदू माणूस आहे व त्याच्या भोवती असणाऱ्या समाजव्यवस्था आहेत व्यवस्थांच्या या गुंतागुंतीच्या जंजाळात सामान्य माणसाला सक्षमपणे विवेकाने माहिती, ज्ञान व प्रज्ञेने व निर्भयतेने कार्यव्यवहार करता आला पाहिजे. गांधीजींनी सामान्य माणसाला सक्षम बनवण्याचे मार्ग दाखविले मिठाचा सत्याग्रह करून इंग्रज साम्राज्याला धक्का दिला. खादी, ग्रामोद्योग, सफाई, शेती, ग्रामीण जीवन या अर्थ व सामाजिक व्यवस्थांना अग्रक्रम दिला निव्वळ राजकीय स्वतंत्र्य पुरेसे नाही, आर्थिक स्वातंत्र्य आवश्यक आहे. गांधीजींनी यासाठी स्वराज्य आणि स्वदेशी हे दोन उपक्रम सांगितले आहेत यासाठी जीवनावश्यक मुलभूत उत्पादनाची साधने जनतेच्या मालकीची राहतील अशी अर्थव्यवस्था असायला पाहिजे सेवाप्रधान अर्थ व्यवस्थेसाठी गांधीजींनी विश्वस्त ही संकल्पना सांगितली. श्रीमंतानी विश्वस्त भावनेनी कार्य केले पाहिजे संपत्ती संचयातून विषमता निर्माण होते. खाजगीकरण की सरकारीकरण स्पर्धाप्रधान खुली अर्थव्यवस्था की सत्ताप्रधान नियंत्रित अर्थव्यवस्था यावर आज जगात वाद सुरू आहेत. या सगळ्यापेक्षा वेगळा असा गांधीजींचा आर्थिक विचार आहे.

गांधीजींचा नफेखोरीवर आधारित भांडवलशाही व्यवस्थेला विरोध आहे. गांधीजी पाश्चिमात्य भांडवलशाही अर्थव्यवस्थेचा स्वीकार करीत नाही त्याच बरोबर ते समाजवादी अर्थव्यवस्थेचा ही समर्थक नाही मिश्र अर्थव्यवस्थेचा देखील ते पुरस्कार करीत नाही. गांधीजींची अर्थव्यवस्था ही ग्रामीण अर्थव्यवस्था आहे. ग्रामीण अर्थव्यवस्था ही गावच्या स्वयंपूर्णतेवर आधारित आहे. गांधींच्या मते दारिद्र्य दूर करण्यासाठी बेरोजगार लोकांना रोजगार उपलब्ध करून देणे आवश्यक आहे. गांधीजींची अर्थव्यवस्था ही नैतिकतेवर आधारित आहे. गांधीजींचे औद्योगिकीकरण संबंधी छोट्या उद्योगांना प्राधान्य होते. गांधीजींच्या मते विकेंद्रीत अर्थव्यवस्था आपल्या गरजा पूर्ण करू शकते. विकेंद्रीत अर्थव्यवस्था हा फार व्यापक अशा प्रकारचा विचार आहे गांधीजींची विकेंद्रीत अर्थव्यवस्था ही पर्यावरण पुरक आहे. गांधीजींच्या विकेंद्रीत अर्थव्यवस्थेचा आधार गाव आहे.

गांधीवाद व मार्क्सवाद ही दोन्ही परस्पर विरोधी विचार आहेत. असे मानलं जात पण त्यांच्या मध्ये एक समान धागा आहे. तो म्हणजे मानवाविषयीची करूणा, प्रेम सामान्य मनुष्याविषयीचा कळवळा त्या सामान्य मनुष्याच्या सुखाने जगण्याच्या हक्कावर धनवंत बलवंत आणि बुद्धीवंत वर्गाकडून होणाऱ्या आक्रमणाला विरोध आर्थिक विषमता कमी करण्याच्या दृष्टीने श्रीमतांनी दारिद्रनारायणाच्या विश्वस्ताची भुमिका घ्यावी हे गांधीजींचे सुंदर स्वप्न पण खुद गांधींना असा एकही विश्वस्त मिळाला नाही. जो मिळाला तो अर्धा मुर्धाच (जमनलाल बजाज) असा चिमटा डॉ.राम मनोहर लोहिया यांनी एके ठिकाणी काढला आहे. लोहियांच्या या टीकेतले सत्य कितीही अप्रिय असले तरी आजच्या मानवी स्वभावाची ही मर्यादा आहे.

गांधीजींचा साधेपणा गांधीजींचा स्वदेशीचा आग्रह गांधी प्रणीत अर्थव्यवस्था, गांधींनी नेतृत्वाला दिलेली नैतिकतेची जोड साधनसुचितेवर असलेला गांधीजींचा भर इत्यादी गोष्टीची देशाला पुर्वी इतकीच आज आवश्यकता आहे.

#### निष्कर्ष :

आजच्या जागतिकीकरणाच्या युगात सर्वच क्षेत्रात प्रचंड स्पर्धा निर्माण झाली आहे. या स्पर्धेमध्ये सर्वसामान्य दुर्बल वर्गाकडे दुर्लक्ष होत आहे. नफा हाच केंद्रबिंदू होत आहे. समूह हिताकडे दुर्लक्ष होऊन व्यक्ति हिताला महत्व दिले

जात आहे. आजच्या अशा आर्थिक व्यवस्थेकडून गांधीवादी अर्थव्यवस्थेकडे जाणे अधिक योग्य होईल.

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## कोल्हापूर जिल्ह्याचे चहा लागवडीमधील यशस्वी पाऊल

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### गोषवारा :

राजर्षी शाहू महाराजांनी शंभर वर्षांपूर्वी पन्हाळा पेठ्यांत 'अस्वल डोंग' बागेत चहाची शेती करून कोल्हापूर संस्थानात पारंपारिक पिकाला फाटा देत नवा यशस्वी प्रयोग केला होता. हा चहा 'पन्हाळा चहा नं ४' या नावाने कोल्हापूर संस्थानाबरोबरच संस्थानाबाहेरील राजे रजवाड्यांच्यात प्रसिध्द होता. राजर्षी शाहूंच्या नंतर असा चहा लागवडीचा प्रयोग पुन्हा महाराष्ट्रात झाल्याचे दिसत नाही.

आता कोल्हापूर जिल्ह्याच शाहूवाडी तालुक्यामध्ये आंबा घाटालगतच हुंबवली या गावात बाळासाहेब टेकावडे यांनी तब्बल ४० एकरात यशस्वी चहा लागवड केली आहे. चहामळयाच्या पायथ्यास २ कोटी रुपये खर्चाचा चहा प्रक्रिया प्रकल्प ही उभा केला असून टेकावडे यांचा चहा आता विक्रीस स्थानिक बाजारात उपलब्ध आहे. चहा लागवडीसाठी महाराष्ट्राचा भारत सरकारच्या अखत्यारीतील वाणिज्यमंत्रालयकडील टी बोर्डाच्या यादीत समावेश नसल्याने अधिकृत चहा लागवडीसाठी तांत्रिक अडथळे आहेत.

शासकीय,राजकीय व श्री टेकावडे यांनी केलेल्या प्रयत्नानंतर टी बोर्डाने कोईमतूर (तामिळनाडू) येथील 'युनायटेड लॅन्टर्स असोसिएशन ऑफ सर्दर्न इंडीया' (UPASI) या चहा संशोधन संस्थेस सदर चहा मळयाच्या तपासणीसाठी पाठवले. त्याप्रमाणे २७मे २०१० रोजी डॉ.बी.राधाकृष्णन यांच्या नेतृत्वाखाली हुंबवली येथील चहाचा दर्जा, जमिनीची प्रत, हवामान, पर्जन्यमान, मजुर उपलब्धता आदी गोष्टींची पाहणी केली. पाहणी अंती हुंबवली बरोबरच कोल्हापूर जिल्ह्यात चहा लागवडीस अनुकूल परिस्थिती असल्याचा अहवाल डॉ.बी.राधाकृष्णन यांनी टी बोर्डास पाठवला आहे. टी बोर्डाचा हिरवा कंदील मिळाल्यास अनेक शासकीय योजना व अनुदानांचा लाभ चहा लागवड करणाऱ्या महाराष्ट्रातल्या शेतकऱ्यांना मिळू शकतो. सध्या ५०० शेतकऱ्यांनी चहा लागवडीची तयारी दर्शविली आहे तर आगामी पाच वर्षात जिल्ह्यातील ३००० हेक्टर पडीक क्षेत्रावर चहा लागवड होवू शकते. साहजकीच कोल्हापूर जिल्ह्याबरोबरच महाराष्ट्रातल्या शेती अर्थकारणाला यामुळे नवी दिशा मिळू शकते.

### प्रस्तावना :

कोल्हापूर संस्थानात शंभर वर्षांपूर्वी राजर्षी शाहू महाराजांनी चहा लागवडीचा प्रयोग यशस्वी करून दाखविला होता. 'शेतीमध्ये पारंपारिक पिकांऐवजी चहा, कॉफी,रबर,वेलदोडे,कोको यासारखी इथे कधीच न घेतलेली उत्पादने घेता आली तर संस्थानाच्या शेतीचा कायापालट होईल असे, महाराजांना वाटत होते.' आता प्रदीर्घ कालखंडानंतर कोल्हापूर जिल्ह्यातील शाहूवाडी तालुक्यातल्या हुंबवली येथे श्री.बाळासाहेब टेकावडे या प्रयोगशील शेतकऱ्याने चहा लागवड यशस्वी करून दाखवली आहे. भारतीय टी बोर्डाचा या यशस्वीतेवर शिक्का मोर्तब झाल्यास कोल्हापूर जिल्ह्याबरोबरच महाराष्ट्राच्या शेती अर्थकारणाला नवी दिशा मिळेल.

### चहाचा भारतातला प्रवेश :

'चहा हा शब्द चिनी भाषेतील 'चा' शब्दापासून रूढ झाला. टी शब्दाचा उगमसुध्दा चीनमधील अँमॉय प्रांतांतील बोली भाषेतील 'टे' या शब्दात आहे.' २ ब्रिटीशांनी ईस्ट इंडिया कंपनीच्या अखत्यारित १८३५ च्या सुमारास भारतात चहाच्या लागवडीला हिमालयाचा परिसर,आसाम व दक्षिण भारतात सुरुवात झाली.' ३ ब्रिटीश लोकांना चहा कमालीचा प्रिय होता आणि चहासाठी त्यांना चीनवर अवलंबून रहावे लागे. पर्यायाने ब्रिटीशांनी भारतात चहा मोठया प्रमाणात पिकवला.' १८३९ मध्ये

ईस्ट इंडिया कंपनीच्या मळयात तयार झालेला चहा लंडन येथील बाजारात प्रथमच लिलावाने विकला गेला.' आज भारताचा चहा उत्पादित पहिल्या चार राष्ट्रांत समावेश होतो. जगात उत्पादित होणाऱ्या एकूण चहा उत्पादनाच्या २७ % चहा भारत उत्पादित होतो. साहजिकच परकीय चलन मिळवून देण्यात चहाचा मोठा हातभार आहे.

#### राजर्षी शाहू महाराजांनी यशस्वी केलेली चहा लागवड :

राजर्षी शाहू महाराजांनी देश-विदेशात प्रवास केला. तेव्हा त्यांच्या कल्पकदृष्टीने ही गोष्ट हेरली की, शेतीमध्ये पारंपारिक पिके घेण्याबरोबरच शेतीत काही नवीन प्रयोग झाले तर आपल्या संस्थानातल्या शेतीचा कायापालट होईल आणि रयतेचे जीवनमान सुधारेल. देश-विदेशवारीने त्यांची अनुभव संपन्नता वाढली. 'त्यामधुन त्यांनी पन्हाळा आणि भुदरगड पेठयात चहा, कॉफी, वेलदोडे, कोको, रेशीम, रबर, ताग, बटाटा, कापूस इत्यादी नगदी पीके काढण्याचे विविध प्रयोग राबवल्याचे दिसून येतात.' ५ त्यांनी पन्हाळा पेठयावर अंत्यत चांगल्या प्रकारचे चहा उत्पादन घेतले होते. चहाचे बी परराज्यातून मागवले जाई. 'पंजाबहून चहाचे बी आल्याबद्दल ते पनाळाकडे पाठवणे आहे. सबब ४०० रू. तसलमात मिळावी.' असा सरकारी मागणीचा ठराव झाला होता. या मागणी नुसार महाराजांनी ३००० रू तसलमात देण्याचे मंजूर केले होते. शाहूंनी पन्हाळयावरील अस्वल डोंग बागेत चहाची लागवड केली होती.

'राजर्षी शाहूंनी तयार केलेला चहा पन्हाळा टी नं.४ या नावाने प्रसिध्द होता आणि तो विशेषतः बडोद्याच्या राजघराण्याच्या खास पंसतीचा होता.' ७ आपल्या संस्थानातही चहाचे उत्पादन घ्यावे असे त्यांना वाटू लागले होते. शाहूंनी व्यापारी तत्वावरच चहाचे उत्पादन घेतले होते. हा चहा कोल्हापूर संस्थानाबाहेर पाठवला जाई. इतर संस्थानातले राजे रजवाडे यांच्या खास आवडीचा हा चहा बनला होता. राजर्षी शाहू महाराजांच्या नंतर या चहा लागवडीकडे व त्यांच्या प्रयोगशीलतेकडे कोणी गांभीर्याने पाहिले नसल्याने हा पन्हाळा चहा व चहा शेती इतिहास जमा झाली.

#### शंभर वर्षांनंतर बाळासाहेब टेकावडे यांचा चहा लागवडीचा यशस्वी प्रयोग :

कोल्हापूर जिल्ह्यातील शाहूवाडी तालुक्यात आंबा घाटा शेजारी असणाऱ्या हुंबवली या गावच्या हद्दीत मुळचे पुणे जिल्ह्यातील पुरंदर तालुक्यामधील श्री. बाळासाहेब टेकावडे यांनी ४० एकरात चहाचे पिक उत्तम दर्जाचे घेतले आहे. '२००२ साली पहिली लागवड त्यांनी फक्त १ हेक्टर क्षेत्रात केली.' अर्थात हा धाडसी व अपारंपारिक पिकाचा प्रयोग केला तेव्हा सर्वांनाच आश्चर्य वाटले होते. 'सन २०००-०१ व २००१-०२ या वर्षात केंद्र शासनाची मायक्रोमॅनेजमेंट अंतर्गत चहा व कॉफी लागवडीस प्रायोगिक तत्वावर मान्यता होती.' ९ तामिळनाडू येथून श्री.टेकावडे यांनी १३५०० रोपे आणून लावली, त्यापैकी फक्त पाच टक्के रोपे जगली. २००३ मध्ये पुन्हा लागवड केली त्यावर्षी रोपे मरण्याचे प्रमाण पाच टक्क्यांवर आले. आजच्या घडीला तब्बल ४० एकर क्षेत्रावर त्यांनी अत्यंत चांगल्या पध्दतीचा चहाचा मळा फुलवला आहे.

चहाचा मळा फुलला तरी टी बोर्डाच्या यादीत महाराष्ट्राचा समावेश नसल्याने अुदानाचा व चहा उत्पादनाला मान्यता मिळण्याचा मोठा प्रश्न होता. चहा प्रोसेसिंग प्लॅंट नसल्याने काही वर्षे चहाची पाने खुडून फेकून द्यावी लागली. श्री.टेकावडे यांनी टी बोर्डाकडे सातत्याने पाठपुरावा केलाच पण याच वेळी कोल्हापूर जिल्हा परिषदेचे उपाध्यक्ष आणि कृषी, पशुसंवर्धन व दुग्ध विकास समितीचे सभापती धैर्यशील माने यांनी खास प्रयत्न केले. या चहा मळयात श्री.माने यांच्या पुढाकाराने शासकीय यंत्रणा, शेतकरी, पत्रकार यांची कार्यशाळा व जिल्हा परिषदेची विशेष सभा घेतली गेली. या वेळी चहा पिकाच्या शाश्वतेबाबत चर्चा घडवली. यासर्वांचा परिणाम असा झाला की, जिल्हा परिषदेच्या कृषि विभागाकडे '५०० हेक्टर क्षेत्रावर चहा लागवड करू इच्छिणाऱ्या शेतकऱ्यांनी आपली तयारी दर्शवली.' १० दरम्यानच्या काळात श्री.टेकावडे यांनी दोन कोटी रूपये खर्चाचा चहा प्रोसेसिंग प्लॅंट हुंबवली येथेच स्वखर्चाने उभा केला.' त्यामुळे कोल्हापूर जिल्हाबरोबरच शेजारील सांगली, सातारा, पुणे जिल्ह्यात चहा लागवड यशस्वी झाल्यास चहावर प्रक्रिया करण्याची सोय झाली आहे.

केंद्रीय वाणिज्य बोर्डाच्या अखत्यारित असलेल्या टी बोर्डाकडे शासकीय, राजकीय आणि श्री.बाळासाहेब टेकावडे

यांच्या वैयक्तिक प्रयत्नानंतर टी बोडनि कोईमतूर (तामिळनाडू) येथील 'युनायटेड प्लॅन्टर्स असोसिएशन ऑफ सदरन इंडिया' या चहा संशोधन संस्थेस पाहणीसाठी पाठवले. त्याप्रमाणे २७ मे, २०१० या दिवशी संस्थेचे सहाय्यक संचालक डॉ.बी.राधाकृष्णन व श्री.गौतम लालजी यांनी चहा मळयास भेट देवून पाहणी केली.

#### टेकावडे टी एक्सलंट :

प्रत्यक्ष पाहणी समितीबरोबर कोल्हापूर जिल्हा परिषद अध्यक्ष नानासाहेब गाठ, उपाध्यक्ष धैर्यशील माने, जिल्हा कृषि अधीक्षक उमेश पाटील व प्रयोगशील शेतकरी श्री.बाळासाहेब टेकावडे टी एक्सलंट असल्याचा अभिप्राय उपस्थितांसमोरच नोंदवला. '१२ एवढेच नव्हे तर श्री.बाळासाहेब टेकावडे यांना त्यांनी 'फादर ऑफ टी गार्डन इन महाराष्ट्रा'असेही संबोधले. समितीने 'जमिनीचा पोत, हवामान, पर्जन्यमान, पाणी उपलब्धता, माती, कामगार उपलब्धता या सर्व बाबी येथील चहा लागवडीस योग्य असल्याचे आपल्या बारापानी अहवालात म्हटले आहे.' १३ आता फक्त टी बोर्डाकडून महाराष्ट्रात चहा लागवडीला हिरवा कंदील मिळणे बाकी आहे.

उपसीच्या अनुकूल अहवालामुळे कोल्हापूर जिल्ह्यातील शाहूवाडी बरोबरच राधानगरी, पन्हाळा, गगनबावडा, आजरा, चंदगड या तालुक्यातील शेतकऱ्यांच्या आशा पल्लवीत झाल्या आहेत. एवढेच नव्हे तर 'कोल्हापूर जिल्ह्यात दहा तालुक्यात चहाची यशस्वी लागवड होवू शकते असा अभ्यासांती निष्कर्ष कोल्हापूर जिल्हा परिषदेच्या कृषी विभागाने नोंदवला आहे.' १४ सध्या श्री.बाळासाहेब टेकावडे यांचा तयार चहा स्थानिक बाजारात १२५ रू.किलोने मिळतो.

#### चहा लागवडीचे फायदे :

१. पडीक व डोंगराळ जमीन उत्पादन क्षम होईल.
२. चहा लागवडीमुळे जमिनीची धूप कमी होईल व जलसंधारण होईल.
३. चहा लागवडीमुळे कोल्हापूर जिल्ह्याच्या पर्यटन व कृषी पर्यटन विकासाला चांगला वाव मिळेल.
४. चहा लागवडीमुळे नवीन प्रक्रिया उद्योग व त्या द्वारे रोजगाराच्या संधी उपलब्ध होवू शकतात.
५. डोंगराळ भागातले शेतकरी भात, नाचणी याच पिकांवर अनेक वर्षे अवलंबून आहेत त्यांना चहा या नगदी पिकांचा समर्थ पर्याय मिळेल.
६. डोंगर भागातले बहुतांशी लोक मुंबई येथे मोल मजुरी करतात त्यांना चहा लागवडीकडे शेती उद्योग म्हणून पाहता येईल.
७. चहाच्या झाडाचे आयुष्य सर्वसाधारणपणे ७० ते ८० वर्षे असल्याने वारवारं पिक लावावे लागत नाही.
८. कोणतेही जंगली अथवा पाळीव जनावर या पिकास तोंड लावत नसल्याने जनावरांपासून नासधूस कमी होते.
९. सर्वात कोवळे पान (वड) अरब राष्ट्रात अदमासे ५,००० ते २०,००० रूपये किलोने विक्री होते.
१०. चहा मळयामध्ये ऑस्ट्रेलियन टिकवूड झाडाची लागवड केल्यास मोठया प्रमाणात नत्रवायू उपलब्ध होतो. त्याने हवेतील आर्द्रतेचे प्रमाण वाढते आणि त्याचे लाकूड इमारतीसाठी उपयोगात येते हा दुहेरी फायदा.

#### चहा लागवडीचे तोटे :

१. टी बोर्डाची अनुमती नसल्याने शासकीय अनुदानाचा महाराष्ट्राला लाभ नाही.
२. लहान शेतकरी अनुदानापासून वंचित राहणार असल्याने श्रीमंत लोकांची चहा लागवडीमध्ये मक्तेदारी निर्माण होवू शकते.
३. चहा लागवडीसाठी वृक्ष तोडीचा धोका संभवतो.
४. एक हेक्टर क्षेत्रावर चहा लागवडी पासून तोडणीपर्यंत सुमारे साडेचार लाख रूपये खर्च होतो.

५. पहिली तीन वर्षे उत्पादन नाही, चौथ्यावर्षी उत्पादन सुरू, पाचव्यावर्षी खर्च निघतो व सहाव्यावर्षी फायद्याचे गणित सुरू होते यामुळे लहान शेतकऱ्यांना पैसे गुंतवून ठेवणे परवडणार नाही.

**निष्कर्ष :**

जरी काही तोटे चहा लागवडीचे दिसत असले, तरी यावर नियोजनबद्ध उपयांती चांगला मार्ग निघू शकतो. चहा लागवड कोल्हापूर जिल्ह्याबरोबरच महाराष्ट्राच्या शेती उद्योगाला नव्या अर्थकारणाच्या दिशेने नेू शकते. पुढील प्रमाणे काही उपाययोजना दृष्टीपथात आहेत.

१. टी बोर्डाची मान्यता आवश्यक आहे कारण २५ एकरांखालील क्षेत्र असणाऱ्या शेतकऱ्यांना मोठे अनुदान प्राप्त होते.
२. राष्ट्रीय फलोत्पादन विभाग अथवा कृषि विभागाच्या अखत्यारित कोल्हापूर जिल्ह्यामध्ये चहा लागवडीसाठी स्वतंत्र योजना तयार केल्यास टी बोर्डाच्या विविध अनुदान योजनांचा शेतकऱ्यांना लाभ होईल.
३. रोजगार हमी योजनेअंतर्गत फळबाग लागवड योजनेच्या धर्तीवर १०० टक्के अनुदानाची योजना प्रस्थापित केल्यास चहा लागवड फायदेशीर ठरेल.

चहा लागवडीसाठी टी बोर्ड अथवा केंद्र शासनाने योजना किंवा अनुदान प्रस्थापित केल्यास आगामी पाच वर्षांत कोल्हापूर जिल्ह्यामध्ये ३००० हेक्टर पडीक जमिनीवर चहा लागवड होऊ शकते.

वरील उपाययोजना ह्याच निष्कर्ष ठरू शकतात. टी बोर्ड, केंद्रशासन, नाबार्ड अथवा महाराष्ट्र शासन यांच्या कडून अनुदानाची तरतुद झाल्यास श्री. बाळासाहेब टेकावडे यांनी अनुदानाशिवाय पिकवलेल्या बी/६/६१, बी/५/६३, २०२३, २०२४, २०२५, २०२६, टीआरएफ - १, टीआरएफ - २, टीआरएफ - ३, टीआरएफ - ४, श्रीलंकन सिलेक्शन, एटीके, १२७, ४१६ या प्रजातींच्या चहा प्रमाणेच कोल्हापूर जिल्ह्यातील सुमारे ३००० हेक्टर पडीक जमिनीवर चहा लागवड होऊ शकते. पर्यायाने महाराष्ट्र राज्याच्या शेती अर्थ कारणांमधील हा क्रांतीकारी बदल ठरल्याशिवाय राहणार नाही.

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