

A Study on Elbow, Wrist, Knee and Ankle Widths of Indian Elite Male Athlete of Different Jumping Events

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Abstract :

The jumps are the fundamental activities of human beings which had catered the food gathering and safety need of man kind right from the ancient times. Competitive jumps had come a long way in the development of technique and style. Purpose of this study was to compare the various joint breadths of Indian elite male athletes of different jumping events, 100 Indian elite male Jumpers (25 each of High jump, Long Jump, Triple Jump and Pole vault) were selected from various National level competitions and sports camps, and SAI Hostels of India. The gathered data of Humerous and Femerous bi-epicondylar, Wrist and Ankle joint was analysed by Analysis of variance (ANOVA). The Result of the study had shown that Triple jumpers are greater in Humerus bi-epicondylar, Ankle breadth and Wrist breadth than long jumpers, high jumpers and pole vaulters whereas no significant difference was seen in Femerus bi-epicondyle width of elite male jumpers of India.

Keywords : Humerus and Femerus Bi-epicondylar, Ankle and Wrist Breadth, Elite Male High Jumpers, Long Jumpers, Triple Jumpers, Pole Vaulters.

Introduction :

The jumps are the fundamental activities of human beings which had catered the food gathering and safety need of man kind right from the ancient times. Competitive jumps had come a long way in the development of technique and style. They are included in the modern Olympic Games right from their very start in Athens (1896).

Tall stature and long lower extremities have been noticed in all games and events where jumping is involved, such as volleyball, basketball, long, high & triple jump, pole vault and goalkeeping. The height and height plus the reach of the players make the performance in these games and events much easier for taller men. The proportionately longer lower extremities seem to help in some way to lift the body up and on the sides at a greater distance during jumps.

For activities such as high jumps or pole vault, the size seems to play no role in the actual lifting of center of gravity, but in the case of taller persons, the centre of gravity is at a higher level which is useful in crossing a greater height (**Asmussen**, 1971). Probably for this reason the gymnasts are found to be short (**Cureton**, 1951; **Hirata**, 1966) and the high jumpers tall (**Tanner**, 1964; **Hirata**, 1966; **Correnti and Zauli**, 1964).

Krakower (1935) studied 16 high jumpers and found that the type of the individual that succeeded in high jump had long legs, a short body and broad feet.

Wells (1963) conducted a relationship study of the leg strength, body weight ration and length of the lower limb segment to vertical jump on 49 male college students, he concluded that none of the relationship studied proved to be statistically significance. **Sodhi (1991)** studied 22 track and field champion athlete of the united stated and reported typical track men to be slight in skeletal frame work with longer fore legs relatively to thighs, and longer legs relative to the length of the trunk but were exceedingly well muscled. The jumpers, hurdlers, and vaulters were relatively slim in skeletal build and were typically taller with longer legs and shorter trunks. The jumpers, hurdlers and vaulters had relatively great leg length, trunk length relatively large foreleg length/thigh length.

Thus we see that lots of studies had been conducted on the length of various body segments of

jumping athletes but not many of significance had been carried out on width of various body segments of these groups. Thus the researcher felt the need to carry out a study on breadth of various body segment with the specific purpose of comparing the joint widths of four different jumping groups of track and field.

Procedure

Selection of subjects:

For the purpose of this study 25 elite male jumpers for each high jump, long jump, triple jump, and pole valuator from various National and Inter-National Tournaments, State and SAI hostels were selected.

Anthropometrical measurements of 25 Elite male high jumpers were collected from:

- 6 High jumper from all India athletic intervarsity championship 2007-2008, Annamalai University on dated, January 16, 2008.
- 6 High jumpers from Senior Athletic Federation Cup, T.T. Nagar Stadium Bhopal on dated, February 29, 2009.
- 2 High jumpers From All Star Asian Athletic Meet, Bhopal on dated September 18, 2008.
- 4 High Jumpers from All India Athletics Championship 2008-2009 Mahatama Gandhi University, Kottayam (Kerala), on dated December 20, 2008.
- 1 High Jumper from Inter Zone SAI Hostels Athletic Meet, Saifai (Etawah) on dated January 16, 2009.
- 3 high jumpers from all India inter SAI hostels athletics meet Etawah, on dated January 19, 2009.
- 3 high jumpers from all India police athletics meet 2008-2009, Lucknow on dated February 14, 2009.

Anthropometrical measurements of from 25 Elite male Long Jumpers were collected from:

- 6 long jumper from all India athletic intervarsity championship 2007-2008, Annamalai University on dated, January 16, 2008.
- 6 Long jumpers from Senior Athletic Federation Cup, T.T. Nagar Stadium Bhopal on dated, February 29, 2009.
- 2 Long jumpers From All Star Asian Athletic Meet, Bhopal on dated September 18, 2008.
- 4 Long jumpers from All India Athletics Championship 2008-2009 Mahatama Gandhi University, Kottayam (Kerala), on dated December 20, 2008.
- 1 High Jumper from Inter Zone SAI Hostels Athletic Meet, Saifai (Etawah) on dated January 16, 2009.
- 4 long jumpers from all India inter SAI hostels athletics meet Etawah, on dated January 19, 2009.
- 2 long jumpers from all India police athletics meet 2008-2009, Lucknow on dated February 14, 2009.

Anthropometrical measurements of 25 Elite male triple jumpers were collected from:

- 6 triple jumper from all India athletic intervarsity championship 2007-2008, Annamalai University on dated, January 16, 2008.
- 6 Triple jumpers from Senior Athletic Federation Cup, T.T. Nagar Stadium Bhopal on dated, February 29, 2009.
- 6 Triple jumpers from All India Athletics Championship 2008-2009 Mahatama Gandhi University, Kottayam (Kerala), on dated December 20, 2008.
- 3 triple jumpers from all India inter SAI hostels athletics meet Etawah, on dated January 19, 2009.
- 4 triple jumpers from all India police athletics meet 2008-2009, Lucknow on dated February 14, 2009.

Anthropometrical measurements of 25 Elite male pole vaulters were collected from:

- 7 Pole Vaulters from all India athletic intervarsity championship 2007-2008, Annamalai University on dated, January 16, 2008.
- 8 Pole vaulters from Senior Athletic Federation Cup, T.T. Nagar Stadium Bhopal on dated, February 29, 2009.
- 6 Pole vaulters from All India Athletics Championship 2008-2009 Mahatama Gandhi University, Kottayam (Kerala), on dated December 20, 2008.
- 4 pole vaulters from all India police athletics meet 2008-2009, Lucknow on dated February 14, 2009.

Collection of Data:

The data in the form of criterion measure in cm of study described above were collected through the following methods-

1. **Elbow Breadth:** - The subject's right arm was raised forward to the horizontal and the forearm flexed to right angle at elbow. The distance between medial and lateral epicondylar of the humerus was measured with the help of Vernier caliper and the value was recorded.
2. **Knee Breadth:** - The subject was made to sit and the right leg was flexed at the knee to form a right angle with thigh. The distance between medial and lateral epicondylar of the femur was measured with the help of vernier caliper and the value was recorded.
3. **Wrist Breadth:** The subject sit on stool extends hand towards the anthropometrist with palm facing downwards. He measures the breadth between the most medial and lateral points of the distal epiphyses or radius and ulna. With the help of sliding caliper.
4. **Ankle Breadth:** The subject was seated with foot gently touching the ground. It measures the distance between the sphyrion Tibiale to sphyrion fibular with help of the sliding caliper.

Statistical Procedure :

The analysis of variance was used to find out the significant difference in the chosen variables of four groups of jumpers. Where the difference was significant, L.S.D. test was used to analyse which groups mean was greater than the other. The significant difference in the variables was tested at 0.05 level of significance.

Analysis of data :**Elbow Breadth Table -1**

| Source of Variation | D. F. | S.S. | M.S.S. | F-value |
|---------------------|--------|-------|--------|---------|
| Treatment | r-1=3 | 3.37 | 1.12 | 6.05 |
| Error | N-r=96 | 17.84 | 0.18 | |

Significant at .05 level

[Tab.F.05 (3, 96) =2.70]

Since calculated F value is greater than tabulated F-value, we conclude that significant difference is existing in the mean Humerus bi Epicondyle width of high jumper, long jumper, triple jumper and pole vaulter. To further find out which group mean Humerus bi Epicondyle width is greater than the other, pair wise means analysis is done through LSD test.

Table-2 Treatment means arranged in order of magnitude

| Jumping Groups | | | | Mean difference | CD at 5% level |
|----------------|-----------|-----------|------------|-----------------|----------------|
| Triple jump | Long jump | High jump | Pole vault | | |
| 6.91 | 6.84 | | | 0.07 | |
| 6.91 | | | 6.47 | 0.44* | |

| | | | | | |
|------|------|------|------|-------|-------------|
| 6.91 | | 6.57 | | 0.34* | 0.24 |
| | 6.84 | | 6.47 | 0.37* | |
| | 6.84 | 6.57 | | 0.27* | |
| | | 6.57 | 6.47 | 0.1 | |

*Significant at 5% level

Comparing the pair wise mean difference with critical difference we are able to conclude that mean Humerus bi Epicondyle width of triple jumpers is significantly greater than Humerus bi Epicondyle of high jumpers and pole vaulters. Further mean Humerus bi Epicondyle of long jumper is also significantly greater than the mean Humerus bi Epicondyle of high jumpers and pole vaulters. Mean Humerus bi Epicondyle of pole vaulters is significantly the least from triple and long jumpers and lesser than the high jumpers.

Elbow Breadth

Figure-1

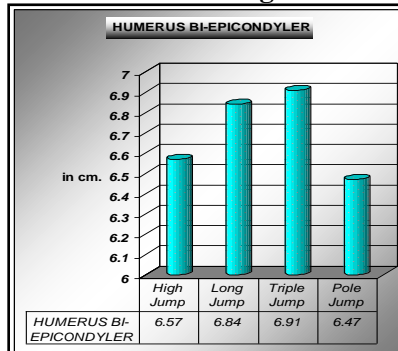


Figure-1: The mean Humerus bi Epicondyle in cm. of different jumping athletes (High jumpers, Long jumpers, Triple jumpers and Pole vaulters).

Knee Breadth

Table-3

| Source of variation | D. F. | S.S. | M.S.S. | F-value |
|---------------------|--------|-------|--------|---------|
| Treatment | r-1=3 | 1.07 | 0.36 | 2.67 |
| Error | N-r=96 | 12.82 | 0.13 | |

Significant at .05 level

Tab.F.05 (3,96)=2.70

Since calculated F value is lesser than tabulated F- value, we conclude that no significant difference exists in the mean Femorous bi Epicondyle width of long jumpers, high jumpers, triple jumpers and pole vaulters.

Knee Breadth

Figure-2

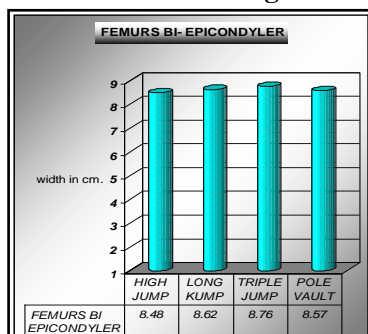


Figure-2: The mean Femurs bi Epicondylar in cm. of different jumping athletes (High jumpers, Long jumpers, Triple jumpers and Pole vaulters).

Ankle Width

Table -4

| Source of Variation | D. F. | S.S. | M.S.S. | F-value |
|---------------------|--------|-------|--------|---------|
| Treatment | r-1=3 | 1.32 | 0.44 | 3.46 |
| Error | N-r=96 | 12.23 | 0.13 | |

Significant at .05 level

[Tab.F.05 (3, 96) =2.70]

Since calculated F value is greater than tabulated F value, we conclude that significant difference is existing in the mean ankle width of high jumper, long jumper, triple jumper and pole vaulters. To further find out which group means ankle width is greater than the other, pair wise means analysis is done through LSD test.

Table-5

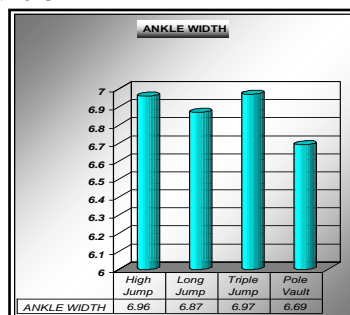
Treatment means arranged in order of magnitude

| Jumping Groups | | | | Mean difference | CD at 5% level |
|----------------|-----------|-----------|------------|-----------------|----------------|
| Triple jump | High jump | Long jump | Pole vault | | |
| 6.97 | 6.96 | | | 0.01 | 0.20 |
| 6.97 | | | 6.69 | 0.28* | |
| 6.97 | | 6.87 | | 0.10 | |
| | 6.96 | | 6.69 | 0.27* | |
| | 6.96 | 6.87 | | 0.09 | |
| | | 6.87 | 6.69 | 0.18 | |

*Significant at 5% level

Comparing the pair wise mean difference with critical difference we are able to conclude that mean ankle width of triple jumpers is significantly greater than ankle width of pole vaulters. Further mean ankle width of high jumper is also significantly greater than the mean ankle width of pole vaulters. Mean ankle width of pole vaulters is significantly lesser than high jumpers.

Ankle width Figure-3



0.20

Figure-3: The mean ankle width in cm. of different jumping athletes (High jumpers, Long jumpers, Triple jumpers and Pole vaulters).

WRIST WIDTH

Table -6

| Source of Variation | D. F. | S.S. | M.S.S. | F-value |
|---------------------|--------|-------|--------|---------|
| Treatment | r-1=3 | 3.20 | 1.07 | 7.59* |
| Error | N-r=96 | 13.50 | 0.14 | |

*Significant at .05 level

[Tab.F.05 (3, 96) =2.70]

Since calculated F- value is greater than tabulated F- value, we conclude that significant difference is existing in the mean wrist width of high jumper, long jumper, triple jumper and pole vaulters. To further find out which group means wrist width is greater than the other, pair wise means analysis is done through LSD test.

Table-7
Treatment means arranged in order of magnitude

| Jumping Groups | | | | Mean difference | CD at 5% level |
|----------------|-----------|------------|-----------|-----------------|----------------|
| Triple jump | Long jump | Pole vault | High jump | | |
| 5.97 | 5.70 | | | 0.27 | 0.21 |
| 5.97 | | | 5.47 | 0.50 | |
| 5.97 | | 5.68 | | 0.29 | |
| | 5.70 | | 5.47 | 0.23 | |
| | 5.70 | 5.68 | | 0.02 | |
| | | 5.68 | 5.47 | 0.21 | |

*Significant at 5% level

Comparing the pair wise mean difference with critical difference we are able to conclude that mean wrist width of triple jumpers is significantly greater than wrist width of long jumpers, pole vaulters and high jumpers. Further mean wrist width of long jumper is also significantly greater than the mean wrist width of high jumpers. Mean wrist width of high jumpers is significantly the least from all the three groups.

Wrist width Figure-4

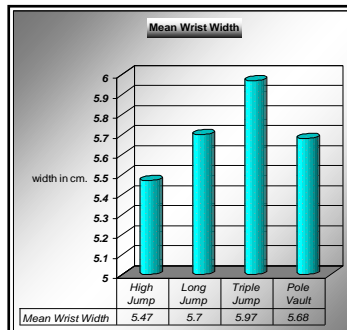


Figure-4: The mean wrist width in cm. of different jumping athletes (High jumpers, Long jumpers, Triple jumpers and Pole vaulters).

Discussion of findings :

Comparing the mean **Humerus Bi-epicondylar** of the four jump groups we are able to conclude that mean Humerus Bi-epicondylar of Triple Jumpers and Long Jumpers is significantly greater than the mean Humerus Bi-epicondylar of High Jumpers and Pole Vaulters. However the mean Humerus Bi-epicondylar of Triple Jumpers is insignificantly greater than the mean humerus bi epicondylar of Long Jumpers. And the mean Humerus Bi-epicondylar of High Jumpers is also insignificantly greater than the mean Humerus Bi-epicondylar of Pole Vaulters.

The Triple Jumpers needs maximum counter force for jumping longer in parts. which helps jumpers for carrying his own body up to maximum distance in the air. The strenuous explosive strength training programme may provides the greater Humerous Bi-epicondylar of Triple and long jumpers which gives them broader and powerful muscular arms in comparison to High jumpers and Pole vaulters . The powerful muscular arms helps them in creating greater momentum during the approach run, take offs and flight courses of Triple and Long jumps . For high jumpers and Pole vaulters lesser Humerous Bi-epicondyle diameter means narrower and lighter arms for them, thus lesser weight is to be vertically lifted against the gravitational force .Thus it is advantageous factor in the performance of high jump and Pole vault

The mean **ankle breadth** of Triple Jumpers and High Jumpers is significantly greater than mean ankle breadth of Pole Vaulters. However the mean ankle breadth of Triple Jumpers is insignificantly greater than the mean ankle breadth of High Jumpers and Long Jumpers. And the mean ankle breadth of High Jumpers is also insignificantly greater than the mean ankle breadth of Long Jumpers. Further mean ankle breadth of Long Jumpers is also insignificantly greater than the mean ankle breadth of Pole Vaulters.

The greater ankle width of Triple, High and Long Jumpers gives them greater bone surface for larger muscular attachment. This helps them in taking powerful take offs, which enhances their performances.

The statistical finding revealed that mean **wrist breadth** of Triple Jumpers is significantly greater than mean wrist breadth of Long Jumpers, Pole Vaulters and High Jumpers. And the mean wrist breadth of Long Jumpers is significantly greater than the mean wrist breadth of High Jumpers. However the mean wrist breadth of Long Jumpers is insignificantly different than the mean wrist breadth of Pole Vaulters. And the mean wrist breadth of Pole Vaulters is also insignificantly greater than the mean wrist breadth of the High Jumpers.

The intensive explosive strength training of Triple and Long Jumpers increases their wrist width which provides the base for the training of the other important body segments.

The Long Jumpers also need the greater wrist width which provides the base for the explosive strength programme of the skeletal muscles but less than the Triple Jumpers.

The Pole Vaulters greater wrist width in comparison to High jumpers helps them in powerfully holding the pole and taking subsequent pulls and push from the pole.

However on comparing the pairwise mean difference with critical difference we conclude that insignificant difference in **knee width** exist among the four groups.

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Effect of Skill Based Conditioning on Selected Physiological Variables among Volleyball Players

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Abstract

The purpose of the study was to find out the effect of volleyball skills training on selected physiological variables among volleyball players. To achieve the purpose twenty volleyball players were randomly selected as subjects from the department of physical education, Annamalai University. The subject were divided into two groups each comprising of ten each as experimental and control groups. The average age, height, and weight of the experimental group were 19.3 +/- 2.7 years, 168 +/- 4.1 cm and 59.8 +/- 3.6 kg. The average age, height, and weight of the control group were 19.7 +/- 3.1 years, 166.5 +/- 3.9 cm and 61.5 +/- 4.3 kg respectively. The experimental group had undergone 60 minutes of volleyball skills training five days in a week for 12 weeks. The criterion variables confined to this study were resting pulse rate and breath holding time. The collected data were statistically analysed by using analysis of co variance (ANCOVA). On the basis of the result, it was found that there was significant improvement on resting pulse rate and breath holding time among volleyball players of experimental group.

Key Words : Resting Pulse Rate, Skill Based Conditioning, Breath Holding Time

Volleyball is an intermittent sport that requires players to compete in frequent short bouts of high-intensity exercise, followed by periods of low-intensity activity. (Kunstlinger et al.,1987; Polglaze and., Dawson,. 1992.; Viitasalo et al., 1987.,).The high-intensity bouts of exercise, coupled with the total duration of the match (~90 minutes), requires players to have well-developed aerobic and anaerobic alactic (ATP-CP) energy systems. (Viitasalo et al .,1987; Hakkinen,1993). Considerable demands are also placed on the neuromuscular system during the various sprints, jumps (blocking and spiking), and high-intensity court movement that occurs repeatedly during competition.(Hakkinen K .,1993)., As a result, volleyball players require well-developed speed, agility, upper body and lower body muscle power, and maximal aerobic power (VO₂max). Several studies have documented the physiological and anthropometric characteristics of senior volleyball players,(Fleck SJ, et al 1985;, Hascelik et al., 1989; Hosler et al.,1978), with the fitness of players typically increasing as the playing level is increased.(Smith et al., 1992.; Milder and Mayhew ,1991).

Training involves periodic assessment of the athletics status and progress and it usually varies depending on the difficulty of the tasks performance. Most kind of training needs regular repeated and collective repetition of some of the original movement and anthropometric and physiological criteria do have a role as part of the hollistic monitoring of talented young players(Reilly1996). Understanding the training methods and the effectiveness of the training methods to suit a particular game and game situations is a challenging task for any coach or player. This helps coaches and athletes to prevent injury and over training while trying to maximize their performance variables, and analyse the strengths and weakness related to their specific training programs. If one failed to establish correct training patterns for young athletes, unfortunately goes way back. Heart beat of an individual shows the level of physical fitness he is possessing and maximum heart rate is often used as an yardstick to fix load for training. Most leading epidemiological studies have demonstrated that the the resting heart rate is a powerful risk factor for cardiovascular and total mortality irrespective of age (Saltin 1973).

An understanding of the physiological demands on the players is necessary to develop a sports specific training protocol. The training programme can subsequently be developed to mimic the physiological conditions imposed by the game (Deutsch et al 1998). Often each position in the team has a slightly different energy requirement profile. It is imperative that these differences are addressed

and training stimuli modified accordingly. Athletes engaging in prolonged activities must possess high levels of cardiovascular fitness (Williford et al 1999). The aerobic fitness is imperative to aid the recovery between short bursts of high intensity activity that are intrinsic to field games such as rugby union. The capacity of the aerobic energy system is best assessed by a measure of $VO_2 \text{ max}$ (Nicholas 1997, Paliczka et al 1987). $VO_2 \text{ max}$ is the maximal oxygen uptake by an individual (McArdle et al 1996). Laboratory tests have been developed to accurately measure this capacity. Although these tests are the most precise and reliable tests available, they are prohibitive in their application (McArdle et al 1996, Williford et al 1999). Laboratory testing requires extensive equipment and experienced personnel, both of which come at considerable expense. Often these tests are not available to coaches and athletes (Paliczka et al 1987). On this premise, various methods of field testing have subsequently been described. All the field assessments aim to predict $VO_2 \text{ max}$ from a submaximal test. Literature available on the effect of volleyball skill training on heart rate related variables and $vo_2 \text{ max}$ on indian population is limited and hence the investigator was interested to find out the effects of volleyball skill training on selected physiological parameters.

Methodology

The purpose of the study was to find out the effect of volleyball skill training on selected physiological variables among volleyball players. To achieve the purpose twenty volleyball players were randomly selected as subjects from the department of physical education, Annamalai University. The subjects were divided into two groups each comprising of ten each as experimental and control groups. The average age, height, and weight of the experimental group were 19.3 +/- 2.7 years, 168 +/- 4.1 cm and 59.8 +/- 3.6 kg. The average age, height, and weight of the control group were 19.7 +/- 3.1 years, 166.5 +/- 3.9 cm and 61.5 +/- 4.3 kg respectively. The experimental group had undergone 60 minutes of volleyball skills training five days in a week for 12 weeks. The training includes specific skills conditioning, drills with and without balls etc. The criterion variables confined to this study were resting pulse rate and breath holding time. The collected data were statistically analysed by using analysis of covariance (ANCOVA). On the basis of the result, it was found that there was significant improvement on resting pulse rate and breath holding time among volleyball players of experimental group.

Analysis of the Data

The analysis of covariance on physiological variables of the pre and post test scores of skill based conditioning group and control group have been analyzed and presented in Table I.

Table I

| Variable name | Group Name | Training group | Control Group | 'F' Ratio |
|---------------------|---------------------|----------------|---------------|-----------|
| Breath holding time | Pre-test Mean | 47.20 | 50.25 | 2.410 |
| | ± S.D | ± 5.13 | ± 5.34 | |
| | Post-test Mean | 50.85 | 49.85 | .276 |
| ± S.D. | ± 6.53 | ± 5.46 | | |
| | Adj. Post-test Mean | 52.287(a) | 48.413(a) | 70.12* |

| | | | | |
|---------------------------------------|---------------------------|-------------------------|-------------------------|---------|
| Resting Pulse rate (In number) | Pre-test Mean \pm S.D. | 73.13 \pm 1.06 | 72.80 \pm 1.014 | 0.774 |
| | | | 73.00 \pm 0.845 | |
| | post-test Mean \pm S.D. | 71.00 \pm 1.512 | | 20.00* |
| | Adj. Post-test Mean | 70.86 | 73.144 | 52.703* |

Analysis Of Covariance Breath Holding Time And Resting Pulse Rate For Skill Training Group And Control Group

* Significant at .05 level of confidence.(The table values required for significance at .05 level of confidence for 1 and 17 and 1 and 18 are 4.45 and 4.41 respectively).

Results

The Adjusted post test mean of experimental and control group on cardiovascular endurance (1698.01 Vs 1626.65) resulted in a F-ratio of 90.82, which shows a significant difference. The Adjusted post test mean of experimental and control group on resting pulse rate (70.86 Vs 73.144) resulted in a F-ratio of 50.703, which shows a significant difference. Further the results of the study showed that there was a positive change in the performance of breath holding time and resting pulse rate due to twelve weeks of skill training. However the change was in favour of experimental group.

Discussion

The above results indicates the significant improvements on breath holding time and resting pulse rate with the skill based training effects . However, when mixing technical skill and fitness drills,we need to know whether a particular drill develops skill or fitness. In volleyball, Gabbett and colleagues (2006) found that skill-based training improves spiking, setting, and passing accuracy and spiking and passing technique, but has little effect on the physiological and anthropometric characteristics of players. However, the introduction of skill-based games provided the necessary fitness improvements. Skill-based conditioning games were shown to significantly improve heart rate recovery scores over a 9 week training period in high-level rugby union players. Skill-based conditioning games were shown to significantly improve heart rate recovery scores over a 9 week training period in high-level rugby union players(Gamble, 2004). Skill-based conditioning games improved 10-m, 20-m, and 40-m speed, muscular power (vertical jump), and aerobic power, compared to a traditional training program (max effort sprints, repeated sprints, and agility drills) which was shown to improve only 10-m speed and aerobic power (Gabbett, 2002).

Conclusion

The results of the study indicated that there was a significant improvement in breath holding time on skill based training group compare to control group.

The results of the study indicated that there was a significant improvement in resting pulse rate on skill based training group compare to control group.

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Sports Injury - First Aid-Tips for Treating A Sports Injury

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Introduction :

In recent years, increasing numbers of people of all ages have been heeding their health professionals' advice to get active for all of the health needs. For some people – particularly those who overdo or who don't properly train or warm up – these benefits can become at a price: Sports Injuries.

Fortunately, most sports injuries can be treated effectively, and most people who suffer injuries can return to a satisfying level of physical activity. Sports injuries can be prevented if people take the proper precautions.

What are Sports Injuries?

The term sports injury, in the broadest sense, refers to the kinds of injuries that most commonly occur during sports or exercise. Some sports injuries are due to poor training practices, improper equipment, lack of conditioning, or insufficient warm up and stretching.

Although virtually any part of the body can be injured during sports or exercise. The term is usually reserved for injuries that involve the movement of the muscles, bones, and associated tissues like cartilage.

Accidents happen, especially during sports. While it may be possible to limit the number and severity of injuries with injury prevention strategies. One wrong step or a collision on the field can result in a sudden, painful injury.

Most Common Types of Sports Injury

- Muscle sprains and strains
- Tears of the ligaments that hold joints together
- Tears of the tendons that support joints and allow them to move
- Dislocated joints
- Fractured bones, including vertebrae

Muscle Sprains and Strains

Sprains

A sprain is a stretch or tear of a ligament, the band of connective tissues that joins the end of one bone with another. Sprains are caused because body that knocks a joint out of position and, in the worst case, ruptures the supporting ligaments. Areas of the body most vulnerable to sprains are ankles, knees, and wrists. Signs of a sprain include varying degrees of inflammation; swelling; inability to move a limb or joint; or joint looseness, laxity, or instability.

Strain

Is a twist, pull, or tear of a muscle or tendon, a cord of tissue connecting muscle to bone. It is an acute, noncontact injury. Symptoms of a strain include pain, and loss of strength. Although it is hard to tell the difference between mild and moderate strain professionally can cause damage and loss of function.

Tears of the Ligaments that hold Joints Together

Knee Injuries

Because of its complex structure and weight-bearing capacity, the knee is the most commonly injured joint. Each year, more than 5.5 million people will have this problem. Knee injuries can range from mild to severe. Some of the less severe, yet still painful and functionally limiting, knee problems are runner's under the knee cap at the front or side of the knee, iliotibial band syndrome (pain on the outer side of the knee), and tendinitis, also called within a tendon, usually where it joints the bone.

More severe injuries include bone bruises or damage to the cartilage or ligaments. There are

two types of cartilage in the knee. One is which absorbs shock between the thigh (femur) and lower leg bones (tibia and fibula). The other is a surface-coating (or articulate) cartilage, cover meet, allowing them to glide against one another. The four major ligaments that support the knee are the anterior cruciate ligament (ACL), the medial collateral ligament (MCL), and the lateral collateral ligament (LCL).

Knee injuries can result from a blow or twist of the knee; from improper landing after a jump; or from running too hard, too much, or without.

Tears of the Tendons that Support Joints and Allow Them to Move

Achilles Tendons Injuries

An Achilles tendon injury results from a stretch, tear, or irritation to the tendon connecting the calf muscle of the back of the heel. These injuries have been known to bring down charging professional football players in shocking fashion.

The most common cause of Achilles tendon tears is a problem called tendinitis, a degenerative condition caused by aging or overuse, which causes to rupture.

Achilles tendon injuries are common in middle-aged “weekend warriors” who may not exercise regularly or take time to stretch properly before athletics. Most Achilles injuries seem to occur in quick-acceleration, jumping sports like football and basketball.

Dislocated Joints

Dislocations

When the two bones that come together to form a joint become separated, the joint is described as being dislocated. Contact sports such as high-impact sports and sports that can result in excessive stretching or falling, cause the majority of dislocations.

The Shoulder Joint

The joints most likely to be dislocated are some of the hand joints. Aside from these joints, the joint most frequently dislocated is the shoulder elbows.

Fractured Bones, including Vertebrae

Fractures

A fracture is a break in the bone that can occur from either a quick, one-time injury to the bone (acute fracture) or from repeated stress.

Acute Fractures

Acute fractures can be simple (a clean break with little damage to the surrounding tissue) or compound (a break in which the bone pierces surrounding tissue). Most acute fractures are emergencies, one that breaks the skin is especially dangerous because there is a high risk.

Stress Fractures

Stress fractures occur largely in the feet and legs and are common in sports that require repetitive impact, primarily running or jumping sports. Running creates forces, two to three times a person’s body weight on the lower limbs.

The most common symptom of a stress fracture is pain at the site that worsens with weight-bearing activity.

Acute and Chronic Injuries

Regardless of the specific structure affected, sports injuries can generally be classified in one of two ways; acute or chronic.

Acute Injuries

Acute injuries, such as a sprained ankle, strained back, or fractured hand, occur suddenly during activity. Signs of an acute injury are:

- Sudden, severe pain
- Swelling
- Inability to place weight on a lower limb

- Extreme tenderness in an upper limb
- Inability to move a joint through its full range of motion
- Extreme limb weakness
- Visible dislocation or break of a bone

Chronic Injuries

Chronic injuries usually result from overusing one area of the body while playing a sport or exercising over a long period. The following are the signs of an chronic injury.

- Pain when performing an activity
- A dull ache when at rest
- Swelling

First Aid

The primary goal of sports injury first aid is to stop activity and prevent further injury or damage. Most sports injuries that require immediate treatment are called ‘acute injuries.’”

With an acute injury, it is usually obvious what caused the injury, but nonetheless, determining the exact cause of the injury is an important part of making quick treatment decisions.

The first treatment for most acute soft tissue injuries (bruises, strains, sprains, tears) is to prevent, stop and reduce swelling. When soft tissue is damaged, it swells or possibly bleeds internally. This swelling causes pain and loss of motion, which limits use of the muscles.

Injury First Aid with Price (Protection, Rest, Ice, Compression, Elevation)

The primary treatment to stop swelling of injured soft tissue is with the PRICE method.

Protection: In this case, protection means stopping activity immediately and protect the injured part from additional damage.

Rest: Rest the area to allow the tissues to heal.

Ice: Applying cold therapy (ice or an ice pack wrapped in a thin towel) to an acute injury reduces swelling and pain. Ice is a vaso-constrictor. It causes the blood vessels to narrow and limits internal bleeding at the injury site. Applying cold to the affected area every two hours for not more than 20 minutes at a time and allow the skin temperature to return to normal before icing again. Ice an acute injury several times a day for up to three days.

Compression: Compression of an acute injury is perhaps the next most important immediate treatment. By quickly wrapping the injured body part with an elastic bandage or wrap, help keep swelling to a minimum. If possible, it is helpful to apply ice to the injured area over the compression wrap to limit the swelling.

Elevation: Elevating the injured area is another way to reduce the blood flow and swelling to the area.

Treating Chronic and Overuse Sports Injuries

While the most dramatic sports injuries are acute and sudden, the majority of sports injuries are slow to develop and result in vague aches and pains. The chronic pain of overuse injuries, such as tendonitis, tends to have subtle or vague symptoms that develop slowly. What begins as a small, nagging ache or pain can grow into a debilitating injury if it is not recognized and treated early.

Treating overuse injuries requires rest, reducing exercise intensity, frequency and duration. Icing an overuse injury can also help reduce inflammation and pain. For more serious overuse injuries, physical therapy, over-the counter medications and complete rest may be necessary.

The Body’s Healing Process

From the moment a bone breaks or a ligament tears, the body goes to work to repair the damage. Here is what happens at each stage of healing process:

At the moment of injury: chemicals are released from damaged cells, triggering a process called inflammation. Blood vessels at the injury become dilated; blood flow increases to carry nutrients to the site of tissue damage.

Within hours of injury: White blood cells (leukocytes) travel down the bloodstream to the injury site where they begin to tear down and rebuild damaged tissue, allowing other specialized cells to start developing scar tissue.

Within days of injury: Scar tissue is formed on the skin or inside the body. The amount of scarring may be proportional to the amount of swelling, inflammation, or bleeding within. In the next few weeks, the damaged area will regain a great deal of strength as scar tissues come to form.

Within a month of injury: Scar tissue may start to shrink, bringing damaged, torn, or separated tissues back together. However, it may be several months or more before the injury is completely healed.

Returning to Sports After an Injury

After treating the injury, what comes next? Most athletes want to know how soon they can return to their sport. This answer tends to be different for everyone, because each athlete and each injury is unique. Returning to sports too soon can increase risk of re-injury or developing a chronic problem that will lead to a longer recovery. Waiting too long, however, can lead to unnecessary fitness declines (deconditioning).

Conclusion

Research provides us with helpful clues about the cause of sports injury. There are two factors that outweigh the rest when it comes to predicting a sports injury. They are:

- Having a history of injury. Previous injuries to a muscle or joint tend to develop into chronic problem areas for many athletes. It is extremely important to warm up, and stretch previously injured parts.
- A high number of consecutive days of training. Recovery days reduce injury rates by giving muscles and connective tissues an opportunity to repair between training sessions.
- The amount of time for full recovery after an injury depends on a variety of factors, but it is helpful to be patient and learn to cope within an injury while allowing the body to heal.

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Flow – Chart and Pictorial Representation of Proof of Minimal 2-Equitability of Corona Graph $C_{2n} \circ K_1$

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Abstract :

The presentation of the proof of the theorem that $C_{2n} \circ K_1$ is minimal 2-equitable for $n \geq 2$ is explained using flow-diagram. The pictorial representation of some corona graphs is shown for values of $n = 3, 8, 11$. The theorem's proof is the part of the thesis 'Minimal equitability of graphs' submitted by Dr. Manisha Acharya. From the flow-diagram it is easy to differentiate parts of the proof especially subpart S_3 where there are two sub-cases (i) $n \equiv 0, 2 \pmod{4}$ when $n \equiv 0 \pmod{2}$ and (ii) $n \equiv 1, 3 \pmod{4}$ when $n \equiv 1 \pmod{2}$.

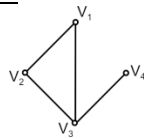
Key Words: flow-diagram, minimal 2-equitable, equitability, $C_{2n} \circ K_1$.

Title of the paper: **Flow – chart and pictorial representation of proof of minimal 2-equitability of corona graph $C_{2n} \circ K_1$.**

Terminology and Notations :

A **graph $G(V, E)$** is an ordered pair (V, E) where $V = V(G)$ is finite nonempty set called the set of vertices, $E = E(G)$ is set of two element subset of V called the set of edges.

Example :



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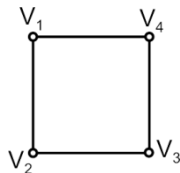
$G(V, E)$ is a graph with $V = \{v_1, v_2, v_3, v_4\}$ and

$E = \{v_1v_2, v_2v_3, v_3v_4, v_1v_3\}$

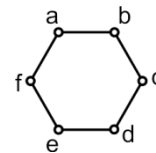
$p =$ number of elts of $V = 4$; $q =$ number of elts of E

A cycle is a closed path whose first and last vertex is same.

Example :



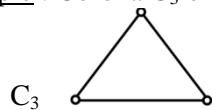
Cycle C_4



Cycle C_6

The **corona $G_1 \circ G_2$** of two graphs G_1 and G_2 is a graph G obtained by taking one copy of G_1 which has p_1 -vertices and p_1 -copies of G_2 and then joining i^{th} vertex of G_1 to every vertex in the i^{th} copy of G_2 [FH]

Example : Corona $C_3 \circ K_1 \longrightarrow$



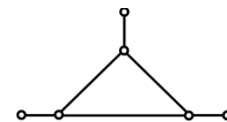
C_3

G_1



K_1 :

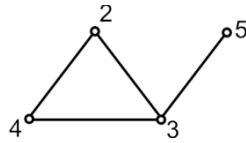
G_2



$G_1 \circ G_2$

A labeling f of graph G is assignment of distinct integers to the vertices of G .

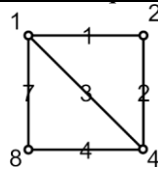
Example : Vertices are labeled with numbers.



A labeling f of graph G is **k-equitable labeling** if for each weight h induced by f there are exactly k -edge of G having weight equal to h . If G has k -equitable labeling then graph G is called **k-equitable graph**.

Note : Edge labels are also called edge-weights. For each edge $e=uv \in E(G)$ the weight is induced by labeling function f on 'e' is the number $|f(u) - f(v)|$.

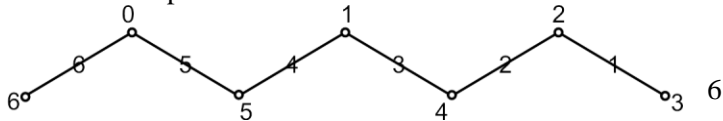
Example of 1-equitable graph :



Vertex labels are : 1, 2, 4, 8
 Edge weights are : 1, 2, 3, 4, 7.
 Each weight appears only once, therefore 1-equitable.

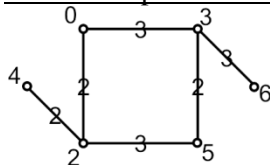
Let G be a graph of order p which has k -equitable labeling. This labeling is called **minimal labeling** if the vertices labeled as 1, 2, 3, ..., p .

Example :

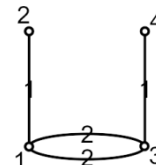


Here $p = 7, q = 6$.
 Vertex labels are : 0, 1, 2, 3, 4, 5,
 Edge weights are : 1, 2, 3, 4, 5, 6.

Some examples of k-equitable graphs :



3-equitable graph



2-equitable graph

Theorem : The graphs $C_{2n}oK_1$ are minimally 2-equitable, $n \geq 2$.

Outline of the proof :

Consider $C_{2n}oK_1$

Here in this graph $p = 1 + 4n$

To show that $C_{2n}oK_1$ is minimally 2-equitable with edge-weight set

$W = \{1, 2, 3, \dots, 2n\}$

Consider $V(C_{2n}oK_1) = \{u_1, u_2, \dots, u_{2n}; v_1, v_2, \dots, v_{2n}\}$ where u_i 's lie on cycle C_{2n} and v_i is pendant vertex adjacent to u_i ; $1 \leq i \leq 2n$.

There are two cases :Case I] $n \equiv 0 \pmod{2}$ and Case II] $n \equiv 1 \pmod{2}$

Proofs for both cases are almost same.

In both cases the labeling function f is given in two parts i.e. **Part I** and **Part II**.

Part I describes labeling function for vertices u_i, v_i with $1 \leq i \leq n$.

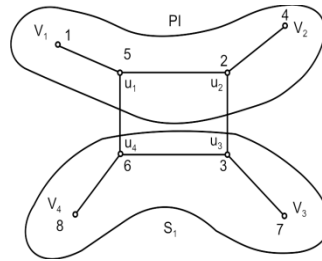
Part II describes labeling function for vertices u_i, v_i with $n+1 \leq i \leq 2n$.

Further part II is divided into three subparts S_1, S_2, S_3

Example 1 : Minimal 2-equitable labeling of C_4oK_1

Case i] $n \equiv 0 \pmod{2}$. Take $n = 2$.

Then we have C_4oK_1



Part I : For $1 \leq i \leq \frac{n}{2}$ [only $i = 1$]

Labeling function is

$$f(u_{2i-1}) = 2n + 3 - 2i; f(u_{2i}) = 2i; f(v_{2i-1}) = 2i - 1; f(v_{2i}) = 2n + 2 - 2i$$

Thus, $f(u_1) = 5, f(u_2) = 2, f(v_1) = 1, f(v_2) = 4$

Labels weights covered : 2, 3, 4.

Part II : There are three subparts S_1, S_2, S_3 .

S_1 covers $n + 1 \leq i \leq n + 2$ i.e. $i = 2, 4$

Labeling function is

$$f(u_{n+1}) = n + 1; f(v_{n+1}) = 3n + 1; f(u_{n+2}) = 3n; f(v_{n+2}) = 4n$$

Thus, $f(u_3) = 3; f(v_3) = 7; f(u_4) = 6; f(v_4) = 8$

In this case S_2 and S_3 are empty.

Labels used : 3, 6, 7, 8. Edge weights covered : 1, 2, 3, 4. $E(u_2 u_3) = 1$

Thus, the label set is $\{1, 2, 3, 4, 5, 6, 7, 8\}$ which is minimal Edge weights 1, 2, 3, 4 are repeated twice, therefore 2-equitable.

Hence, $C_4 o K_1$ is minimal 2-equitable.

Example 2 : Minimal 2-equitability of $C_6 o K_1$.

Here, $n = 3, p = 12 = q$

Part I : Define labeling function for part I as :

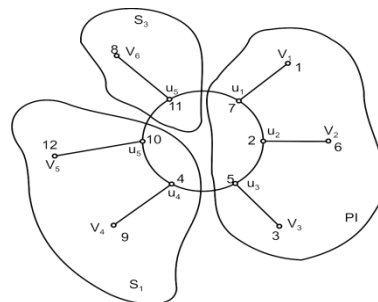
$$1 \leq i \leq \left\lfloor \frac{n}{2} \right\rfloor + 1 \quad \therefore i = 1, 2 \qquad 1 \leq i \leq \left\lfloor \frac{n}{2} \right\rfloor + 1 \quad \therefore i = 1$$

$$f(u_{2i-1}) = 2n + 3 - 2i; \quad f(u_{2i}) = 2i; \quad f(v_{2i-1}) = 2i - 1; \quad f(v_{2i}) = 2n + 2 - 2i$$

Thus, $f(u_1) = 7, f(u_2) = 2, f(v_1) = 1, f(v_2) = 6, f(u_3) = 5, f(v_3) = 3$

Labels used : 1, 2, 3, 5, 6, 7.

Edge weights covered : 2, 3, 4, 5, 6.



Part II : Define labeling function for subpart S_1 as :

$$f(u_{n+1}) = n + 1; f(v_{n+1}) = 3n; f(u_{n+2}) = 3n + 1; f(v_{n+2}) = 4n$$

Thus, $f(u_4) = 4, f(v_4) = 9, f(u_5) = 10, f(v_5) = 12$.

Labels used : 4, 9, 10, 12

Edge weights covered : 1, 2, 5, 6.

Subpart S_2 is empty and no labels are used.

Subpart S_3 have labeling function defined as

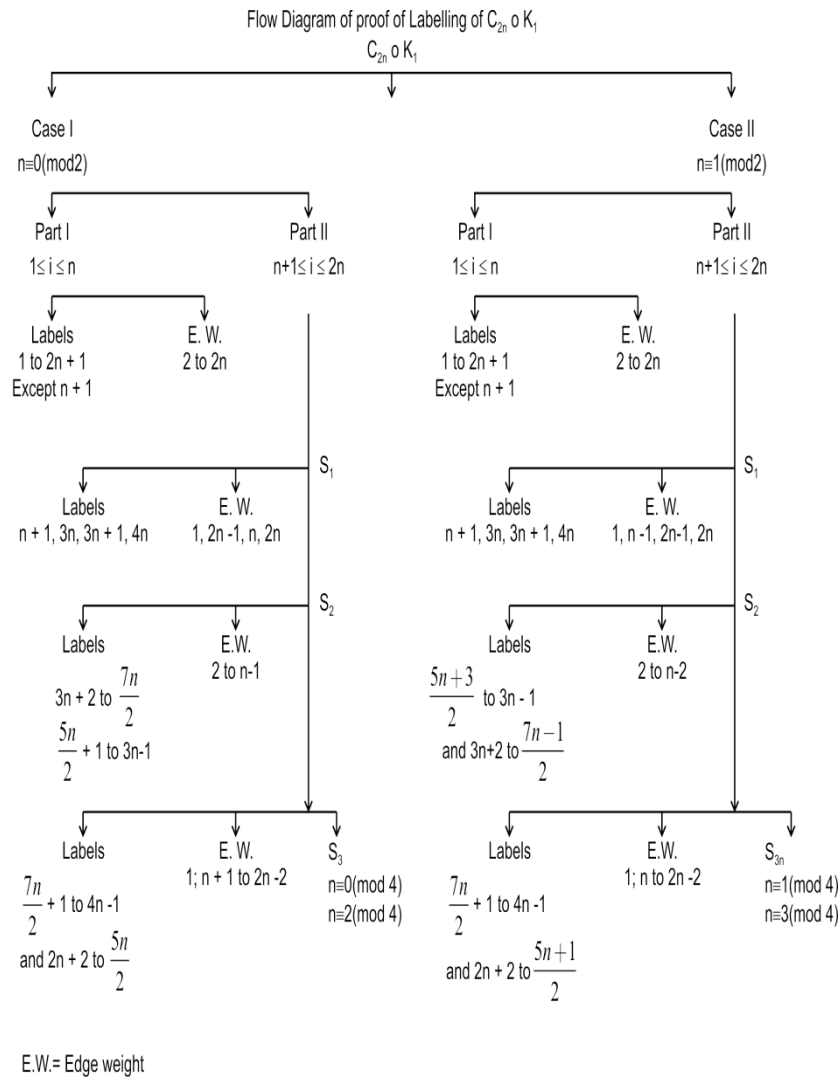
$$f\left(u_{\frac{3n-1}{2} + 2i}\right) = \frac{7n-3}{2} + 2i \text{ and } f\left(v_{\frac{3n-1}{2} + 2i}\right) = \frac{7(n+1)}{2} - 2i \text{ when } 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor + 1$$

.Thus, $i=1$.

Labels used : 8, 11. Edge weights covered : 1, 3, 4.

Thus, the label set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$ which is minimal. The edge weights 1, 2, 3, 4, 5, 6 are repeated twice, therefore 2 – equitable.

Hence $C_6 \circ K_1$ is minimal 2-equitable.



Proof contd.....

Consider case $i : n \equiv 0 \pmod{2}$

Part I : Labeling function for $1 \leq i \leq \frac{n}{2}$

$$f(u_{2i-1}) = 2n + 3 - 2i; \quad f(v_{2i-1}) = 2i - 1; \quad f(u_i) = 2i; \quad f(v_{2i}) = 2n + 2 - 2i$$

Labels used : 1 to $2n + 1$ except $n + 1$

Edge weights covered : 2 to $2n$.

Part II : Subparts S_1, S_2, S_3

Subpart S_1 : Labeling function for $n + 1 \leq i \leq n + 2$

$$f(u_{n+1}) = n + 1 \qquad f(v_{n+1}) = 3n + 1$$

$$f(u_{n+2}) = 3n \qquad f(v_{n+2}) = 4n$$

Labels used : $n + 1, 3n, 3n + 1, 4n$

Edge weights covered : 1, $n, 2n - 1, 2n$

Subpart S_2 : Labeling function is

$$f(u_{n+2i+i}) = 3n + 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$$

$$f(v_{n+2i+1}) = 3n - (2i - 1)$$

$$f(u_{n+2i+2}) = 3n - 2i \text{ when}$$

$$1 \leq i \leq \frac{n}{4} - 1 \text{ and } n \equiv 0 \pmod{4}$$

and

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor \text{ and } n \equiv 2 \pmod{4}$$

$$f(u_{n+2i+2}) = 3n + 2i + 1 \text{ when}$$

$$1 \leq i \leq \frac{n}{4} - 1 \text{ and } n \equiv 0 \pmod{4}$$

and

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor \text{ and } n \equiv 2 \pmod{4}$$

Labels used : $3n + 2$ to $\frac{7n}{2}$; $\frac{5n}{2} + 1$ to $3n - 1$

Edge weights covered : 2 to $n - 1$.

Note : 1] For $n \equiv 2 \pmod{4}$, we need $n \geq 4$ for validity of range of parameter i

2] For $n \equiv 0 \pmod{4}$; $n \geq 4$ for 1st two steps whereas $n \geq 8$, for the 3rd and 4th step.

3] For $n = 4$; $S_2 = \{u_7, v_7\}$

Subpart S_3 : Labeling function for $n \equiv 0 \pmod{4}$ and $n \equiv 2 \pmod{4}$ is different.

* When $n \equiv 0 \pmod{4}$, labeling function is

$$f\left(u_{\frac{3n}{2}+2i}\right) = \frac{7n}{2} + 2i - 1 \quad 1 \leq i \leq \frac{n}{4}$$

$$f\left(v_{\frac{3n}{2}+2i}\right) = \frac{5n}{2} + 2 - 2i$$

$$f\left(u_{\frac{3n}{2}+2i+1}\right) = \frac{5n}{2} - (2i - 1) \quad 1 \leq i \leq \frac{n}{4} - 1$$

$$f\left(v_{\frac{3n}{2}+2i+1}\right) = \frac{7n}{2} + 2i$$

* When $n \equiv 2 \pmod{4}$, for $1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$ the labeling function is

$$f\left(u_{\frac{3n}{2}+2i}\right) = \frac{5n}{2} + 2 - 2i; \quad f\left(v_{\frac{3n}{2}+2i}\right) = \frac{7n}{2} + 2i - 1; \quad f\left(u_{\frac{3n}{2}+2i+1}\right) = \frac{7n}{2};$$

$$f\left(v_{\frac{3n}{2}+2i+1}\right) = \frac{5n}{2} - 2i - 1$$

Labels used : 1; n + 1 to 2n + 2

Example for case i

Let n = 10. Consider $C_{20} oK_1$.

Here, $n \equiv 0 \pmod{2}$. As well as $n \equiv 2 \pmod{4}$.

Using part I labeling u_i labels will be

(u_1) 21 2 19 4 17 6 15 8 13 10 (u_{10}) and that of v_i will be

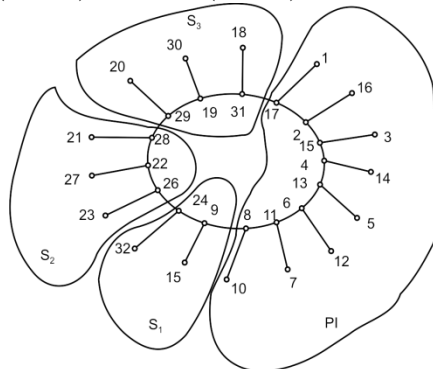
(v_1) 1 20 3 18 5 16 7 14 9 12 (v_{10})

Using Part II labeling are as follows :

$S_1 : (u_{11})$ 11 30 (u_{12}) 32 28 34 26 (u_{16}) $S_3 : (u_{17})$ 25 37 23 39 (u_{20})
 (v_{11}) 31 40 (v_{12}) (v_{13}) 29 33 27 35 (v_{16}) (v_{17}) 36 24 38 22 (v_{20})

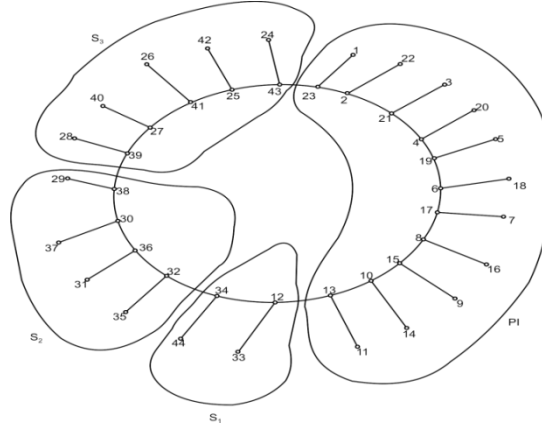
Pictorial representation of labeling of $C_{16} oK_1$

In $C_{16} oK_1$, $n = 8$ i.e. $n \equiv 0 \pmod{2}$ & $n \equiv 0 \pmod{4}$



Pictorial representation of labeling of $C_{22}oK_1$

In $C_{22}oK_1$, $n = 11$ i.e. $n \equiv 1 \pmod{3}$ and $n \equiv 3 \pmod{4}$



Proof contd.....

Consider case ii : $n \equiv 1 \pmod{2}$

Part I : Labeling function

$$f(u_{2i-1}) = 2n + 3 - 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{2} \right\rfloor + 1$$

$$f(v_{2i-1}) = 2i - 1$$

$$f(u_{2i}) = 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{2} \right\rfloor$$

$$f(v_{2i}) = 2n + 2 - 2i$$

Label's used : 1 to $2n + 1$ except $n + 1$. Edge weights covered : 2 to $2n$

Part II :

Subpart S_1 : Labeling function is

$$f(u_{n+1}) = n + 1 \qquad f(v_{n+1}) = 3n$$

$$f(u_{n+2}) = 3n + 1 \qquad f(v_{n+2}) = 4n$$

Labels used : $n + 1, 3n, 3n + 1, 4n$. Edge weights covered : $1, n - 1, 2n - 1, 2n$. $ew(u_n u_{n+1}) = 1$

Subpart S_2 : Labeling function is

$$f(u_{n+1+2i}) = 3n + 1 - 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$$

$$f(v_{n+1+2i}) = 3n + 2i$$

$$f(u_{n+2+2i}) = 3n + 1 + 2i ;$$

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor - 1 \text{ when } n \equiv 1 \pmod{4}$$

and

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor \text{ when } n \equiv 3 \pmod{4}$$

$$f(v_{n+2+2i}) = 3n - 2i$$

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor - 1 \text{ when } n \equiv 1 \pmod{4}$$

and

$$1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor \text{ when } n \equiv 3 \pmod{4}$$

Labels used $\frac{5n+3}{2}$ to $3n-1$; $3n+2$ to $\frac{7n-1}{2}$. Edge weights covered : 2 to $n-2$.

$$ew(u_{n+2} u_{n+3}) = 2$$

- Note :**
1. For $n \equiv 3 \pmod{4}$; $n \geq 4$
 2. For $n \equiv 1 \pmod{4}$; for 1st and 2nd step $n \geq 4$ and for 3rd and 4th step $n \geq 8$
 3. When $n = 3$, $S_2 = \phi$.
 4. When $n = 5$, $V(S_2) = \{u_8, v_8\}$

Subpart S₃ : Labeling function for $n \equiv 1 \pmod{4}$ and $n \equiv 3 \pmod{4}$ are different.

* For $n \equiv 1 \pmod{4}$, labeling function is defined as

$$f\left(u_{\frac{3n-1}{2}+2i}\right) = \frac{5(n+1)}{2} - 2i \text{ and } f\left(v_{\frac{3n-1}{2}+2i}\right) = \frac{7n-3}{2} + 2i \text{ when } 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$$

$$f\left(u_{\frac{3n+1}{2}+2i}\right) = \frac{7n-1}{2} + 2i \text{ and } f\left(v_{\frac{3n+1}{2}+2i}\right) = \frac{5n+3}{2} - 2i \text{ when } 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$$

* For $n \equiv 3 \pmod{4}$, labeling function is defined as

$$f\left(u_{\frac{3n-1}{2}+2i}\right) = \frac{7n-3}{2} + 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor + 1$$

$$f\left(v_{\frac{3n-1}{2}+2i}\right) = \frac{5(n+1)}{2} - 2i$$

$$f\left(u_{\frac{3n+1}{2}+2i}\right) = \frac{5n+3}{2} - 2i \qquad 1 \leq i \leq \left\lfloor \frac{n}{4} \right\rfloor$$

$$f\left(v_{\frac{3n+1}{2}+2i}\right) = \frac{7n-1}{2} + 2i$$

Labels used $\frac{7n+1}{2}$ to $4n-1$; $2n+2$ to $\frac{5n+1}{2}$; Edge weights covered : 1 ; n to $2n-2$

- Note :**
1. For $n \equiv 3 \pmod{4}$; $n \geq 3$ for 1st and 2nd steps and for 3rd and 4th step, $n \geq 4$.
 2. When $n = 3$; $V(S_3) = \{u_6, v_6\}$

Example for case ii

Let $n = 9$ consider $C_{18} oK_1$

Here $n \equiv 1 \pmod{3}$ and $n \equiv 1 \pmod{4}$

Part I labeling are

(u₁)19 2 17 4 15 6 13 8 11 (u₉)
 (v₁)1 18 3 16 5 14 7 12 9 (v₉)

Part II :

Subpart S₁ labelings are

(u₁₀) 10 28 (u₁₁)

(v₁₀) 27 36 (v₁₁)

Subpart S₂ labelings are

(u₁₂) 26 30 24 (u₁₄)

(v₁₂) 29 25 31 (v₁₄)

Subpart S₃ labelings are

(u₁₅) 23 33 21 35(u₁₈)

(v₁₅) 32 22 34 20(v₁₈)

Conclusion : The diagrammatic and pictorial representation of the proof of the theorem that $C_{2n} \circ K_1$ is minimal 2-equitable ; $n \geq 2$ have made the understanding of the proof easier. The labeling with the pictorial representation can be used for sending messages in coding theory. The parts and subparts of the pictorial representation appears as petals of flowers.

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Comparison of Flexibility Among the Hockey and Football Players

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Abstract :

The purpose of this study was to compare the flexibility among hockey and football players. For the purpose of this study 30 hockey and football players from the Department of Physical Education University of Lucknow were selected as subjects who had participated in inter university. The subjects were ranging from 18 to 25 years of age. To measure the flexibility of back and (Hamstring) leg muscles Sit and Reach test and for shoulders flexibility johnson shoulder rotation test were used. To compare the Flexibility of hockey and football players, mean and independent t-test was applied. The level of significant was set at 0.05. When the hockey and football player were compared there mean difference was found to be statistically significant for flexibility of back and (Hamstring) leg muscles and In case of shoulder flexibility, there was no significant difference. The flexibility of players reflects their functional capacity of the joints to move through a full range of movement, which was found to be better in football players.

Key words: Flexibility, sit and reach test, Johnson shoulder rotation test

Introduction :

Games and Sports have been part of human life almost since the time immemorial. Be it a necessity for his survival i.e. hunting for food and shelter, safety from wild animals or other enemies or as a pursuit of pleasure, the games and sports have been indispensable to mankind and have been part of his culture. Though the origin of sports is lost in antiquity, it is quite certain that physical activity has been a basic necessity of life, more than fun and diversion, for his survival depended on it. Gradually along with the process of evolution, such activities became more of play and became part of culture of tribes. People used sports and games as a means of transmitting the cultural heritage of their tribes. Game, sports and physical activities persisted despite the rise and fall of ancient civilizations as a cultural heritage, which was passed on from one generation to another. Today games and sports have emerged as universal cultural phenomena. Motor fitness is gauged by performance and this performance is based on a composite of many factors. The most commonly mentioned fitness factors are strength, endurance, power, speed, agility, balance, flexibility and stamina. Some of these factors evidently are more dominant than others and thus have a higher relationship with motor fitness. Motor fitness is made up of factors that seem more dynamic such as strength and endurance. Minimum standards of motor fitness may be achieved over a short period of time. By the same token, fitness is lost unless it becomes a product of day to day living. A comprehensive list of components of motor ability for performance of various physical activities (including sports) include muscular strength, muscular endurance, muscular power, cardio-pulmonary endurance, agility speed, balance, flexibility, reaction time, co-ordination (eye foot co-ordination, eye hand co-ordination, whole body co-ordination). In addition, traits like simple motor response, reflexes sensory input and awareness of space and tempo (characteristic speed and rhythm of movement) are also considered important in motor

Both hockey and football games having the origins dating back thousands of years. Both are played on the grass, but more often these days hockey, especially at the top levels is played on synthetic fields (artificial turf). The nature of both the games is different : There is difference in the area of field, difference in the ground and difference in the duration of the game. Football is a game of kicking the ball with the foot whereas hockey is a game with a stick in hand. Therefore, there may

be difference and similarities in motor fitness between the hockey and football players because of the more relative involvement of the upper and lower body in hockey and football. These games require high degree of motor-fitness and the combined motor fitness qualities such as speed strength, agility and endurance are indispensable for outstanding performance. The onset of fatigue is the point at which skill standards drop, mental reactions become lower, these problems are offset at high fitness level and the players become better prepared to meet the demands of the game. As we know prolonged period of practice adapts one player to the natural pre-requisites of the game so similar adaptations might have occurred with both the groups i.e. hockey and footballers but how far they are dissimilar or similar is the biggest reason. The results will open the door for the players if they want to change their game.

Methodology:

Thirty football players and thirty hockey players from the Department of Physical Education, University of Lucknow were selected as subjects for this study. Sit and Reach Test was used to measure the flexibility of back and (Hamstring) leg muscles. The subjects were asked to sit in long sitting position by keeping the back straight and arms forward for initial stage. Then, on the command "Go" they stretched their hands and back towards toe as far as possible. The distance from the middle finger to the toe or beyond toe was recorded as score. For measuring shoulder flexibility the subject was asked to hold a stick as per his convenience so that he can cross the stick over his head back and forth smoothly subjects were told not to bend their elbows while taking the scale back. The half of the entire distance between both the hands were recorded as score.

Statistical procedure:

To find out the significant difference (if any) between the football and Hockey players on the flexibility of back and (Hamstring) leg muscles and shoulders flexibility, the test of significance ('t'-test) was employed. Further the level of significance was set at 0.05 level of confidence.

Results:

| Variable | Significance of Difference Between Footballers and Hockey Players in Flexibility | | | | | | |
|----------------------|---|----------|----------------|----------|------|-------------|--------------|
| | Footballers | | Hockey Players | | DM | σ DM | 't' Ratio |
| | Mean | \pm SD | Mean | \pm SD | | | |
| Sit and Reach | 3.38 | 0.78 | 3.05 | 1.005 | 0.33 | 0.155 | 2.12* |
| Shoulder Flexibility | 16.60 | 1.97 | 16.90 | 2.96 | 0.30 | 0.378 | 0.793 |

For significant - * Significant, $t_{0.05}(28) = 2.048$

It is further evident from the above Table that there was significant difference in relation to Sit and Reach as the calculated 't' (2.12) value was more than the tabulated 't' (2.048) value at 0.05 level of significance. Thus data provide sufficient evidence to ensure that the mean sit and reach was significantly higher for footballers in comparison to hockey players at 0.05 level of significance. In case of shoulder flexibility, there was no significant difference as the calculated 't' (0.793) value was less than the tabulated 't' (2.048) value at 0.05 level of significance.

Conclusion:

The analysis of the data revealed that the obtained value of mean difference in flexibility has shown significant difference in case of sit and reach where football players have shown better performance than hockey players. This may be because of the continuous involvement of kicking, trapping, sliding and heading the ball which involves flexion and extension of the hip joints. In case of shoulder flexibility, no significant value of mean difference was found. So it may be attributed to

the fact that hockey involves more stick work and in football 'throw in' of the ball leads to increase the shoulder flexibility. This may be the reason that significant value of mean difference was not obtained.

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Trends in Expenditure on Economic Services of Government of Maharashtra

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Introduction

Economic services are necessary to economic development. Any economy which is on the path of economic development has to spend considerable amount of its public expenditure on creation of environment for faster economic development. In this paper an attempt is made to study proportion of expenditure on economic services on revenue and capital account as this will be helpful in understanding quality of expenditure. It is expected that state of Maharashtra which is fastly developing, needs to maintain its developmental track in future also. For this expenditure on capital account is necessary.

Objectives of Study

- I. To study budgetary expenditure of government of Maharashtra on economic services.
- II. To classify expenditure on economic services in revenue and capital expenditure.

Hypothesis of Study

- I. Revenue expenditure on economic services is increasing over the period of ten years for the state of Maharashtra from 1995 to 2005.
- II. Revenue expenditure on sub-heads of economic services is increasing over the period of ten years from 1995 to 2005 for the state of Maharashtra.

Data Collection

Data for this study is collected through secondary sources only. Economic survey of the State, financial statements and budgetary papers of Government of Maharashtra. Data is also collected through state finance reports of RBI.

Scope of Study

Study takes into account only distribution of expenditure on revenue and capital account. Other categories of classification of expenditure are not considered. The study restricted for ten years only from 1995 to 2005.

Survey of Literature

Expenditure of state is comparatively neglected subject. It is the study of Adolph Wagner which attracted the attention of researchers towards the study of significance of public expenditure wherein Wagner pointed out that there must be more growth in public expenditure than the growth in national income.

Another study of Wiseman and Peacock underlines the causes of increasing public expenditure and they opined that disturbances in the economy are helpful in increasing public expenditure. At India level also various studies takes place on public expenditure but we will concentrate on study of Ajit Karnik which is related to pattern of expenditure of government of Maharashtra.

According to Karnik, Maharashtra has been doing much better than rest of India as far as expenditure on education and economic services are concerned, but its performance in health has been very poor. Almost all categories of capital expenditures for Maharashtra have shown a statistically significant increase after 1991-92 except expenditure on health which shows poor performance. Size of government expenditure has declined, more importantly; proportion of revenue expenditure in NDP has declined, while that of capital expenditure has improved. Total developmental expenditure has also, unfortunately, declined after the initiation of reforms. Maharashtra is outperforming other states as far as sub heads of capital expenditure are concerned. Non-developmental expenditure is also declining. In this lot of fiscal indicators are considered. But in the present study we will only

concentrate on revenue and capital account distribution of expenditure on economic services.

Table - 1 - Proportion of Expenditure on Economic Services on Revenue and Capital Component

| Heads of expenditure | Revenue component | | Capital component | | | |
|----------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | 1995-96 to 1999-2000 | 2000-01 to 2004-05 | 1995-96 to 2004-05 | 1995-96 to 1999-00 | 2000-01 to 2004-05 | 1995-96 to 2004-05 |
| AAA | 82.84 | 88.23 | 85.53 | 17.15 | 11.76 | 14.46 |
| RD | 100 | 100 | 100 | -- | -- | -- |
| SAP | 100 | 100 | 100 | -- | -- | -- |
| IFC | 52.58 | 37.30 | 44.94 | 47.41 | 62.69 | 55.05 |
| Energy | 22.15 | 61.73 | 41.94 | 77.84 | 38.26 | 58.05 |
| IM | 75.09 | 91.70 | 83.39 | 24.90 | 8.29 | 16.60 |
| Transport | 6.25 | 24.60 | 15.42 | 93.74 | 75.39 | 84.57 |
| STE | 98.10 | 98.01 | 98.06 | 1.89 | 1.98 | 1.93 |
| GES | 96.61 | 97.94 | 96.94 | 3.38 | 2.73 | 3.05 |

Source: - Authors computation based on the data available from various issues of Financial statement (Budget) of the Government of Maharashtra.

AAA- Agriculture and allied activities, RD- Rural development, SAP- Special area programmes, IFC- Irrigation and flood control, IM- Industry and minerals, STE- Science, technology and environment, GES- General economic services.

Proportion of Expenditure on Economic Services on Revenue and Capital Component

In table no.1, proportion of revenue and capital component of expenditure on sub heads of economic services are given. Now we can see one by one distribution of total expenditure on each head of expenditure into revenue and capital component.

i) Agriculture and Allied Activities

Proportion of expenditure of agriculture and allied activities on revenue account stands at 82.84% for first five years, for second five years it is 88.23%. An increasing allocation is proved from these figures of five year average. Ten year average stands at 85.53% of revenue component. This indicates that only 14.46 % of total expenditure on agriculture is used for capital expenditure. Such a low level of capital expenditure on agriculture will certainly reduce its importance in building future of the state economy. A decline in proportion of capital component in second five years on agriculture will limit development potential of state agriculture.

ii) Irrigation and Flood Control

Irrigation and flood control expenditure proportion in first five years for revenue account stands at 52.58%, for second five years 37.30%. Ten years average stands at 44.94%. A declining trend pattern in allocation of expenditure for revenue account and increasing patter for capital account is certainly a very good development, but a huge turn around is not a welcome step as maintenance of irrigation projects is also essential as the creation of projects.

iii) Energy

For energy five year averages for first five years of revenue account, it is 22.15%, unprecedented increase is recorded in next five years to 61.73%. Ten years average stands at 41.94%. A huge increase in next five years is certainly a cause of concern as the maintenance cost is increasing and capital expenditure is decreasing in corresponding manner. A decline in capital expenditure in next five years leads the state to status of energy deficient state from energy surplus state. This picture must be changed by increasing capital allocation to acquire a status of energy surplus state.

iv) Industry and Minerals

For industry and minerals first five year average for revenue account stands at 75.09% which is increased to 91.70% for next five years. Ten years average stands at 83.39%. Here, too decline in

capital expenditure is recorded. But a decline in capital expenditure is obvious as the state is now converting its role from producer of the goods and services to regulator of the economy.

v) Transport

For transport revenue expenditure of the state for revenue account in first five years were just 6.25% which increases to manifold to reach to 24.60% in next five years. Ten years average stands at 15.42%. A decline is recorded in capital expenditure by the state in next five years. But average of ten years stands at 84.57% which is satisfactory.

vi) Science, Technology and Environment

In this head of expenditure revenue contribution of expenditure in first five years stands at 98.10%, for next five years it is 98.01%. Ten years average stands at 98.06%.

vii) Other Economic Services

For other economic services first five years stands at 96.61%, for next five years it is 97.94%. Ten years average stands at 96.94%.

viii) Rural development and special area programmes, there is no capital component.

Conclusion: - We have seen in each sub category of expenditure capital account expenditure is neglected. Capital expenditure is necessary for keeping economy on higher growth trajectory in future also. But declining expenditure on capital account will definitely affect the future growth of the Economy of Maharashtra state. Here, we recommend to the government to increase this type of expenditure to sustain the growth in the economy.

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Statistical Appendix-1

Table - 2- Expenditure on Economic services –Revenue account (Rs Thousands)

| Year | Agriculture and Allied Activities | Rural Development | Special Area Program | Irrigation and flood control | Energy |
|---------|-----------------------------------|-------------------|----------------------|------------------------------|----------|
| 1995-96 | 14581448 | 8536826 | 351253 | 13386289 | 229184 |
| 1996-97 | 18673429 | 8698786 | 516266 | 15192927 | 9119038 |
| 1997-98 | 21471762 | 9160496 | 570668 | 16860519 | 259376 |
| 1998-99 | 21712732 | 11058447 | 592119 | 17771398 | 261639 |
| 1999-00 | 25583058 | 5945536 | 674629 | 17816654 | 339590 |
| 2000-01 | 26259470 | 5072768 | 460129 | 18579284 | 24050568 |
| 2001-02 | 23921797 | 5223640 | 344603 | 18736967 | 7234107 |
| 2002-03 | 26512332 | 9050777 | 525568 | 18111882 | 7587038 |
| 2003-04 | 23858261 | 20653920 | 513182 | 3568240 | 3527902 |
| 2004-05 | 34920260 | 22432183 | 399890 | 8154347 | 29828624 |

Continued.....

| Year | Industry & Minerals | Transport | Science, Technology & Environment | General Eco., Services | Total Eco., Services |
|---------|---------------------|-----------|-----------------------------------|------------------------|----------------------|
| 1995-96 | 1448809 | 271345 | 30588 | 393780 | 39231482 |
| 1996-97 | 2042359 | 278176 | 30152 | 429181 | 54980314 |
| 1997-98 | 1063072 | 255988 | 45737 | 495746 | 50183364 |
| 1998-99 | 109175 | 1379597 | 53522 | 614345 | 54452974 |
| 1999-00 | 922658 | 303748 | 77132 | 914240 | 52577245 |
| 2000-01 | 390834 | 457605 | 88702 | 1199250 | 76558610 |
| 2001-02 | 1330035 | 735972 | 7782 | 1222237 | 58757140 |
| 2002-03 | 2261776 | 9973439 | 71108 | 2263794 | 76357714 |
| 2003-04 | 2007326 | 2623863 | 145052 | 1932267 | 58830013 |
| 2004-05 | 3039017 | 2195762 | 90382 | 2839676 | 103811141 |

Table – 3 - Total expenditure on Economic services (Rs Thousands)

| Year | Agriculture and allied Activities | Rural Development | Special Area Program | Irrigation and flood control | Energy |
|---------|-----------------------------------|-------------------|----------------------|------------------------------|----------|
| 1995-96 | 17959983 | 8536826 | 351253 | 29025257 | 1940260 |
| 1996-97 | 22038092 | 8698786 | 516266 | 27570380 | 13205336 |
| 1997-98 | 24069939 | 9160496 | 570668 | 34577620 | 3695410 |
| 1998-99 | 26210548 | 11058447 | 592119 | 29758663 | 3171884 |
| 1999-00 | 33555840 | 5945536 | 674629 | 33485909 | 2316800 |
| 2000-01 | 30410083 | 5072768 | 460129 | 28233185 | 45998875 |
| 2001-02 | 28933987 | 5223640 | 344603 | 30526477 | 10062795 |
| 2002-03 | 28009147 | 9050777 | 525568 | 43249880 | 10498038 |
| 2003-04 | 28075173 | 20653920 | 513182 | 64591200 | 13499800 |
| 2004-05 | 37755613 | 22432183 | 399890 | 68182913 | 34654933 |

Continued.....

| Year | Industry and Minerals | Transport | Science, Tech., and Environment | General Eco., Services | Total Eco., Services |
|---------|-----------------------|-----------|---------------------------------|------------------------|----------------------|
| 1995-96 | 1571842 | 4815089 | 31230 | 407875 | 64641575 |
| 1996-97 | 2275381 | 5736724 | 30958 | 444289 | 80516212 |
| 1997-98 | 1296631 | 6496190 | 46523 | 507386 | 80420863 |
| 1998-99 | 353292 | 10114669 | 54336 | 633004 | 82846962 |
| 1999-00 | 1144061 | 9469292 | 78408 | 960743 | 87631218 |
| 2000-01 | 522161 | 7502794 | 89889 | 1234704 | 119524588 |
| 2001-02 | 1463358 | 8738619 | 8359 | 1221522 | 86523360 |
| 2002-03 | 2319591 | 15194006 | 71678 | 2289215 | 111207900 |
| 2003-04 | 2092442 | 12955927 | 145505 | 1982315 | 137509464 |
| 2004-05 | 3059428 | 9714525 | 90918 | 3060422 | 179261825 |

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Challenges for Implementation of Goods & Services Tax

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Abstract:

While presenting Union Budget, 2007 on 28/2/2007, the then Finance Minister Mr. P. Chidambaram announced that with effect from 1/4/2010, there will be 'Goods & Services Tax' a comprehensive indirect tax on goods & services subsuming existing indirect taxes, viz. excise & customs duties, service tax, value added tax etc. This was projected as a fiscal reform, in line with similar tax already enacted by several countries across the globe. The Road Map was drawn for the purpose & an Empowered Committee of State Finance Ministers which has been working effectively on State VAT, was entrusted with the task of formulating model legislation on G.S.T. Subsequently, Task Force created under Thirteenth Finance Commission, also worked on G.S.T. Both of them have made significant contribution towards enactment of G.S.T. legislation. However, the most significant step needed to launch GST Regime, had to be an amendment to the Constitution, which will enable enactment of GST legislation, has not been given due priority it deserved. As a result of this delay, the GST Regime could not be implemented from 1/4/2010 & now it looks certain that it may not be implemented even from 1/4/2013, the extended deadline. The concept of GST throws open "Pandora's box"- namely Centre - State Financial Relationship with several delicate issues. In this Research Article, the author has analyzed select facets relating to GST including prospects as well as challenges.

Keywords & Abbreviations: 1) Goods & Services Tax (G.S.T), 2) Value Added Tax (VAT), 3) Indirect Taxes, 4) Empowered Committee of State Finance Ministers (E.C), 5) Task Force of Thirteenth Finance Commission (TF), 6) The Constitution of India (Constitution), 7) Central GST (CGST), 8) State GST (SGST), 9) Interstate GST (IGST), 10) The 115th Amendment to the Constitution Bill, 2011 (The Bill), 11) The Standing Committee of Parliament (SCP), 12) Government of India: (The Centre), 13) Governments of States in India : (The State/s), 14) States include Union Territories, 15) Input Tax Credit (ITC).

1.0 Introduction

1.1 Existing system of Indirect Taxes in India

The Seventh Schedule of the Constitution enumerates the indirect taxes divided into three lists, viz i) List I: Union List, ii) List II: State List, & iii) List III: Concurrent List in the following order.

List I :

1. Central Excise Duty: Tax upon production or manufacture
2. Customs Duty: Tax upon goods brought into India.
3. Central Sales Tax: Tax upon sale or purchase of goods in the course of inter-state trade or commerce.
4. Service Tax: Tax upon services provided in India.

List II :

1. Value Added Tax: Tax upon sale or purchase of goods within the State.
2. State Excise Duty: Tax upon production of certain goods containing alcohol, opium, hemp and narcotics.
3. Entry Tax: Tax upon entry of goods within the State.
4. Octroi: Tax upon entry of goods within the territory of local body, e.g. Mahanagar Palika.
5. Entertainment Tax: Tax upon entertainment.

List III : Stamp Duties

The laws in respect of taxes mentioned in the Union List are enacted by the Parliament. The laws in respect of taxes mentioned in the State List, are enacted by the State Legislatures. The taxes mentioned in the Union List are collected by the Centre, while those mentioned in the State List are

collected by the States. The Centre distributes part of the proceeds of Union Taxes collected by them among the States as per recommendations of the Finance Commission appointed by the President of India for a period of 5 years.

1.2 Evolution of VAT in India :

- i. Several Committees had stressed the need to adopt VAT in the system of indirect taxes in India. VAT made an entry at national Level in the form of MODVAT with effect from 1/3/1986, restricted to central excise duties & counter-veiling duties. MODVAT was transformed into CENVAT with effect from 1/4/2000, the scope of which has been broadened substantially.
- ii. The efforts to extend VAT at State level were in progress consequent upon initiative taken by Mr. Yashwant Sinha, the then Union Finance Minister, since November 1999. A Road Map to enact VAT Laws in place of State Sales Tax Laws was drawn. The Empowered Committee of State Finance Ministers (E.C.) was constituted to enable implementation of VAT Laws across the States. It was agreed upon in the meeting held on 16-11-1999 of all the State Finance Ministers by consensus to implement VAT in place of erstwhile Sales Tax Laws with effect from 1/4/2001. However, implementation of VAT Laws started much later. Haryana did it from 1/4/2003, 20 States did it from 1/4/2005, 5 BJP Ruled States did it from 1/4/2006, Tamil Nadu from 1/1/2007 and Uttar Pradesh from 1/1/2008.

Apart from different dates of implementation, these VAT Laws vary from State to State in several respects, including rate structure, Input Tax Credit rules, Composition Schemes etc. despite the fact that the Model VAT Law was made available to all the States to ensure unanimity.

Due to delay in implementation, different dates of implementation & lack of uniformity in contents, the expected results could not be achieved upon implementation of VAT. Implementation of VAT was sure to enrich exchequers of States, on top of which the Centre promised to States compensation against loss of revenue caused by VAT if any.

The author has concluded that, implementation of VAT Law, uniform in all respects that too, effective from one common date, did not materialize for one main reason, viz. Sales Tax/VAT, it falls within the domain of the States, which are very sensitive about their fiscal autonomy due to which, neither the Centre could issue any mandatory whip in respect of taxes falling into State List, nor the States were obliged to follow directives of the Centre, hence continues the heterogeneity in VAT Laws of the States.

2.0: The shift proposed towards Goods & Services Tax

2.1 The then Union Finance Minister Mr. P. Chidambaram, announced on 28/02/2007, while presenting Union Budget 2007, that the country would adopt Goods & Services Tax - a comprehensive indirect tax on goods & services subsuming existing indirect taxes viz. Excise & Custom Duties, Service tax, Value Added Tax etc. This was announced as a fiscal reform, in line with similar tax already enacted by few countries across the globe. This tax was proposed to be in a Two Tier Model, namely, Central GST & State GST. When this announcement was made, Uttar Pradesh was the only State left to introduce VAT, which was done from 1/01/2008.

2.2: Steps taken for implementation of GST Legislation:

- 1) The E.C., which was constituted in 1999 for the purpose of implementation of VAT in States, was empowered to draw a Road Map for implementation of GST across the country. The E.C. arrived at a comprehensive document titled "The First Discussion Paper on GST" (herein after referred to as 'D.P.' which was released for public in November 2009. This D.P. was thereafter subjected to detailed discussion across the country.
- 2) The Thirteenth Finance Commission (T.F.C) headed by Dr. Vijay Kelkar, set up a Task Force (T.F.) to look into the subject of GST implementation, which submitted its report to the Centre, which was released for public in December 2009.

- 3) Both T.F.C. & E.C. did commendable job in consonance with task assigned to them. The comments on recommendations given by them is reproduced below.

Both these groups have given their recommendations in respect of implementation of GST covering various facets of GST, viz. 1) Structure of GST, 2) Tax Base, 3) Taxing Principles, 4) Coverage of Sectors, 5) Tax Rates, 6) Place of Supply, 7) Classification between goods & services, 8) Threshold limit/s of exemption, 9) Composition schemes, 10) Exemptions, 11) Special Economic Zones, 12) Input Tax Credits, 13) Taxation of Inter-State supplies of goods & services, 14) Taxes to be subsumed into GST, 15) Treatment of SIN goods, viz. alcohol, tobacco & emission fuels, 16) Area-based exemptions, 17) Registration.

These recommendations will enable preparation of the draft of GST Legislation.

2.3 The step (most important) needed to be taken for enabling an enactment of GST- The appropriate amendments to the Constitution.

1. The existing system of indirect taxes as featuring in the Seventh Schedule of the Constitution has been described in para 1.1 of this Research Article. On that background, the author has analyzed various facets of the amendments need to be done to the Constitution, as follows:

- i. In India Central Excise & Customs Duties falls within the domain of the Centre, though the States do get share for themselves from the Centre.
- ii. Service Tax falls within the domain of the Centre.
- iii. Taxation of sale of goods, whether sold within the States or sold interstate yields revenue for the States, though CST falls within the Union List- revenue is collected & retained by the state of the origin of an inter-state sale.
- iv. Taxation of select few goods produced/manufactured in India falls within the domain the State (State Excise) e.g. goods produced containing alcohol, opium, hemp, narcotics etc.
- v. Entertainment Tax falls within domain of the State.
- vi. Tax upon entry of goods within the territory of a State (Entry Tax) & within the territory of a local body (Octroi) both fall within the domain of the States.

Hence, the Constitution needs to be amended to enable States to impose tax upon goods produced/manufactured, as well as imported; & the Centre to impose tax upon sale of goods.

This needs to be done by inserting the entries of all the indirect taxes to be subsumed into GST into List III- Concurrent List, since both Centre & States could impose taxes upon entries featuring in the Concurrent List. In other words, the scope of the Concurrent List will be enlarged substantially to pave the way for launch of GST, out of which the Centre will get share of GST as CGST, while the States will get share as SGST.

2. The Constitution further needs to be amended to make provisions necessary to replace C.S.T. , which is currently in the Union List, though CST is collected by the State of the origin of inter-state sale. The CST has been considered as a hurdle on the path of VAT, as VAT is levied by the State of destination across the globe, while CST is levied by the state of origin, which is not eligible for ITC in the state of destination, thereby adding on to the cascading effect of tax. To remove this hurdle, there needs to be an entry featuring into the Concurrent List of Inter-State GST (IGST) upon inter-state supply of goods & Services.
3. The Constitution has conferred fiscal autonomy upon the States, about which States are very sensitive. This aspect of protecting fiscal autonomy of the States needs to be considered carefully while enacting amendments to the Constitution. Every state wants to maximize its tax revenue to finance development expenditure & every such move from the Centre resulting into reduction of revenue of the State, creates serious repercussions in the form of opposition by the State towards the Centre.
4. The announcement regarding introduction of GST with effect from 1/04/2010 was done on

28/02/2007, yielding a period of 37 months to the Centre to complete the process of amendment to the Constitution as well as an enactment of GST Legislation which was adequate in the opinion of the author. First attempt of amendment was made in 2010, through the 114th Amendment to the Constitution Bill 2010, which turned out to be unsuccessful due to opposition of The State Governments ruled by BJP & few other parties. The main point of protest against that Bill was the veto power given to the Union Finance Minister, as a Chairman of the GST Council; hence the Bill could not proceed further.

Subsequently, the Centre moved fresh bill in the Parliament titled as The 115th Amendment to the Constitution Bill 2011, (hereinafter referred to as The Bill) which was referred to the Standing Committee of Parliament (SCP), the report of which was expected in the Monsoon Session-2011, which has not yet been received. After the receipt of the Report, The Bill will have to be passed by both the Houses of Parliament – Lok Sabha & Rajya Sabha by 2/3 majority of the members present & voting. Thereafter The Bill will have to obtain approval of the Legislatures of at least 51% of the States, ultimately obtaining an Assent of The President of India, so that it will become operative from the date of the Presidential Assent. The amendment to the Constitution cannot be made operative with retrospective effect, hence longer the delay in amending the Constitution, longer the delay in implementation of ‘GST Legislation’.

5. Upon study of The Bill, the author puts forward his thoughts as under:

- i. The Bill seeks to keep select few goods outside the scope of the GST, viz. petrol & diesel, few other petroleum products, alcohol etc., vide Clause (12A) in the Article 366. The consequence of this clause (12A) would mean, these goods will continue to attract central & state excise duties, State VAT, CST etc. thereby continuing cascading effect of these taxes, which is sought to be removed upon enactment of GST regime. In addition, the prices of these goods will continue to vary from place to place across the States, as the situation prevails in Maharashtra in respect of petrol, prices of which are different at different places in Maharashtra. This price variation defeats the very purpose behind enactment of GST Legislation which intends to keep these goods outside purview of GST.

Hence, the author suggests that the Clause (12A) in the Article 366 be deleted, to ensure that after enactment of the GST Legislation, no multiple taxes should continue to co-exist even on few goods, as it would not be in consonance with the best practices followed across the globe in the domain of VAT or GST. Moreover, prevalence of multiple taxes for a single product would defeat one of the purposes behind GST, namely “Creation of harmonized national market”.
- ii. In the earlier bill (114th Amendment Bill) the Centre had provided for a veto power to the Union Finance Minister, whereby without his consent no decision of GST Council would be valid. This provision provoked protest from BJP and few other parties, ruling in some of the States, due to which this Bill failed through. In the 115th Amendment Bill (The Bill) the Centre pushed the pendulum to the other extreme by making the provision in the Article 279A to the effect that all the decisions of the GST Council to be taken by ‘consensus’ of all the members present in the meeting. This means every decision must get 100% unanimity, & even one member present at the meeting of GST Council can stall the decision making process of the GST Council by opposing any resolution. Both the moves on the part of the Centre happen to be at two opposite ends. The author suggests that instead of 100% unanimity, it should be by majority of $\frac{3}{4}$ of the members present at the meeting, enabling GST Council to function smoothly & serving the purpose for which it was created.
- iii. There are three provisions featuring in The Bill, namely:
 - 1) Clause (12A) in the Article 366 proposing to keep select few goods like petrol, liquor outside the purview of the GST.

- 2) Article 279A proposing a constitution of GST Council, its powers, functions & the manner in which decision to be taken by the GST Council (by consensus of all the members as contemplated in The Bill)
- 3) Article 279B proposing a constitution of 'GST Dispute Settlement Authority' within the Constitution.

The author suggests that all these provisions may be embodied in the GST Legislation, instead of embodying them into the Constitution for the reasons explained below:

- i. If the need arises to amend any of the provisions in the Constitution tedious & time-consuming procedure needs to be followed, necessitating period of 2-3 years. Instead, if these provisions are embodied in the GST Legislation, any amendment thereto can be done by a simpler process, namely enactment by the Parliament, which needs simple majority exceeding 50%. Every year, as a part of the Union Budget known as The Finance Bill for the respective year, good number of amendments are proposed, which become part of the respective law, like Income Tax. This process needs to be adopted in respect of these three provisions of The Bill.
- ii. Being part of the GST Legislation, The Centre of its own or as per demand/request coming from the State/s, can take a call in any situation & can present bill in the Parliament or in the State Legislature, as the situation may warrant, get it through by due process of the Law to make it an integral part of the GST Legislation, which can be done in a short span of time. The author quotes one relevant example here. Rate of Sales Tax/VAT on the 'declared Goods' had been @4% for almost 4 decades. While presenting Finance Bill 2011, in February 2011, the Union Finance Minister, Mr. Pranab Mukherjee proposed to increase it to 5%. Immediately, the Finance Minister of Maharashtra, Mr. Ajit Pawar, increased the rate of VAT on declared goods from 4 to 5% by inserting this proposal in the State Budget presented in Maharashtra State Legislature in March 2011 & shortly thereafter it became effective. This entire process of increasing rate of VAT did not take more than 3 months, starting from February 2011, ending in May 2011, which had serious impact upon tax-payers in Maharashtra. Had there been the provision in the Constitution to regulate rate of tax on declared goods, to increase it every time would have needed time of over two years to get through amendment to the Constitution. Hence, this suggestion from the author that these provisions should rather be kept in the GST Legislation (to enable fast-track approach & due flexibility) instead of putting them into the Constitution.

The author quotes one more illustration in the context of creation of GST Dispute Settlement Authority vide Article 279B. The Income Tax Act provides for creation of 'Settlement Commission', which has been performing within the purview of the Act. Should there be need to amend any of these provisions, it can be done in a short time. But had there been this provision in the Constitution, any amendment thereto would take more than two years.

6. The Constitution grants certain degree of fiscal autonomy to the States in conformity with the principal of federalism. Division of powers to impose taxes laid down in the Seventh Schedule of the Constitution is a classic example of the fiscal autonomy. Any move made by the Centre whether it would be the Bill to amend the Constitution or provision in the GST legislation in respect of bifurcation of taxes between Central GST & State GST, becomes very sensitive issue within the domain of Centre-State relationship. Hence the author suggests that every such move needs to be made only after consultation with the States & with their concurrence.

The author enumerates few issues relating to GST Legislation, which need to be resolved by taking States into confidence; viz. i) the contents of The Bill that seeks to amend the Constitution to pave the way for GST legislation. ii) The proposed rate structure of GST vis-à-vis the 'Revenue Neutral Rate' that may be determined by the authorities concerned. The States are bound to resist GST implementation, if the rate of SGST along with the share of CGST expected by States from the Centre happens to be lower than what they would expect to satisfy revenue needs of the States. iii) The

continuance of CST vis-à-vis an emergence of the Inter-State GST will be yet another burning issue directly concerning the Centre-State Financial Relationship. The CST has been benefitting the Origin State, while IGST will benefit the Destination State as per VAT philosophy. How to resolve the issues that the Origin State will be collecting IGST, but the Destination State will get its due share & the taxpayer will get input tax credit due to him? The answers to these questions need to be found before GST Legislation is launched.

7. In the past, the Centre had been promising compensation to the States against loss of revenue, whenever any major change occurred in fiscal policy resulting into loss of revenue for the States. Likewise, the Centre had announced that whatever loss the States would suffer upon launch of GST, would be compensated by the Centre. In this regard, the author has made few observations about changes made by few states in tax rates of VAT effective from early 2010, thereafter in 2011, which prove that these changes (increase in tax rate) have been made to increase the base of tax collection for the year/s 2010-11 & 2011-12, which would enable these States to claim higher compensation from the Centre when GST would be launched.

3.0 Latest Update on VAT/GST

The Bill which was presented in Parliament on 22/03/2011 and then referred to the SCP, which was expected to submit its Report to the Parliament during Monsoon Session in 2011.

The News featured in The Financial Express dated 24/05/2012 titled “Panel to discuss GST with stakeholders” reported by Bijay Shankar Patel on 23/05/2012 contains following; viz:

1. The panel is likely to submit its report in the next 3 months so that it could be taken up by Parliament for consideration in the monsoon session-2012.
2. The panel would meet on June 8, Finance Ministry Officials followed by the members of the Empowered Committee of the State Finance Ministers and other stakeholders.
3. Report adds further... “However, GST is unlikely to be implemented from the next fiscal year, (April’ 13- March’ 14) even if modified Bill is introduced in the monsoon session.” This is because the legislative process will take some time and there is conflict between the Centre and the states on many issues.
4. Even after all issues get resolved, passing of the Bill will take at least 6 to 9 months. So GST can be implemented earliest by mid-2013/14. (Opinion expressed by Mr. Bipin Sapra, Tax Partner – Ernst and Young, who added further that there are issues like CST compensation and Dispute Settlement Authority needing to be addressed).
5. The Government introduced The Bill in Parliament in the Budget Session March 2011, after which it was referred to the SCP. However, much progress could not be made in finalizing the report on The Bill, as the panel SCP was busy with another major tax reform-Direct Tax Code.

According to the News published by Press Trust of India dated 08/06/2012, the SCP has taken up The Bill for discussion and will submit its report during Monsoon Session due to start in third week of July.

“For introduction of GST, no date is fixed yet!” News featured in Sales Tax Review, June 2012, which contain the following, viz:

1. The single biggest enabler to bring in the GST is the information technology backbone in the form of GST Network (GSTN), which is now approved by the Empowered Committee, will be operational by August 2012 as informed by the Finance Minister, who further stated in the speech that the GSTN will implement common pan-based registration, returns filing and payments processing for all States on a common shared platform.
2. The abolition of CST is still miles away in as much as, the year 2010-11 was the last year for CST compensation to the States and there will be no further payment, as stated by the spokesman of the Centre. Removal of CST, which is levied on goods sold in the inter-state trade, was one of the pre-conditions for introduction of GST.

3. “Centre-State face off on CST may put GST off Track” Source: Economic Times dt: 21/03/2012.
Based on the information gathered latest, the author concludes that the implementation of GST is delayed for the following reasons viz:
- i. The Bill to amend the Constitution enabling GST Legislation is further delayed, without enactment of which GST Legislation cannot proceed further with.
 - ii. Abolition of CST vis-à-vis issue of compensation payable to States for loss of CST revenue remains unresolved.
 - iii. The issue of compensation payable to the States for loss of revenue upon implementation of GST is yet to be taken for consideration.

4. Challenges relating to implementation of GST.

The author has identified following challenges relating to implementation of GST.

1. To get through The Bill, which will pave the way for GST Legislation. This needs to be done, before the end of the year 2012.
2. To arrive at a consensus on the following issues specifically:
 - i. The bifurcation of indirect taxes to be subsumed into GST, between Central GST & State GST. (The taxes to be subsumed into GST to include octroi, entry tax & state excise.)
 - ii. The rate structure that will prevail in GST Regime between CGST & SGST, in such a way that it will satisfy fiscal needs of the States, sustaining fiscal autonomy of the States.
 - iii. Mechanism to be created in respect of IGST maintaining balance between the State of Origin & Destination.
 - iv. Quantum of compensation payable to the States of origin upon discontinuance of CST.
 - v. Quantum of compensation payable to the States against loss of revenue upon implementation of GST & the period for which it will be paid.
 - vi. The entire scheme of SGST to be uniform in all the states in all respects & that all the States together with the Centre to implement GST on one common day. This is a major challenge, since fiscal needs of each state are different, which has created heterogeneity in the contents of State VAT Law. Also the political ideology of each party in power in State can create disharmony in functioning of GST, especially when there is a changeover in party ruling the State. To support this statement, the author quotes the example of West Bengal, which was consistently under Leftist Parties’ rule for more than 3 decades. Dr. Asim Kumar Dasgupta was the Finance Minister for several years, who was appointed as a Chairman of E.C. in November 1999. Under his Chairmanship, E.C. had been functioning satisfactorily. The W.B. VAT Act was nearest to the Model Law on VAT supplied by E.C. The number of rates of tax were not more than five with highest @ 12.50% being the common rate. After the changeover in 2011, the Trinamul Congress Party led front has come in power & the Government under leadership of Mamata Bannerjee has made drastic changes in WBVAT, thereby drifting WBVAT away from its original path.
3. The present Lok Sabha will be completing its tenure in 2014. It is essential that The Bill to amend the Constitution must get passed before dissolution of this Lok Sabha, failing which this bill will lapse & newly elected Lok Sabha will have to pass it once again, starting the process afresh, hence the urgency to get The Bill through, also GST Legislation during the tenure of this Lok Sabha.

On the background of these challenges enumerated, the author highlights positive developments which have occurred during Last 3 years, viz:

- i. Both E.C. & T.F.C. have done commendable job on GST Legislation, which can be used to formulate draft of GST Legislation.
- ii. The GST Network, providing Information Technology backbone to enable successful launch of GST is about to be launched by August 2012, prepared by the Task Force created for the purpose

under chairmanship of Mr. Nandan Nilekani. Once operational, it will add further value to this process.

The prospects of The launch of GST Legislation lie in the demonstration of ability of the present Government a) to arrive at consensus among all the political parties on the relevant issues, b) getting The Bill through & c) enacting GST Legislation taking all the stakeholders together in a uniform manner in all the States, that too on one common day, say 1/4/2013.

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* * *

Coding Theory

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Abstract : Here we discuss the problem of transmitting a message over a channel which can be affected by noise and we try to find out if and where this noise has distorted the message and what the original message was . In this section , we examine the techniques for transmitting information across a noisy channel.

Introduction : Frequently we face the problem when a message transmitted over a channel is affected by a noise . The channel can be a space , as in satellite communication systems , or wires or cables , as in telephone system , or wires as in circuits in a digital computer . Noise is always present to interfere with transmitted signals . The information is often represented as a sequence of binary digits 0's and 1's . The channel noise will occasionally cause a transmitted one to be mistakenly interpreted as a zero or vice – versa . In order to overcome the difficulty we must add some “control symbols” to our message . So in order to minimize the mistake , the simplest method is that we might repeat the message.

For example : PILL was the original message .

We encode it as PILL PILL but PILL KILL arrives due to some noise interference . The receiver then knows that one error has occurred . But where? Was the original message PILL or KILL? If we repeat the message twice and if it receives as PILL KILL PILL, then the receiver will conclude that PILL was the original message . But KILL PILL KILL could have been received, in which case we would “decode” to the wrong word KILL . So in order to reduce the effects of such errors, the transmitter may adjoin to the sequence of m (binary) message digits , s check digits .

The s check digits are selected by a method that makes them dependent on the m message digits . This is done by mapping the sequence of message digits onto a sequence of $n = m + s$ digits called the code word . This function is called the encoding scheme .

The codeword is then transmitted . The receiver or decoder maps the received word , which may be different from the code word due to channel noise , onto a sequence of m digits. This function is called decoding scheme .

Objectives :- The main objective of this section is to study the concepts of error detection and error correction.

In this section we let 0 and 1 as the elements of the field Z_2 . For $n \geq 1$,

let $B^n = Z_2 \times Z_2 \times Z_2 \dots \times Z_2$ (n times)

Definition :- A binary (m , n) - code is a 4 – tuple (B^m , B^n , E , D) , where B^m is the set of all binary m -tuples , B^n is the set of all binary n – tuples ($n > m$) and $E : B^m \rightarrow B^n$ and $D : B^n \rightarrow B^m$, where $R \subseteq B^n$. The functions E and D are called the encoding scheme and the decoding scheme respectively .

A non – empty subset of B^m is called a set of message words . Let $X \subseteq B^m$ be a set of message words . Then $E (X)$ is called a set of code words . These code words are transmitted across a noisy channel . Let X' be the set of received words after transmission . These received words are decoded by the decoding function D . Then $D (X')$ is the set of decoded words .

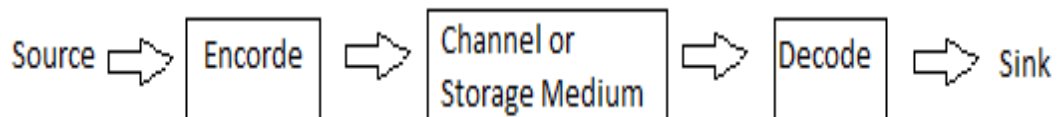


Diagram representing the coding and decoding process

Notation $c = (c_1, c_2, \dots, c_n) \in B^n$ for a code word and $r = (r_1, r_2, \dots, r_n) \in B^n$ for a received word.

Parity – Check Code OR (Error Detecting Code)

Let $(m, m+1)$ be a parity – check code . The encoding function E is defined by ,

$$E (a_1, a_2, \dots, a_m) = (a_1, a_2, \dots, a_m, a_{m+1}), \text{ where } a_{m+1} = (a_1 + a_2 + \dots + a_m) \pmod{2} .$$

Then $a_{m+1} = 0$ or 1 , depending upon the number of 1's in a_1, a_2, \dots, a_m is even or odd .

For example : Let us consider the $(3,4)$ – parity check code . Then B^3 is the set of message words and

$C = \{ (0,0,0,0), (0,0,1,1), (0,1,0,1), (0,1,1,0), (1,0,0,1), (1,0,1,0), (1,1,0,0), (1,1,1,1) \}$ is the set of code words .

Any odd number of errors can be detected .

But the code fails to detect an even number of errors .

 $(m, 3m)$ – Repetition Code)

In this code $E : B^m \rightarrow B^{3m}$ is defined as $E (a_1, a_2, \dots, a_m) = (a_1, a_2, \dots, a_m, a_1, a_2, \dots, a_m, a_1, a_2, \dots, a_m)$

Let $p, q, r \in B^m$. Then pqr denotes the word $w \in B^{3m}$, such that the first m letters of w are those of p , the next m letters of w are those of q , and the last m letters of w are those of r .

Define the decoding function $D : B^{3m} \rightarrow B^m$ as follows :- The i^{th} digit of $D(w)$ where w belongs to B^{3m} , is the member that appears as the i^{th} digit in at least two of the words p, q, r where $p, q, r \in B^m$ and $w = pqr$.

For example :- If $m = 3$ and $a = (1, 0, 1) \in B^m$, then $E(a) = (1,0,1,1,0,1,1,0,1)$

Now $w = aaa$ is a code word .

Let us assume that the transmission makes an error in the sixth digit . Then the received word , say , v is $(1,0,1,1,0,0,1,0,1)$. Let $p = (1,0,1)$, $q = (1,0,0)$, $r = (1,0,1)$. The first digit of $D(v)$ is 1 , since 1 is the first digit of p, q and r . The second digit of $D(v)$ is 0 since 0 is the second digit of p, q and r . The third digit of $D(v)$ is 1 , since 1 is the third digit of p and r .

Hence $D(v) = (1,0,1)$

Thus this code can detect a single error and it also corrects the error.

It follows that the code can detect two errors but it can correct only one error.

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Prisoner's Rights

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More than 200 years ago, the attitude to prisons, prisoners and punishment was brutal and barbaric.

The Indian socio-legal system is based on non-violence, mutual respect and human dignity of the individual. Every human being is entitled to his human rights. Human rights are those minimal rights which every individual must have against the State or the other public authorities by virtue of his being a member of a human family, irrespective of any other consideration.

The Supreme Court has made it clear that with a degree of difference in application, even criminals are entitled to human rights. Similarly, a human being, whether criminal or otherwise is entitled to dignity i.e. human rights.

If a person commits any crime, it does not mean that by committing a crime, he ceases to be a human being and that he can be deprived of those aspects of life which constitutes human dignity. Even the prisoners have human rights because the prison torture is not the last drug in the Justice Pharmacopoeia but a confession of failure to do justice to living man. For a prisoner all fundamental rights are an enforceable reality, though restricted by the fact of imprisonment.

Article 21 of the Constitution of India guarantees the right of personal liberty and thereby prohibits any inhuman, cruel or degrading treatments to any person whether he is a national or foreigner. Any violation of this right attracts the provisions of Article 14 of the Constitution which enshrines right to equality and equal protection of law. In addition to this, the question of cruelty to prisoners is also dealt with specifically by the Prison Act, 1894. If any excesses are committed on a prisoner, the prison administration is responsible for that. Any excesses committed on a prisoner by the police authorities not only attracts the attention of the legislature but also of the judiciary. The Indian judiciary, particularly the Supreme Court in the recent past has been very vigilant against encroachments upon the human rights of the prisoners.

Following are the Rights of Prisoners:

1. Right to Speedy Trial:

The Criminal Procedure has given through Section 309 to the accused person to hear an expeditious trial. Justice delayed is Justice denied.

Right to speedy trial is a another fundamental right of a prisoner which is implicit in article 21 of the Constitution. It ensures just, fair and reasonable procedure. The fact that a speedy trial is also in public interest or that it serves the social interest also, does not make it any the less right of accused. It is in the interest of all concerned that the guilt or innocence of the accused is determined as quickly as possible in the circumstance.

In *Hussainara Khatoon (II) v/s. Home Secretary, State of Bihar*, the Court while dealing with the cases of undertrials who had suffered long incarceration held that a procedure which keeps such large number of people behind bars without trial so long cannot possibly be regarded as reasonable, just or fair so as to be in conformity with the requirement of Article 21

2. Right to Legal Aid

Article 22(1) of the Constitution provides that no person who is arrested shall be denied the right to consult a legal practitioner of his choice.

Further, it has been held by the Supreme Court, the State is under a Constitutional mandate (Article 21 of the Constitution) to provide free legal aid.

Again talk of human rights would become meaningless unless a person is provided with legal aid to enable him to have access to justice in case of violation of his human rights. This a formidable challenge in the country of India's size and heterogeneity where more than half of the population lives in far-flung villages steeped in poverty, destitution and illiteracy. Legal aid is no longer a matter of

charity or benevolence but is one of the constitutional rights and the legal machinery itself is expected to deal specifically with it. The basic philosophy of legal aid envisages that the machinery of administration of justice should be easily accessible and should not be out of the reach of those who have to resort to it for the enforcement of their legal rights. In fact legal aid offers a challenging opportunity to the society to redress grievances of the poor and thereby law foundation of Rule of Law.

In India, judiciary has played an important role in developing the concept of legal aid and expanding its scope so as to enable the people to have access to courts in case of any violation of their human rights.

Where the prisoner is disabled from engaging a lawyer, on reasonable grounds such as indigence or incommunicado situation, the court shall, if the circumstances of the case, the gravity of the sentence, and the ends of justice so required, assign competent counsel for the prisoners defense, provided the party doesn't object to that lawyer. (**In the recent event we can cite the case of Kasab**).

In M.H. Hoskot v/s State of Maharashtra, the Supreme Court held that legal aid is one of the ingredients of fair procedure. The benefit of article 39-A is available in those cases.

3.Right against Solitary Confinement, Handcuffing & Protection from Torture:

Solitary Confinement in a general sense means the separate confinement of a prisoner, with only occasional access of any other person, and that in the rarest of the rare cases and that too only at the discretion of the jail authorities. In strict sense it means the complete isolation of a prisoner from all human society.

Custodial torture is a naked violation of human dignity and degradation which destroys, to a very large extent, the individual personally. It is considered as an assault on human dignity and whenever human dignity is wounded, civilization takes a step backward. Fundamental rights occupy an important place in the Indian Constitution. Article 21 of the Constitution of India provides no person shall be deprived of his life or personal liberty except according to procedure established by law. Personal liberty, thus, is a sacred and cherished right under the Constitution. The expression life or personal liberty has been held to include the right to live with human dignity and thus it would also include within itself a guarantee against torture and assault by the State or its functionaries. Article 22 guarantees protection against arrest and detention in certain cases and declares that no person who is arrested shall be detained in custody without being informed of the grounds of such arrest and he shall not be denied the right to consult and defend himself by a legal practitioner of his choice.

The Court also, considered it appropriate to issue the following requirements to be followed in all cases of arrest or detention :

1. The police officer carrying out the arrest of the arrestee shall prepare a memo of arrest at the time of arrest and such memo shall be attested by at least one witness, who may be either a member of the family of the arrestee or a respectable person of the locality from where the arrest is made, it shall also be countersigned by the arrestee and shall contain the time and date of arrest.
2. The police personnel carrying out the arrest and handling the interrogation of the arrestee should bear accurate, visible and clear identification and name tags with their designations. The particulars of all such police personnel who handle interrogation of the arrestee must be recorded in a register.
3. A person who has been arrested or detained and is being held in custody in a police station or interrogation centre or other lock-up, shall be entitled to have one friend or relative or other person known to him or having interest in his welfare being informed, as soon as practicable, that he has been arrested and is being detained at the particular place, unless the attesting witness of the memo of arrest is himself such a friend or a relative of the arrestee.
4. The place, time of arrest and custody of an arrestee must be notified by the police where the next friend or relative of the accused lives outside the district or town through the Legal Aid Organization in the District and the police station of that area concerned telegraphically within a

- period of 8 to 12 hours after the arrest.
5. An entry must be made in the diary at the place of detention regarding the arrest of the person which shall also disclose the name of the next friend of the person who has been informed, of the arrest and the names and particulars of the police officials in whose custody the arrestee is.
 6. The arrestee should, where he so requests, be also examined at the time of his arrest for major and minor-injuries, if any, present on his/her body, and must be recorded at that time. The "Inspection Memo" must be signed both by the arrestee and the police officer effecting the arrest and its copy provided to the arrestee.
 7. The arrestee should be subjected to medical examination by a trained doctor every 48 hours during his detention in custody by a doctor on the panel of approved doctors appointed by Director, Health Services of the concerned State or Union Territory.
 8. Copies of all the documents including the memo of arrest, referred to above, should be sent to the Magistrate for his record.
 9. The arrestee may be permitted to meet his lawyer during interrogation, though not throughout the interrogation.
 10. A police control room should be provided at all district and State headquarters, where information regarding the arrest and the place of custody of the arrestee shall be communicated by the officer causing the arrest, within 12 hours of effecting the arrest and at the police control room it should be displayed on a conspicuous police, board

In the case of *Ajab Singh & Anr. v. State of Uttar Pradesh & Ors*, the court said that: We do not appreciate the death of persons in judicial custody. When such deaths occur, it is not only to the public at large that those holding custody are responsible; they are responsible also to the courts under whose orders they hold such custody.

In the case of *Arvinder Singh Bagga v. State of U.P. and Others*, the court observed that: Torture is not merely physical, there may be mental torture and psychological torture calculated to create fright and submission to the demands or commands. When the threats proceed from a person in Authority and that too by a police officer the mental torture caused by it is even graver.

This clearly brings out not only highhandedness of the police but also uncivilized behavior on their part. The Supreme Court issued directions that the State of Uttar Pradesh will take immediate steps to launch prosecution against all the police officers involved in this sordid affair. They further awarded compensation to the petitioners.

12. Right to meet friends and Consult Lawyer

Prisoner's rights have been recognized not only to protect them from physical torture in the prison but also to save them from mental torture. Therefore, the Supreme Court in *Sunil Batra (11)* recognized the right of the prisoners to be visited by their friends and relatives. The court favored their visits but, subject to "Search and Discipline and other Security Criteria".

In *Prabha Dutta v/s. Union of India* the supreme court went to the extent of allowing the prisoners who were sentenced to death, to give interview to the press.

13. Right to Reasonable Wages in Prison:

Remuneration, which is not less than the minimum wages, has to be paid to anyone who has been asked to provide labour or service by the state. The payment has to be equivalent to the service rendered, otherwise it would be 'forced labour' within the meaning of Article 23 of the Constitution of India. There is no difference between a prisoner serving a sentence inside the prison walls and a freeman in the society.

Whenever during the imprisonment, the prisoners are made to work in the prison, they must be paid wages at the reasonable rate. The wages should not be below minimum wages.

14. Right to expression:

In *State of Maharashtra v. Prabhakar Panduranga*, the court held that the right to personal liberty

includes the right to write a book and get it published and when this right was exercised by a detenu its denial without the authority of law violated Article 21 of the Constitution of India.

In the case of R. Rajagopal alias R.R. Gopal and Another v. State of Tamil Nadu and Others, the petition raises a question concerning the freedom of press vis-a-vis the right to privacy of the citizens of this country. It also raises the question as to the parameters of the right of the press to criticize and comment on the acts and conduct of public officials.

The court held that the petitioners have a right to publish, what they allege to be the life-story/autobiography of Auto Shankar insofar as it appears from the public records, even without his consent or authorisation. But if they go beyond that and publish his life story, they may be invading his right to privacy and will be liable for the consequences in accordance with law. Similarly, the State or its officials cannot prevent or restrain the said publication.

Conclusion:

The system of criminal justice Administration in India is grounded in the sound principles of English jurisprudence. Like the British system it incorporates the principle of presumption of innocence, rule of law, non-retroactivity of criminals statistics and the Rule against Double Jeopardy all of which ensure of fair trial to the accused.

Indian Law has prohibited use of Custodial Violence in unmistakable terms.

The rights of Prisoner are also very important as law consider them with respect and human dignity of the individual.

The souls behind the bars cannot be denied the same. It is guaranteed to every person by Article 21 of the Constitution of India and not even the State has the authority to violate that Right. A prisoner, may be a convict or under-trial or a detenu, does not cease to be a human being. They also have all the rights which a free man has but under some restrictions. Just being in prison doesn't deprive them from their fundamental rights. Even when lodged in the jail, he continues to enjoy all his Fundamental Rights. On being convicted of crime and deprived of their liberty in accordance with the procedure established by law, prisoners still retain the residue of constitutional rights.

Punish those who are criminals and save those who are innocent. To achieve the result the court must see that its orders, directions and the judgments are implemented strictly, otherwise the court will lose their credibility and faith of people of India.

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E-Banking - A Paradigm Shift from Traditional Banking Systems at a Click of a Button

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Introduction

Internet has evolved to its present state out of a US Department of Defence project ARPANet (Advanced Research Project Administration Network), developed in the late 1960s and early 1970s as an experiment in wide area networking. A major perceived advantage of ARPANet was that the network would continue to operate even if a segment of it is lost or destroyed since its operation did not depend on operation of any single computer. Though originally designed as a defence network, over the years it was used predominantly in areas of scientific research and communication. By the 1980s, it moved out of Pentagon's control and more independent networks from US and outside got connected to it. In 1986, the US National Science Foundation (NSF) established a national network based on ARPA protocol using commercial telephone lines for connectivity. The NSFNet was accessible by a much larger scientific community, commercial networks and general users and the number of host computers grew rapidly. Eventually, NSFNet became the framework of today's Internet. ARPANet was officially decommissioned in 1990.

In the recent years there has been explosion of Internet based electronic banking applications (Liao & Cheung, 2003). Beckett, Hower & Howcroft (2000) states that the emergence of new forms of technology has created highly competitive market conditions for bank providers. However, the changed market conditions demand for banks to better understanding of consumers' needs.

The concept of electronic banking has been defined in many ways (e.g. Daniel, 1999). According to Karjaluoto (2002) electronic banking is a construct that consists of several distribution channels. Daniel (1999) defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television. Electronic banking also commonly known as internet banking or e-banking. Internet Banking, defined as "the delivery of banking services through the open-access computer network (the internet) directly to customers' home or private address". (Lau, 1997) has experienced phenomenal growth in recent years. In 2006, Pew Internet and American Life Project reported that nearly half of internet users in the United States – 63 million adults – bank online (Fox and Beier, 2006). In many ways, e-banking is not unlike traditional payment, inquiry, and information processing system, differing only in that it utilizes a different delivery channel. Any decision to adopt e-banking is normally influenced by a number of factors. Liao et al. (2008) stress that the success in Internet banking will be achieved with tailored financial products and services that fulfill customer' wants, preferences and quality expectations. Mattila (2001) concedes that customer satisfaction is a key to

success in Internet banking and banks will use different media to customize products and services to fit customers' specific needs in the future. Liao et al. (2003) suggest that consumer perceptions of transaction security, transaction accuracy, user friendliness, and network speed are the critical factors for success in Internet banking.

There had been various forms of banking in the past viz. visit to the bank, ATMs, Electronic money transfer, etc. Traditionally personal visit to bank was the only means of banking available to undertake money related transaction. Nobody in the past could have thought of the idea of E-banking as a future of banking. The Internet has changed the operations of many businesses. With more than 300 million computers on more than 200,000 networks worldwide communicating with each other, the Internet has become a powerful channel for business marketing and communication. With technology advancement and advancement of human living, the standard of living has improved and so is the technology towards banking services has undergone a massive development.

The banking industry has followed this Internet application trend in recent years, and somehow becoming integral part of its Internet application - sometimes called "e-banking" referring to all banking transactions now completing through Internet applications. Smaller community banks, among others, are more interested in the application of e-banking to gain certain competitive edges over their larger counterparts.

Broadly, the levels of banking services offered through INTERNET can be categorized in to three types:

- (i) The Basic Level Service is the banks' websites which disseminate information on different products and services offered to customers and members of public in general. It may receive and reply to customers' queries through e-mail.
- (ii) In the next level are Simple Transactional Websites which allow customers to submit their instructions, applications for different services, queries on their account balances, etc, but do not permit any fund-based transactions on their accounts.
- (iii) The third level of Internet banking services are offered by Fully Transactional Websites which allow the customers to operate on their accounts for transfer of funds, payment of different bills, subscribing to other products of the bank and to transact purchase and sale of securities, etc.

Distinctive features of E-Banking:

1. It removes the traditional geographical barriers as it could reach out to customers of different countries / legal jurisdiction. This has raised the question of jurisdiction of law / supervisory system to which such transactions should be subjected.
2. It has added a new dimension to different kinds of risks traditionally associated with banking, heightening some of them and throwing new risk control challenges.
3. Security of banking transactions, validity of electronic contract, customers' privacy, etc., which have all along been concerns of both bankers and supervisors have assumed different dimensions given that Internet is a public domain, not subject to control by any single authority or group of users.
4. It poses a strategic risk of loss of business to those banks who do not respond in time, to this new technology, being the efficient and cost effective delivery mechanism of banking services.
5. A new form of competition has emerged both from the existing players and new players of the market who are not strictly banks.

Concerns over E-Banking:

1. Legal and regulatory issues.
2. Security and technology issues.
3. Supervisory and operational issues.

Mitigating the above risks / concerns:

1. Adopting internationally accepted state-of-the art technology standards for access control, encryption / decryption (minimum key length etc).
2. Firewalls.
3. Verification of digital signature.
4. Public Key
5. Infrastructure (PKI) etc.

E-Banking – Online way of business / communication

With the help of internet now one can be connected anywhere across the globe within a fraction of a second. Similarly, internet has advanced itself to provide technical means for E-Banking to reach to its consumers across globe directly, without boundaries/jurisdiction at the shortest of time possible 24X7-365 days.

Several technical means used in internet communication are –

1. TCP/IP (Transmission Control Protocol / Internet Protocol)
2. SLIP (Serial Line Internet Protocol) or PPP (Point to Point Protocol) account
3. File Transfer Protocol (FTP)
4. E-mail
5. World Wide Web (WWW)
6. Wireless Application Protocol (WAP)
7. Wireless Transaction Protocol (WTP)
8. Wireless Transport Layer Security (WTLS)

E-Banking Product – Consumer reach cycle

Figure 1: Shift in the Distribution Channel due to evolution of E-Banking

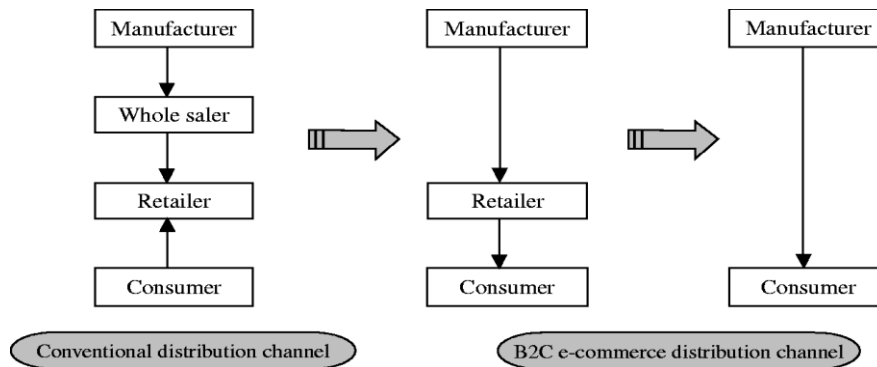


Figure 2: Process Flow during E-Banking Activity

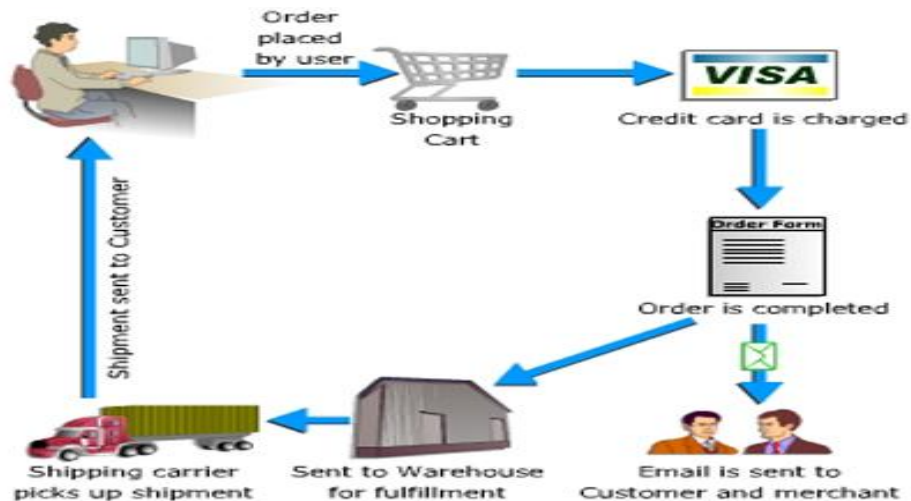


Fig. 1 & Fig. 2 clearly show the paradigm shift taken place due to Internet factor in the form of how a product is sold to the customer in the Era of E-Banking. It is very clear that the Middlemen, (which was once considered as key factor in supply chain) has been totally eradicated and the company/manufacturer can directly reach its consumers to sale the product. Thus, cost efficiencies in business practices are also attained which will result into profit maximization for Owners and certain Purchase Cost relaxation to the End consumer.

Today many companies, especially small firms and new start-up businesses, banks have taken their business online to take full advantage of this huge potential market. Now to undertake any monetary transaction, is just a click of a button. To pay utility bills, credit card bill, go on to respective bank and pay the bill. Alternatively, even visiting the utility service website can enable make payment for respective bills. Today paying the insurance bills is also possible online. Money transfers not only within India but across the globe is just a click away. Over the years the online banking has developed in a much-much better way. And every day passing by writes another day of technology advancement in the world of E-banking.

E-Finance :

Rapid advances in communication technology in recent years have led to several innovations in the delivery of financial services through the internet and other electronic media (collectively known as e-finance).

In developing economies, the use of e-finance is low in comparison with the advanced industrial economies (Refer Table 1). However, in some respects, developing countries have an advantage. They can learn from the experience of advanced economies. It may even be possible for them to 'leapfrog' straight to the most advanced technologies.

The growth of e-finance raises several important challenges. First, security concerns are important factors which often discourage many internet users from using e-banking. Supervisors will need to be assured that banks have conducted adequate assessments of the vulnerability of their operating systems, back-up facilities, firewalls and emergency procedures. The complexity of internet-related activity encourages outsourcing, which often raises the problem of concentration risk when several banks depend on the same service provider. Another challenge for both providers of financial services and those who supervise them is the sheer uncertainty. It is difficult to predict which technologies will work best and what would be the response of customers and competitors. In an attempt to maintain profitability, banks might adapt poorly to e-banking (which could involve either under or over-spending on new technology), prompting them to move into riskier business to maintain returns.

Table 1: E-finance: Select Indicators

| Country | Internet users as percentage of inhabitants | Mobile phones per 1000 inhabitants | Per cent bank customers using on-line banking |
|----------------------------|---|------------------------------------|---|
| | 2000 | 2000 | 1999 |
| 1 | 2 | 3 | 4 |
| Developed Countries | | | |
| Australia | 34 | 45 | 4 |
| Germany | 29 | 59 | 12 |
| Italy | 23 | 74 | n.a. |
| UK | 30 | 73 | 6 |
| US | 35 | 40 | 6 |
| Emerging Markets | | | |
| Brazil | 3 | 14 | 4 |
| Malaysia | 16 | 21 | Less than 1 |
| South Africa | 5 | 19 | n.a. |
| South Korea | 40 | 57 | n.a. |
| Indonesia | 1 | 2 | n.a. |
| India | Less than 1 | Less than 1 | n.a. |
| Thailand | 4 | 5 | n.a. |

n.a.: not available, Source: Reserve Bank of India

Litreature Review :

International Trends on E-banking

Internet banking has presented regulators and supervisors worldwide with new challenges. The Internet, by its very nature, reaches across borders and is, for this reason, engaging the attention of regulatory and supervisory authorities all over the world. The experience of various countries, as far as Internet banking is concerned, is outlined hereunder.

USA

In the USA, the number of thrift institutions and commercial banks with transactional web-sites is 1275 or 12% of all banks and thrifts. Approximately 78% of all commercial banks with more than \$5 billion in assets, 43% of banks with \$500 million to \$5 billion in assets, and 10% of banks under \$ 500 million in assets have transactional web-sites. Of the 1275-thrifts/commercial banks offering transactional Internet banking, 7 could be considered 'virtual banks'. 10 traditional banks have established Internet branches or divisions that operate under a unique brand name.

The Federal Financial Institutions Examination Council (FFIEC) introduced the Information Systems (IS) rating system to be used by federal and state regulators to assess uniformly financial and service provider risks introduced by information technology and to identify those institutions and service providers requiring special supervisor attention. The FFIEC has recently renamed the system as Uniform Rating System for IT (URSIT), which has enhanced the audit function. The importance of risk management procedure has been reinforced under the revised system.

Some characteristics of e-money products such as their relative lack of physical bulk, their potential anonymity and the possibility of effecting fast and remote transfers make them more susceptible than traditional systems to money laundering activities. The OCC guidelines lay down an effective 'know your customer' policy. Federal financial institutions, regulators, Society for Worldwide Interbank Financial Telecommunications (SWIFT) and Clearing House Interbank Payment System (CHIPS) have issued statements encouraging participants to include information on originators and beneficiaries.

U.K.

Most banks in U.K. are offering transactional services through a wider range of channels including Wireless Application Protocol (WAP), mobile phone and T.V. A number of non-banks have approached the Financial Services Authority (FSA) about charters for virtual banks or 'clicks and mortar' operations. There is a move towards banks establishing portals.

Scandinavia

Swedish and Finnish markets lead the world in terms of Internet penetration and the range and quality of their online services. Merita Nordbanken (MRB) (now Nordic Bank Holding, a merger between Finland's Merita and Nordbanker of Sweden) leads in "log-ins per month" with 1.2 million Internet customers, and its penetration rate in Finland (around 45%) is among the highest in the world for a bank of 'brick and mortar' origin. Standinaviska Easkilda Banken (SEB) was Sweden's first Internet bank, having gone on-line in December 1996. It has 1,000 corporate clients for its Trading Station – an Internet based trading mechanism for forex dealing, stock-index futures and Swedish treasury bills and government bonds. Swedbank, is another large sized Internet bank. Almost all of the approximately 150 banks operating in Norway had established "net banks". In Denmark, the Internet banking service of Den Danske offers funds transfers, bill payments, etc.

In addition to their national laws, countries in Europe are also expected to implement European Union (EU) directives. In 1995, the EU passed a Europe-wide Data Protection Directive aimed at granting individuals greater protection from abuses of their personal information. It also passed the Telecommunications Directive that prescribes special protection in relation to telephones, digital TVs, mobile communications, etc. Every EU country is to have a privacy commissioner to enforce the regulations as they apply within the EU. The EU directive on electronic signature is also required to be implemented in national laws.

Australia: Internet Banking in Australia is offered in two forms:

a) Web-based

Initial web-based products have focused on personal banking. Most Australian-owned banks and some foreign subsidiaries of banks have transactional or interactive web-sites. Online banking services range from FIs' websites providing information on financial products to enabling account management and financial transactions. Customer services offered online include account monitoring (electronic statements, real-time account balances), account management (bill payments, funds transfers, applying for products on-line) and financial transactions (securities trading, foreign currency transactions).

b) Through the provision of proprietary software.

The provision of proprietary software has been targeted at the business/corporate sector. Electronic Bill Presentment and Payment (EBPP) is at an early stage. Features offered in proprietary software products (enabling business and corporation customers to connect to the financial institutions (via dial-up/leased line/extranet) include account reporting, improved reconciliation, direct payments, payroll functionality and funds transfer between accounts held at their own or other banks. Apart from closed payment systems (involving a single payment-provider), Internet banking and e-commerce transactions in Australia are conducted using long-standing payment instruments and are cleared and settled through existing clearing and settlement system. Banks rely on third party vendors or are involved with outside providers for a range of products and services including e-banking. Generally, there are no 'virtual' banks licensed to operate in Australia.

New Zealand:

Major banks offer Internet banking service to customers, operate as a division of the bank rather than as a separate legal entity. Reserve Bank of New Zealand applies the same approach to the regulation of both Internet banking activities and traditional banking activities. There are however, banking supervision regulations that apply only to Internet banking. Supervision is based on public disclosure of information rather than application of detailed prudential rules. These disclosure rules apply to Internet banking activity also.

Singapore:

The Monetary Authority of Singapore (MAS) has reviewed its current framework for licensing, and for prudential regulation and supervision of banks, to ensure its relevance in the light of developments in Internet banking, either as an additional channel or in the form of a specialized

division, or as stand-alone entities (Internet Only Banks), owned either by existing banks or by new players entering the banking industry. The existing policy of MAS already allows all banks licensed in Singapore to use the Internet to provide banking services. MAS is subjecting Internet banking, including IOBs, to the same prudential standards as traditional banking. It will be granting new licences to banking groups incorporated in Singapore to set up bank subsidiaries if they wish to pursue new business models and give them flexibility to decide whether to engage in Internet banking through a subsidiary or within the bank (where no additional licence is required). MAS also will be admitting branches of foreign incorporated IOBs within the existing framework of admission of foreign banks.

Hong Kong:

There has been a spate of activity in Internet banking in Hong Kong. Two virtual banks are being planned. It is estimated that almost 15% of transactions are processed on the Internet. During the first quarter of 2000, seven banks have begun Internet services. Banks are participating in strategic alliances for e-commerce ventures and are forming alliances for Internet banking services delivered through Jetco (a bank consortium operating an ATM network in Hong Kong). A few banks have launched transactional mobile phone banking earlier for retail customers.

Japan:

Banks in Japan are increasingly focusing on e-banking transactions with customers. Internet banking is an important part of their strategy. While some banks provide services such as inquiry, settlement, purchase of financial products and loan application, others are looking at setting up finance portals with non-finance business corporations. Most banks use outside vendors in addition to in-house services.

E-banking in India

A recent study conducted by Reserve Bank of India¹ on the Indian story of Internet-Banking has revealed that Internet banking, both as a medium of delivery of banking services and as a strategic tool for business development, has gained wide acceptance internationally and is fast catching up in India with more and more banks entering the fray. India can be said to be on the threshold of a major banking revolution with net banking having already been unveiled. A recent questionnaire to which 46 banks responded, has revealed that at present, 11 banks in India are providing Internet banking services at different levels, 22 banks propose to offer Internet banking in near future while the remaining 13 banks have no immediate plans to offer such facility.

¹At present, the total Internet users in the country are estimated at 9 lakh. However, this is expected to grow exponentially to 90 lakh by 2003. Only about 1% of Internet users did banking online in 1998. This increased to 16.7% in March 2000.* The growth potential is, therefore, immense. Further incentives provided by banks would dissuade customers from visiting physical branches, and thus get 'hooked' to the convenience of arm-chair banking. The facility of accessing their accounts from anywhere in the world by using a home computer with Internet connection, is particularly fascinating to Non-Resident Indians and High Networth Individuals having multiple bank accounts.

Products and services offered:

Banks in India are at different stages of the web-enabled banking cycle. Initially, a bank, which is not having a web site, allows its customer to communicate with it through an e-mail address; communication is limited to a small number of branches and offices which have access to this e-mail account. As yet, many scheduled commercial banks in India are still in the first stage of Internet banking operations.

With gradual adoption of Information Technology, the bank puts up a web-site that provides general information on the banks, its location, services available e.g. loan and deposits products, application forms for downloading and e-mail option for enquiries and feedback. It is largely a

marketing or advertising tool. For example, Vijaya Bank provides information on its web-site about its NRI and other services. Customers are required to fill in applications on the Net and can later receive loans or other products requested for at their local branch. A few banks provide the customer to enquire into his demat account (securities/shares) holding details, transaction details and status of instructions given by him. These web sites still do not allow online transactions for their customers.

Some of the banks permit customers to interact with them and transact electronically with them. Such services include request for opening of accounts, requisition for cheque books, stop payment of cheques, viewing and printing statements of accounts, movement of funds between accounts within the same bank, querying on status of requests, instructions for opening of Letters of Credit and Bank Guarantees etc. These services are being initiated by banks like ICICI Bank Ltd., HDFC Bank Ltd. Citibank, Global Trust Bank Ltd., UTI Bank Ltd., Bank of Madura Ltd., Federal Bank Ltd. etc. Recent entrants in Internet banking are Allahabad Bank (for its corporate customers through its 'Allnet' service) and Bank of Punjab Ltd. State Bank of India has announced that it will be providing such services soon. Certain banks like ICICI Bank Ltd., have gone a step further within the transactional stage of Internet banking by allowing transfer of funds by an account holder to any other account holder of the bank.

Some of the more aggressive players in this area such as ICICI Bank Ltd., HDFC Bank Ltd., UTI Bank Ltd., Citibank, Global Trust Bank Ltd. and Bank of Punjab Ltd. offer the facility of receipt, review and payment of bills on-line. These banks have tied up with a number of utility companies. The 'Infinity' service of ICICI Bank Ltd. Also allows online real time shopping mall payments to be made by customers. HDFC Bank Ltd. has made e-shopping online and real time with the launch of its payment gateway. It has tied up with a number of portals to offer business-to-consumer (B2C) ecommerce transactions. The first online real time e-commerce credit card transaction in the country was carried out on the Easy3shoppe.com shopping mall, enabled by HDFC Bank Ltd. on a VISA card.

Banks like ICICI Bank Ltd., HDFC Bank Ltd. etc. are thus looking to position themselves as one stop financial shops. These banks have tied up with computer training companies, computer manufacturers, Internet Services Providers and portals for expanding their Net banking services, and widening their customer base. ICICI Bank Ltd. has set up a web based joint venture for on-line distribution of its retail banking products and services on the Internet, in collaboration with Satyam Infoway, a private ISP through a portal named as icicisify.com. The customer base of www.satyamonline.com portal is also available to the bank. Setting up of Internet kiosks and permeation through the cable television route to widen customer base are other priority areas in the agendas of the more aggressive players. Centurion Bank Ltd. has taken up equity stake in the teauction.com portal, which aims to bring together buyers, sellers, registered brokers, suppliers and associations in the tea market and substitute their physical presence at the auctions announced.

Banks providing Internet banking services have been entering into agreements with their customers setting out the terms and conditions of the services. The terms and conditions include information on the access through user-id and secret password, minimum balance and charges, authority to the bank for carrying out transactions performed through the service, liability of the user and the bank, disclosure of personal information for statistical analysis and credit scoring also, non-transferability of the facility, notices and termination, etc.

The race for market supremacy is compelling banks in India to adopt the latest technology on the Internet in a bid to capture new markets and customers. HDFC Bank Ltd. with its 'Freedom- the e-Age Saving Account' Service, Citibank with 'Suvidha' and ICICI Bank Ltd. with its 'Mobile Commerce' service have tied up with cellphone operators to offer Mobile Banking to their customers. Global Trust Bank Ltd. has also announced that it has tied up with cellular operators to launch mobile banking services. Under Mobile Banking services, customers can scan their accounts to seek balance and payments status or instruct banks to issue cheques, pay bills or deliver statements of accounts. It is

estimated that by 2003, cellular phones will have become the premier Internet access device, outselling personal computers. Mobile banking will further minimise the need to visit a bank branch.

Moreover, many Online shopping websites have been coming up these days with various products and services including apparels, consumables, staples, mobiles, Car accessories, PCs, Laptops, Computer peripherals, clothes, watches, Home appliances, etc. some of the renowned Online marketers are – Bagit Today (India Today group), Indiatimes Shopping, Naaptol, rediff shopping, ebay.in, yebhi.com, snapdeal.com, futurebazaar.com (The Future Group), indiaplaza.com, etc.

Most of these offer various products with attractive discounts on most of the products. Moreover, many credit card companies have tied-up with few of these online marketers to offer special discounts on the products offered to their privileged customers adding value to the E-Banking.

Apart, from these there are few of the innovative websites like onlinelibrary.in which provides its users a unique way of online reading services wherein an individual can read books at their comfort and have broad range of subjects to refer. Another East Book Company has launched a webstore to all its customers to purchase its publishing online without any middlemen.

Perception of Adult Customers

Electronic banking is offering its customers with a wide range of services: Customers are able to interact with their banking accounts as well as make financial transactions from virtually anywhere without time restrictions. Adult customers are changing their existing pattern of use of traditional banking and switch over advanced self-service technology (Curran and Meuter, 2007). Liao and Cheung (2002) stated that willingness to use Internet banking depends on the expectations of accuracy, security, network speed, user-friendliness, user involvement, and convenience. A study between Turkey vs. UK has been found that Privacy is the single most important characteristic because of its effect on customers' perceptions. To access the private information shared between the bank and the customer (Sayar and Wolfe, 2007). It is argued that in the e-bank context, the security issue is crucial once, it involves directly the user's actives (Cockburn & Wilson, 1996; Pavlou, 2001).

Hill (2004) conducted a study concerned with identifying the characteristics of online banking users. She mentioned that it is commonly assumed that demographics do influence the acceptance of electronic self-service tools, such as online banking. The results of the study were that people who use such services are young, trendy and high earning. They actively seek out online banking tools, and they want to conduct all transactions through the same channel. Nevertheless, Lee (2000) conducted a similar research and arrived at different results. He found that the Customer Relationship Management (CRM) efforts of the banks themselves have the real influence on who accesses online self-service tools than any other factor. Therefore, customers tend to use such tools based on attitudes, not demographics. Other study by Al-Alawi (2004) investigated the CRM's actual implementation by finding the criteria and problems that needed to be tackled in order to implement a successful CRM program in banking.

An empirical study by Pew Internet & American Life Project dated 2002 was concerned with the number of people banking online and their gender in addition to their age. The study found that men are somewhat more likely to bank online than women. Also, younger and middle-aged Internet users are the most likely group to turn to online banking. The highest category using online banking in the survey was people aged 30 to 49, the lowest category is above 65 and the rest of them are in between. Of great value was the study of Mattila et. al., (2003). The study was concerned with analyzing the adoption of Internet banking among adult customers. The results show that people over the age of 65 generally tend to be late adopters of technologies. They found that adult customers who discontinued the use of online banking blamed insufficient or nonexistent training on how to use the technology. They also pointed that confusing web pages and complex steps discouraged their adoption of online banking. Subsequently, they recommended developing three dimensional web pages with voice recognition, using video technology to provide access to bank employees. Also, Sohail and

Shanmugham (2004) wrote a paper concerning customers' preferences in E-banking in Malaysia. Their results were based on a survey of 300 respondents. Their conclusion indicates that age and educational qualifications of electronic and conventional banking have no significant impact on E-banking adoption. Instead, they argued that accessibility to the Internet, awareness of E-banking and customers' resistance to change are the main factors influencing the adoption.

Fitzgerald (2004) choose to analyze four different research papers to identify current and potential customers' perceptions on online banking. He concluded that there are common perceptions regarding online banking with disregard to demographic, geographic or psycho- graphic characteristics. He argued that among the major 'nonadoption' areas are the security concerns and lack of awareness of online banking. Cleaver (1999) reports an academic study that concluded that older users prefer internet sites that do not demand complicated manipulation of software and hyperlinks the equipment, simply in order to browse. They appreciate functions that make on-line navigation easier and more convenient; for instance, simple, clear, and polite messages. On the other hand, other studies have shown that older people want the same things as users in general: a site that is easy to use, fast, clear, and secure. On the whole, it seems that the expert majority's opinion is that older people need separate internet sites, or at least modifications of existing ones (Judd, 2000), incorporating for instance larger font sizes and simpler graphics.

Security and Privacy

One of the biggest attractions of Internet as an electronic medium is its openness and freedom. It is a public domain and there is no restriction on who can use it as long as one adheres to its technical parameters. This has also given rise to concerns over the security of data and information transfer and privacy. These concerns are common to any network including closed user group networks. But over the Internet, the dimensions of risk are larger while the control measures are relatively fewer. It will be necessary to mention that the key components of such concern are,

- i. Authentication, viz., assurance of identity of the person in a deal.
- ii. Authorization, viz., a party doing a transaction is authorized to do so.
- iii. The privacy or confidentiality of data, information relating to any deal.
- iv. Data integrity, viz., assurance that the data has not been altered.
- v. Non repudiation, viz., a party to the deal cannot deny that it originated the communication or data.

Now day's uptake of EC applications in the banking industry is very slow only because of security and data confidentiality issues have been a major barrier. Security and privacy are one of the most challenging problems faced by customers who wish to trade in the ecommerce world. Security in the form of keeping customer safe from an invasion of their privacy, affects trust and satisfaction. If company wish to maintain customer trust, they need to keep their promises regarding security and privacy. Since security is closely related to trust, violations of security norms may backfire in terms of losing customers and negative word-of mouth. Security perceptions are defined as "the subjective probability with which consumers believe that their private information will not be viewed, store and manipulated during transit and storage by inappropriate parties in a manner consistent with their confident expectations" (Pavlou 2001).

The banking sector was reluctant to use e-commerce applications as they felt that transactions conducted electronically were open to hackers and viruses, which are beyond their control. As well as convinced that online services are a mixture of customer insecurities, technology investment costs and a lack of market-readiness have all conspired to make e-banking 'unattractive' (Abdulwahed and Yaqoub, 2006). Perceived risk was one of the major factors affecting consumer adoption, as well as customer satisfaction, of online banking services (Polatoglu and Ekin, 2001). Perceived risk usually arises from uncertainty. Howcroft et. al., (2002) the principal characteristics that inhibit online banking adoption are security and privacy. An interview held on web security and showed four screen

shots of a browser connecting to a website and asked participants to state if the connection was secure or not secure and to affirm the motivating factor for their appraisal. It was discovered that about 72 participants cannot tell if a connection is secure (Friedman et. al., 2002).

In Malaysia it is found that security is main barrier to e-commerce expansion. Security is perhaps the most feared problem on the internet. Banks and customers take a very high risk by dealing electronically (Mukti, 2000; Chung and Paynter, 2002). Similarly, (Nahar et al., 2000) describe, that IT manger contributed to the discussion, by saying, "security implementation over the internet is still considered as a big risk by many financial organizations that are skeptical about the technologies available". He added, "However, with the introduction of new technologies such as SSL, digital signature, encryption, firewalls, PKI infrastructure, etc. internet security can be resolved, but it will take some time". It is noted that although consumer's confidence in their bank was strong, yet their confidence in the technology was weak (Roboff and Charles, 1998). Today's consumers are increasingly more concerned about security and privacy issues (Howcroft et al., 2002). Dr. David Chaum, CEO of DigiCash said that security is simply the protection of interests. People want to protect their own money and bank their own exposure. The role of government is to maintain the integrity of and confidence in the whole system. With electronic cash, just as with paper cash today, it will be the responsibility of government to protect against systemic risk. This is a serious role that cannot be left to the microeconomic interests of commercial organizations.

Ganesan and Vivekanandan (2009) described a secured hybrid architecture model for the internet banking using Hyperelliptic curve cryptosystem and MD5 is described. Information about financial institutions, their customers, and their transactions are, by necessity, extremely sensitive; thus, doing business via a public network introduces new challenges for security and trustworthiness. Given the open nature of the Internet, transaction security is likely to emerge as the biggest concern among the e-bank's account holders. The rapid growth in account hijacking and online fraud are on the rise. The negative publicity damages consumer trust in the online service.

Since personal and financial information can be intercepted and used for fraudulent purposes, online investing involves greater security concerns than conventional trading; users need a sense of security when conducting financial transactions, and it is still one of the major barriers to e-commerce growth (Lee and Turban, 2002). Perceived security was defined as a threat that creates a circumstance, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosures, and modification of data, denial of service, and/or fraud, waste and abuse (Kalakota and Whinston, 1997). Security, which involves the use of technical advancements like cryptography, digital signature and certificates aimed at protecting users from risk of fraud, hacking or "phishing", has a positive influence on the intention to purchase online (Lian and Lin, 2008).

Potential customers mentioned Internet security, online banking regulations, consumers' privacy, and bank's reputation as the most important future challenges of online banking adoption. (Aladwani, 2001). Indeed, in Aladwani's (2001) study of online banking, potential customers ranked Internet security and customers' privacy as the most important future challenges that banks are facing. Perceived usefulness, perceived Web security has a strong and direct effect on acceptance of internet banking, too. A high level of perceived risk is considered to be a barrier to propagation of new innovations (Ostlund, 1974). Influenced by the imagination-capturing stories of hackers, customers may fear that an unauthorized party will gain access to their online account and serious financial implications will follow. The survey by White and Nteli (2004) found that UK consumers ranked the security of bank's website as the most important attribute of internet banking service quality. This widespread anxiety is vividly illustrated by the results of Sathye (1999), who reported that three-quarters of Australian respondents expressed security concerns with regard to electronic banking. Overall, the literature appears to be unequivocal in its finding that the level of perceived risk is negatively related to the attitude towards banking on the World Wide Web (Black et al., 2001;

Rotchanakitumnuai and Spence, 2003; Singh, 2004; Lee et al., 2005 and Gerrard et al., 2006). For this reason, this study uses perceived security as a predictor of customer acceptance.

A majority of studies highlight the fact that “security” is the biggest single concern for customers when faced with the decision to use internet banking. Security has always been an issue, but its scope has changed from mere doubts about the privacy of personal information to worries of financial loss (Sayar and Wolfe, 2007). White and Nteli (2004) find that “security” is the most important attribute for UK internet banking customers. It is followed by “responsiveness of service delivery (speed and timeliness)”, “ease of use”, “credibility of the bank”, and “product variety”. Akinci et al. (2004) find that the selection of an internet banking service provider is effected by security, reliability and privacy. Security, which involves protecting users from the risk of fraud and financial loss, has been another important issue in safe use of the internet when conducting financial transactions in Saudi Arabia (Sohail and Shaikh, 2007).

Findings & Conclusion

Key findings we came out with are as listed below:

1. Among the gender classification, males were dominating with 72.5% of the respondents frequently using the internet banking. This shows that there still lefts potential opportunity for internet banks to explore the female population to make grow online banking operations in the future.
2. Moreover, young population was found out to be more frequent users among the respondents surveyed. This shows the changing trend among the young consumers and potential target customers in the road to future success of internet banking.
3. The respondents were more interested to use internet banking for their basic utility needs like bill payments, fund transfer, online trading, etc.
4. Internet usage patterns among the respondents showed us the clear picture about their time spends for various activities. Accordingly, we found that many respondents were more often using the internet medium to fulfill their work related and allied activities.
5. We found that there was a clear changing habit for online banking and the next close form of banking to be more popular among the respondents was the ATM. Hence, we found that there was an increasing number of respondents shifting from the traditional banking to modern / convenient forms of banking.
6. The perceptions of E-Banking among the respondents showed a clear picture that ‘convenience and safety’ drive the changing habits of the respondents in the current modern World.
7. The respondents were more convenient to have online banking to carry on day-to-day operations rather than visiting the branch.
8. We also found that the respondents were keen to open an internet bank account at the bank where they had their traditional bank account. This shows that the more number of customers the bank has, more is the chance of that bank to have an opportunity for new internet bank accounts.

Conclusions :

1. In concluding one may state that Indian banking in the new millennium is likely to be driven by mergers, universal banking and Internet technology. While mergers will confer economies of scale, universal banking will dismantle the barriers between the traditional dichotomies of financial services. While one realizes the fact that the Internet is likely to convert banking into a commodity one has to take into account that thirty years of solitude has steeped Indian Banks into a morass of inefficiency, slothfulness and complacency. If Indian banks refuse to visualize this trend they may well be consigned to history. However, if they react proactively Indian Banks stand to gain a lot from the opportunities that E-banking offers.
2. The conclusion is that customers are more demanding than ever and their demands will continue to grow at a faster and more aggressive pace. Service providers have to think about the way they

have approached things in the past and reposition themselves for the future. If they are to be able to meet the needs of the customers tomorrow, it will largely be through the Internet as a key delivery channel.

3. However, it is not that the branch network will disappear. Customers will always find solace in the sense of assurance that a blue-chip brand is embodied by a physical presence, especially in financial services. It is just that the ability to check a financial portfolio at a whim has great appeal. So customers will not disregard the practice of occasionally dropping into the branch for a face-to-face interaction with a friendly teller but they will avail of -- and demand -- the ability to access their up-to-date product portfolio through whatever channel they choose.
4. It also needs to be stated that the on-going process of reforms cannot be successful without a supporting and complementary legal framework which can provide for both strong internal governance in the financial system as well as external discipline by market forces, as suggested by the Narasimham Committee. Also, an effective system needs to be put in place to tackle money laundering and financial frauds.
5. In India, E-banking is in a nascent stage and people are still wary of the concept and its usage-the biggest inhibitors being security and user identification/authentication. "I wouldn't describe E-banking in India in its present form a huge success. The technology and concepts are gaining acceptance. People are beginning to see the convenience and benefits of E-banking. I believe that in a few years' time it will not only be the acceptable mode of banking but also, more importantly, be the preferred mode of banking. In all this the key is faster penetration of the Internet in the home segment-either through PCs or through other Internet access devices. Also, support for local languages from IT vendors will help reduce the digital gap," says Senthil Kumar of I-flex Solutions.
6. At the moment, the concept is totally dependent on the availability of bandwidth and further reduction in Internet access charges. The banks are hopeful that these would be taken care of and in the near future large numbers would start using Internet for banking purposes.
7. "E-banking and M-banking are very much a reality now. They are the newer delivery channels. Though the acceptance level may not be high among the masses, nevertheless the segment of population adopting these delivery channels have a huge purchasing power and banks in no way can afford to ignore their convenience," observes Singhal of Polaris.
8. Not all feel the same way though. Countering Singhal's claims, Seshadrinathan of SSI says, "Frankly speaking, the progress has been slow. Foreign and private banks have adopted E-banking well, but public sector and old style banks are a little slow and I foresee a year or so for them to adopt IT in a significant way. One interesting phenomenon that is emerging is the forging of strategic partnerships between banking and IT industries. Banks are looking out for IT partners for effective IT-enabling."
9. Thus, this proves our hypothesis that "E-banking is replacing traditional banking systems by providing fast and quick services to the customers with a click of a button."
10. In closing, online banking is just one aspect of the new online financial world. Such areas as stock trading, taxes, college planning, retirement, debt management, and mortgage/insurance are being greatly affected by the growth of the Internet. From the company's standpoint, those that do not keep up with the changing face of financial services will be "lunch", and those that do will profit enormously. The trick is to react in "Internet time". From the customer's standpoint, greater connectivity from home will mean more time for more pleasurable pursuits.

World over, electronic banking is making rapid strides due to evolving communication technology. Penetration of Internet banking is increasing in most countries. Wireless Application Protocol (WAP) is an emerging service which banks worldwide are also offering. The stiff competition in this area exposes banks to substantial risks. The need is being felt overseas that

transparency and disclosure requirements should be met by the e-banking community. While existing regulations and legislations applicable to traditional banking are being extended to banks' Internet banking and electronic banking services, it is recognized that Internet security, customer authentication and other issues such as technology outsourcing pose unique risks. Central Banks worldwide are addressing such issues with focused attention. Special legislations and regulations are being framed by the regulators and supervisors for proper management of the different types of risks posed by these services. The reliance on outsourcing is an area where overseas regulators and supervisors are focusing their attention, with banks having to regularly review and test business continuity, recovery and incidence response plans in order to maintain their reputation of trust. Consumer protection and data privacy are areas which assume great significance when banking transactions are carried over a medium as insecure as the Internet. Many countries are looking at special consumer protection/data privacy legislation for an e-commerce environment. The presence of 'virtual banks' or 'Internet only banks' and the licensing requirements required for such entities are also areas which are being looked into by overseas authorities. There has also been co-operation among the regulators and supervisors to meet the challenges of 'virtual' cross border e-banking, particularly in the light of the possibility of increased money laundering activities through the medium of Internet.

Internet banking is universally seen as a welcome development, and efforts are being made to put in place systems to manage and control the risks involved without restricting this service.

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Religious Origins of the Concept of Person

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Abstract :

The concept of person has its origin in the Christian culture. The original and primitive notion of person was that of a character or the carrying out of a role. From a role in a theater play, "person", generalized the scope of its meaning to denote the role one plays within the society. The Roman law courts called person a subject to legal rights and duties, i.e. a citizen as opposed to a slave; thus attributing duties and rights. This conferred dignity upon the term 'person', which induced the Christians to adopt it. Christians generalized the term person to denote any single and complete subsistence endowed with intellect, and considered it as the ultimate subject of attribution of knowledge, free activity and rights. Tertullian, Quintus Septimus Florens (c. AD 160-c. AD 220) was the first person to give the Latin vocabulary of Christian theology. He described God with the terms *persona* (person) and *substantia* (substance). Boethius defined person as "*Persona proprie dicitur nature rationalis individua substantia*": The proper definition of 'person' is an individual substance endowed with an intellectual nature (De Persona et Duabus Naturas: C.III). Richard of St. Victor and St. Thomas Aquinas contributed in refining the Boethian conception of person which eventually was adopted by philosophy. So the concept of person has its origins in the Christian doctrines of Christology and divine Trinity, from where it found its way to philosophy.

Religious Origins of the Concept of Person

Genesis :

The research about the genesis of the term person is very interesting, some scholars find it most probable to derive the term from the Greek 'prosopon' which means a mask, used by actors. Others find its origin in the phrase 'peri soma,' which means around the body. However, majority of researchers trace it to the Etruscan *phersu*. In the pre Christ era there was a tribe Etruscan, settled in the north of Rome, in the region of Etruria. The Etruscans worshiped goddess Persephone. During the ritual they wore a mask whose name "phersu" was derived from the goddess. The drama type rite of Etruscans was an inspiration for the Roman Theater where the Persephone's mask was called as *persona*. Later *persona* denoted any mask or the wearer of the mask, particularly those related to theater. As the mask was a medium through which the voice of the character or goddess is heard hence the Romans linked their *personare* (to sound through) with it. *Personare* signifies a mask constructed with a large concave opening at the mouth SO that the voice of the actor might be thrown toward his audience with more force and volume. Interestingly the Greek called the mask as 'prosopon.' Kenneth L. Schmitz notes that, "the Septuagint translators of the Bible from Hebrew into Greek used the word *prosopon* to express such phrases as "out of the mouth of the Lord," meaning by the term a mouth-piece or mask. And the early translators of the Bible into Latin translated the Septuagint Greek *prosopon* by the Latin *persona* (*ex persona domini, ex persona patris*), thereby helping to establish the equivalence of the Greek and Latin technical meanings."

Hence an original and primitive notion of person refers to the assumption of a character or the carrying out of a role. This reference extended to the role an individual plays in the drama of real life. The person was not only one who could play a role but whose total reality consisted in playing that role. Thus with time this term came to mean the external appearance of an individual, or the part one plays in life, or the assemblage of qualities that fits a man for his work in life or the dignities or distinctions that he achieves. In this way from a role in a theater play, "person", generalized the scope of its meaning to denote the role one plays within the society, i.e., any character on the stage of life.

It was the Stoics who found it convenient to refer to man as to play a part on the world stage as endowed by God. They were the first among the Greek philosophers to conceive the Supreme Being and cause of universe clearly as providential God. The world was big stage, history a cosmic

drama, providence the wise and powerful director who devolved role upon each being. Especially upon each human being, the irreplaceable part which he had to enact in harmonious connection with his fellow actors. Hence he naturally applied a technical stage term which had already extended its meaning from mask to character and part to signify human destiny as distributed by God and delineated in his fundamental gift to each one namely in the characteristic nature by which each individual is distinct from every other. This was a decisive passage from the realm of external objects to the realm of the subject. This interpretation allowed the Roman law courts to call person a subject to legal rights and duties, i.e. a citizen as opposed to a slave. Slaves were treated as things of property. Thus persons are those human beings to whom the law attributes not only duties but also rights (hence a slave was not a person). Thus the term, now, also predicated of a being no longer of its nature only, but the being which enjoyed consciousness and freedom. Hence it could be the subject of attribution of duties and rights. It is the dignity of the human person which sets each of us apart. The human nature is of a greater dignity in Christ than in Peter. But, personality pertains to dignity. Hence, a person is not found in inferior substances. The dignity thus conferred upon the term 'person' induced the Christians to adopt it, for it was able to translate adequately the truths of Revelation, especially the mystery of the holy trinity and of the human incarnation Christ.

Christian Concept of 'Person'

Tertullian, Quintus Septimus Florens (c. AD 160-c. AD 220) was the first person to give the Latin vocabulary of Christian theology. He described God with the terms *persona* (person) and *substantia* (substance). He "contributed importantly to the Latin Christian definition of God as a 'trinity'; he is the first Latin author to employ the term *trinitas* in a technical sense (see Trinity). His formulation 'one substance, three persons' (*una substantia, tres personae*) became fixed in subsequent Latin theology. Hence it was Tertullian who used the term *person* for the first time in the Christian sense of Trinity. Christian concept of person is based on two central doctrines of Christianity of Trinity (God exists eternally in three persons with one substance); and Christ is being of two nature in one person. It is interesting to note that both of these doctrines are offshoots of the New Testament.

Trinitarian Doctrine:

According to the Christian doctrine of the Holy Trinity God exists eternally in three persons or hypostases the Father, The Son and The Holy Spirit – with one substance, nature, or essence. It consisted of the fact that God came to meet Christians in a three fold figure:

- (1) As creator, Lord of history of salvation, Father and Judge, who revealed himself in the Old Testament.
- (2) As the Lord who, in the figure of Jesus Christ, lived among men and was present in their midst as the Resurrected one the Son and
- (3) As the Holy Spirit, whom they experienced as the power of the new life, the miraculous potency of the kingdom of God.

The Old Testament emphasizes the oneness of God's Being or nature. It is in the New Testament that the idea of Trinity is very clearly expressed through passages such as the baptismal formula: "baptizing them in the name of the Father, and of the son, and the Holy Ghost," which uses "name" rather than "names" the apostolic benediction of II Corinthians 13:14: "The grace of the Lord Jesus Christ and the love of God, and the communion of Holy Ghost be with you all," the Great Commission: "Go therefore and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit" (Matthew 28:19), etc. Thus, the New Testament established the basis for the doctrine of the Trinity.

In the general teaching of New Testament separate personality is ascribed to each, yet each is related to and dependent on the others: the father has sent the son in to the world and the spirit is sent by Father and the Son. Identity between persons is also asserted, for Jesus claimed to be one with the Father (John 10:30) Paul declared that "The God is that spirit" (II Cor 3.17-18). Such passages

presuppose an inter relationship of three persons within the Being of God that can only be explained by the concept of the Trinity. According to the doctrine, therefore, there is only one true and living God though three persons.

As things subsisting in intellectual nature are usually called persons in Latin or hypostases in Greek, The Latin say that there are three persons in God, and the Greeks say the there are three hypostases, namely, the Father, the Son, and the Holy Ghost. According to the traditional understanding of the revelation the three persons are really distinct from one another, yet each person is identified with the one divine nature and therefore there is only one God. The first person called the Father, is said to have eternally begotten the second person, the Son of God. The son assumed a human nature in time and was called Jesus. The third person, called the Holy Spirit, is believed to proceed eternally, according to the Western theology the Holy Spirit proceeds from father alone. Christians believe that despite the eternal processions within the divinity, there is no subordination; the three persons are equally divine, uncreated and uncaused, eternal and omnipotent.

The first ecumenical council of the Christian church (The Council of Nicaea AD325), met in ancient Nicaea (now İznik, Tur.); it was called by the emperor Constantine I. The council incorporated the nonscriptural word *homoousios* (“of one substance”) into a creed (the Nicene Creed) to signify the absolute equality of the Son with the Father.

The second ecumenical council of the Christian church (Council of Constantinople AD 381), summoned by the emperor Theodosius I met in Constantinople. It declared finally the Trinitarian doctrine of the equality of the Holy Spirit with the Father and the Son.

Christology:

Christ is understood as being of two nature, one divine, uncreated, eternal and immortal; and the other human, created, temporal and mortal in one person. It is said of Christ that the Son of God is eternal, and that the Son of God was born of the Virgin. Likewise it is also said that Christ was born, died and was buried. Though intimately conjoined, these are in no way mixed in him. His divine nature remains absolutely transcendent, unchanged, untainted by any finiteness, and his human nature is not absorbed in his divinity, which stands perfect and complete. Still, this inner duality of natures did not detract at all from the absolute unity of his being.

The Council of Chalcedon (451) declared that Jesus has two natures: divine and human. The unification of these two natures is achieved through the concept of “person.” It is one person, namely the son, who is already a part of the Trinitarian unity, who has, in addition to his divine nature, also a human nature. In this form, Jesus himself is the link between God and the world.

Thus Christians generalized the term person to denote any single and complete subsistence endowed with intellect, and considered it as the ultimate subject of attribution of knowledge, free activity and rights. Applying this elaborate notion to the revealed mysteries they defined Christ as one divine person in two distinct natures, and God as a Trinity of persons, subsisting equally in the perfect unity of the one divine nature, and distinct only by virtue of their mutual relationships. Further, every human being including slaves, women and even infants, was to be considered and treated as a person. Angels also, i.e. bodiless but finite spirits, were rightly to be called persons.

Cardinal Joseph Ratzinger notes that “God is being in three persons. In this context, theologians argued, person must be understood as *relation*. According to Augustine and late patristic theology, the three persons that exist in God are in their nature relations. They are, therefore, not substances that stand next to each other, but are real existing relations, and nothing besides. I believe this idea of the late patristic period is very important. In God, person means relation. Relation being related, is not something superadded to the person, but it is the person itself. In its nature, the person exists only as relation In God, person is the pure relativity of being turned toward the other; it does not lie on the level of substance – the substance is one- but on the level of ideological reality, of relativity toward the other”.

Boethian Concept of Person :

The semantic evolution reached its height in Boethius, when he defined person as "*Persona proprie dicitur nature rationalis individua substantia*" (*The proper definition of 'person' is an individual substance endowed with an intellectual nature*). This definition remained classical during the whole middle ages. It has the following implications.

(I) In the first place, person is a substance :

The Boethian concept of person stands entirely on the level of substance which cannot clarify anything about Trinity or about Christology. Instead it is an affirmation that remains on the level of the Greek thought which thinks in terms of substance. Substance refers to the underlying, supporting substratum of change and also the idea of individual subject of change. Aristotle pointed out that the term substance can be taken to refer to four different things: the essence, the universal, the genus and the subject. Since the primary referent to the term is that subject of predication which can not be predicated of anything else. Substance is used in two senses: of the concrete substance as existing in the individual, called *substantia prima* and of abstractions, substance as existing in genus and species, called *substantia secunda*. First substance i.e. the subject of predication and second substance i.e. the other references all of which are general terms capable of representing first substance only incompletely. Substance means that which exist in itself, not in something else. It requires no support, thus it is distinguished from accident. "We see that accidents cannot constitute person" Since substance underlies accident it is called as hypostasis. Substance is a subject of accident for it is a support for accident hence it is known as supposit i.e., that which is placed under something else. Substance is also known as subsistence i.e., that which needs no support to live on and no subject to inhere in. The Latin *subsistere* means to stand firm against. So substance stands firm against interference from another, it is autonomous and requires none for its existence. Thus to say that a person is a substance implies that it is a hypostasis or support, that it is a supposit or subject; that it exists in itself and needs nothing to inhere in.

(II) Secondly person is an individual substancee :

Person is an individual substance. It is individual in itself and distinct from everything else; it is a unit. As an individual substance, person is a first order substance. While the second order substance denotes the generic nature in itself, the first order substance signifies that nature as individually subsistent. Person comes under the genus substance as defining a specific mode of existence and not as a species. It is a substance which neither inheres in nor affirms of any subject. The second order substance is an universal in the genus of substance but first order substance is an individual in the genus of substance when we say a person to be singular then we mean that its singularity is oneness and is real, i.e., it is not a unity due to any kind of grouping together. It is a thing undivided in itself and separate from all other things. It is not a part of any substance. Singularity is proper to subsistent being. To be singular means distinction not only from all other beings in general, but from all other species and all other individuals in its own species also. God is distinct from all finite beings due to his very nature. His singularity is absolutely perfect because he does not belong to any genus or species. In him the three divine persons (The Father, the Son and the Holy Spirit) are distinct from each other in virtue of their mutual relations only. A person is a being complete in itself, i.e., part of nothing else; actually nothing that is by nature a part can be a person. Hence the human soul, though subsistent, is not a person. Thus the embodied soul and not disembodied soul is a person. This necessity of being complete is called incommunicability of the person. The individual substance is independent and distinct from all else due to being complete. Its existence is unique enough to establish the subject as a being in itself, independent from all other. It is not being as self-sufficient or absolute rather as being with its own distinct individuality, which can not be absorbed or assimilated by another. Here emphasis is on self-identity and self-awareness against alienation or self denial.

(III) Person is an individual substance of rational nature :

Man is a substance with an autonomous being. He is an individual with an undivided, self-inclusive, distinct, incommunicable being. All this is also possessed by other sublunary beings. Every Plant, animal and material is a substance and an individual, but not person. Man is a person since he owes something more. He is an individual substance endowed with reason. Thus persons are individual substances which stand for above the rest of material beings due to rationality and intelligence. From this follows man's privilege of self-determination in volition and action; thus making man a value in himself and an end in him self. The subsisting individuals are person only if they are rational beings which are self-conscious, self determinative, free and responsible.

Richard of St. Victor :

At the beginning of the Middle Ages Richard of St. Victor (death 1173), was unsatisfied with the thought that a person can be a substance as given by Boethius. His concept of person is derived from within Christianity as he defined person as *spiritualis naturae incommunicabilis existens per se solum juxta singularem quamdam rationalis existentiae modum* a spiritual subject *which exists through itself in the unique modus of rational existence*". Thus he brought out the theological meaning of person not as essence but as existence.

St. Thomas Aquinas' Concept of Person :

The Boethian definition of person was accepted by Aquinas. He defined person as *substantia, completa, per se subsistens, separata ab aliis, rationalis naturae*, i.e., a substance, complete, subsisting *per se*, existing apart from others *and endowed with rational nature*. He made some clarification to it by pointing out that when we say a person to be an individual substance. He implies five things:

- *substantia*: it is a substance, therefore, adds determination to nature and constitutes it a person. Some Thomists signify the whole explication by saying that the person is nothing more than the actual existence of an intellectual substance. This also excludes accident.
- *Completa*: it is complete. To say that a person is complete is to affirm that it must have a complete nature; person can not be part of anything, neither actually or potentially. Anything which is a part can not be called a person. Hence A disembodied soul is not, strictly speaking, a person for a disembodied soul is no longer a complete human substance. Only a complete human substance is always and necessarily a person.
- *Per se subsistens*: it subsist by itself. To say person subsists by itself means it exists in and for itself. Hence as a person, man exists in his own rights. He is the ultimate possessor of his nature and responsible for all the operations of his nature. He is the ultimate subject of predication of all his attributes. He can not exist in another. Person signifies a certain nature with a certain mode of existence or a certain mode of subsistence. Person is the ultimate subject of predication of all his attributes; that which exists in another can not be a person.
- *Separata ab aliis*: it is separate from all else. To say that person is separate from else is to exclude the possibility of its being a second substance or a universal, for the second substance always rests on first substance and the very notion of universal includes its predictability of several subjects. and
- *rationalis naturae*: it is endowed with rational nature; meaning thereby that it excludes all non-rational beings.

This explanation of Aquinas implies that to a person belongs threefold incommunicability: first, that of part to whole, since person is a complete substance, second that of assumption, since person subsists by it self only. The very concept of person excludes the idea of its being communicated to something else. Third, that of universal to singular, since person is a first substance, separate from all else.

Kenneth L. Schmitz notes that Boethius stressed the distinctive reality of both the human and divine personhood, with his classical definition of the person as "an individual substance of a rational

[we might rather say "intellectual"] nature," to which Thomas Aquinas added: that such a term was fittingly applied to God because it designated "what is most perfect in all nature," viz., a substance capable of knowledge, love, and freedom.

“Even if the designation person does not belong to God in virtue of that from which the designation originally derived, it nevertheless belongs to Him to the highest degree in virtue of what it is intended to mean. For because in comedy and tragedy famous men were presented, the designation person was used in order to characterize such as possessed a dignity. Thus it became customary to name such as had a certain dignity with the church persons ("personalities"). Thus some define person as a spiritual subject (hypostasis) that is distinguished through a characteristic lying in order of dignity. And because it constitutes a high dignity to be independent in a nature endowed with reason (Boethius), thus every individual of a nature endowed with reason is called person. Now the dignity of the divine nature exceeds every other dignity. Thus the designation person corresponds in the highest degree to God.”

It is not inappropriate to conclude with these words: the concept of person has its origins in the Christian doctrines of Christology and divine Trinity.

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4. Thomas Aquinas: *Commentary on the Sentences Book III* [III Sent. d. 5, q. 1, a. 3] 8th June 2009 *Routledge Encyclopedia of Philosophy*, s.v. ‘Tertullian’
5. “Hear, O Israel: The Lord our God is one Lord,” Deuteronomy 6:4
6. Hypostasis means that which lies beneath as basis or foundation and designates something which can exist through itself “Thus there are the Father, the Son, and the Holy Spirit, and each is God and at the same time all are one God; and each of them is a full substance, and at the same time all are one substance. The Father is neither the Son nor the Holy Spirit; the Son is neither the Father nor the Holy Spirit; the Holy Spirit is neither the Father nor the Son. But the Father is the Father uniquely; the Son is the Son uniquely; and the Holy Spirit is the Holy Spirit uniquely”. – St. Augustine, “*De doctrina Christiana*”, I.5.5 11th June, 2009 *Encyclopædia Britannica*, s.v. “Trinity”

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Changing Employment Pattern-Dimensions of Region, Gender & Social Groups

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Introduction

The vision of India emerging as a Giant in the global economic scene seems to dominate the contemporary discussion on its growth performance, leading to coinage of phrases like “amazing India”, “shining India” and metamorphosis of a “slumbering elephant” etc. The dynamism of the economy has been projected through stylized facts such as India equals continents like Australia in absolute terms and that it would overtake the US economy in about two and a half decades. The country’s 8% plus growth scenario during the Tenth Plan period of 2002-07 and a projected growth target of 9% per year in the Eleventh Plan have strengthened this perspective. Even the advance estimate of 7.2% growth during 2008-09 the year of global economic meltdown much lower than the average of the past decade but higher than that projected recently by International Monetary Fund (2009) and even slightly higher than that of China, has been hailed as an exceptional achievement. This is because this growth along with that of China is the major factor holding the World economy in the positive quadrant of growth, despite 2% dip in the economy for the developed countries the first annual contraction in the Post War period. These are undoubtedly matters of happiness and yet they provide reasons to raise questions regarding the impact of this dynamics of growth on inequality and poverty. After a period of four decades since Independence, when the population growth rate was maintained between 2.1 and 2.2% per annum, it has come down below 2% during the nineties, the current rate as per the Registrar General (2008) being 1.57% only. As a consequence, the percentage of population in the age group 15-59 years is likely to go up in the next three to four decades. The vision of the country maintaining its growth performance for the next few years--at least not slowing down dramatically and emerging as an economic power gets further support from this process of demographic transition.

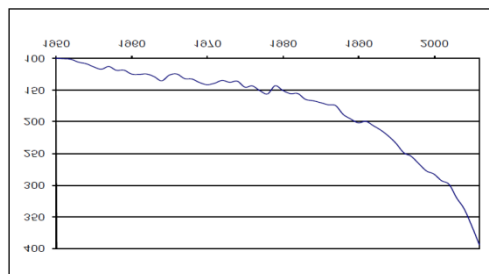
I. Aspects of economic growth and inequality in India.

a. Macro trends in economic parameters.

India has gone through a phase of a very modest average growth and high annual fluctuations since Independence in 1947. The annual GDP growth rate was well under 3% in real terms throughout the fifties, sixties and seventies, which barely kept pace with the population growth. The economy has started breaking away from the institutional and technological shackles since the early eighties. Nineties saw the Indian economy growing at a rapid pace, which subsequently seemed to reach a new height of over 8% in 2003-04. As a result of this GDP growth performance, per capita income has become fourfold between 1950 and 2006, accelerating its path of growth since 1990.

INDEX OF PER CAPITA INCOME AS CONSTANT PRICES

SOURCE: ECONOMIC SURVEY 2001-2008, GOVERNMENT OF INDIA



Notwithstanding the above criticisms, there seems to be a general agreement that growth rate in the nineties, was slightly higher than that in the previous decade and that the rate has accelerated during the present decade. This is confirmed by the trend in per capita private final consumption expenditure obtained from National Income Accounts. It shows modest growth during 1950-90 but subsequently, the rate has been rising sharply to attain a level of Rs. 18,000 in 2007-08, three times the figure of 1950-51. Similarly, the gross domestic saving rate which was around 20% in the eighties, jumped to 25% during the nineties, the rate being 36% in 2007-08. The measures of economic liberalization attracted foreign capital as never before. From the modest figure of about Rs. 2500 million in 1986-87, the foreign investment rose to Rs. 1.2 billion (Economic Survey 2007-08, Government of India). That the economy grew at an average of 8.8% over the five years (2003-04 to 2007-08) has been noted to make a clear break from the previous spurts in growth by the Economic Advisory Council to the Prime Minister (2008). Taking all these into consideration one may argue that nineties and subsequent years make a departure even from the eighties and that one needs to analyse the growth performance during the last two decades with empirical rigour and assess its implications in terms of changes in labour market and inequality.

b. Inequality patterns.

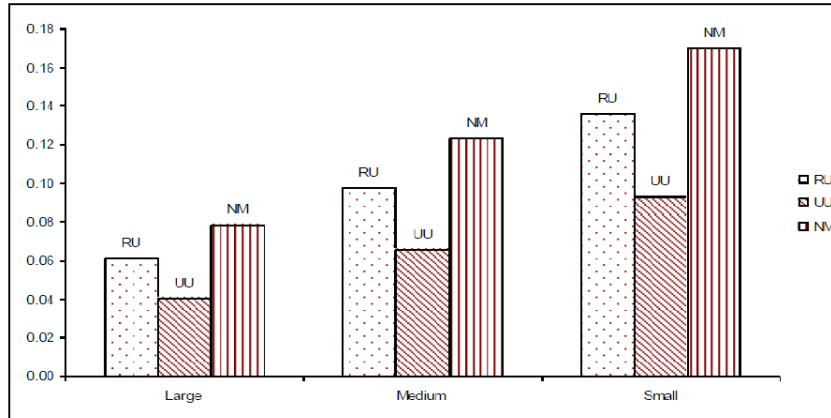
The very positive macro economic trends notwithstanding, there is a concern that the country has not been very successful in transforming “its growth into development” manifest, most conspicuously in growth of unemployment, of informal sector and low productive jobs. Understandably, the major issue challenging the policy makers is to tackle the problem of sharpening socio-spatial inequalities and labour market exclusion that have manifested in the development scene in an ominous manner.

Regional (inter-state) inequality in per capita Gross State Domestic Product (GSDP) is noted to have gone up significantly during the past couple of decades. It had gone up during sixties which was attributed to Green Revolution and its regional concentration in north-west India. Similarly, the latter half of the seventies saw an increase in inequality which was attributed to industrial stagnation in backward states. The period since the early nineties has come under closer scrutiny as the country has entered a new policy regime of “economic efficiency and accountability”, opening up the economy to global forces and bringing down subsidies and bureaucratic controls.

c. Urban rural labour markets and the impact of migration on poverty.

The wide gaps between the earnings in rural and urban labour markets, one can hypothesize that migration would be an instrument of improving economic wellbeing and escaping poverty. The migration rate tends to be high in the category reporting the highest monthly per capita expenditure (MPCE), which goes down systematically, both in rural and urban areas. Importantly, a similar pattern emerges in case of seasonal or short duration migrants; those who have gone to any other place for 60 days or more during the last six months from the date of survey and returned back, in urban areas. A segment of the migrants are indeed those who adopt coping strategies for livelihood and survival by shifting to other places in lean seasons. However, if this was a major factor, there would be a negative association between the percentage of seasonal migrants with the level of consumption expenditure. One would stipulate that a large segment of the short duration movement is due to factors like periodic transfer of regular workers, temporary posting of marketing and extension workers etc. All these suggest that even this channel of short term migration in urban areas is being utilized largely by relatively well off sections. Indeed, both poor and rich households report migration, although the reasons for sending out their family members and the nature of jobs sought by them are different.

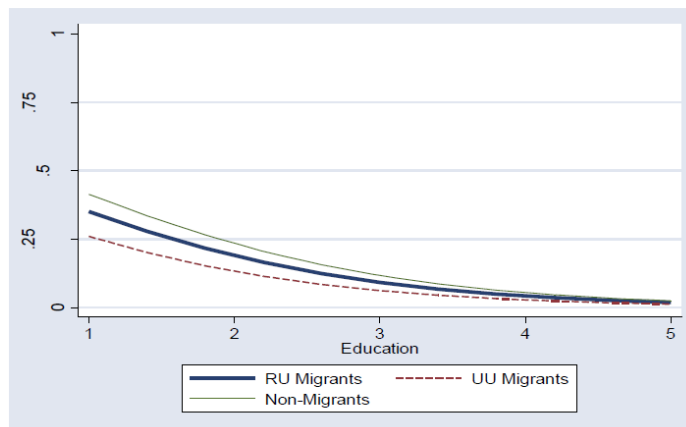
PROBABILITY OF BEING POOR BY MIGRATION STATUS & SIZE OF TOWN



Source: Computed from unit level data of the 55th Round of National Sample Survey. See the text for details.

The level of educational attainment is the most significant factor impacting on poverty, the incidence of poverty (as also the probability of being poor) declining with the level of education. The poverty mitigating impact of education is noted as significant for RU and UU migrants as also the non-migrant (NM) population. The negative relationship between probability of poverty and level of education has been noted in case in all size class of urban centers. This relationship holds good for all adults as also for regular and self employed persons, but not for the unemployed and casual labourers. It suggests that the economic payoff of education in present urban context of the country is being enjoyed by those who are able to get regular or self employment (Kundu and Sarangi 2007).

Probability of being poor by migration status across levels of education



Source: Computed from unit level data of the 55th Round of National Sample Survey. See the text for details.

II. Trends and patterns of employment and unemployment in India in the macro perspective of growth.

a. Impact of the decline in population growth on the labour force.

A notable feature of the demographic transformation in India is the rapid change in age structure in recent years resulting from the lowering of fertility rates in a number of states, altering the parameters at national level. Looking at the phenomenon within a comparative framework, one may observe it that the percentage of economically active population (in the age group of 15-64) is about 63%, much below that of not only the more developed countries but also the developing countries like China and Brazil.

b. Employment and unemployment scenario.

Employment trends in recent decades, as observed through National Sample Survey (NSS)¹² data have evoked mixed reactions among policy makers and researchers. The workforce participation rates (WPRs) by usual (principal) status¹³ in the 15-59 age group have gone down systematically for all categories (males and females, in rural and urban areas) since late seventies to the end of the last century. It is difficult to explain this secular trend in terms of higher enrolment in schools as the children (up to age 14) have been excluded from the calculations.

c. Changing composition of the workforce and wages.

An investigation into the productivity or wellbeing of the workers on the face of a reasonably high growth in income and employment during the past few decades would require some probing into the changes in the status of employment and its sectoral composition. The share of self-employed rural men and women, who constitute the bulk of the workers, decreased steadily from 1977 till 1999-00. Correspondingly the share of casual workers was on the ascendant. This has generally been termed as „casualisation” of employment, reflecting an emerging trend of people not entering the labour „market” in a formal sense but working on ad-hoc or even daily basis. The last five years from 1999-00 to 2004-05, however, show a completely different picture. In rural and urban areas, self employment share has increased while that of casual labour has gone . The share of regular salaried employment has remained more or less the same but for women there is an increase, the growth being very high in urban areas. The share of regular employment for urban women has increased from 25.8% in 1983 to 33.3% in 1999-00 and then to 35.6% in 2004-2005.

d. Changing labour relations and “formalisation” of informal activities.

Informal sector in recent years has experienced some type of formalization leading to employing people on a regular basis. The changing features in the labour market can at least partially be attributed to this process. The high growth of employment during 1983-93 in informal sector was characterized by large incidence of subsidiary or casual labourers, most of them being illiterate and unskilled. The growth of informal sector, thus, was a vehicle for bringing about significant reduction in poverty.

e. Possible impact of the economic slowdown on employment.

Recent economic slowdown at global level and its impact on India, there are no concrete data available as yet revealing its effect on the economic growth and employment situation, except the advance estimates of GDP growth for 2008-09 for different quarters that are 2 to 3 percentage points below that of the corresponding quarters of the preceding five years. The overall growth for the year may not be very alarming but that hides more than it reveals. Most of the growth has taken place during the first two quarters of the year when the effect of the global melt down was not felt seriously, as it was in other countries. In the third quarter covering the period ending in December 2008, the growth figure is as low as 5%. This would have been lower but for.

a The exceptional growth of 17% in community, social and personal services due to government announcing revision in pay scales of its employees and giving the arrears.

b Lowering of the interest rate by the Central bank improving the profitability of the banking sector.

f. Regulatory framework and policies for social protection of labour.

In the context of giving social security benefits to workers, India led the developing countries by initiating old age, health care benefits with the central government enactment of the Employees’ State Insurance (ESI) Act, 1948, Employees’ Provident Funds (EPF) Act, 1952, and Gratuity Act, 1991. ESI Act, enlarged the scope of the Workmen’s Compensation Act and Maternity Benefit Act (WCA & MBA) enacted before Independence of the country. It is estimated that out of a workforce of about 460 million workers in the year 2004-05, about 34 million (almost 7.5%) are covered by these schemes noted above, linked with different occupational categories and types of employers. If one takes the view that old age and contingency benefits should be an essential feature of a legislated and

occupational plans, the coverage would be even less - about 28 million employees. Surprisingly, of the 35 million workers in the organised sectors, only 30 million are covered under the Employee's Provident Fund scheme.

III. The major reasons for limited coverage of the regulatory mechanism & the legislative benefit plans not being extended to cover the informal sector can be summarized below.

1. The administrative machinery created for enforcement of the legal system is inadequate in relation to the large and dispersed nature of the workforce. Shortage of manpower, lack of proper training and infrastructural support to the officials seriously constrain its affectivity. Besides, exclusive focus of the Labour Department on the organised sector and non participation of the representatives of unorganized sector limits its scope.
2. Design and operating procedures of legislated benefit plans limit their extension to smaller units (with less than 20 employees), organisations providing intermittent employment and self employed persons. Only the large cities and a few medium towns have been brought under its coverage. Even here, assignment of membership numbers through the principal employer results in multiple accounts in case of casual, temporary, part-time and contract employees.
3. High rates of contributions (employee: 13.5% + employer: about 22.25% and government: about 2.00% totalling about 38% of salary, dearness allowance and other specified remuneration items) for Provident Fund makes the programme unaffordable to smaller units as well as low paid employees. This prompts employees and employers to find ways to avoid and/or contain contributions. Many of the informal enterprises are reluctant to join the programme due to high costs involved.
4. The Provident Fund scheme has made withdrawals possible in case of retirement, termination of services, change of employment, serious illness, house construction, higher education, marriage and other ceremonies. In recent years average withdrawals from the employees provident funds scheme has exceeded or has been around average settlement. This makes it unsuitable for the informal sector workers as they have pressing requirements all the time and would not be able to use it as a retirement cum medical exigency related benefit scheme.
5. Administrative charge of EPF scheme works out to be very high - about 4.5% of contributions, even higher than that of mutual funds. In addition, an employer incurs expenditure around 2% of the salary in implementing and complying with its regulations. All these discourage the small entrepreneurs from opting for it.
6. Government follows a segmented approach through separate legislations to deal with employees in different sectors. A number of welfare funds have been established by Central and State governments with significant differences in contribution and nature of benefits. Growing number of self-employed and smaller units with high turnover and relatively high mortality of units in the current period of globalization has rendered that even more difficult.

Conclusions and a perspective for intervention in the labour market.

The overview of the trend and performance of economic growth in the context of changing macroeconomic scenario over the past three and a half decades reveals that the high growth in income and other economic indicators have been associated with increase in regional and social inequality. There has been systematic reduction in poverty but inequality in consumption expenditure has gone up both in rural and more significantly urban areas. Furthermore, poverty has got concentrated in a few regions and social groups where poverty alleviation is much more difficult. Migration for employment from rural to urban areas emerges as a tool of poverty alleviation, irrespective of the size class of the city, type of work etc. Migrants into large cities have greater chance of alleviating their poverty than those going into smaller towns. Considering all urban areas together, migrants coming from other urban centers have a greater chance of being above the poverty line than those from rural areas. Education is a critical variable in poverty alleviation. Men with primary and secondary education

constitute a major part of the (male) migrants in urban areas as employment opportunities for them have gone up. Illiterate unskilled males have less chance of putting their foothold in large cities or getting a job. However, for women, illiteracy is not a handicap, as they find employment in low productive service sectors including as domestic help. The jobless growth syndrome of the nineties seems to be over as growth of employment has been high in recent years. India is enjoying demographic dividend which is likely to continue for the next couple of decades because of increasing proportion of people in 15-59 age group and higher work participation rates among the adults, particularly women, as compared to other countries. Much of the employment growth has been in informal sector, which is manifest in high growth in self employment.

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Impact of Privatization on MTNL

Dr. P. K. Bandgar: Research Guide, JJT University.

Prof. Ashra Memon: Research Scholar, JJT University.

Introduction:

Public Sector has played a vital role in the development of our economy. Public Sector Undertakings are companies created to carry out social, economic and equitable development of the country by development of available resources. There are about 246 PSEs under the control and Management of Central Government. All these PSUs are working in different parts of the country and operating in different sectors of the economy. The array of these sectors is quite diverse and covers a large sector of industrial activities.

Public sector enterprises have been one of the greatest paradoxes of the Indian Industry. There has been a great debate whether they have succeeded in their objectives. In the context of globalization the need for such industries has been questioned. After the initial experience the public sector entering new areas of industrial and technical competence, a number of problems began to manifest themselves in many enterprises. Problems were observed in terms of low productivity, poor project management skills, over-manning and lack of technological upgradation, inadequate attention to research and development and low priority to Human Resource Development.

Review of Literature:

A brief review of some of the studies conducted in recent years relating to the topic is given below:-

- (1) Dr. Jain Ravi K. in his study entitled "Working Capital Management of State Enterprises in India" referred in his book 'Manual of Disinvestment in Public Sector Policy and Procedure' Vedans Books (P) Ltd, 2005, New Delhi, throws light on a number of facets of Working Capital Management in the State Enterprises in Rajasthan.
- (2) Dr. Indra Kumar and Dr. B. James conducted a study entitled "Public Sector Enterprises in India" Commonwealth Publishers, 1990, New Delhi. They have accepted the profitability test for analyzing the performance of state owned enterprises in Kerala.
- (3) Balan K in his study "Management of Public Sector Enterprises", Ashish Publishing House 1992, New Delhi, presented a series of study papers on various aspects of Management. The study dealt with the current problems and has great relevance to the day to day working of the public enterprises most of which are caught in the vicious circle of sickness or financial crisis.
- (4) Verma Poonam in her study "Personnel Management Systems and their impact on performance of executives in selected Public Enterprise: Department of Economics, Delhi University, covered the personnel systems and procedures established at the corporate level affecting the executives above the level of supervisors. The thrust is to have a detailed analytical look at personnel systems and procedures for identifying such attributes which contribute to high performance.
- (5) A study conducted by Dun & Bradstreet (India) a report published in The Financial Express dated December 15, 2009 attempts to highlight key trends in the Indian public sector undertakings and provides insight into their performance. The study pointed out that the aggregate net profit margin of the profiled PSUs was 8.3 % in FY 08. Within this the manufacturing PSUs and the service PSUs had an NPM of 9.1 % and 7.8 % respectively. The study further pointed that PSUs are enjoying a low debt and huge cash reserve position. Many private sector companies wanted growth at all costs, whereas PSUs used their strong earnings to strengthen their balance sheets and make calculated expansions.

- (6) Siddharth Sinha in his article “Corporate Governance of State Owned Enterprises: The case of BSNL published in The Economic and Political Weekly, October 10-23, 2009 pointed out that the government’s existing Navratna Policy is not appropriate for state owned enterprises competing fiercely with the private sector. They have to compete with the private sector on an equal footing. The key requirement is a competent board with adequate powers. The role of board is likely to be more crucial than even in the case of private companies. In the absence of corporate governance changes, the only alternative will be privatization.

Objectives of the Study:

The objectives of the study are as follows :

- (i) To understand the concept of privatisation.
- (ii) To examine the impact of privatisation on the performance of PSEs.
- (iii) To examine the impact of privatisation on the performance of MTNL.
- (iv) To understand the problems faced by MTNL after privatisation.
- (v) To suggest the ways to overcome the problems faced by the Public Sector Enterprises, particularly MTNL.

Research Methodology:

Research is a scientific endeavour. The present study explores and analyses the various problems faced by the PSEs due to privatization. In the present study an attempt is made to follow systematically the logical process of reasoning.

The study is based on secondary data which is collected from books, journals, newspapers and annual reports. The data is tabulated and analysed for drawing conclusions. A few suggestions are made for the improvement of performance of MTNL.

Discussion and Analysis:

The detailed analysis is as follows:

A) Privatization of PSEs:

In June 1991, India initiated systematic changes in its economic policies after having remained a closed heavily regulated market economy for more than three decades. These involved a major shift in the development strategy towards greater integration with the world economy and liberalization of restrictions on market transactions and private economic activities. The government constituted a five member Public Sector Disinvestment Commission under the chairmanship of G.V.Ramkrishnan in August, 1996 for drawing a long term disinvestment programme for the PSUs referred to the Commission. As per the recommendations of the Disinvestment Commission the strategy on disinvestment revolves around three four long-term objectives.-

- (ii) Strengthen PSUs where appropriate in order to facilitate disinvestment.
- (iii) Protect employee interest.
- (iv) Broad based ownership.
- (v) Augment receipts for Government.

The long term strategies to pursue the above objectives were as follows:-

- (1) Strengthening profitable PSUs to promote greater competitiveness and profitability to enable payment of higher dividend to the government and to enhance share value.
- (2) Strengthening other marginally profitable PSUs and reduce their future dependence on the budget and
- (3) Financially restructuring and reviving loss making PSUs to invite Private Capital for long term turnaround.

B) Mahanagar Telephone Nigam LTD. (MTNL):

Until the mid 1980, the telecommunications industry in India was a monopoly, functioning as a department of the government. Faced with rapidly increasing demands for telecommunications services and equipments, the government commenced a reorganization of the telecommunication industry. Mahanagar Telephone Nigam Ltd. (MTNL), a government company, was established in 1986, to provide telephone and telex services under a non-exclusive license in the two largest metropolitan cities of Delhi and Mumbai. Videsh Sanchar Nigam Ltd. (VSNL) was also established in the same year to provide international telecommunications services. The department of telecommunications retained responsibility for providing all other communications services throughout India. The Telecom Commission was established in 1990 as an executive body under the ministry of communications to formulate policy for approval of the government and implement the government's policy in matters concerning telecommunications.

Since 1992 as a part of its general policy of gradually reducing its holding in public enterprises, the Indian government sold a portion of its equity holdings in MTNL and VSNL to certain mutual funds, banks and financial institutions controlled by government. MTNL also made a global depository receipt (GDR) offering in 1997, in which the government sold 6.3 % of the outstanding equity shares. The Government's share in MTNL is currently at 56.25 %. In 1997 and 1999, the government sold additional equity shares of VSNL in the term of GDR thereby reducing its equity interest in the company to 51 %. In February, 2002, it further divested an additional 25 % interest in VSNL to the Tata Group through a competitive bidding process, thereby retaining a 26.13 % stake. In October 1999, the DOT was bifurcated into two departments, the DOT as the licensor and policy maker and the DTS as the service provider. DTS was corporatised in October 2000 as a new entity BSNL which provides tele communication services in the entire country except in Delhi and Mumbai, where MTNL continues to be the government controlled service provider.

With the growth of private operators in the telecommunication sector, the state owned enterprises are no longer of strategic importance to the government for sector development or providing universal service. To the extent privatization is not feasible or desirable at least in the short-run, the corporate governance mechanism should be designed around the objective of growth and efficiency as the case of private enterprises.

MTNL is a navaratna. It is listed domestically and its American Depository Receipts (ADR) is listed on the New York stock exchange. The mission of MTNL is "To provide in its area of operation in a leading way world class telecom service which are demanded, keeping always the customer's delight as its aim, so that it continues to be the premier Indian Telecom Company".

The telecommunications market in the cities of Delhi and Mumbai are most competitive markets. MTNL faces intense competition from the other mobile operator and the basic service providers. This has led to an increased pressure on margins due to reducing tariffs and also on the customer retention and acquisition. The average revenue per user is also going down. With new operators coming in Delhi and Mumbai such competitive pressures are likely to increase further putting a further strain on the margins. Recently, DOT has issued LOIs to a number of new players

which will lead to increased competition to market share. MTNL has shown poor performance in recent years in the face of private sector competition.

C) Performance of MTNL.

MTNL has shown poor performance in recent years in the face of private sector competition.

Table 1 Income and Profits of MTNL

| Particulars | Rs. Crores | | | | |
|----------------------|------------|-----------|-----------|-----------|-----------|
| | 2004-2005 | 2005-2006 | 2006-2007 | 2007-2008 | 2008-2009 |
| Basic Telephone | 5142 | 4688 | 3764 | 3338 | 3010 |
| Cellular | 274 | 573 | 762 | 836 | 817 |
| WLL | 104 | 67 | 84 | 88 | 54 |
| Other Services | 62 | 233 | 300 | 460 | 575 |
| Income from Services | 5582 | 5561 | 4909 | 4722 | 4456 |
| Other Income | 492 | 530 | 674 | 607 | 794 |
| Total Income | 6074 | 6091 | 5583 | 5330 | 5250 |
| Profit before Tax | 1216 | 671 | 793 | 632 | 264 |
| Net Profit | 948 | 578 | 466 | 407 | 168 |

Source: MTNL Annual Reports.

Table 1 revealed that the total income and net profits of MTNL have been declining over the last five years. Income from basic telephone has declined from Rs. 5142 crores in 2004-05 to Rs. 3010 crores in 2008-09. However, income from cellular business has increased from Rs. 274 crores in 2004-05 to Rs. 836 crores in 2007-08 and again declined to Rs. 817 crores in 2008-09. Income from WLL has also decreased from Rs. 104 crores in 2004-05 to Rs. 54 crores in 2008-09. However, income from other services has increased from Rs. 62 crores in 2004-05 to Rs. 575 crores in 2008-09. Other income has also increased from Rs. 492 crores in 2004-05 to Rs. 794 crores in 2008-09. The net profit after tax has reduced from Rs. 948 crores in 2004-05 to Rs. 168 crores in 2008-09. Thus, the overall performance of MTNL during the last five years has not been satisfactory and the Navratna status and enhanced autonomy have not helped MTNL in its performance.

Telephone subscribers in Mumbai are not happy with the services provided by MTNL. It has lost its customers due to the poor service and attractive services from competitors. The number of customers lost by MTNL Mumbai during the last five years is given below:-

Table 2 Number of Customers lost of MTNL

| Years | Numbers of Customers lost of MTNL |
|---------|-----------------------------------|
| 2003-04 | 189830 |
| 2004-05 | 168648 |
| 2005-06 | 134718 |
| 2006-07 | 151474 |
| 2007-08 | 148813 |

Source: Loksatta dated 9th June 2009.

Table 2 revealed that the number of customers lost by MTNL has been increasing. MTNL has not been providing satisfactory services through its landline, Dolphin, Trump and Garuda. MTNL received Rs. 4.75 billion by way of rentals from telephone which has reduced to Rs. 4.18 billion in 2008.

Conclusions :

In June 1991, India initiated systematic changes in its economic policies after having remained a closed heavily regulated market economy for more than three decades. Disinvestment is a way by which the government transfers the production activity from the public sector to the private sector. It is based on the private property as the means of production and the quest for the highest profit for every individual capitalist. The total income and net profits of MTNL have been declining over the last five years. Income from basic telephone has declined from Rs. 5142 crores in 2004-05 to Rs. 3010 crores in 2008-09. The number of customers lost by MTNL has been increasing. MTNL has not been providing satisfactory services through its landline, Dolphin, Trump and Garuda. MTNL received Rs. 4.75 billion by way of rentals from telephone which has reduced to Rs. 4.18 billion in 2008.

Suggestions:

Following suggestions are made for the survival of MTNL.

1. The quality of services rendered by MTNL should be improved.
2. The mindset of employees working in the office should be changed.
3. The government should privatize the business of MTNL. .
4. Additional capital can be raised by disinvestment.
5. The employee strength should be reduced.

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Anti-Laws of Marketing for Luxury Brands

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Introduction:

Traditional marketing techniques are not suited to luxury, they can in fact be harmful to it. When a luxury brand is managed it is necessary to forget various laws of marketing.

Luxury brands have symbols. Brands like Louis Vuitton and Chanel have distinct symbols.

Luxury brands are complex and have flaws. If we look at some of watches which Hermes make, the time is indicated by just 4 figures, 12, 3, 6 and 9. One has to guess the time as if knowing the time accurately is somehow unimportant.

Luxury brands are self-centered not comparative. Lexus the premium brand of Toyota is not luxury brand despite its name. It's first advertising campaign in the USA claimed that it was cheaper and more advanced than Mercedes E-class.

There will be no luxury brands without history. If there is no history, it must be invented. Shanghai Tang, founded by Hongkong businessman David Tang and now owned by Richemont takes its inspiration from the Shanghai of the 1920's and 1930's.

Every luxury brand should have some part handmade. This is the dimension that makes it stand out from the rest. The plaque on each bottle of royal salute 50 whisky is hand graved by a goldsmith.

Keywords : Traditional marketing, Luxury brand.

Review of Literature:

- i. Chadha Radha and husband Paul (2006) concluded that marketing luxury brands differ from country to country by taking various examples from countries like Japan, China, South Korea and India.
- ii. Okonkwo Uche (2007) talked about contemporary techniques used for selling luxury brands like Trunk shows, Pre Season sales , Post Season sales and shopping lunch.
- iii. Chevalier Michel and Mazzalovo Gerald (2008) concluded that present modern methods of luxury marketing will outwit traditional marketing methods.
- iv. Keller Rich (2012) said that luxury marketing is all about the right product, the right package and the right channel. He also said that social media marketing can be selectively used for luxury brands.

Objectives of the Study:

1. To study various marketing techniques for luxury brands.
2. To study impact of celebrity endorsements on luxury brands.
3. To suggest modern promotional techniques for luxury brands.

Research Methodology:

The study is exploratory and descriptive. The secondary data was collected through books, magazines, journals, newspapers and websites.

Data Analysis:-

Anti-laws of marketing:

Following are some anti-laws of marketing for luxury brands.

1. Forget about positioning.
2. Does your product have enough flaws?
3. Don't pander to your customers' wishes.
4. Keep non-enthusiasts out.
5. Don't respond to rising demand.
6. Dominate the client.
7. Make it difficult for clients to buy.
8. Raise the prices as time goes on to increase the demand.

9. The presumed price should always be higher than actual price.
10. Keep stars out of advertising.
11. Don't relocate factories.

Forget about positioning:

In consumer marketing, there is concept of USP (Unique selling proposition). In USA, Coca-cola positioned itself as 'The real thing'. Pepsi which was introduced afterwards created a unique positioning, 'The choice of new generation'.

When it comes to luxury, being unique is what counts, not any comparison with a competitor.

e.g. Lexus, the premium brand of the Toyota group is not a luxury brand despite its name. Its first advertising campaign in the USA claimed that it was cheaper and more advanced than Mercedes E-class.

Does your product have enough flaws?

When consumers from all over the world were interviewed, the consensus was that 'product excellence' is the primary prerequisite of luxury.

Functionally a Seiko watch is superior to many luxury watches. But if someone buys famous brand of a luxury watch it loses 2 minutes every year. The flaw is not only known, it is assumed it is charm and guarantee of authenticity.

Luxury watch makers like adding complications and that is madness which goes beyond perfection and make people collect them.

e.g.

1. In some watches of Hermes, time is indicated by just four figures, 12, 3, 6, 9. One has to guess the time as if knowing the time accurately is somehow unimportant.
2. In the world of automobiles, a Ferrari is anything but a perfect car if someone likes easy, smooth and silent driving.

If luxury brand has flaws, the reverse is not true i.e. every flawed product is not a luxury brand.

Don't pander to your customers' wishes:

BMW is one of the respected brands in the world. Its slogan is 'Ultimate driving machine' e.g.

Over the years the passengers of BMW5-series have been complaining about lack of legroom for rear passengers. According to them such stubbornness from company defies any sense.

What BMW argues is that to meet client demands, the purity of design of the car would be spoilt. Its proportions and aerodynamics have been meticulously calculated.

This doesn't mean that luxury brand shouldn't care about its clients. However, it should not do anything that threatens its identity.

Keep non enthusiasts out:

In traditional marketing there is obsession of poaching clients from other brands.

When it comes to luxury, its wider availability erodes the dream of being among the elite.

e.g. It is estimated that BMW's target accounts for 20% of the premium segment of the population – only one person in five. This means that 80% are not all attracted by BMW's values. The brand has preferred to exclude these 80% and focus on its true target. Brand growth is achieved by penetrating new countries, not new customer segments. In order to grow, The BMW group preferred to buy two other brands Mini and Rolls-Royce, taking good care to keep their brand identities separate from BMW's.

Don't respond to rising demand:

The prime objective of traditional marketing is to increase volumes. This ensures wide distribution and broad visibility.

Luxury brands deliberately control production to express rarity values. e.g. At Ferrari, production is deliberately kept lesser than 6000 vehicles per year.

Dominate the client:

If clients are treated as best buddies, luxury brands lose their aura. This does not mean not to

respect the clients. Parents dominate their children, but that does not mean they do not respect them.

Make it difficult for clients to buy:

The greater the inaccessibility the greater the desire. People eventually enjoy the luxury after going through financial obstacles, logistical obstacles (availability) and time obstacles. e. g. People wait 2 years for Ferrari or a Mikimoto pearl necklace.

Raise the prices as time goes on to increase the demand:

In the standard market when the prices fall, demand rises. According to Veblen, the Norwegian economist, for luxury goods demand increases as the price increases and hence luxury goods are also called Veblen goods.

The presumed price should always be higher than actual price:

In the luxury world, price is something not to be mentioned.

- a. When somebody is wearing Cartier watch, people tend to overestimate its pricing, which enhances wearer's standing.
- b. If luxury is gifted, price is always overestimated.
- c. Lastly if advertised, the price is that of top of range.

Keep stars out of marketing:-

In traditional marketing, stars of stage and screen are often used in advertising. Aishwarya Rai is used for selling Lux and L'oreal.

If celebrities are used to promote the luxury brand, the status of the latter is reduced to that of a mere accessory. However there are exceptions to this.

e.g. Louis Vuitton has been advertising with Michael Gorbachev, former USSR president. Here the celebrity is not a fashion symbol but a man who changed world.

Don't relocate factories:-

Reducing cost is vital in the mass consumer markets. This can be done by relocating factories.

Luxury brands normally do not use this strategy. When people are buying a luxury item, they are buying a product steeped in a culture or in a country.

e.g. BMW builds all automobiles in Germany and that is crux of its identity. Every BMW is an authentic product of German culture.

Conclusion:

Luxury brands should control advertising. In luxury brands communication goes well beyond advertising i.e. events, charities, public relations etc. Luxury brands should make limited use of internet marketing. Luxury brands should also make use of visual languages in communication.

Suggestions:

1. Apart from traditional advertising, luxury brands should make use of PR, personal selling and sponsorships.
2. Even though it said that use of celebrity might usurp a luxury brand, different brands are violating this rule and making selective use of celebrities.

In India Tag Heuer uses Shah Rukh Khan while Mont Blanc uses Anil Kapoor and his daughter Sonam Kapoor.

3. New selling techniques like shopping lunch can be effectively used in India.

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The Problems Regarding the Implementation of Govt. Education Policy of Free and Compulsory Education up to Secondary Level in the Private Aided Schools in Mumbai

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Mumbai, the financial capital of the country is an illusive city attracting maximum of Indians. This prima facie dream city which is the capital of Maharashtra is responsible for the maximum collection of tax in the centre. Various problems like migration from different parts of the country, ever increasing cost of living, problem of basic human needs, crimes, traffic problems, declining moral values which are the results of influence of Western culture, have been hollowing this mega city.

No one can deny that in the field of education rather the educational policy of the central and state government is another problem which Mumbai is facing. A detailed study of the following factors in this respect highlights various lacunae neutrality and negligence in the educational policy of the government.

1. The management and administration of private aided schools.
2. Rules regarding the appointments of the teaching and non-teaching staff, promotional placements, reservation etc.
3. Relaxation in these rules is resulting into barriers for good quality of teaching.
4. A very important and necessary communication between the educational institutions and the government.
5. A very important and necessary constructive financial policy of the government apart from that of the salary for teachers.
6. Degradation of the quality of schools etc.

Many government aided schools are on the verge of being closed down due to the adamant policy of the government. The grant-in-aid given by the government to these schools kept on reducing and has finally restricted itself to the salary of the teaching and non-teaching staff. At present, no school receives any kind of non-salary grant.

It shouldn't be taken as an exaggeration if one says that the schools which have maintained their status and quality, have been able to do so only due to their determination, willingness and devotion to loyal, selfless and qualitative work with a noble objective of spreading education to all sections of the society. Very few schools in Mumbai are toiling very hard to function using the funds they have reserved as provision for many social and constructive activities in future. The government is deliberately neglecting the problem of caretaking and management of the school.

An aided school or educational institution has to follow several rules and prohibitions laid down by the government. The management of these institutions has no option than being the puppets in the hands of the government. For example, the school building being utilized for other government activities, various types of government work which the teachers have to complete in addition to the teaching during the academic year, the reserved rights are regarding the new appointments inspite of lack of teachers etc.

The school management thus becomes only the care taker of the building inspite of owning it. These governing body members have very constructive objectives and aims for the social welfare while building the school premises. They cherish a progressive, ambitious inspiration with an objective of social development. But the government harasses such sincere, clean governing bodies of the schools without any consideration of their social, educational work. The government orders like not to accept donations, not to increase the fees, not to use the school premises for any other purpose

etc. annoy the governing bodies of the schools. Neither the government is willing to listen to the reasoning behind these decisions nor is it ready to follow any remedial measures for these problems.

The government approved National Syllabus Plan-2001 as the syllabus plan for the law of right to education, in 2001. The lawful decision of the government of providing qualitative education to every student was welcomed everywhere with a wide applause. However, as this plan had many lacunas and was not implemented properly, the government is criticized for its responsibility and on the other hand; the quality of education is getting poorer and poorer.

The government has decided not to conduct examinations up to eighth standard. The teachers in many schools are still in darkness about the concept of consistent comprehensive evaluation. One can see no special efforts are being contributed towards the improvement of the students' poor academic caliber which is observed in such comprehensive evaluation. The evaluation reports are completed only on paper. The teachers in the school argue with the governing body of the school regarding grant in aid of the government. Their thought processes never cross the boundaries of increment in the salary, calculation of leave and other such things.

The wrong policy of the government is indirectly responsible for such disputes and the moral degradation of these very important factors in the field of education. The central as well as the state government provided various facilities to the schools. The government has started spending a large amount of funds on the students' mid day meal, books, blackboards, uniforms, benches, washrooms, renovation of the building etc. But even today no thought is being given to provide good & qualitative education to the students.

With due respect to some educationists, the government started implementing their current educational policies more enthusiastically with a due consideration of the disparity between the urban and rural schools. Along with public expenditure on education, more teachers were also appointed. This additional financial expenditure on education was forced on the common people in the form of taxes. But neither the bureaucracy nor the World Bank were against this expenditure on the facilities of the schools. They are interested only in the schemes.

In short, in the process of qualitative education, neither anyone is ready to accept the responsibility nor there is any such provision in the government education policy. Permanent teachers are always absent & when they are questioned about this they present the balance sheet of their annual leaves and their rights to take leave in front of their seniors.

The Shikshan Sevak system of the government has taken out the vitality and vigor of the young blood which could otherwise be channelized towards the welfare of the students. After completing his tenure as a Shikshan Sevak, the so-called helpless Shikshan Sevak, otherwise who is the true pillar of the nation, spends maximum of his time in following the rules and regulations and cannot devote himself to the cause of students' welfare. Except some few training programmes, the government has no other motives set for the teachers so as to encourage their excellent teaching. Isn't it a fruit of irrational and partial educational policy of the government!

According to the results of the Programme of International Students' Assessment (Misa), observations in 74 nations have showed that the Indian students are on the second last rank in the evaluation of 'reading' and 'mathematics'. In order to improve the quality of education it is necessary to remove the complete trace of government from every attempt & scheme meant to improve the quality of education.

The regional medium schools in Maharashtra and the one especially in a cosmopolitan town have only survived. Schools affiliated to CBSE and International Schools are widening their scope on a large scale. As a result, the number of students seeking admission in regional medium schools is reducing very rapidly. The schools with Marathi, Gujarati, Hindi and Urdu as the medium of instruction cannot compete with the main stream of these progressive schools as they cannot provide the jazzy facilities like the schools affiliated to other boards. Forget exorbitant donations or fees, the

government continue to have its hold on the fee hike as well. Even if the fees control law of State has been submitted to the Central government, it still remains closed in the red taped files on the tables of the Central government. This has led to a very pathetic situation of the governing bodies of the private schools aided by the government.

All this leads us to conclude that the government policy of free and compulsory education up to the secondary level in private aided schools is quite objectionable. The implementation of this policy has different aspects. The problem of financial planning has remained unanswered since many years. The government objects and opposes the initiative of the educational institutions regarding the remedial measures for these problems. No constructive and qualitative fruits are borne by the existing educational policy.

As a result, one can predict a very big moral and social loss of the nation. In short, in the so-called literate India, we are actually laden with completely illiterate or semi-literate people due to an abrupt implementation of this policy. Knowing this tragic reality, the young generation in the future will never forgive their ancestors.

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Technological Advancements: The Great Challenges to Teachers

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Abstract:

Today's global job market demands that a student should be comfortable with the complexities of ill-defined real-world problem. The present generation displays preference for instant learning. Their penchant for multitasking facilities their learning process, while they are simultaneously engaged in other activities. Therefore, the teachers need to understand these traits of modern day learners. Creativity must be fostered as a habit, and to achieve that, the students must be equipped with abilities to recognize relevant patterns in unfamiliar environments. To be successful, a teacher must constantly ask himself a question, "I am teaching, but is he learning, but is he learning?". And if not, then what is required to be done?"

Introduction:

TODAY'S global job market demands that a student should be comfortable with the complexities of ill-defined real world problems, which border on ambiguity, and should have a high order analytical capability supplemented with requisite communication skills required of him as professional. The role of the teachers, therefore, is to equip students with knowledge, capabilities and skills so required. The ongoing technological advancements pose great challenges to the teacher today.

Different Modes of Learning:

In the past, the blackboard and books were the main aids for teaching. The mode of knowledge dissemination was generally verbal, where the teacher delivered lectures and the students imbibed knowledge. The advent of television ushered in an era of visual mode of learning, thus, overhead projectors, later replaced by LCD projectors, coupled with 'PowerPoint', became the mainstay of teaching. Today's generation, with easy access to electronic gadgets like cell phones, Internet, social networking sites, video capturing and editing devices, VOIP, and peer-to-peer file sharing, needs different stimuli to learn. The teacher has to resort to virtual mode to identify with students. There is a need for compatibility between the now generation habits and the way learning takes place. Though the pre-requisites for teaching have undergone a change from verbal to visual to virtual, in the majority of cases the teachers in higher educational institutions still rely on the age-old verbal mode. They need to realize that teaching and learning are enhanced when teaching styles are commensurate with learning styles. Though some fundamental pedagogical principles might hold across generations, the mode of delivery of these principles must change over time. Rapid obsolescence of technology is resulting in technological generations becoming much shorter than human generations, thus, demanding ever-changing pedagogical techniques from teachers. By, not keeping up with the advancements in technology, they are not only perpetuating the generation gap but, in majority of the cases, are enhancing it. Today, we need those forward-looking teachers who could anticipate and meet the intellectual aspirations of students.

Acquisition of Knowledge:

Instead of the linear acquisition of knowledge, today's generation prefer nonlinear hyperlinked logic of learning, the technique of learning "how to learn" carries greater value with them than mere acquisition of facts. They prefer autonomous learning to guided learning process to specific periods; they like to learn 24/7. Interactive virtual learning, rather than face-to-face excites them. They take learning as fun rather than rote learning. For them it is more important to know where to find knowledge rather than storing information in their brains. The present generation displays preference for instant learning. Their penchant for multi-tasking facilitates their learning process, while they are simultaneously engaged in other activities. Therefore, the teachers need to understand their intellectual needs and thereby facilitate the learning process.

Use of Internet:

Served by the Internet, today's students have access to a vast reservoir of information. However, not all the information available on the Internet is useful or reliable. A teacher who acts as a facilitator must equip his students with requisite skills to enable them to distinguish reliable from unreliable information. The modern gadgetry may have exciting features, but it also has its disadvantages. These induce shorter attention spans where the students move over quickly from one feature of the gadget to another. However, a good teacher always finds ways and means to inculcate patience to engage students in constructive work and to follow longer arguments.

Fostering the Creativity:

Creativity must be fostered as a habit, and to achieve that, the students must be equipped with ability to recognize patterns in unfamiliar environments. Features of technological advancements in one domain could find usage in other domains and the students should have capability to make those associations. Today, not only the globe is shrinking but also the inter-discipline boundaries across various domains are getting blurred. Thus, to be competitive, the students must have the flexibility to work across disciplinary and cultural boundaries to come up with innovative solutions.

Conclusion:

Thus, there is a need for the teacher to provide properly supported, engaging activities to develop expertise across various domains of learning. He must equip his students with psychomotor capacity to move, perceive and apply physical skills. Finally, the above capabilities have to be supplemented with cognitive capacity to act, decide and commit. If the teachers understand and appreciate the intellectual levels and needs of the modern-day students, they would realize the importance of the need to bring in a paradigm shift from remembering, understanding and applying to more important skills of analyzing, evaluating and creating. To be successful, a teacher must constantly ask himself a question, "I am teaching, but is he learning?" and if not, then what is required to be done

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Teacher Empowerment through ICT at the Pre-Service Level: Problems and Solutions

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Abstract:

In today's scenario, Information and Communication Technology has emerged as a major factor in giving shape to our society. ICT has influenced our social, economic, political and even religious and moral environment. Unfortunately, school education in India till date have not prepared a concrete basis for this new trend. Quality education is the need of the hour. ICT can certainly sustain the quality of school education. But there are various reasons for very slow pace of the use of ICT at school level. One of the major reason is that majority of the teachers are not ICT literate. Thus there is an urgent need of teacher empowerment in terms of making them ICT literate. Teacher empowerment can be done at both pre-service and in-service level. The present paper focuses on the pre-service level i.e. the teacher training level. An attempt has been made through this paper to explore the hurdles, problems and difficulties in the proper implementation and use of ICT both by the teacher trainee and teacher educator. The awareness of teacher trainees and their expectations regarding integration of ICT in their training programme would be investigated through a self made questionnaire. The views of the teacher educators would also be collected regarding how ICT can be included in the teacher education curriculum. Finally, possible solutions and suggestions would be provided through this paper to improve the pace of the use of ICT in the teacher training programmes and to bring quality in school education by empowering the 'would-be teachers'.

Introduction

Technology has been all pervasive throughout the evolution of humanity. From the invention of wheel in ancient and early era of human history to the invention of computers, technology has played a major role. The convergence of digital technology of computers and telecommunication has revolutionized the way information was conceptualized. This fusion and integration of two parallel technologies created an area called Information and Communication Technology. ICT in a very short span of time has influenced all aspects of human existence. Its impact has changed the industrial age into the information age. Almost every human endeavor and every sphere of human life has been affected by it. Education is one of such human endeavor that is being gripped by ICT with an incredible speed.

The increased use of technology and multimedia technology has shaped the fate of today's society, more outside the classroom. In spite of the impact of ICT on different fields, the school education in India is moving at a very slow pace to prepare basis for this new trend. Except few well-equipped schools most of the other schools are facing many basic problems of teachers, staffs, students, infrastructure etc. Thus, introduction of ICT in the school puts additional pressure on the teachers. In this context, teachers and Teacher- Educators are of central importance in tapping the potential offered by ICT to enhance and enrich the quality of education.

Various schemes and programmes have been initiated both at governmental and non-governmental level to develop ICT skills in teachers working in schools. Most of these schemes adapted distance mode, which is convenient for the in-service teachers. But the Conventional Teacher Education Programmes are still preparing a large number of teachers. Thus, there is an urgent need to empower 'Would-Be-Teachers' in ICT skills. This would require systematic efforts to integrate ICT components in Conventional Teacher Training Institutions throughout the country.

Learning to use computers and the internet is a relatively simple task, but mastering ICT as an effective tool to improve teaching and learning is not. This paper is an attempt to highlight these

problems and challenges that come during integration of ICT in the teacher education curriculum. The teacher training institutions now-a-days are aware about this emerging trend and are trying to keep pace with the rapidly moving ICT based society. But the results are far beyond one's expectations. There are several reasons for it. This paper is an attempt to explore those hurdles that come in the way of both, the teacher trainee and the teacher educator, when they make efforts to gain ICT competency. The paper would ponder on various issues and concerns regarding the use of ICT in the teacher education curriculum. Finally, based on the views of the pupil teachers and the teacher educators some possible solutions would be provided. This would help to enhance the pace of empowering the 'would be teachers' and also may help to bring quality in teacher training and school education programmes.

Methodology :

Sample: - The sample for the present study comprised of 90 B.Ed. Pupil-Teachers of Department Of Teacher Education, Ewing Christian College, Allahabad. Also, include 06 Teacher-Educators from B.Ed. Department, Ewing Christian College, and 07 from College Of Education A.A.I.D.U.

Tool: – Two self-made questionnaire were used to collect the views of teacher trainee and teacher educators regarding the following aspects:

A. For Teacher Trainee:

1. Meaning of ICT
2. Techniques / Equipments of ICT
3. Use of ICT as Teacher-Trainee
4. Problem faced during use of ICT
5. Aspect of B.Ed. curriculum which can be transacted by ICT
6. ICT facilities provided by the institutions
7. Feasibility of use of ICT during Practice-Teaching
8. Suggestions to make Teacher-Trainee ICT competent

B. For Teacher Educators:

1. Problems during use of ICT
2. Possibility of use of ICT in Practice-Teaching
3. Aspects of B.Ed. Curriculum which can be transacted by ICT
4. Suggestions to make Teacher-Educator ICT competent
5. Suggestions to make Teacher-Trainee ICT competent

Data Analysis (Results)

A. The analysis of the information obtained from the teacher trainees is as follows:-

1. **Meaning Of ICT** – About 25% of the students explained ICT as exchange of Ideas, Opinions, Language, and Information between two individuals through some media 30% explained it as a latest technology for communication and information spread. 7% of them recognized that ICT makes teaching learning process effective. Another view of a small group is that it is a medium for transfer of information easily. 7% of them also interpret it as a technique to make information global and to communicate with other parts of the world. ICT is also explained as the use of technology for conveying information or knowledge to others by those means which are more effective and efficient. About 25% of the trainees were only able to give the full form of ICT. About 12% were unaware about ICT.

2. **Techniques / Equipments of ICT** –75% of the trainees listed the Computer, 50% Over-Head Projector, 55% Multi-Media Projector, 50% Television, 45% Radio as the major equipments needed. 18% of the trainees included Models, 25% Slides, 25% Language Laboratory, 10% CCTV, 18% Internet, 20% Power Point Presentation among other prominent equipments needed. Few trainees quoted Tape-Recorder, Charts, Maps, Video-Text, VCD, Tele-Conferencing, Pen-Drive, E-Library, Lap-Top etc.

3. **Use of ICT As A Teacher Trainee** – About 63% of the Pupil-Teachers used ICT as a Teacher Trainee. The major technique applied by them was Over-Head Projector. A smaller group also used Multi-Media Projector, Power-Point Presentation, Charts and Models., Computers / Lap-Top for preparing class notes was also mentioned.

4. **Major problems during use of ICT** – About 25% of Teacher-Trainees cited power-cuts during use of ICT whereas about 10% pointed the unavailability of ICT Equipments in the institution as a major problem. Smaller groups about (13%) stated Lack Of Awareness regarding ICT, about (12%) Expensive Equipments Being Unaffordable, about (7%) Lack Of Classroom Management, about (8%) More Preparation Time, and about (5%) of Teacher-Trainees considered Lack of Trained Teacher-Educators, as some of the major problems regarding use of ICT.

5. **Aspects Of B.Ed. Curriculum which can be transacted by ICT** - 50% of the Pupil-Teachers wished that complete theoretical portion of B.Ed. course should be taught using ICT (Over-Head Projector and Computer). About 25% wished to integrate ICT with the Micro-Teaching Session. Another aspect highlighted was the Scout & Guide Training Programme (25%). About 15% of them listed Educational Technology Practical, Educational-Tour, Practice-Teaching, Co-Curricular Activities as some aspects in which ICT can be involved while transaction. Some other aspects included Gardening (10%), Demonstrations Of Ideal Micro-Lessons, Video-Recording Of Activities As Feed-Back, Class-Room Presentations, Ideal Lesson Plan Demonstrations using ICT etc.

6. (a) **ICT facility in the institution** – About 62% of Pupil-Teachers recognized the Computer-Lab facility, 62% listed Over-Head Projector (OHP) facility, 37% listed Multi-Media Projector facility, (25%) Television facility provided to them by the college. Some other facilities highlighted were Educational Technology laboratory, CCTV, Microphone, and Loudspeaker.

6. (b) **Satisfaction with the facilities** – 65% of Teacher-Trainees were satisfied with the facilities provided by the institution. The rest 25% of them were not satisfied and suggested some changes. They demanded more facilities, which included giving more time for the Use Of ICT, Language Lab, and Multi-Media Projector and emphasized on the need for Practice-Teaching Videography. They wanted that such facilities should be made easily accessible and frequent with increased duration involving ICT Training, Provision Of Internet and increased number of CCTV.

7. **Feasibility of the use of ICT during practice teaching** – About 42% of the Teacher-Trainees agreed that use of ICT is feasible during Practice-Teaching. However, about 40% of the Teacher-Trainees disagreed to use the ICT stating various reasons and problems. One of the major reasons quoted was the duration of Practice-Teaching of a single lesson is insufficient to use ICT. According to them to materialize the use of ICT during Practice-Teaching demands Proper Training, Better Planning, Demonstrations By Teacher-Educators, Availability Of More Equipments, Facilities And Funds for School Practice-Teaching along with back-up power supply during power-cuts.

8. **Suggestions for making Teacher-Trainee ICT Competent** – A number of suggestions were given by the Teacher-Trainees to develop ICT competency in them such as Awareness Programmes and Short-Term Courses including ICT Training, Computer, Power-Point Presentations, Over-Head Projectors etc. Another category suggested – to teach Pupil-Teachers using Internet, Audio-Visual Aids, Over-Head Projector, Television, Language laboratory and use of Microphones which should also include Computer Education and practical aspect of theory papers using ICT. Some of them felt that Teacher-Educators should be ICT Competent, Involvement of ICT should be made compulsory in Micro-Teaching and Macro-Teaching and also in Presentations, Seminars and Conferences. Emphasis was laid on modern methods of teaching with increased duration of Computer Classes along with the Internet and Computer Laboratory facility.

B. Analysis of Views Of Teacher-Educators –

1. **Problems during use of ICT** – According to the Teacher-Educators scarcity of ICT Equipments and Apparatuses are a major problem. They mentioned that due to Curriculum Work-

Load, Scarcity Of Time, Lack Of Will Power, Lack Of Proper Knowledge and Awareness among students and even Lack Of Finances they find difficult to use ICT. Problems regarding handling of ICT Equipments, Time Consumption during Equipment and Apparatus Setting, Power-Cuts, Quality and functionality of ICT tools are also prominent. Students who are acclimatized to conventional methods and accustomed to their language may find it difficult to comprehend and keep pace with the rest of the group, which are some other problems, mentioned.

2. Possibility of use of ICT during Practice Teaching – The Teacher-Educators agree that ICT can be used during Practice-Teaching. However, according to them it's use is limited except for delivery of some lesson plans. They believe that the Student-Teacher needs to be watchful about classroom discipline and decorum while handling ICT. Some Teacher-Educators think that use of ICT during Practice-Teaching depends on the school allotted and Power-Cut and Time Constraint will aggravate the problems.

3. Aspects of B.Ed.. curriculum which can be transacted through ICT – One of the major aspect suggested which can be transacted through ICT is the teaching of Educational Technology, theory and practical as well. Other aspects suggested involve all Theory Papers, Methodology Papers, Psychology Practical, Co-Curricular Activities and Environmental Education. They suggested that teaching of all papers can be enriched by updating and providing additional important information from the internet.

4. Measures to make Teacher-Educator ICT competent - Some concrete measures suggested were Organizing Workshops, Special Computer Classes, Practical Classes to use ICT, provide more training classes for Teacher-Educators and Organizing Refresher Courses, More ICT, Computer, Internet Facilities should also be made available for Teacher-Educators.

5. Measures to make teacher trainee competent – Teacher-Educators suggested Organizing Workshops, Special Computer Classes theory as well as practical and allotting one period per day for practice. Some others suggested that use of ICT should be made compulsory in B.Ed. syllabus and NCTE should include a Theory and Practical Paper of ICT at PG level course of Teacher-Educators. Trained Teacher-Educators, teaching theory papers through ICT, providing proper infrastructural facilities, laboratory and making sufficient time available for students were some other measures mentioned.

Discussion & Interpretation

The analysis of the data obtained from the Teacher-Trainees and Teacher-Educators throws light on some of the major problems and issues related to use ICT at the pre-service level. These are as follows:-

1. The different meanings of ICT point to the fact that there is a lack of awareness about the knowledge of ICT. It is being perceived as an abstract term, which is explained in various ways. Its exact meaning needs to be clarified both among Pupil-Teachers and Teacher-Educators.
2. The long list of equipment / techniques which comprises ICT further conforms the lack of exact understanding about ICT. The list of equipments such as computers, Over-Head Projector, LCD Projector, Internet, Power-Point etc. points to the fact that the trainees were aware about some basic equipments of ICT. But, they need to clarify the concept regarding mention of Charts, Models etc.
3. It is appreciable that large number of trainees uses ICT (Over-Head Projector, LCD Projector etc.) during their training period. This shows that they are conscious of the emerging new trend in the field of Teacher-Education.
4. The major problems highlighted by the Teacher-Trainees are generally related to the type of infrastructure and facilities provided by their institution. Lack of Awareness about ICT, Lack Of Finances and Lack Of Trained Educators are also issues of major concern. Use of ICT

creates disciplinary problems is an issue which can be solved depending on the expertise of the Teacher-Trainee.

5. It is an appreciating trend that the Teacher-Trainees are able to list a number of aspects of their B.Ed. curriculum which can be transacted by ICT. Their awareness and conscious responses depict their acceptance of the emerging ICT based quality measure. Many of the aspects are listed after serious logical thinking such as in Theory Papers, Micro-Teaching and Macro-Teaching, Educational Technological Practical etc. But mentioning activities like Scout & Guide, Educational-Tour, Co-Curricular Activities, Gardening needs further elaboration.
6. Pupil-Teachers are aware of ICT facilities provided by their institution. Their satisfaction regarding these facilities is notable but they expect much better provisions, which reflects their eagerness to become ICT competent. Their response show that they are sensitive towards this new trend and do not want to be left behind.
7. Practice Teaching is an aspect of B.Ed. curriculum that if integrated with ICT can prove to be very effective according to the view of an appreciable number of Teacher-Trainees. But only due to 'Time-Limit' factor some of them find it difficult. Moreover, better infrastructure, academic and technical support from the institution and practice-teaching Schools could solve this problem.
8. The Trainees have provided valuable suggestions regarding measures to be adopted to make themselves ICT competent. These include measures regarding infrastructure, academic measures such as starting Training Programmes, some curricular measures, and financial measures to be adopted by the institution. Making Teacher-Educators ICT competent seems to be a prerequisite in making the Teacher-Trainees ICT competent.
9. The Teacher-Educators face problems using ICT generally related to the facilities provided by the institution and with the overburdened Teacher-Training Curriculum. They admit their own Lack Of Awareness and the inability to use ICT Equipments as the major causes.
10. Teacher-Educators admit that Practice-Teaching should be integrated with ICT. Their hesitation is due to disciplinary problems and problems arising while practicing in schools.
11. Teacher-Educators have clearly mentioned that all theory paper needs to be taught through ICT. But again, the use of ICT in co-curricular activities needs to be clarified.
12. Teacher-Educators feel that they require Special Training Programmes, Facilities and Time to become ICT competent.
13. Teacher-Educators feel that Special Training Classes for Trainees, Facilities By The Institution, and Implementing ICT Education compulsorily by NCTE can make the Trainees ICT competent.

Suggestions :

On the basis of interpretation of the data available and discussion, following measures are suggested to solve problems regarding use of ICT at Pre-Service Level, helping to empower the Teacher in ICT at the training stage :

- i. Awareness among the Teacher-Trainees regarding Theoretical and Practical knowledge of ICT should be inculcated through the help of a compulsory theory paper.
- ii. All the theory papers should be transacted by using ICT. Micro-Teaching should compulsorily involve ICT.
- iii. The possibilities of using ICT in the different aspects of the B.Ed. curriculum should be explored by the B.Ed. Course Curriculum Planners, Teacher-Educators and the Trainees.
- iv. Infrastructural Facilities provided by the institution should be ICT based sufficient both in quality and quantity, for every Trainee and Teacher-Educator. It should be mandatory for the institution to provide such facilities.

- v. The institution and academic bodies governing Teacher Education Programmes should organize various academic training courses for both Trainees and Teacher-Educators.
- vi. The B.Ed. curriculum needs to be reviewed and framed involving discussion on duration of the Teacher Training Programme to lessen the burden and provide ample time and opportunity for both the Teacher-Trainees and Teacher-Educators to become ICT competent.
- vii. The Practice Teaching Programme needs serious rethinking to inculcate the ICT component in it. As the task is difficult, it requires honest co-operation and serious discussions between the Practice-Teaching School Administration, B.Ed. Institution and the Trainees.
- viii. The Higher Education Programmes preparing Teacher-Educators also needs ICT enrichment.
- ix. The ICT Facilities and Equipments provided by the institution should be of best quality to be handled by trained and experienced personnel appointed by the institution.,
- x. Traditional methods of Teaching and Planning Lessons need reviewing and integrating ICT in it.

Conclusion :

Teacher empowerment through ICT is obviously a possible target. But when one reflects on the practical issues related to it, lot of problems arises. These problems at the pre-service level are more or less due to overburdened Teacher Education Curriculum and the Lack Of Sensitivity towards providing best ICT facilities by the institutions. This paper has tried to view these issues from the viewpoint of the Teacher-Trainee and the Teacher-Educator. Their views and opinions have helped in reflecting many related issues and concerns. It has also contributed in providing a clear picture of the present day scenario. It is hoped that the solutions and suggestions provided on the basis of the data analysis would help in enriching ones knowledge about Teacher Empowerment through ICT at the pre-service level. It would also certainly help in paving the way and providing solutions for problems related to enriching quality in school education by empowering the 'Would-Be-Teachers through ICT.

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Playing Atya-Patya Game for the Promotion of Physical Fitness

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Abstract :

Coaches and physical Educationist today are continuously confronted with the help of specialist training in game and sports. It was therefore consider appropriate by the research scholars to investigate the effectiveness of the specific training for the promotion of some physical fitness components. Thus the research problem, entitled, "Playing Atya-Patya Game for the Promotion of Physical Fitness". Therefore the researchers have stated an objective was, to investigate the effect of playing Atya-patya for the promotion of muscular strength, muscular endurance, cardio vascular endurance and flexibility. After going through the various researches, researcher has stated a formulated hypothesis was there will be no significant improvement on muscular strength, muscular endurance, cardio vascular endurance and flexibility. Muscular Strength measured by Standing Broad Jump Test. The mean gain of Control group is 0.250 and Experimental group is -5.300 and their 't' value is 5.536 which is no significant at 0.05 level ($P < 0.00$). Muscular Endurance measured by Bend Knee Sit-ups Test. The mean gain of Control group is 0.250 and Experimental group -5.300 and their 't' value is 5.536 which is significant at 0.05 level ($P < 0.00$). Cardio-Vascular Endurance measured by 9 Min. Run & Walk Test. The mean gain of Control group is -0.200 and Experimental group is -2.800 and their 't' value is 3.635 which is significant at 0.05 level ($P < 0.00$). Flexibility measured by Sit and Reach Test. The Comparison of mean gain of Control group is 1.250 and Experimental group is -25.000 and their 't' value is 6.119 which is significant at 0.05 level ($P < 0.00$). Finally concluded that Utility of playing Atya-Patya game for the eight weeks period could improve the ability in Muscular strength, muscular endurance, cardio vascular endurance, and flexibility of selected subjects.

Key words : Motor fitness, Playing ability & School Girls.

Introduction :

Scientific training program is part and parcel for achieving high level of performance. Such performance is impossible if an athlete does not have the ability to acquire skill. There are various method available so far to achieve skills and Physical Fitness level in game and sports it well known that specific training is effective in enhancing physical Fitness several research reports supports the statement now ever the very little information is available about effect to specific training on Muscular Strength, Muscular Endurance, Cardio-Vascular Endurance, Flexibility and playing ability. Sport has occupied a prominent place both in physical as well as in the moral culture of the society. Modern scientific researchers have made the field of sports highly scientific involving the use of scientific method and physical investigation. However, Atya-patya is not new addition to sports. Moreover no information in this line on Indian girls, especial for the school girls in available till dates.

Coaches and physical Educationist today are continuously confronted with the help of specialist training in game and sports. It was therefore consider appropriate by the research scholars to investigate the effectiveness of the specific training for the promotion of some physical fitness components thus the research problem, entitled, "Playing Atya-Patya Game for the Promotion of Physical Fitness"

Therefore the researchers have stated an objective was, to investigate the effect of playing Atya-patya for the promotion of muscular strength, muscular endurance, cardio vascular endurance and flexibility. After going through the various researches, researcher has stated a formulated hypothesis was there will be no significant improvement on muscular strength, muscular endurance,

cardio vascular endurance and flexibility.

Method :

Procedures :

The analysis of the data collected by the researcher before and after the exercise intervention has been presented in this chapter. The data is analyzed by using paired sample 't' test and independent 't' test. Within group comparison was done by paired sample 't' test, while between group comparison was done by independent 't' test. Since there were two groups for this experimental study viz. Experimental and control Group, where in the researcher has decided to compare within group and between groups. Mean gain in order to see efficacy of experimental treatment 't' test was appropriately used for the data analysis of this study.

a) Independent Variables

- Kande Chirne
- Playing the pati
- Holding the pati
- Holding the Kondi
- Breaking the Kondi

b) Dependent Variable

- Standing Broad Jump
- Bend Knee Sit-ups
- 9 min. Run & Walk
- Sit and Reach

Subjects :

The research scholar adopted the random sampling technique for the selection of the subjects. She had chosen the parallel group design by giving them odd and to even numbers for the classifying the subjects in to experimental and controlled group. Forty (N=40) girls student from Nutan Vidya Mandir, Kelve Road, at Palghar, Dist.- Thane, served as the sample's of this study. Their age ranged between 14 to 16 years. All the subjects were clinically fit.

Data Analysis :

The atya-patya Training was given to the experimental group only pre test conducted on 4th Dec. 2011 Atya patya training was started. The training was conducted 6 day's in a week. The training was for the period of eight weeks. Findlay after week's researcher conducted post test of experimental and control group on 5th Feb. 2012. The improvement made in the test items by the experimental and control groups were tested for significance by paired 't' test. The mean gain made by the experimental group over that by the control group in each of the items was also tested for significance by the students test.

Table -1 shows the comparison of mean between the pre and post-tests of the Selected variables of the Control group.

| Variable | Pre Test | | Post Test | | Mean Diff | Std Err Mean | 't' | sig. |
|--------------------|----------|--------|-----------|---------|-----------|--------------|--------|-----------------|
| | Mean | SD | Mean | SD | | | | |
| Muscular Strength | 134.250 | 19.210 | 134.000 | 18.918 | 0.250 | 0.260 | 0.960 | 0.349 P>0.05 |
| Muscular Endurance | 10.800 | 6.848 | 11.050 | 6.90137 | -0.250 | 0.123 | -2.032 | 0.056 P>0.05 |

| | | | | | | | | |
|---------------------------|---------|---------|----------|---------|--------|-------|--------|-----------------|
| Cardio Vascular Endurance | 1240.00 | 100.868 | 1238.750 | 101.227 | 1.250 | 1.845 | 0.677 | 0.506 P>0.05 |
| Flexibility | 38.350 | 5.797 | 38.550 | 5.906 | -0.200 | 0.609 | -0.328 | 0.746 P>0.05 |

Table-2 shows the comparison of mean between the pre and post test of the Selected variables of the Experimental Group.

| Variable | Pre Test | | Post Test | | Mean Diff | Std Err Mean | 't' | sig. |
|---------------------------|----------|--------|-----------|--------|-----------|--------------|--------|-----------------|
| | Mean | SD | Mean | SD | | | | |
| Muscular Strength | 131.050 | 14.317 | 136.350 | 15.891 | -5.300 | 0.260 | -5.474 | 0.000 P>0.05 |
| Muscular Endurance | 13.8000 | 8.775 | 16.300 | 8.467 | -2.500 | 0.123 | -7.265 | 0.000 P>0.05 |
| Cardio Vascular Endurance | 1270.500 | 64.764 | 1295.500 | 57.899 | -25.000 | 3.872 | -6.455 | 0.000 P>0.05 |
| Flexibility | 40.7000 | 6.105 | 43.500 | 6.185 | -2.800 | 0.374 | -7.483 | 0.000 P>0.05 |

Table -3 shows the Comparison of Mean Gain in Selected Variables of the Control Group and Experimental Group.

| Variable | Group Compared | Mean Gain | Mean Difference | Std err Mean Gain | 't' | Sig. |
|---------------------------|----------------------|------------------|-----------------|-------------------|-------|-----------------|
| Muscular Strength | Cont. V/s Exp. | 0.2500 -5.300 | 5.550 | 1.002 | 5.536 | 0.000 P<0.05 |
| Muscular Endurance | Cont. V/s Exp. | -0.250 -2.500 | 2.250 | 0.36545 | 6.157 | 0.000 P<0.05 |
| Cardio Vascular Endurance | Cont. V/s Exp. | -0.200 -2.800 | 2.600 | 0.715 | 3.635 | 0.000 P<0.05 |
| Flexibility | Cont. V/s | 1.250 | 6.250 | 4.290 | 6.119 | 0.000 |

| | | | | | | |
|--|------|---------|--|--|--|--------|
| | Exp. | -25.000 | | | | P<0.05 |
|--|------|---------|--|--|--|--------|

Results :

The results obtained in this study have been summarized below -

➤ **Comparison of mean gain of muscular strength between Control Group and Experimental Group.**

It is revealed from the table -3 that, in case of Muscular Strength measured by Standing Broad Jump Test. The mean gain of Control group is 0.250 and Experimental group is -5.300 and their 't' value is 5.536 which is no significant at 0.05 level (P<0.00).

This indicates that the training improve the leg strength significantly.

➤ **Comparison of Mean Gain of Muscular Endurance between Control Group & Experimental Group.**

It is revealed from the table -3 that, in case of Muscular Endurance measured by Bend Knee Sit-ups Test. The mean gain of Control group is 0.250 and Experimental group -5.300 and their 't' value is 5.536 which is significant at 0.05 level(P<0.00). In this indicate that the training improve the Muscular endurance significantly.

➤ **Comparison of Mean Gain of Cardio-Vascular Endurance between Control Group & Experimental Group.**

It is revealed from the table -3 that, in case of Cardio-Vascular Endurance measured by 9 Min. Run & Walk Test. The mean gain of Control group is -0.200 and Experimental group is -2.800 and their 't' value is 3.635 which is significant at 0.05 level(P<0.00). This indicate that the training improve the cardio endurance significantly.

➤ **Comparison of Mean Gain of Flexibility between Control Group & Experimental Group.**

It is revealed from the table -3 that in case of Flexibility measured by Sit and Reach Test. The Comparison of mean gain of Control group is 1.250 and Experimental group is -25.000 and their 't' value is 6.119 which is significant at 0.05 level(P<0.00). This indicate that the training improve the abdominal flexibility significantly.

Discussion :

The analysis of the reveals that experimental group has improved in all the selected physical fitness variables significantly. The comparison between the Control and the experimental Group shows that the Experimental group improved significantly on all the selected physical fitness variables. The probable reason behind this the selected training program of Atya-patya whereas adequate for the improvement in the above physical fitness variables. The playing ability of Atya-patya might lead to improvement in physical fitness of the experimental group who had undergone of the training program. The training intervention composed of independent variables in the training program might have help to improve the selected physical fitness parameters of the experimental group. The positive result in turn refused the null hypotheses.

On the basis of the above discussion, the results can be concluded that, playing Atya-Patya game for the eight weeks period could improve the ability in Muscular strength, muscular endurance, cardio vascular endurance, and flexibility of selected subjects.

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Environmental Issues in Mumbai and Neighbouring Districts of Thane and Raigad

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- Background of Mumbai
- Climate of Mumbai
- Natural Resources of Mumbai
- Flora and Fauna of Mumbai
- Pollution in Mumbai
- Sustainable development and bio-diversity
- Conclusion

Background of Mumbai :

Mumbai is located at the base of Western Ghats and is surrounded by Arabian Sea waters. It is a natural Port and Harbor. It is a Commercial City, which attracts outsiders for employment and commercial activities. The population of Mumbai is increasing every year at 4% to 5%, which adds pressure on its land and natural resources, infrastructure resulting into serious environmental issues. The problems of Mumbai and its neighboring districts of Thane and Raigad are discussed in this paper to point out the issues like climatic degradation, level of pollution, bio-diversity, etc.; to trace out the commercial history of Mumbai, the activities started in 1845, the seven island were joined together into single landmass by the Hornby Vellard Project, and by starting the first passenger railway line connecting Mumbai and Thane in 1853.

The first industry to have strong foothold in Mumbai was Textile Mills, which attracted people from rural India – farmers migrated to Mumbai and converted themselves into industrial workers. After independence, Mumbai expanded and the sub-urban areas like Bandra, Andheri, and Borivali came into existence on Western Railway areas, and Ghatkopar, Bhandup, Mulund, and Thane on the Central Railway areas. In 1960s, Mumbai developed business centers like Nariman Point with all head offices and foreign banks. Cuffe-Parade, an area adjacent to Nariman Point was reclaimed and developed in 1970s. In 1979, a sister township of New Bombay (Navi Mumbai) was founded by Industrial Development Corporation (CIDCO) across Thane and Raigad districts to ease out the pressure on Mumbai. In the last decade, i.e., 2001-2010, another commercial hub or centre was created in Mumbai called BKC, Bandra-Kurla Complex, where all the offices of corporate and government migrated for better space and facilities. All these developments added pressure on Mumbai and its natural resources.

Climatic conditions and weather in mumbai and thane

Mumbai, Thane has the same type of climate. In Mumbai, the maximum rainfall is 136", i.e., 3452 mm and annual average temperature is 27.2 degrees Celsius (81 degrees Fahrenheit). The temperature is in the range of 29.1 degrees Celsius to 33.3 degrees Celsius maximum and 16.3 degrees Celsius to 26.2 degrees Celsius minimum. Mumbai, Thane, Raigad districts falls in Konkan region, which is a coastal area, facing Arabian Sea, climate tropical, wet and dry, sandy, rocky. This area has three seasons, monsoon, winter and summer.

Natural resources

Mumbai has the catchment areas. They are natural sweet water lakes which supply drinking water to the city. These lakes are Vihar, Lower Vaitarna, Upper Vaitarna, Tulsi, Tansa and Powai. Apart from lakes, rain is main source of water which is collected in these lakes and Bhatsa Dam. Mumbai has three small rivers, the Dahisar River, Poisar River and Oshiwara River. These rivers originate from Borivali Park having Tulsi and Vihar lakes, whereas polluted Mithi River come from Tulsi Lake. The coast of Mumbai and Thane have many creeks and seaweeds with rich bio-diversity.

The western coast is sandy with rocks, soil is alluvial and loamy. The greenery of Mumbai is present throughout the year with good rainfall, mild winter, and soft summer.

Flora and fauna of mumbai, thane, and raigad

Mumbai had dense forest on the Eastern and Western sub-urbans. Similarly, Thane district has patches of dense forest. The trees which are commonly found in these areas are Mango, Almonds, Coconuts, Banyan, Pepals, Pineapple, Jack fruit. Floristic survey of the Institute of Science, Mumbai has pointed out that Mumbai has 73 trees, 54 shrubs, 87 herbs and 19 climbers, and 1 liana, belong to various families of angiosperms, gymnosperms, and pteridophytes. National Park at Borivali, Aarey, Malbar, etc., had about 126 species of birds including raptors, bulbuls, kingfishers, drongos, bee-eaters, and doves. Aarey had 80 species of butterflies, 16 species of mammals including Bengal monitor, wild boar; a report of research scholar Zeeshan Mirza. According to Sunjoy Monga's Nature Guide, Aarey also used to be home to the striped hyena, the last of which died out in the early 1990s. The IIT Mumbai which sustain 40 species of birds, 843 species of animals and plants. The biggest threat to lakes comes from reducing catchment area due to encroachment, i.e., road development and construction activities. Dr. Pramod Salaskar who has written a doctoral thesis on the lake said the threat to lakes and flora, fauna is from construction activities and discharge of effluents which is increasing year after year.

DNA – October 26, 2011, reported “Mumbai develops but flora die and fauna fly”. The number of migrant Flamingos in Sewri has reduced. The population of birds and animals such as white throated kingfisher, serpent eagle, barn owls, squirrels, beetles, and pigeons has dropped drastically. Gulmohar, Mangoes, guava trees have vanished from Marol area.

Students from 45 schools conducted eco-surveys acting as eco-ambassadors – studied for 5 months to prepare a report. The programme was called Green Ideas, initiated by State Government's environment department with Bandra NGO called O.A.S.I.S. (Organization of Aware Saviours in Society); painted grim picture of city's flora, fauna. Trees have begun to die due to construction activities, a serious threat to environment.

The Times of India, June 1, 2011, reported that city's flora and fauna live on in little isles, i.e., Mahim Natural Park, a place developed by WWF India – 1976. The MMRDA converted the place into Natural Park, which has 80 species of birds, butterflies 38 species, and 200 species of trees.

Causes of pollution in mumbai and thane

There are main reasons and causes for pollution in Mumbai

1. Demographics: According to 2011 Census, the population of Mumbai is 12,479,608. The population density is estimated to be about 20,482 persons per sq.km. As per 2011 Census, Greater Mumbai, the area under the admn of Bombay Municipal Corporation (BMC), has a literacy rate of 94.7% higher than national average of 86.7%. Increase in population and migration of labor had added pressure on the natural resource and infrastructure.

2. Industrialization: Mumbai, Navi Mumbai, Thane and Raigad are the cities where industrialization and population has increased rapidly. To ease the pressure on Mumbai, these cities are developed. Mumbai from the beginning of 20th Century was dominated by Textile Mills followed by engineering, glassware, printing, and petroleum. These industries attracted persons from rural India. Labor migrated to Mumbai from all parts of India including the state Maharashtra, UP, Bihar, Bengal, Gujrat, and Rajasthan. The manufacturing activities created two problems:

1. Development of slums in parts of Mumbai like Dharavi.
2. Pressure on infrastructure of Mumbai and its natural resources causing pollution.

In 60s and 70s, main causes of pollution were textile, engineering and chemical companies in Mumbai. After the strike of 1981/82 in Textile Mills and labor unrest in engineering and other companies, most of these companies were sick and closed one by one. The state government's policy had also encouraged the companies to migrate to nearby areas and many manufacturing units shifted

but in 80s/90s, new group of companies emerged in the form of small scale and medium scale companies and they were plastic units manufacturing plastic carry bags, bottles, plastic utensils, etc.; leather units manufacturing leather bags, valets, belts, shoes; small chemical units, small units manufacturing electrical engineering parts, etc. These units were in greater number and had further spoiled the eco-system, and generated pollution of different kind. E.g., Plastic pollution and a good example was the incident of heavy rainfall on July 25, 2005, when the city of Mumbai was flooded, reason was drainage system choked up because of plastic bag and bottles. Industries have polluted the rivers, coastal areas of sea, lakes, and air pollution. E.g. Taloja Industrial Belt, Thane-Belapur area, Tarapur area in district of Thane, Roha-Patalganga, small industrial estates in Mumbai City.

The Times of India, Mumbai, Saturday, June 4, 2011, reported “Heavy air pollution at ships graveyard and furnished following details:

ALARM on the EAST COAST

- Mumbai’s ship-breaking yards are located in Lakri-Bunder and Powder Works Bunder at Darukhana, on the island city’s East.
- Private firms rent space form Mumbai port trust.
- Workers involved 6000/-
- Ship-breaking plots 19

| Year | Ships broken | Workers injured | Workers killed |
|---------|--------------|-----------------|----------------|
| 2010-11 | 74 | 8 | 5 |
| 2009-10 | 39 | 2 | 0 |

Source: Mumbai port trust, dock and general employee union

Chemicals and substance used in ship-breaking are asbestos, PCBs, paint, metal cutting and disposal, bilges Ballast water. These chemicals can cause health problems.

June 5 is an Environment Day. It was reported in Times of India, Mumbai on June 4, 2011, “silica _____ in Konkan’s creek – Raigad district – Maharashtra.” The environmental damage due to excessive sand mining destroys fragile coastal eco-system comprising mangroves and marine life. It further leads to destruction of creeks, which are nesting places for crocodiles and aquatic birds. It also leads soil erosions, flooding, and increase water salinity in adjoining lakes, ponds, wells.

The TOI, August 4, 2011, reported “effluents polluting Versova Creek”. This discharge of chemical effluents from factories had caused damage to the Versova creek, silt has accumulated on the stretch, and therefore fishing could not be carried out in the creek.

3. Construction Activities: Another cause of pollution is construction activities, modernizing cities, building roads, flyover, reconstruction of buildings, creating concrete jungle by removing natural jungle or forest. Quoted TOI dated December 16, 2011 “Construction causes polluted air: BMC”

Pollution Levels:

| Locality | Sulphur dioxide SO ₂ | | | Nitrogen dioxide NO ₂ | | | Suspended particulate | | | Benzo(a)pyrene | | |
|--------------|------------------------------------|-------|-------|-------------------------------------|-------|-------|--------------------------|-------|-------|----------------|-------|-------|
| | 08-09 | 09-10 | 10-11 | 08-09 | 09-10 | 10-11 | 08-09 | 09-10 | 10-11 | 08-09 | 09-10 | 10-11 |
| Worli | 13 | 9 | 8 | 67 | 41 | 32 | 183 | 201 | 197 | 0.59 | 0.90 | 0.50 |
| Andheri | 13 | 12 | 8 | 86 | 53 | 40 | 263 | 227 | 203 | 0.23 | 1.30 | 0.70 |
| Bhandup | 18 | 14 | 10 | 67 | 29 | 34 | 206 | 200 | 198 | 0.37 | 1 | 0.70 |
| Borivali | 08 | 7 | 7 | 31 | 22 | 14 | 129 | 113 | 125 | 0.15 | 0.80 | 0.30 |
| CPCB Stds | 50 | | | 40 | | | 140 | | | 1.0 | | |

Units: Micrograms per cubic metre of air CPCB Stds.

The environment status report published by the BMC in September 2011 blames construction activities for pollution. The NEERI report showed that construction including paved and unpaved road, dust, is responsible for as much as 38% of the emission load of particulate matter (PM) in Mumbai. Power plants are second, 20.9% land fill open burning at 10.8%. Every year BMC prepares an environment status report at _____ stations, Worli, Khar, Andheri, Bhandup, Borivali, and Maravli. It was found that while level of SO₂, benzo(a)pyrene, and lead were less but NO₂ levels were greater. Regarding quality of air in four metro cities on a scale of 5 was:

| | |
|---------|-----|
| Delhi | 2.7 |
| Chennai | 2.2 |
| Mumbai | 2.1 |
| Kolkata | 2.0 |

4. Pollution Due to Vehicles: Vehicles creates mainly two types of pollution:

- Air pollution
- Noise pollution

Air pollution is common in metropolitan cities like Mumbai. Vehicles contribute the following cocktail entering the lungs of Mumbaikar's, Nitrogen oxide, benzene, carbon dioxide, carbon monoxide, organic compounds and particles; more people may be dying because of pollution than road accidents.

“November 2001 and January 2002”, a study conducted indicated vehicular pollution at three main traffic junctions was 5/7 times higher than the accepted norm. Today, i.e., in January 2012, the traffic of Mumbai has increased tenfold. Even by introducing certain measure like pollution check, unleaded petrol, CNG, euro-standards vehicles pollution still exists.

Hindustan Times, New Delhi, August 24, 2009, reported that Mumbai is the new pollution capital; reasons roads are more congested and fewer vehicles are running on CNG. The CO₂ and particulate matter emission load from Mumbai buses, three wheelers and taxis is more than four times that from similar vehicles in Delhi.

The second pollution which is increasing alarmingly is noise pollution due to traffic congestions and horn blowing. It is harmful and affects human health. There are laws to control Noise Pollution and Noise Pollution (Regulation and Control) Rules, 2000, but still noise generated by vehicles is increasing. Noise is generated because of transportation activities by vehicles, railways, aircrafts, factories, etc. Noise pollution is excessive, displeasing human, animal or machine-created environmental noise that disrupts the activities or balance of human and animal life. Poor urban planning gives rise to noise pollution.

5. Pollution Caused Due To Generation Of Energy Or Electricity: Noise pollution is a type of energy pollution. The other forms of energy pollution are heat, light pollution. Almost all energy production and use involves some form of pollution of environment. In Mumbai, we have

petroleum refineries, Tata Power generation company, Nuclear Power generation company, small generators used by companies and for domestic purposes. Radiation due to cell-phone towers, companies producing power or electricity. E.g., coal and oil power plants pollutes air, nuclear power plants generates radioactive waste, radiation, heat emissions. These have impact on environment which leads to global warming. WHO has classified mobile phone radiation on the IARC scale into 2B - possibly carcinogenic.

6. Pollution Due To Generation of Waste: One of the important causes of pollution is generation of waste. Waste generation sources are mainly two:

- Industrial waste
- Domestic waste

Waste is either solid waste or liquid waste. It can be further classified as hazardous or non-hazardous. Industrial waste is generated by factories, large, medium and small scale. Large and medium size factories have waste disposal and effluent disposal system, strictly controlled by Pollution Control Board and pollution laws. What is uncontrollable is waste generated by SMEs. The other sources of waste generation and pollution under commercial categories are:

- Restaurants
- Eateries
- Hotels
- Hospital and Nursing homes
- Hawkers
- Vendors
- Tanneries
- Abattoir

Domestic waste generated by societies, houses is collected by municipalities and in Mumbai by BMC – domestic waste collected by BMC is dumped or burnt out.

Sustainable development

The term “sustainable development” was brought in use by the World Commission on Environment and Development (i.e., the Brundtland Commission) in its seminal 1987 report *Our Common Future*. This commission was set up by U.N.O. in 1983. The definition of sustainable development is “sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.” If we go by this definition and analyze the situation in Mumbai and its neighboring districts of Thane and Raigad then in the name of development, growth, modernization, urbanization “we are destroying the natural wealth, resources, flora and fauna, and giving our future generation a planet with global warming, disturbed eco-system, destroyed bio-diversity.” On the Environment Day, June 5, an article was published in Times of India, Mumbai, explains about city’s flora and fauna and decline in various species. The eco-system of Mumbai is disturbed and is irrespirable; this may have impact on weather, climate and ecological balance; future generation may have different problems. As observed, the atmospheric changes in 2005 were due to hazardous emissions. The CO₂ in atmosphere (379 ppm) exceeds natural range of 650,000 years (180 to 300 ppm). Methane in atmosphere (1774 ppb) exceeds natural range of 650,000 years (320 to 790 ppb). The primary source of the increase in CO₂ is fossil fuel use and land use. Changes in case of methane is agricultural activities and fossil fuel. NO₂ concentrations have gone up from 270 – 319 ppb because of human activities. All these means hotter summers, warmer winters ahead, and the Pune based Indian Institute of Tropical Meteorology (IITM) has projected that maximum temperature will increase by at least 3 degrees towards the end of this century even if all greenhouse gases and aerosol emission are stopped immediately.

Bio-diversity and eco-system

Eco-system includes biotic and abiotic components, i.e., the producers (autotrophs) and

consumers (heterotrophs). Thirdly, the decomposers like bacteria, fungi, which help decay of dead matter and so keep the eco-system healthy. The nature maintains equilibrium between the various components; animals eat but they never overeat. They eat for survival. Nature balance various species, i.e., ecological balance, which is dynamic and related to generating and survivals. Thus, all natural cycles occur properly. The ecological balance gets disturbed due to extreme climatic fluctuations, natural disasters, or by commercial activities. Bio-diversity means the presence of natural plants and animals. High bio-diversity means where large variety of plant and animal species exists. In case of Mumbai and Thane, bio-diversity was very high in 18th and 19th century but has gradually fallen in 20th century and situation is bad in 21st century. The Times of India, February 12, 2011, publicized an article “bio-diversity boost in offing at Juhu-Mumbai.” The Juhu Airport was commissioned in 1928 when the area was fishing village. The state made provision in 1967 Development Plan (DP) to mark 14 reservations on residential zone around the airport. A revision was made in the plan in 1984 and 7 reservations were added. Changes continued; the state introduced a sport complex, a training centre, and roads by 1993. DP was finalized and number reached 30. The BMC recently began the process of turning the area around Juhu Airport into a “wonder bio-diversity zone.” According to the report of International Union for Conservation of Nature (IUCN), they have Red Data List, a total of 144 bird species from India are at risk. Of these, 30 are found in state including Mumbai. E.g., Lesser Flamingo, Malabar Pied Hornbill, Black-Headed Ibis, Pallid Harrier, Black-Bellied Tern, and White-Rumped Vulture.

The latest live stock census released by the Union Department of Animal Husbandry Dairying and Fisheries have details as following:

| Animals | 2003 | 2011 | Percentage |
|----------------|-------------|-------------|-------------------|
| Dogs/Canines | 22,547 | 30,758 | 36% increased |
| Sheep | - | 213 | 99% drop |
| Horses/Ponies | 869 | 143 | 86% fall |
| Buffaloes | 76,019 | 22,956 | 70% decline |
| Donkeys/Pigs | 5,928 | 624 | 41% / 23.8% fall |
| Camel | - | - | 95.49% fall |

On analysis of the above, it indicates that the bio-diversity in the last decade is decreasing at an alarming rate.

The Times of India, June 10, 2011, reported “City’s animal kingdom in decline.” Regarding the surrounding areas of Mumbai and Thane, the forests have shrunk; birds are in danger due to commercial projects, uncontrolled development, tourism and hunting, eating into feathered species; even the protected areas are not spared. High tourism pressure is observed in Bhimashanker Wildlife Sanctuary, Sanjay Gandhi National Park, and Harishchandragad leading to substantial disturbance.

Conclusion

The environmental problems and pollution issues do exist in city of Mumbai, Thane, and Raigad. The human environment issue was first discussed in June 1972 at Stockholm Conference, i.e., U.N. Conference on Human Environment. There was a convention on climate change in 1992; convention on biological diversity 1992; the Rio-Declaration on Environment and Development, 1992. After all this, India became environment conscious and passed laws related to air pollution, water pollution, conservation of forest, wildlife, environment protection; and also set up Pollution Control Boards at Central and State levels; established National Environmental Tribunal. For last 40 years, many laws, rules, regulations were passed but the question is what is the impact of this on environment degradation. India as a country is still blamed for global warming, carbon footprints, greenhouse gases and if we talk about Mumbai for last 40 years, the situation has not improved. The

papers, reports, research articles, the NGOs, the environmentalist all are talking about:

- Increase in pollution level
- Decrease of flora and fauna
- Climatic changes
- Decrease in bio-diversity
- Eco-system or eco-balance distribution
- Sustainable development in question
- Decrease in quality of life

The question is what is going wrong? The damage done to the environment is reversible or irreversible. Are planning, policies, strategies right or wrong? What type of environment or city we are going to give to our future generations? The objective of this paper is to create further environment awareness among those people who is contributing to environment degradation and pollution. The recommendation would be to review our entire system related to environment management. Solutions could be:

- More awareness on environment through education and NGOs
- Strictly monitoring pollution through different authorities.
- Periodical environmental audits and actions on audited reports
- Regular periodic census of flora and fauna
- A strong body or authority like pollution control board where all issues related to environment are reported and strict action is taken.

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Understanding Medical Tourism in Context with Indian Economy

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Introduction:

In dictionary of Geography tourism is defined, “as making a holiday involving an overnight stay away from the normal place of residence. This is in contrast to recreation which involves leisure activities lasting less than twenty-four hours.

Is it a new concept? Certainly not. If we look in to history then we will find that in Greek Civilization more than thousand years back, Greek pilgrims used to travel in Saronic Gulf called Epidauria, sanctuary of healing God Asclepius. But marketing of Medical Tourism is new concept.

Much of this growth has been fueled by countries with mature economies such as UK, Middle East, Japan and United States. Due to large populations and high expectations of healthcare services, many medical treatments or procedures incur high costs and long waiting periods.

Services typically sought by travelers include elective procedures as well as complex specialized surgeries such as joint replacement (knee/hip), cardiac surgery, dental surgery, and cosmetic surgeries. Individuals with rare genetic disorders may travel to another country where treatment of these conditions is better understood. However, virtually every type of health care, including psychiatry, alternative treatments, convalescent care and even burial services are available.

Even Indian Medical Industry is making its impact on world map. Citizens of different countries are looking forward to India not only for ancient Aayurveda, Yoga or Kerala Aayurvedic massage but even for modern medical treatments also. There are various reasons behind this like low medical treatment cost in India as compare to developed countries, more skilled treatment, world recession and Indian hospitality.

Though mostly all reasons why foreigners travel to India is mentioned in aforementioned paragraph but if we go continent wise all of them have their own reason like:

- ❖ USA- Cost effectiveness
- ❖ Europe- Easy availability of healthcare services
- ❖ West Asia & Africa- Affordability & quality of service

Medical tourism is a growing sector in India. India’s medical tourism sector is expected to experience an annual growth rate of 30%, making it a \$2 billion industry by 2015. An estimated 150,000 of these who travel to India for low-priced healthcare procedures every year.

Why Medical Tourism is essential

Medical Tourism gives an opportunity to Indian Medical Industry to show their skill without actually visiting such foreign countries, this is called as deemed export which earns valuable foreign exchange for the country. It even generates lot of employment opportunities which would help in eradication of poverty. Health and medical tourism is perceived as one of the fastest growing segments in marketing ‘Destination India’ today. So far this area has been relatively unexplored. It is expected to grow rapidly with growth of economy and more medical facilities made available in India.

The sector is witnessing a ‘reverse brain-drain’ trend, with increasing number of specialists, who have been practicing abroad, showing keen interest to come back and practice in India. Such developments further enhance the potential of India as a ‘healthcare hub’ of the world.

India's highly-rated and efficient education system is churning out some 20,000 to 30,000 doctors and nurses each year, and its healthcare system has the capacity to extend its services much further. There is also healthy competition between the private and public sector, making the potential and outlook of medical tourism in India particularly attractive both in terms of costs and services.

Even following cost comparison can give us idea why foreign tourists are attracted towards India.

| Procedure | Knee Replacement | Hip Replacement | Lap. Gastric Bypass | Face Lift | Heart Valve Replacement With Bypass | Heart Bypass |
|------------------|-------------------------|------------------------|----------------------------|------------------|--|---------------------|
| USA | 55,000 | 57,000 | 52,000 | 16,000 | 1,35,000 | 1,30,000 |
| India | 9,150 | 7,200 | 9,400 | 4,780 | 9,500 | 6,950 |
| Mexico | 14,700 | 13,900 | 11,200 | 11,200 | 30,000 | 27,200 |
| Singapore | 9,800 | 12,000 | 16,200 | 7,400 | 22,700 | 16,600 |
| UAE | 40,000 | 46,000 | 30,100 | 12,000 | 50,200 | 40,900 |
| Costa Rica | 10,900 | 11,400 | 10,400 | 5,200 | 30,000 | 24,400 |
| Malaysia | 12,000 | 7,800 | 12,800 | 6,600 | 13,900 | 12,500 |
| Thailand | 11,400 | 12,900 | 12,800 | 5,300 | 25,500 | 22,000 |

Indians, NRIs and tourists from around the world are beginning to realize the potential of modern and traditional Indian medicine. Indian hospitals and medical establishments have also realized the potential of this niche market and have begun to tailor their services for foreign visitors. At a regional geo-political level, this nascent industry came to limelight with the arrival of 'Naby Noor' from Pakistan, who came by the Indo-Pak bus service and got a red-carpet treatment at hospital in Bangalore. Many prefer to combine their treatments with a visit to the 'exotic east' with their families, killing two birds with one stone.

With an estimated 1.5 lakh foreigners already flying to India for medical treatment annually, the country is poised to capture the fast-growing market for off-shore health care and help solve the crisis of surging medical costs in the developed world.

Mumbai's Jaslok Hospital has a floor devoted to Gulf patients, which are among the 1.5 lakh foreigners flying to India each year for knee, hip, and spine and heart surgery at bargain prices. The Indian hospitals have all the latest Western kit with machines identical to those in top US and British hospitals but the prices are not. A study by the Confederation of Indian Industry forecast that medical tourism will reach \$2.3 billion dollars a year by 2012 and could further rise significantly.

Leading hospitals in India offering medical tourism facilities are:

- Apollo Hospitals, Chennai
- All India Institute of medical Sciences (AIIMS), New Delhi
- B. M. Birla Heart Research Centre, Kolkata
- Breach Candy Hospital, Mumbai
- Jaslok Hospital, Mumbai
- Tata Memorial Hospital, Mumbai
- Wockhardt Chain of Hospitals,

The insurance companies are a vital link in the medical/health tourism network, especially in case of medical interventions that are of major type. The patients prefers getting himself insured before undergoing the operation to be on the safe side considering the high cost of the major operations. While companies specializing in arranging trips for medical tourists are flourishing,

insurers have been slow to adapt to this new market. Insurance companies in India are offering cover to the patients who need major medical interventions and the doctors too are supportive to their cause. The processing of the papers is also done quickly by the insurance companies. But it is the settlement of the bills of the doctors by the insurance companies that is presently very slow, with delays of over six months and more.

In certain cases, the medical tourist needs to check with their insurance provider whether treatment at an internationally recognized hospital in India is covered by their policy. If not, the patient will have to bear the expense of their treatment.

The travel agents are contracted by the major hospitals that treat the medical tourist and then send him to recuperate in some serene, quite and picturesque locale which many times help in the early recuperation. This also helps the medical tourist to visit beautiful locations rather than convalescing inside the hospital.

A most recent entrant in the field of medical tourism are the independent medical referral companies that review the individual's medical history and then recommend a doctor and hospital best suited for that particular patient. These medical referral companies use their knowledge of the medical community and institutions to ensure that the patient goes to a reliable medical facility with a proven track record of treating foreign patients. They also provide a complete service offering: visa and ticketing assistance, local transfers, complete coordination of treatment and recuperation, holidays in India, etc. Aarex India in Mumbai is one such agency. Aarex India has received and treated patients from USA, Europe, Africa and Asia.

Government's Role & Policies:

The Government of India has recognized the economic potential of medical tourism. The Ministry of Tourism (MOT), Government of India has taken following steps:

- ❖ Enhanced duration of Mvisa (6 months) & MXvisa (3 years- subject to Doctors approval).
- ❖ Quick completions of Visa work at embassy level say within 48 hours.
- ❖ MXvisa for spouse/children of patient not more than two.
- ❖ Government introduced National Health Policy for treating international patients as export.
- ❖ Efforts being made for promotion of Medical Tourism in overseas markets.

Till now, only a few big private healthcare providers such as Apollo, Fortis, Wockhardt and Max were creating their individual brand awareness in overseas markets through tie-ups with insurance companies and patient facilitation centers. Now a number of smaller healthcare providers are working in collaboration with the government to launch a comprehensive programme to promote medical tourism. These include putting in place an accreditation system for domestic hospitals and healthcare providers, drawing up a price band for super specialty services offered by Indian hospitals, adoption of country-specific marketing strategies, opening of overseas facilitation centers and tie-ups with overseas insurance companies.

As the concept of medical tourism continues to gain momentum in India, the Ministry of Health and Family Welfare, with the Ministry of Tourism, has stated that a National Accreditation Health Board has to be set up for maintaining international standards in our medical facilities.

The Task Force constituted in this regard in consultation with the Confederation of Indian Industries (CII) is in the process of formulating a policy for accreditation of hospitals both in modern system of medicines and Indian systems of medicine.

Though this is a booming sector but healthcare tourism sector also has its own challenges. The domestic healthcare infrastructure indicators of India highlight several areas for improvement. With

limitations in public healthcare spending, private sector has a major role to enhance the healthcare infrastructure in India. Indian healthcare service providers need to prove quality consciousness and get international accreditation. The negative perceptions about India, with regard to public sanitation/hygiene standards or prevalence of contagious diseases, counter the positive vibes created by the cost competitiveness of Indian healthcare systems. In India, the Human Organs Transplant Act, 1994 has laid down various regulations; the Act does not permit foreigners availing organs from a local donor. Countries like Singapore have an enabling organ transplantation Act, which promotes 'transplantation tourism'. Availability of hotel rooms in India is considered to be more difficult as compared to other countries. In addition, the cost of accommodation is another hindrance to middle-level international travellers visiting India.

It is necessary to package the healthcare and tourism services, in a better manner, so that India could attract more travellers from abroad seeking healthcare solutions. Public-Private Partnership is required to provide quality services to attract potential healthcare seekers from various countries.

Promotion of healthcare tourism would result in development of associated sectors, such as medical equipment manufacturing, telemedicine, medical diagnostics, outsourcing of hospital administration and health insurance. There are also opportunities in the infrastructure sectors, due to higher demand for travel (airlines, road / rail transport, hotels, hospitals) and communication (telephone, internet). Newer models of campaigning and promotions provide business opportunities for media and mass-communication segments. Consultants, in a wide spectrum of areas covering healthcare, tourism, infrastructure, communications, media, marketing and promotions, are likely to get business opportunities with the growth in healthcare tourism sector. With such greater level of opportunities, financial institutions can play an increased role in supporting healthcare and healthcare-tourism associated projects in India and abroad.

To capitalize on medical tourism and build a sustained public-private partnership in the hospital industry, the Indian government is supporting an initiative by well known heart surgeon Dr. Naresh Trehan to build a "Medi City" in Gurgaon, on the outskirts of Delhi. The compound will include a 900-bed hospital that supports 17 super specialties, a medical college and paramedical college. The project, on 43 acres of land, will cost an estimated \$493 million. The Medi City will integrate allopathic care with alternative treatments, including unani, ayurvedic and homeopathic medicine, and it will provide telemedicine services as well.

So to make the most of this opportunity India needs to follow proactive marketing strategies thru which we can market our Medical tourism activity.

For this following steps may be taken:-

- Aggressive marketing of so to create awareness about our programme around the globe.
- Contact details of Key personnel & hospitals should be made available thru internet to have more global exposure.
- Ares of core competencies along with rate cards for services offered of Indian Corporate Hospitals should be published in all International Magazines/journals/news papers.
- Even India should think about forming a Indian Medical Tourism Corporation at government level which can take care of forming international branches, having liaison cell in India and abroad, printing brochures giving details our hospitals, rates, consultants details etc.
- Special attractive treatment, travel & tourism packages should be made available at competitive rates.

- Even arrangement should be made for special Chartered International flights for medical tourism with all inbound facilities.
- For marketing Indian Medical Tourism what is required is proper use of media on similar line of ad-campaigns like “Incredible India”.
- Even all corporate hospitals must open their consortium in developed countries to guide foreign tourists to India.
- At government level regulatory authority should be formed which can look after issues pertaining to Medical tourism like tourism policies, ethics, rate cards etc.
- Such authority must collect data of uninsured patients from USA or other developed countries and attract them to India.
- Also insurance companies should come up with policies exclusively for foreign patients at low cost as compared to what is available to them in their own country.
- Government must provide more tax benefits to this sector than what is available as mentioned earlier.
- Some kind of institutional training at University level also vocational training is also required for steady and progressive growth of medical tourism sector. Like PG Programme recognized by Universities or UGC.

Summary:

Medical Tourism though concept is old but its marketing is a new one. India is already and going to be giant in the field of Medical Tourism because of low cost medical aid provision as compare to developed countries with very courteous treatment as our culture says, ”Atithi Devo Bhava”. At the same time we have good medical staff with ability to speak good English where we have outscored China one of our competitor in this field. So time has come to reap the fruits and become industry leader for which steps need to be taken both at government and private sector level.

* * *

Information and Communications Technology (ICT) and Empowerment of Women in India

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Abstract :

ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. If access to and use of these technologies is directly linked to social and economic development, then it is imperative to ensure that women in developing countries understand the significance of these technologies and use them. According to the European Commission, the importance of ICTs lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations. Over the past decade, there has been a growing understanding that these technologies can be powerful instruments for advancing economic and social development through the creation of new types of economic activity, employment opportunities, improvements in health-care delivery and other services, and the enhancement of networking, participation and advocacy within society. This paper explores how and to what extent the ICTs have been increasingly promoted as a key solution for empowerment of historically disadvantaged groups especially women in the Indian context. The exemplary role of the United Nations in the empowerment of the downtrodden women is discussed as India has been a signatory to all U.N Resolutions about the subject. The guarantee given by the Indian Constitution is also discussed briefly.

Introduction :

“You can tell the condition of a nation by looking at the status of its women”- **Jawaharlal Nehru.**

Women’s empowerment is a new phrase in the vocabulary of gender literature. The phrase is used in two broad senses i.e. general and specific. In a general sense, it refers to empowering women to be self-dependent by providing them access to all the freedoms and opportunities, which they were denied in the past only because of their being women. In a specific sense, women empowerment refers to enhancing their position in the power structure of the society.

“Women empowerment is essentially the process of upliftment of economic, social and political status of women, the traditionally underprivileged ones, in the society. It is the process of guarding them against all forms of violence.”¹ Kofi Annan considers violence against women as the most shameful of human rights violation. To him, “violence against women takes various forms such as : domestic violence, rape, trafficking in women, forced prostitution and violence in armed conflict (such as murder, systematic rape, sexual slavery and forced pregnancy) and honour killings, dowry related violence, female infanticide and parental sex selection in favour of male babies, female genital mutilation and other harmful practices and traditions”². Women empowerment involves the building up of a society, a political environment, wherein women can breathe without the fear of oppression, exploitation, apprehension, discrimination and the general feeling of persecution which goes with being a woman in a traditionally male dominated structure. Deepa Narayan in her edited book ‘Measuring Empowerment’³ (www.oup.com) regards “Empowerment as the expansion of assets and capabilities of poor people to participate in, negotiate with, influence control and hold accountable institutions that affect their lives “

History :

In 1792 Mary Wollstonecraft published *A Vindication of the Rights of Woman*⁴, arguing that it is not charity that is wanting in the world—it is justice. The book captures the essence of women's struggle for rights. The fight for women's rights would prove to be a long and gruelling process in India, but British presence would prove to play a positive role in this process. The fight would be especially difficult because those religious traditions that were part of the culture in the country were very adamant in their beliefs on the role of women in society, but British seemed to be determined to turn India into what they deemed as a civilized nation. With this in mind it could be argued that the British are actually responsible for starting a women's rights movement in India.

The efforts of Raja Ram Mohan Roy to uplift the condition of women by educating them had its social impact. As early in 1819, a school for females was opened at Calcutta by the Calcutta Female Juvenile Society. Women's education became more common after the Hindu Girls College, the present Bethune College, was established in May 1849 due to the efforts of J.E.D. Bethune, President of the council of Education. Ishwar Chandra Vidhya Sagar, the great social reformer of Bengal after Raja Ram Mohan Roy also played an important part in the spread of women's education.

On December 10, 1948 the United Nations adopted and proclaimed the "Universal Declaration of Human Rights."⁵ It called upon member nations to adopt and implement these rights in their respective countries. This declaration was a momentous achievement because it was for the first time that human rights were codified and steps were taken for the preservation of human rights. "India had taken an active part in the drafting of the UDHR. The Indian delegation led by Dr. Hansa Metha had made important contribution in the drafting of the declaration, especially, by highlighting the need for reflecting gender equality".⁶ The women's question, like the untouchability question or the communal question, emerged during the national movement as a political question that had to be solved to give shape to the vision of a free Indian nation. It is my contention that this political aspect of women's equality or inequality has never received adequate attention from historians or other social scientists - a neglect which has helped to perpetuate many ambiguities, mis-conceptions and under-valuation of this issue. The primary role of women's studies in the contemporary period is to rectify this neglect and to generate both empirical data and theoretical perspectives to place the issue in its proper context.

India and women Empowerment :

Ministry of Health and Family Welfare, Government of India conducted a National Family Health Survey (NFHS-3)⁷ in 2005-06 and in its summary and key findings it was asserted that gender equality and empowerment are two sides of the same coin and both have multiple dimensions that together yield a wide variety of indicators. Over the past decade, gender equality and women's empowerment have been explicitly recognized as key not only to the health of nations, but also to social and economic development. India's National Population Policy 2000⁸ has empowering women for health and nutrition as one of its crosscutting strategic themes. Additionally, the promotion of gender equality and empowering of women is one of the eight Millennium Development Goals (MDG)⁹ to which India is a signatory. "M.D.Gs and Human rights have a common ultimate objective and a mutually enforcing manner. Its commitment promotes human welfare and the protection of basic rights of all sections of the community."¹⁰ write Sivadasan. E.N about MDG.

In India, the empowerment process has already begun. We are now witnessing a steady improvement in the enrolment of women in schools, colleges and even in professional institutes. Their health is better as compared to earlier decades. In this decade, women are entering into the job market in increasing numbers. They are showing their skills even in non-traditional sectors like police, defense, administration, media and research fields. Twenty-six laws have been enacted so

far to protect women from various crimes. The recent law on the 'protection of women against domestic violence' satisfies the long pending demand of the women activists. In the political field, the reservation for women is a significant step forward towards their political empowerment. "Women have already captured 40 per cent (numbering more than a million) of the seats in panchayati raj institutions, exceeding the constitutionally mandated one-third. It is good that the Government is all set to raise this to 50 per cent soon. However, women form only 15 per cent of the civil service, although many of them have risen to high positions in Government, bureaucracy, police, armed forces, professions, science and technology, business, industry and the corporate world."¹¹ When thirty-three percent reservation for women in Parliament becomes a reality, women's voice will be heard in the highest forum of democracy. The day, women of India will reach zenith in their empowerment. But a lot of work has to be done as there is a category of women (who consider themselves highly educated) that proudly accepts that they don't have digital literacy even though they own a computer, they cannot even operate bank accounts or make travel arrangements for family or handle hospital admissions even during emergencies. Even for a simple task like social visits or shopping generally they need the company of their husbands. Women in India feel proud to display that they are well protected and pampered by their husbands without realizing that they are making themselves helpless. Such women's economic literacy is so low that they cannot play any role in family's decision regarding family's budget, savings and investments. To such women, the national budget discussion is for men only and soap operas are for them. Such women suffer a lot if something untoward happens to their husbands. This type of extreme dependency is not good for the development of women. Women should remember that they are also rational, intelligent and thinking human beings. Dependant women are not empowered women. If modern women think that they are empowered, it's a myth for them. Empowerment means to inspire women with the courage to break free from the chains of limiting beliefs, patterns and societal or religious conditions that have traditionally kept women suppressed and unable to realize their true beauty and power.

Role of UN :

The questions surrounding women's empowerment the condition and position of women have now become critical to the human rights based approaches to development¹². The Cairo conference in 1994 organized by UN on Population and Development called attention to women's empowerment as a central focus and UNDP developed the Gender Empowerment measure (GEM) which focuses on the three variables that reflect women's participation in society – political power or decision-making, education and health. 1995 UNDP report¹³ was devoted to women's empowerment and it declared that if human development is not engendered it is endangered, a declaration which almost become a milestone for further development measuring and policy planning. Equality, sustainability and empowerment were emphasized and the stress was, that women's emancipation does not depend on national income but is an engaged political process.

United Nations, New York, 2 July 2010 - In an historic move, the United Nations General Assembly voted unanimously to create a new entity to accelerate progress in meeting the needs of women and girls worldwide. The establishment of the UN Entity for Gender Equality and the Empowerment of Women¹⁴ to be known as UN Women - is a result of years of negotiations between UN Member States and advocacy by the global women's movement. It is part of the UN reform agenda, bringing together resources and mandates for greater impact.

"I am grateful to Member States for having taken this major step forward for the world's women and girls," said Secretary-General Ban Ki-moon in a statement¹⁵ welcoming the decision. "UN Women will significantly boost UN efforts to promote gender equality, expand opportunity, and tackle discrimination around the globe.

The Indian State and the Women Empowerment Constitutional guarantee

Chiranjivi J Nirmal in his book "Human Rights in India"¹⁶ writes. "What happens to women in traditional and fundamentalist contexts is the evidence of their reluctance to communicate and examine the realities of their own experience, which remains a heavy burden of our own history. Violence against women extends beyond their bodies. The role of the judiciary and its judgments created a more acceptable climate for reform"

The principle of gender equality is enshrined in the Indian Constitution in its preamble, fundamental rights, fundamental duties and directive principles. The Constitution not only grants equality to women but also empowers the state to adopt measures, a position; indiscriminate in favour of women. Within the framework of democratic polity, our laws, developmental policies, plans and programmes are aimed at women's advancement in different spheres.

(Article 14 of the Constitution of India guarantees equal rights and opportunities to men and women in political, economic and social spheres, Article 42 directs the State to make provision for ensuring just and humane conditions for work and maternity itself and Article 51 (A) e imposes upon every citizen, a fundamental duty to renounce the practices derogatory to the dignity of women.)

The status of women in India has been undergoing a sea-change. Supported by Constitutional guarantees to ensure dignity and equal opportunities, their active participation in all walks of life including education, politics, sport etc., has been growing. Several laws have also been adopted to empower women socially, economically, legally and politically. Considering the role of rural India, the country's backbone, the Government had taken several measures to strengthen Panchayati Raj system with the active participation of women. This gave a boost to increase the number of women being elected to the Lok Sabha and State Assemblies, an indication to suggest their political empowerment.

How to empower Women

The best way of empowerment is perhaps through inducting women in the mainstream of development. Professor Amartya Sen taking a much wider view of development talks of development as the process of expansion of entitlement - ie. Giving life sustenance and self esteem - and capabilities: giving freedom¹⁷. Development improves quality of life through the process of expansion, ensures freedom from hunger, exploitation, discrimination and oppression and also infuses a sense of self belief and provides the strength to stand up against violence. Dr. Noeleen Heyzer, executive director UNIFEM (United Nations development fund for women) delivering the keynote address at the regional conference on development effectiveness through gender mainstreaming strongly observed "Development effectiveness is an act of transformation to end violence, poverty and discrimination". Economic independence is the basic premise behind empowerment through development. While women's participation in the development process provides them employment opportunity and the opportunity to get out of the clutches of poverty, malnutrition, illiteracy etc, economic independence imbues confidence and the strength to stand up and think about their future. Employment generating schemes in rural areas providing preferential treatment to poor women workers may prove to be a good move in this direction, but it needs a definite preconceived development strategy and pattern. Growth itself does not guarantee gender equality and women empowerment. The present mode of production based on the market system has no inbuilt system of minimising gender disparity; rather it thrives on opportunities created by gender relations for power and profit.¹⁸. Economic empowerment can be a handy tool in as much as enabling a woman to lead a graceful existence in her family and society but may not prove too

potent a weapon in the larger more grim battle against social, political and even economic oppression, which warrants collective strength. In a democratic setup collective strength emanates from political participation.

It requires some legislative compulsions for mending the working of political and social institutions, which if left to them are unlikely to change in favour of women. It thus calls for, essentially, an active participation of women in the decision making process. Empowerment of women through legislation then provides the women with a constitutional platform to stand up to men, to raise their voice on issues concerning women oppression, subjugation and related issues and thus in effect, providing them with an identity in an orthodox male dominated socio-political setup, in addition to providing a much needed forum to seek redressal of problems directly affecting them: the true essence of empowerment. In a decentralised federal structure, with growing emphasis on the implementation of various employment and income generating schemes, participation of women in the decision making process at the Panchayat Raj institution level becomes imperative if they are to seek any meaningfully significant gains for themselves.

According to Mahatma Gandhi, "If you educate a man you educate an individual, but if you educate a woman you educate an entire family." Our predominant patriarchal system doesn't provide enough chances for women to have higher education even if they wish. Girls should be motivated to take up higher education. Universal education for all below 14 years should be strictly implemented. There is an urgent necessity of framing gender sensitive curricula at all stages of primary education to address sex-stereotyping menace.

Women should be allowed to work and should be provided enough safety and support to work. Legislatures such as Equal Remuneration Act, Factories Act: Constitutional safeguards such as maternity relief, and other provisions should be strictly followed. Poverty eradication policies need to be implemented. Macroeconomic policies would help in this drive. Through economic empowerment women's emancipation could be realized. The success of "Kudumbasree"¹⁹ units in Kerala is a wonderful example of the upliftment of women through economic empowerment. Launched by the Government of Kerala in 1998 for wiping out absolute poverty from the State through concerted community action under the leadership of Local Self Governments, Kudumbashree is today one of the largest women-empowering projects in the country. The programme has 37 lakh members and covers more than 50% of the households in Kerala.

Dowry still remains the major reason for all the discrimination and injustice shown to women. Dowry has always been an important part of Hindu marriages. Not only among Hindus, are its evil tentacles now spreading to other religions also. Although dowry was legally prohibited in 1961, it continues to be highly institutionalized.

Some qualities to be acquired by women to become truly empowered are awareness about risk prevailing at home, in work place, in travelling and staying outside home. They should have political, legal, economic and health awareness. They should have knowledge about support groups and positive attitudes towards life. They should get goals for future and strive to achieve them with courage. The best gift parents today can give to their daughters is education. If women choose to be ignorant then all the efforts taken by the Government and women activists will go in vain. Even in twenty-fifth century, they will remain backward and will be paying a heavy price for their dependence. So, it is a wake-up call for women to awake from their deep slumber and understand the true meaning of their empowerment.

ICT and Women Empowerment

Advantages of using ICT as a tool for Empowerment

ICT opens up a direct window for women to the outside world. Information flows to them without any distortion or censoring. This leads to broadening of perspectives, greater understanding of their current situation and the causes of poverty and the initiation of interactive processes for

information exchange. There are numerous possibilities for ICTs to improve women's economic activities in the field of trade, governance, education, health, crafts, employment in formal as well as informal sector. ICT's also bring lot of opportunities to women in the work situations and small business. ICT can deliver potentially useful information, such as market prices for women in small and micro-enterprises. For example, use of cellular telephones illustrates how technology can be used to benefit women's lives, by saving travelling time between the market and suppliers, by allowing women to call for product prices and by facilitating the constant juggling of paid and unpaid family activities. Gaining the required skills further empowers women to use ICT in order to increase their employment choices and contribute to community development.

ICT has played an important role in changing the concept of work and workplace. New areas of employment such as teleporting, i.e. working from a distance, are becoming feasible with new technology. Internationally outsourced jobs such as medical transcription and software services have opened up tremendous work opportunities for women in developing countries like India, China and the Philippines. With an expected 500 percent increase in India's ICT services and back-office work, involving jobs for four million people and accounting for seven percent of GDP by 2011, women's employment in this sector is expected to grow. ICT offers women flexibility in time and space and can be of particular value to women who face social isolation in developing countries. As a result of the technologies, a high proportion of jobs outsourced by big firms are going to women. They can, therefore, work from outside the office –often from their own homes and at any time, thereby raising their incomes to become more financially independent and empowered.

Current position of ICT in India

ICTs are emerging as a powerful tool for gender empowerment in a developing country like India. There has been a rapid growth in the ICT sector since the late 1980s and the use of ICT has dramatically expanded since the 1990s. According to the Andhra Business Bureau ²⁰, teledensity in India was 3.8% of the population in 2001 and now in 2010 it has grown to a staggering 50%. The number of internet accounts is growing at a rate of 50% per annum. The IT and ITES (IT enabled services) sector is projected to grow 18% in the coming years to become an industry of Rs 4.58 lakh crores by 2011, according to an IDC release (IDC is the Premier Market Intelligence firm based in USA). But there is a strong digital divide in society. This gender digital divide in India is characterised by low levels of access to technologies. Poverty, lack of computer literacy and language barriers are among the factors impeding access to ICT infrastructure, especially in developing countries like India.

Challenges of ICT use as a tool for Empowerment

Access and cost of access:

Access is the fundamental issue necessary for women's empowerment. Access to affordable services and availability of infrastructure is, without a doubt, a major requirement if ICT are to be used for women's economic empowerment. While focusing on access to telecommunications and ICT infrastructure, it is important to note that there is other infrastructure and service related factors that may influence the use of ICT, such as availability of electricity, transportation means and security, among others. The cost of ICT continues to be a major development obstacle, particularly in the developing world. In semi-urban and rural areas the problem is even bleaker, where infrastructure is either old or non-existent. And these areas are home to a great majority of women and poor populations. If ICT are to become a means for improved economic conditions, particularly in rural and semi-urban areas, ICT policy and programs must address the needs of women and the poor in general.

Socio-Cultural factors

Language limitations and lack of Education and skills are some of the socio-cultural

factors that limit the use of ICT. With a great percentage of illiterate women and many speaking local and regional languages, ICT face tremendous challenge to be effectively used by these communities.

Women have other priorities and until they can see the tangible benefits from using ICT, they will not embrace them. In addition, with the large percentage of illiterate women in the informal economy, ICT for development advocates will have to develop new and innovative ways to reach women and demonstrate that ICT can in fact benefit their economic activities and contribute to improved living conditions.

Solution

The prime solution to this obstacle is providing community access to ICT. Community access to ICT addresses two of the greatest challenges in ICT use: lack of access and the cost of access. Community access can be provided in numerous ways, such as with phone shops, telecenters (with different models for different settings), public phones, libraries, among others, and in strategic locations (e.g., near or at the informal market area, adjacent to health clinics or support organizations, at women's organizations, etc). Community access can be affordable and based on dependable technology solutions (e.g., wireless and fixed wireless and satellite connections) that can rapidly be installed and effectively utilized. While this is not the topic of this paper, it is important to note here that any solution to provide access, particularly in rural areas or areas with no infrastructure at all (traditionally believed to be unattractive for private investment due to high costs and low demand potential), must be accompanied by regional and national policies that promote and facilitate the development and deployment of ICT in these areas. Such policies may include, among other things, community access tariffs, subsidized tariffs for areas with extremely low incomes, and special incentives for companies that invest in rural areas.

Access to ICT is highly dependent on telecommunications infrastructure, particularly if one is focusing on telephone service, faxes, e-mail and the Internet. However, the use of ICT is not only based on these services. Radio, for example, provides a great source of information dissemination in many areas of the world, and so does Television. Where available, computers may be used as a source of information and

a tool for training without the use of telecommunications. These examples illustrate that ICT can be used in creative ways and in ways that are more effective and affordable than other solutions (such as browsing or obtaining the information via the Internet).

Beyond all these, the conviction and purposefulness of the Government in implementing policies are the most important factor in using ICT as a means for Empowerment. The Government has to make policies and should have the will to pursue them and implement them. The Government should act believing that this issue is of supreme importance and the rest will follow.

Conclusion

Women form half of the human beings inhabiting planet Earth. Since human rights are the rights of all human beings, male and female alike, human rights are women's rights. Notwithstanding the remarkable changes in the position of women in free India, there is still a great divergence between the constitutional position and stark reality of deprivation and degradation. Whatever whiff of emancipation has blown in Indian society, has been inhaled and enjoyed by the urban women, their population belonging to the rural areas are still totally untouched by the wind of changes. They still have been living in miserable conditions, steeped in poverty, ignorance, superstition and slavery. There still exists a wide gulf between the goals enunciated in the Constitution, legislations, policies, plans, programmes and related mechanisms on the one hand and the situational reality on the status of women in India, on the other. But despite all these there should be a strong determination among every man that every woman in this country should be honoured. Only then empowerment in its true meaning will be realized. Swami Vivekananda had

said “That country and that nation which doesn’t respect women will never become great now and nor will ever in future” and in pursuit of making India a great nation, let us work towards giving women their much deserved status.

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The Effect of Physical Education and Sport Programme on Knowledge of Health Awareness of Residential Students of Dahanu Area

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Abstract:

The purpose of the study was to assess the effect of physical education and sports programme on knowledge of health awareness of residential students of Dahanu area. The study was delimited to age group only up to 10 to 14 years, a total of 30 subjects were selected from residential students being taken for the training of physical education and sports by the jam set school (Dahanu). The study was further delimited to health awareness. Keeping in mind the feasibility criteria and the specific purpose of the present investigation health awareness was found. Health awareness questionnaire was administered before and after the programme keeping the convenience of the subjects and availability of the time. Questionnaire is one of the fundamental tools of the study.

It was being designed in such a way so that the target of the study could be achieved. The questionnaire was constructed by consulting the guide and subjects experts. Also, the procedure for initial writing, trial run and re-writing was followed for finalizing the questionnaire. The copies of the questionnaire were distributed to students selected by the jam-set school for training. The researcher made personal approach to the respondents so that students could be motivated to provide desired information. The information obtained from the responses against the questionnaire was analyzed assigning numerical scores for each responses (separate for negative & positive) after this paired 't' test was used to find out that weather there is a significant difference or not in the responses obtained prior to the training and after the training and it was found that there is a significant difference in the health awareness of residential students after their participation in training based on physical education and sports programme.

Key words: health awareness, physical education, sports and Dahanu area etc.

Introduction:

It is well acknowledged that health is a multidimensional concept and is shaped by biological, physical, psychological, social, economic cultural and political factors .access to basic needs like food, safe water supply, housing, sanitation and health services influences the health status of a population and these are reflected through mortality, morbidity and nutritional indicators. An analysis of the mortality and nutritional indicators from the pre-school, primary secondary and senior secondary levels show that under-nutrition and communicable diseases are the major health problems faced by majority of the children in this country. Therefore health is a critical input for the overall development of the child since it influences signification enrolment, retention and completion of school.

The importance of physical education is no less than any other subject in the regular curriculum. Physical fitness is not only one of the most importance keys to a health body, it is the basis of dynamic and creative intellectual activity. Physical education is also about sharpening overall cognitive Abilities and motor skills via athletics, exercise and various other physical activities like material art and dance.

Need & significance of the study

There was no physical education and health awareness in the tribal area. There was very less knowledge about physical education and health awareness in tribal area students.

- This study may be helpful to the tribal area teacher.

- Due to this study interest towards the sports may be increased of tribal area students.
- It may helps students also to improve the health awareness.

Statement of the problem:

There was very less knowledge about physical education and health awareness in tribal Area students. There was researcher selected the following problem for this study. **“The effect of physical education and sport programmed on knowledge of health awareness of residential students of Dahanu area.”**

Hypothesis

H1 It may the effect of physical education and sports knowledge of health Awareness of Residential students of Dahanu area.

Objectives of the study

- To prepare the schedule for the study.
- To study the effect of health awareness on students.

Delimitation

This topic has a large scope for research the researcher has delimited as Follows.

- This study was delimited only to the physical education and sports programme.
- This study was delimited to the only residential students of Dahanu area.
- This study was delimited only the period of two month.

Limitation

- There was no control on the daily routine of the residential students of Dahanu Area.
- There was no control on daily habits of the residential students of Dahanu area.

Methodology

Design of the study

- The researcher has used a simple random group design in the present study. The Selected subjects were into one group consisting of 30 subjects the pre-test and post- test were conducted for the selected group. This group had received specific training for a Period of eight weeks.

Selection of the subjects

- The subjects for the study were 5 to 7 standard students had been selected from ‘bal nandnvan residential school jam set’ white view to find out impact of selected physical education and sports programmed training and health awareness.

Administration of questionarie

The questionnaire were distributed to 30 residential students being selected on the basis of simple random sampling, the subjects were trained by jam set school the data was taken before and after their program based on physical education and sports.

Scoring

The questionnaire consisted of positive and negative statement. Each positive and negative statement was assigned score as indicated below.

For positive statement – strongly agree (5) Agree (4) No idea (3) Disagree (2) strongly disagree (1).

For negative statement – Strongly agree (1) Agree (2) No idea (3) Disagree (4) strongly agree (5).

The individual item scores for all the statement was added to obtain raw scores for that questionnaire.

Analysis of the data:

The paired’ test was used to find out significant difference between responses taken from the children prior to the training and after the training by means of Health Awareness Questionnaire. The

level of significance was set at 0.05 level.

Table – comparison of knowledge of health awareness after pre and post test knowledge test

| est | N | Mean | S.D | df | 't' |
|------|----|-------|------|----|-------|
| pre | 30 | 55.56 | 4.19 | 29 | -8.25 |
| post | 30 | 67.73 | 7.71 | | |

*Significant level at 0.05 , df= 29, tab =2.04

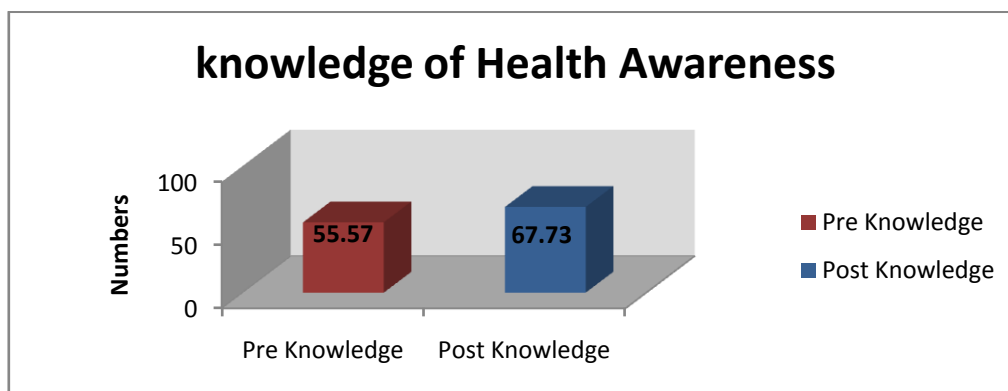


Fig. comparison graph of knowledge of health Awareness after pre and post of knowledge test

Conclusions

Based on the statistical findings of the study, it may be concluded that majority of students were benefited in a positive manner about various aspects of health and its benefits for healthy living and better life style through that training based upon physical education and sports because the calculated 't' value was greater than the tabulated 't' value showing that there is a significant difference between the pre & post test health awareness status of residential students after participation in physical education & sports programme. On this basis, the researcher concluded that the predictability of physical education and sports program on change in the health awareness of residential students is very high and it could be used on a large scale for the developments of health awareness of those students who lives in the residential area and could therefore play a vital role in the upliftment of health status of the society and the country.

Within the limitation of the study and research findings the following conclusions have been drawn:

1. It was evident that majority of residential students had very low awareness about various aspects of health and benefits for healthy living and better life style prior to the training.
2. Awareness of health was enhances as the result of administration of physical education and health & sports programme.

Recommendations

1. A similar study may be conducted by employing a large sample of subjects.
2. A similar study may be conducted by comparing the level of physical fitness of residential students.
3. A similar study could be conducted on selecting other health and nutritional aspect on different age groups and people from different strata of society.
4. A study may be conducted on finding out effect of certain dietary measures on the health and wellbeing of the residential students.

5. Similar study may be conducted for assessing the health related problem prevailing in students at growing age.

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A Preliminary Study of Aeromycoflora Present in Play Ground

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Abstract:

Airspora constitutes fungal spores, pollen, bacteria, hyphal fragments, insect's scales, etc. Some of them are toxic and causing serious health hazards in human being, as well due to their higher concentration in the air creates environmental pollution. Among them fungal forms were taken into consideration to find out the status of various types of allergic and pathogenic spores at various places and their role in causing health hazards to plants and human beings. Present investigation deals with qualitative and quantitative analysis of fungal airspora of extramural environment of a Telco play ground at Ajmera Colony in Pimpri Chinchwad area, Pune, M.S. India. The present aerobiological investigation was carried out by using Rotorod air Sampler for the period of one year i.e. from October 2010 to September 2011. Total 17 fungal forms were recorded during the study period. *Aspergillus* (12.2%), *Rhizopus* (8.3%), *Exosporium* (7.7%), *Sporidesmium* (6.8%) and *Curvularia* (5.7%) were recorded as the predominant forms whereas *Alternaria*, *Bispora*, *Heterosporium*, etc. were found with comparatively less concentration. It was observed the concentration of the spores in the air varies from season to season probably due to variation in meteorological parameters. Attempts were made to detect and identify the airborne pollen also. Majority fungal forms those reported during the study are the well known allergens.

Key Words: - Aeromycoflora, Play ground, Rotorod Air Sampler, 17 fungal forms.

Introduction :

Environmental aeromycology constitutes one of the major aspects mainly because of the dominance of fungal spores in the airspora (Tilak 1991). The spores are often liberated in the air in massive concentration and can remain airborne for a long time. The study of aerobiology has its bearing on various aspects of human health and welfare, chief of which are allergic and plant pathogenic. The fungal spore constitutes a major component of airspora. Some spores of the fungi are responsible for allergy, since the spores are inhaled and deposited on sensitive mucosa (Tilak 1991). Many allergic human diseases such as asthma, rhinitis and a range of cardio-respiratory diseases are attributed to inhalation of airborne fungal spores and pollen grains (Shivpuri and Singh 1971; Chanda and Mandal 1978).

The area selected for the present study was a playground located in Ajmera colony of Pimpri-Chinchwad area in Pune city of Maharashtra State (India). The area of ground is about 8.5 acres. Most of the area of the playground is covered by some big trees, shrubs and the grasses.

Although extensive work has been done on the qualitative and quantitative incidence of fungal spores and pollen in the extramural environment of various play ground in India and abroad, but as literature of survey suggests that scanty work was done from aerobiological point of view in Pimpri Chinchwad region, hence the present investigation was undertaken.

Material and Methods :

The monitoring of atmospheric fungal spores was carried out for 12 months. The fungal spores were trapped by using Rotorod air sampler (Perkin 1957). The sampler was operated in morning, for 15 to 20 minutes twice in a week. The sampler was installed at a height of 2 meters from the ground level.

After sampling the air, the cello tape was mounted on a 24 X 60 mm glass slide and mounted with glycerine jelly. The stripes were then scanned under binocular microscope

Identification of spore was done on the basis of morphological characters and with the help of available literature (Tilak and Srinivasulu 1967). The spore load on slides was converted as number of spores/ m³ by multiplying conversion factor 5 for Rotorod sampler.

Result and Discussion

Altogether 17 types of fungal spore types were recorded, of which Deuteromycotina shows the highest (62.80 %) concentration followed by Zygomycotina (8.38%), and Basidiomycotina (4.66%). An average 6855 spores/m³ in air was recorded. The major fungal types encountered during study were *Aspergillus* (12.2%), *Rhizopus* (8.3%), *Exosporium* (7.7%), *Sporidesmium* (6.85%) and *Curvularia* (5.7%). Major types of spores with their percentage contribution are listed in Table 1.

Rhizopus, the only member of Group Zygomycotina was reported during the investigation with 8.3% contribution. Whereas Smut spores (2.62%) and Rust spores (2.04%) were the major contributors from class Basidiomycotina. Other type formed 5.62% part of the total airspora. It comprises of hyphal fragments (5.03%), epidermal hairs (0.58%). A major fraction of unidentified type was also reported with 18.52% contribution may be due to lifting of ground dust during morning hours.

Incidence of fungal population is closely linked with seasons, and climatic conditions. Peak concentration was recorded in October and November 2010; Second peak was noticed in the month August and September 2011. It was found that moderate temperature, high relative humidity and mild rains favoured, fungal growth. The minimum concentration was recorded in the month of March it was due to the absence of rains and high humidity. The observation suggests the fact that, higher temperatures do not favour fungal growth in the atmosphere. During the period of heavy rains drastic decrease in spore load was recorded. The observation was in conformity with the observation made Tilak, 1989.

The Basidiomycotina contributed (4.66%) to the total airspora. The spore population comprised of Rust spores and Smut spores. The frequency of rust and smut spores was recorded higher in the beginning of November. This may be due to high humidity, which is favourable for release of spores.

From group Deuteromycotina, 14 spore types were recorded. Out of which *Aspergillus* (12.25%), *Exosporium* (7.73%), *Sporidesmium* (6.85%), *Curvularia* (5.76%) were the major contributors. These spores were frequently observed during the investigation period, as they are dry and can be easily blown away by wind while *Fusarium* is retained in a sticky liquid and is discharged by water or strong winds (Ingold 1953).

Aspergillus being the most common genus occupied the first position followed by *Rhizopus* (8.38%) and *Exosporium* (7.73%). Highest concentration of *Aspergillus* was also observed by Wankhade, 1983 at Aurangabad and Rajan, 1952 at Kanpur.

Conclusion :

Amongst the recorded fungal spore types *Aspergillus* followed by *Rhizopus* and *Exosporium* was the dominant contributor of the airspora. Air monitoring is essential and must be performed continuously in order to find out the status of various types of allergic and pathogenic spores at various places and their role in causing health hazards to plants and human beings. .

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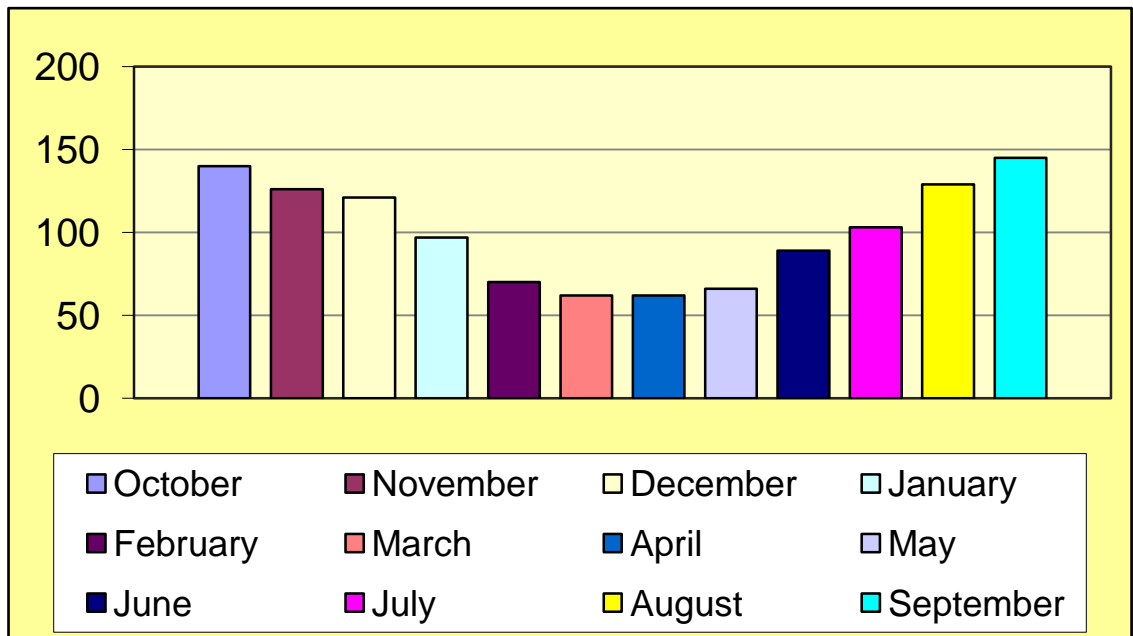
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**TABLE -1: Concentration of airborne components in Play Ground
from Oct-2010 to Sep-2011.**

| Sr.No | Spore Type | Spores / cubic meter of air | % Of individual airspora |
|----------|---------------------------|-----------------------------|--------------------------|
| A | Zygomycotina | | |
| 1 | Rhizopus | 575 | 8.388 |
| B | Basidiomycotina | | |
| 2 | Smut Spores | 180 | 2.625 |
| 3 | <i>Rust Spores</i> | 140 | 2.042 |
| C | Deuteromycotina | | |
| 4 | Alternaria | 340 | 4.959 |
| 5 | <i>Aspergillus</i> | 840 | 12.25 |
| 6 | <i>Bispora</i> | 365 | 5.324 |
| 7 | <i>Cladosporium</i> | 165 | 2.407 |
| 8 | <i>Curvularia</i> | 395 | 5.762 |
| 9 | <i>Exosporium</i> | 530 | 7.731 |
| 10 | <i>Fusarium</i> | 60 | 0.875 |
| 11 | <i>Fusariella</i> | 210 | 3.063 |
| 12 | <i>Heterosporium</i> | 280 | 4.084 |
| 13 | <i>Memnoniella</i> | 165 | 2.407 |
| 14 | <i>Nigrospora</i> | 40 | 0.583 |
| 15 | <i>Penicillium</i> | 220 | 3.209 |
| 16 | <i>Pithomyces</i> | 225 | 3.282 |
| 17 | <i>Sporidesmium</i> | 470 | 6.856 |
| D | Other Type | | |
| 18 | Epidermal hairs | 40 | 0.583 |
| 19 | <i>Hyphal fragments</i> | 345 | 5.032 |
| E | Unidentified group | 1270 | 18.52 |
| | Total | 6855 | 100 |

| TABLE – 2: Total No. of spores found in each group | | | | | |
|--|-----------------|-------------------------|-----------------------|-----------------------|----------------|
| Sr. No | Spore Type | Total no of spore types | No. of spores in each | Spores/m ³ | % Contribution |
| 1 | Zygomycotina | 1 | 115 | 575 | 8.388 |
| 2 | Basidiomycotina | 2 | 64 | 320 | 4.668 |
| 3 | Deuteromycotina | 14 | 861 | 4305 | 62.80 |
| 4 | Other Types | 2 | 77 | 385 | 5.616 |
| 5 | Unidentified | 1 | 254 | 1270 | 18.526 |
| | Total | 20 | 1371 | 6855 | 100 |

Figure 1: Month wise variation of total no. of spores on Play Ground (October 2010- September 2011)
Spored by c p dube ji



Effect of Spent Wash on Red Soil in Shirala Tahsil, Dist. Sangli, M.S.India

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Introduction

Today soil analysis is important due to the fast development of industrial area. Because industrial effluents are normally considered as toxicants due to the presence of organic and inorganic compound acids, alkaline and suspended solids. Such industrial effluents destroyed the organism in soils as well as living organism disturb ecosystem during disposal earlier literature on physico chemical analysis of alcohol industry effluents should ph chlorides, potassium, sodium, sulphates, nitrates and phosphorous are seen in significant amount. The present study deals with the effect of effluent from alcohol industry on land application for sugar cane, maize, wheat, rice, ground nut, soya bin will increased after giving the spent wash to the land are observed and maintained into this paper.

Abstract :

Analysis of soil quality from Shirala area of Sangli District. Black soil samples are collected from field for obtaining the information about soil quality, evaluation of fertilizer status, indigenously soil fertility. To understand fertility of soil, it is necessary to carry out analysis. The spent wash is used to improve the fertility of soil. The present study revealed the comparison between the initial fertility of soil and fertility of soil after using the spent wash. It shows that there is improvement in soil fertility after using spent wash. The improved contents are PH, Electrical Conductivity, Sulphur, Potassium, Calcium, Organic Carbon. Some micronutrients are also increased such as Iron, Manganese, Zinc, Copper, Chlorides, but nitrogen, Phosphorus and Magnesium decreases.

Keywords: Soil, fertility, micronutrients.

Methods of Analysis:

- 1) Collection of the Sample: Sample is collected as per the recommended procedure.
- 2) Required Chemicals: All of the chemicals are prepared as per the recommended procedure. All of the chemicals are used AR grade.
- 3) Instruments:
 - A) PH meters- Model EQ-610
 - B) Conductivity Meter- Model EG-660
 - C) Atomic Absorption Spectro Photo Meter-Model
 - D) Spectro Photo Meter-

Analyzed Results

The samples are collected as per the recommended procedure and original sample analyzed the results are found these results are as given below –

Table 1

| Sr.No | Parameter | Unit | Observed value | Limit |
|-------|----------------|----------|----------------|----------|
| 1. | Ph | | 7.03 | 6.5-8.5 |
| 2 | E-Conductivity | Mmhos/cm | 0.10 | <4.0 |
| 3. | Nitrogen | Kg/ha | 52.17 | 100-200 |
| 4. | Phosphorous | Kg/ha | 28.36 | 30-40 |
| 5. | Potassium | Kg/h | 190 | 110-280 |
| 6. | Sulphur | Kg/ha | 156 | 114-1823 |
| 7. | Calcium | % | 0.22 | 0.1-3.2 |
| 8. | Magnesium | % | 0.25 | 0.1-0.3 |
| 9 | Organic Carbon | % | 0.55 | >0.50 |

| | | | | |
|----|-----------|-----|------|---------|
| 10 | Iron | Ppm | 2.52 | 2.5-4.5 |
| 11 | Manganese | Ppm | 0.43 | 1.0-2.0 |
| 12 | Zinc | Ppm | 0.35 | 0.5-1.2 |
| 13 | Copper | Ppm | 0.38 | 0.3-0.5 |
| 14 | Chloride | Ppm | 132 | 141-425 |

The selected soil sample taken and spent wash was sprayed on it and then after 6 months sample dried and analysed the following results are found

Table 2

| Sr.No | Parameter | Unit | Sprayed Observed value | Limit |
|-------|----------------|----------|------------------------|----------|
| 1. | Ph | | 7.10 | 6.5-8.5 |
| 2 | E-Conductivity | Mmhos/cm | 0.77 | <4.0 |
| 3. | Nitrogen | Kg/ha | 47.75 | 100-200 |
| 4. | Phosphorous | Kg/ha | 24.35 | 30-40 |
| 5. | Potassium | Kg/h | 211 | 110-280 |
| 6. | Sulphur | Kg/ha | 165 | 114-1823 |
| 7. | Calcium | % | 0.54 | 0.1-3.2 |
| 8. | Magnesium | % | 0.16 | 0.1-0.3 |
| 9 | Organic Carbon | % | 0.69 | >0.50 |
| 10 | Iron | Ppm | 2.61 | 2.5-4.5 |
| 11 | Manganese | Ppm | 0.50 | 1.0-2.0 |
| 12 | Zinc | Ppm | 0.43 | 0.5-1.2 |
| 13 | Copper | Ppm | 0.43 | 0.3-0.5 |
| 14 | Chloride | Ppm | 159 | 141-425 |

The results of original sample table 1 and results of sprayed sample table 2 and standard value results all of these results are compared as given below

Table 3

| Sr.No | Parameter | Unit | Observed value | Sprayed Observed value | Limit |
|-------|----------------|----------|----------------|------------------------|----------|
| 1. | Ph | | 7.03 | 7.10 | 6.5-8.5 |
| 2 | E-Conductivity | Mmhos/cm | 0.10 | 0.77 | <4.0 |
| 3. | Nitrogen | Kg/ha | 52.17 | 47.75 | 100-200 |
| 4. | Phosphorous | Kg/ha | 28.36 | 24.35 | 30-40 |
| 5. | Potassium | Kg/h | 190 | 211 | 110-280 |
| 6. | Sulphur | Kg/ha | 156 | 165 | 114-1823 |
| 7. | Calcium | % | 0.22 | 0.54 | 0.1-3.2 |
| 8. | Magnesium | % | 0.25 | 0.16 | 0.1-0.3 |
| 9 | Organic Carbon | % | 0.55 | 0.69 | >0.50 |
| 10 | Iron | Ppm | 2.52 | 2.61 | 2.5-4.5 |
| 11 | Manganese | Ppm | 0.43 | 0.50 | 1.0-2.0 |
| 12 | Zinc | Ppm | 0.35 | 0.43 | 0.5-1.2 |
| 13 | Copper | Ppm | 0.38 | 0.43 | 0.3-0.5 |
| 14 | Chloride | Ppm | 132 | 159 | 141-425 |

Sprayed sample results comparing the results of original sample as well as standard limit value. In these results some difference is observed in these values. This difference is maintained on table no.4.

Table 4

| Sr.No | Parameter | Unit | Increasing value | Limit |
|-------|----------------|----------|------------------|----------|
| 1. | Ph | | 0.07 | 6.5-8.5 |
| 2 | E-Conductivity | Mmhos/cm | 0.67 | <4.0 |
| 3. | Nitrogen | Kg/ha | -4.42 | 100-200 |
| 4. | Phosphorous | Kg/ha | -4.01 | 30-40 |
| 5. | Potassium | Kg/h | 21 | 110-280 |
| 6. | Sulphur | Kg/ha | 9 | 114-1823 |
| 7. | Calcium | % | 0.32 | 0.1-3.2 |
| 8. | Magnesium | % | -0.09 | 0.1-0.3 |
| 9 | Organic Carbon | % | 0.14 | >0.50 |
| 10 | Iron | Ppm | 0.09 | 2.5-4.5 |
| 11 | Manganese | Ppm | 0.07 | 1.0-2.0 |
| 12 | Zinc | Ppm | 0.08 | 0.5-1.2 |
| 13 | Copper | Ppm | 0.05 | 0.3-0.5 |
| 14 | Chloride | Ppm | 27 | 141-425 |

Conclusion

Initially all parameters of soil sample are analyzed .These observed parameters and its value are ph, e.conductivity, nitrogen, .hosphorous, potassium, sulpher. 7.03, 0.10, 52.17, 28.36, 190, 156 kg/ha and calcium, magnesium, organic carbon.0.22, 0.25, 0.55% as well as microelements are saw iron, manganese, zinc, copper, chloride its value 2.52, 0.43, 0.35, 0.38, 132ppm (table no.1)

Then spent wash was sprayed on the soil and after six month sample analyzed all of these parameters values are ph, econductivity, nitrogen, phosphorous, potassium, sulphur, 7.10, 0.77, 47.75, 24.35, 211, 165kg/ha and calcium, magnesium ,organic carbon 0.54; 0.16; 0.69% as well as microelements are analyzed iron, manganese ,zinc, copper ,chloride the value was found 2.61, 0.51, 0.43, 0.43, 159 ppm.(table no.2)

After observing parameters of these value the ph of soil increases(0.07), E.conductivity increases(0.67mmhos/cm) potassium, sulphur, calcium values increases 21,9 kg/ha 0.32% organic carbon increases 0.14% but nitrogen and phosphorous magnesium values decreases(-4.42 kg/ha,-4.01 kg/ha0.09%)

The microelements was analyzed iron, manganese, zinc, copper, chloride content of these elements was increased 0.09, 0.07, 0.08, 0.05, 27ppm.

The increasing values were compared with std limiting value. Then it observed analyzed values vary low than that of limiting value some are near about this values but initial before spraying spent wash value are vary low after some amount increases means improve quality of soil.

But some values of elements are decreases. Decreased value compared with std limiting value. Initial original analyzed sample value all ready less than limiting value and spent wash sprayed sample again value decreases than that of the original sample value this effect was observed on the soil. But chlorides increases larger quantity but less than limiting value.

Again one of the most important thing is color of the soil red but after spraying wash on them color change slight blackish and generally red soil particles are loosely bind with each other but after spraying the spent wash binding capacity soil increases.

The some amount of elements have increases and some elements amount decreases, therefore mixed effect was observed on the plant growth means slight production increases especially sugar cane, maize, rise, soya bin, sunflower etc.

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* * *

A Comparative Study of Health Related Physical Fitness of School Students from Higher Income Group and Lower Income Group in Nagpur City

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Abstract

The intention of this study was to know the Health – Related Physical Fitness condition of boys and girls and to compare various Physical Fitness Test of Higher Income Group and Lower Income Group (school going children)

Total Five hundred subjects were randomly selected for the purpose of this study. Two Hundred Fifty students Higher Income Group and Two Hundred Fifty students Lower Income Group were selected from the C.B.S.C . School (English Medium) and State Board School (Marathi Medium) .

Physical parameters like abdominal strength and endurance, cardio-respiratory, flexibility and body composition conditions like back and leg ratio, body mass index, skin fold thickness. Various related tests were administered and data was gathered from various schools, institutions and colleges for the purpose of this study. The collected data was analyzed with the help of suitable statistical procedures and ‘t’ test was applied to make comparison between Higher Income Group and Lower Income Group data scores. The level of significance was 0.05 level for this study.

Key Words: Physical Fitness Test, Physical Education Program, Higher Income Group and Lower Income Group. (School going children).

Introduction

Although it is generally agreed that physical fitness is an important part of the normal growth and development of a child, a generic definition regarding the precise nature of physical fitness has not been universally accepted Through research and scholarly inquiry, it is clear that the multidimensional characteristics of physical fitness can be divided into two areas: health-related physical fitness and skill-related physical fitness (AAHPERD, 1980; Corbin and Lindsey. 1988). This departure from the traditional notion of fitness has resulted in a clear differentiation between physical fitness related to functional health and well-being and physical performance related primarily to athletic ability. A practitioner must be aware that this definitional distinction has curricular implications. Understanding the distinctive features of health-related and skill-related fitness and the components of each will help physical educators develop program foals and performance-based student objectives and measure progress toward those goals.

Objective

The objective of the study is to find out the Health related Physical Fitness of school going children of different income group and to suggest means to improve health related physical fitness.

Delimitations

- The study will be delimited to the school students of 12 – 15 years of age of Age of Nagpur city of Higher income Group and Lower Income group.
- The number of students will be delimited to 500 for each income group.
- The study will be further delimited to following items of AAHPER Health

Significance of the Study

- The study would provide the norms of health related physical fitness for School Boys and girls of various income group.

- The study would also help to evaluate the present status of health related Physical Fitness of the boys and girls in the age group of 12 – 15 years.
- The study would unfold the phenomena of physical fitness development among Boys and girls of middle and higher secondary schools
- The result of the study may also provide impetus to in physical education Program in Schools of Nagpur City.

Statement of the Hypothesis:

There will be no significance difference in Health Related Physical Fitness of Higher Income Group and Lower Income Group in Nagpur.

Methodology

Here selection of subjects, selection of variables, administration of tests collection of data and statistical analysis of data has been explained.

Administration of Test and Collection of Data

AAHPER (1987) Health-related Physical Fitness Test battery consisting of following four test items will be used to assess the Health-related physical fitness of Boys and Girls.

1. 1.5 Mile Run and Walk Test: it measure cardio-respiratory endurance.
2. Skin fold measurements: to measure body composition (leanness/fatness).
3. Modified Sit-ups: to measure abdominal strength and endurance.
4. Sit and Reach test; to measure the flexibility of the back and leg (hamstring) muscles.

Selection of Subjects

Five hundred boys and Five hundred girls will be randomly selected as subjects of this study from each group. Their age records will be collected from school records. The breakup of the subjects has been presented.

There after the 500 samples were divided into two groups. 250 sample in Higher Income group & 250 sample in Lower Income Group.

Statistical Procedure:

The collected data was analyzed with the help of suitable Statistical Procedures and 't' test was applied to make comparison between Higher Income Group and Lower Income Group data scores. The level of significance was 0.05 level for this study.

Findings

The findings of each of the parameters like Cardio-Respiratory Endurance, Skinfold Thickness, Abdominal Strength and Flexibility are presented in Table-1 to Table 4.

Table 1 Comparison between the means of Higher Income Group and Lower Income Group test scores of 1.5 miles Walk / Run test

| M1 High Income Group | M2 Low Income Group | D.M | S.E | 't' ratio | Required 't' value |
|-------------------------|------------------------|-----|------|-----------|-----------------------|
| 17.8 | 16.3 | 1.5 | 0.18 | 8.42* | 1.96 |

Table 2 Comparison between the means of High Income Group and Low Income Group test scores of Skinfold Thickness test

| Skin folds | M1 High Income Group | M2 Low Income Group | D.M | S.E | 't' ratio | Required 't' value |
|------------|-------------------------------|---------------------------|-----|------|-----------|-----------------------|
| Triceps | 6.7 | 6.3 | 0.4 | 0.12 | 3.23* | 1.96 |

| | | | | | | |
|--------------|-----|-----|-----|------|------|------|
| Sub-scapular | 6.2 | 6.1 | 0.1 | 0.13 | 0.79 | 1.96 |
|--------------|-----|-----|-----|------|------|------|

Table 3 Comparison between the means of High Income Group and Low Income Group test scores of Modified Sit-ups test

| M1 High Income Group | M2 Low Income Group | D.M | S.E | 't' ratio | Required 't' value |
|-------------------------|------------------------|------|------|-----------|-----------------------|
| 15.46 | 14.2 | 1.26 | 0.22 | 5.77* | 1.96 |

Table 4
Comparison between the means of High Income Group and Low Income Group test scores of Sit & Reach test

| M1 High Income Group | M2 Low Income Group | D.M | S.E | 't' ratio | Required 't' value |
|-------------------------|------------------------|------|------|-----------|-----------------------|
| 4.6 | 4.32 | 0.28 | 0.14 | 2.02* | 1.96 |

Conclusions:

In the light of result of this study following conclusions are drawn:

- In case of 1.5 Mile Run and Walk ,no statistical significant difference was found.
- In case of Triceps Skinfold, no statistical significant difference was found.
- In case of Sub-scapular Skinfold, statistical significant difference was found.
- In case of Sit-ups, statistical no significant difference was found.
- In case of Sit & Reach, no statistical significant difference was found.

Recommendations:

It is recommended that similar study can be carried out for different age groups.

- It is recommended that similar study can be carried out for men also.
- It is recommended that similar study can be carried out for other parameters.

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Impact of Audio Feedback: A Study of Reading Errors in English of VIII std. Students in Marathi medium school

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Abstract

This study aimed at finding the reading errors of VIII std. Students in Marathi medium schools and impact of audio feedback on it. The sample comprised of purposively selected 44 VIII std. Students of Z.P. High School, Aurangabad. An observation tool was used for recording the reading errors of the students. The data was analyzed by using statistics as Mean, Standard Deviation and 't' test.

It revealed that the students committed various errors in word attack, phrasing, pronunciation, insertions and fluency etc. There is significant difference among the reading errors of VIII std. Students in pre-test and post-test (after audio feedback).

Introduction

Today's era of globalization brings massive opportunities for every person through out the world for communicating and presenting ones knowledge and skills. English language plays a vital role in this. As we know, language is an essential part of human life. It is an effective mean of communication. Every person, from birth to death makes use of it. English is one of the most commonly used languages of the world. In many countries, however the place of English in education is more important and indeed more fundamental. In India, so many well educated people have faced many problems while presenting, reading or writing in English. On this basis, it is also observed that the English teachers themselves can not read, write or speak in English up to the mark. Therefore they are not able to guide their students properly whereas the students imitate their teachers while speaking or reading in English. They committed errors in word attack, phrasing, pronunciation, insertions and fluency etc.

Now we have many tools and techniques for guiding the students for improving language skills. Audio feedback is an innovative and effective tool which can be used for giving factual feedback to the students which in turn shows the exact errors committed by them and gives an opportunity to correct the reading. Therefore the researcher selected this topic for studying the reading errors of VIII std. Students in English and impact of audio feedback on it.

Need & Significance

The reading skill is an important skill in language acquisition, proper communication as well as understanding of the language. The reading is most neglected skill in our schools and colleges. There are very few studies at doctoral level on reading problems of school students. The important and relevant studies were mentioned here.

Gani, S. (1990) studied the phonological awareness and beginning reading of high school students of Bhubaneswar. It revealed that boys and girls did not differ on the measure of phonological awareness and their oral reading performance. Phonological awareness contributed to oral reading performance but this was not found statistically significant and phonological awareness did not determine beginning reading.

Grover, S. (1991) studied the standards of reading ability in English in government and central schools of Delhi. The major findings showed that reading ability was not found to be a unitary trait. There was no significant difference in reading in the case of government school boys and government school girls and there were significant differences in mean achievements of central school pupils and government school pupils in all the six varieties of the Reading Ability Test.

The above mentioned studies were focused on reading skills and reading ability by following

survey method whereas this study aimed to find out the reading errors of students and impact of audio feedback on it.

Objectives

The objectives were

1. To find out the errors committed by students while reading in English.
2. To implement the audio feedback of reading to the students
3. To evaluate the effectiveness of audio feedback on reading errors of students

Hypothesis

There is no significant difference among the reading errors committed by VIII std. Students before and after giving audio feedback.

Methodology

Considering the nature of the problem under study the single group experimental research method was used. The research was focused on the errors committed by std.VIII students in English and impact of Audio feedback on it. Therefore, the researcher has been purposively selected Z. P. High School, Aurangabad. The unseen passages were uses for reading and a self constructed observation tool based on various sub skills of reading was prepared and used by the researcher. The researcher herself scored all the reading errors of every student individually in pre-test and past-test.

The audio feedback for reading was provided and instructed students to correct their mistakes while reading by sharing with them proper pronunciation, proper world attack, proper insertion, proper phrasing and proper fluency or speed etc.

The errors were scored and analyzed by using mean, standard deviation and 't' test and major findings were mentioned.

Analysis and Interpretation

The errors committed by VIII std Students in pretest and in post test were scored and further analysis was carried out with the help of mean, standard deviation and 't' test the analysis and interpretations was given below:

Table 1:-Comparison of Reading Errors in Pre-test and Post test (N=44)

| Sr. No. | Variables | Groups | Mean | S.D. | 't' value |
|---------|----------------------|-----------|-------|-------|------------------------|
| 1. | Word Attack | Pre-test | 23.4 | 4.407 | 18.13 (significant) |
| | | Post-test | 9.8 | 2.342 | |
| 2. | Phrasing | Pre-test | 13.04 | 4.875 | 10.23 (significant) |
| | | Post-test | 4.7 | 2.35 | |
| 3. | Pronunciation | Pre-test | 13.27 | 3.97 | 12.98 (significant) |
| | | Post-test | 4.7 | 1.98 | |
| 4. | Insertions | Pre-test | 8.5 | 4.27 | 8.61 (significant) |
| | | Post-test | 2.6 | 1.57 | |
| 5. | Fluency | Pre-test | 18.7 | 4.123 | 16.22 (significant) |
| | | Post-test | 7.2 | 2.272 | |
| 6. | Total Reading Errors | Pre-test | 76 | 12.87 | 20.95 (significant) |
| | | Post-test | 29.05 | 7.6 | |

(Significant at both 0.05 and 0.01 level of significance)

It is observed that there is significant difference among the errors in word attack, phrasing, pronunciation, insertion and fluency committed by students in pre test and (after audio feedback) Post-test .

There is significant difference among the reading errors committed by VIII std. Students in pre-test and post test (after giving audio feedback). It means audio feedback is an effective tool for decreasing reading errors of students.

Major findings

1. Most of the students committed errors in word attack, phrasing, pronunciation and fluency compared to Insertions
2. There is significant difference among errors in word attack, phrasing, pronunciation, insertion and fluency of VIII std students before and after audio feedback (pretest and post test)
3. There is significant difference among reading errors committed by VIII std. Students in pre-test and Post-test.
4. There is positive and effective impact of audio feedback on reading errors committed by VIII std. Students.

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MFCs: Generation of Bioelectricity from Sewage Water

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Abstract:

Renewable energy is an increasing need of our society. Microbial fuel cells (mfc) are emerging as promising technology for the treatment of wastewaters. Mfcs can be used to directly generate electricity from organic matter; the voltage produced by a single reactor is about 0.5-1.0V. The most immediate need for an MFC-based technology is a scalable or modular technology that can provide, in a cost-effective manner, the large surface areas needed for the anodes and cathodes. Development of the large scale mfcs namely, wastewater, sewage and garbage fuel cells are currently underway. These materials issues must be addressed to MFC development. In the present work sustainable electricity was generated from sewage wastewater using mfcs with carbon cathode and zinc anode, anode chamber with mixed inoculums of microorganisms is used as biological reactor for the fermentation of the substrates to fuel products without the use of any mediator. MFC was operated with sewage water as feed to support to new micro environment, voltage output were considered as indicators to assess the stable performance of the MFC; where MFC was operated continuously for six days and which operated a maximum of 1.05mv Between fourth and sixth day. This is one of the most exciting and novel methodology that will overcome the problems of energy management which is the global issue today.

Key words: mfcs, sewage water, microbes, bioelectricity

Introduction:-

In recent days, a number of methods and sources are currently in use for production of electrical energy which includes hydro-power, solar power wind power, wave power, batteries, fossil fuels and chemical fuel cells. All these technologies play a significant role in the global issue of energy management. Renewable energy is an increasing need in our society (Abhilasha et.al,2008). In addition to these technologies an attractive and novel alternative for the conversion of chemical energy into electrical energy is the development of MFC (Katz et al. 2003; Lovely 2006). In MFC chemical energy is converts to electrical energy by the catalytic reaction of microorganisms (Allen and Bennetto 1993; Wingard et al. 1982., Reimers et. Al. 2001., Kim H.j. Et al. 2002.). In addition, the mfcs offer an environment friendly alternative to fossil fuels (Lovely 2006; Katz et al. 2003).

Initially, the concept of the electricity generation was given by M.C. Potter (Potter 1910, 1911). He stated that “the disintegration of organic compounds by microorganisms is accompanied by the liberation of electrical energy (Potter 1911). These fuel cells based on metabolic activity of microorganisms on the organic substrates which contains sugars as the main component. Fuel cells, if used for wastewater treatment, can provide clean energy for people, apart from effective treatment of wastewater. The benefits of using fuel cells include clean, safe, quiet performance; high energy efficiency; and easy to operate. Various research groups are keenly interested to improve the current density by more facile and efficient methods (Palmore and Whitesides 1994; Bond et al. 2002; Angenent et al. 2004; Pham et al. 2004). Generation of electrical energy is based on the principles of fermentation in which organic substrate undergo the biochemical reaction in the presence of microorganisms which result in the formation of the hydrogen fuel. The fuel so formed is finally converted into electrical energy and water through redox reaction. (Abdul majeed Khan. 2009). Microorganisms or redox-enzymes facilitate the electron transfer between the fuel substrate and the electrode interface, thereby enhancing the cell current.

Presently, research on mfcs Using wastewater as substrate is in the initial stages of laboratory

evaluation around the world. The reported work so far is mainly based on using the monoculture at laboratory level (Rabaey et al. 2003, Park et al. 2003, Larminie et al. 2003.) One of the most active areas of microbial fuel cell research in the past few years has been in the further development of fuel cells designed to produce power from organic wastes such as sewage (lovely, 2006)

The use of energy is increasing day by day. Thus there is a need to search for alternatives to fossil fuel, utilizing renewable energy from waste organic source which is the present trend of active research and in view of this bioelectricity generation through microbial fuel cell using variety of substrate is being studied extensively. It is well known that microorganisms can produce fuels from organic matters.

Bacteria can be used to catalyze the conversion of organic matter into electricity (Wingard, 1982)

In present study we have made an attempt to generate electricity from wastewater using mixed inoculums of microorganisms the sample source of this inoculums was cow dung.

The basic aim of the present study is to design microbial fuel cells employing low-cost materials without using toxic mediators, which will have the possibility to be implemented in the wastewater treatment plants in the economical perspective.

Materials and Methods:-

Two chamber MFC was fabricated in laboratory using the plastic bottles with volume of 1000 ml. The two chambers were connected with PVC pipe but separated by using natural membrane which served as proton exchange membrane. The total volume of both chambers (anode and cathode) were the same (850 ml) and each chambers were provided with sample port, wire point inputs (top), inlet and outlet ports. (Fig. 1) Proton exchange membrane was fixed in coupling using washers between two chambers. The anode electrode was of zinc (Zn^{++}) (14cm long and 0.7cm diameter), the cathode electrode was of carbon (C) (14cm long and 1.5cm diameter). Both electrodes were positioned at a distance of 7cm on either side of ion exchange membrane. The anode chamber was inoculated with 25ml fresh cow dung which reach in mixed culture of microorganisms was dissolve in 340 ml of preautoclaved sewage water for one hour collected from local area of Akurdi region. The cathode chamber was filled with phosphate buffer (0.2 M) had ph 7.7. No mediator was used in anodic chamber, during metabolism of organic waste in anodic chamber by bacteria the acidic condition were takes places, during these condition increasing voltage output were considered as stable operation condition of MFC.

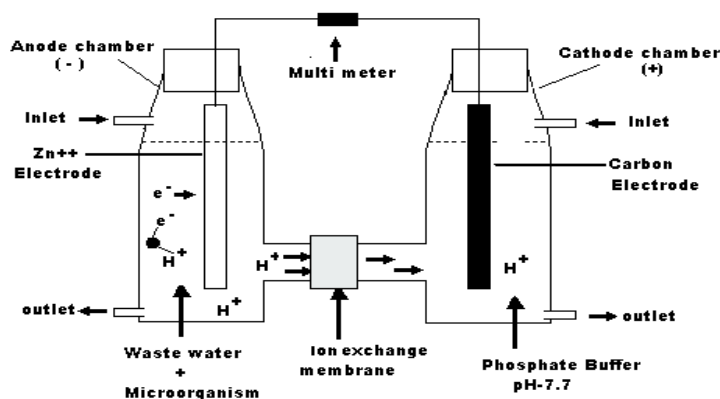


Fig.A .Diagrammatic presentation of dual MFC chamber

Result and Discussion:-

The MFC system developed in the present work was able to continuously generate electricity from the organic matter in the sewage water. Along with generation of electricity, sewage water treatment was also accomplished.

The two chambered mediator less MFC was operated with sewage water sample as feed to support the formation of biomass and subsequence generation of electricity. After the inoculation of Cow dung (mixed inoculums) to the anode chamber of MFC, the MFC's were continuously monitored during the experimental period and reading recorded at an interval of 24 hours



Fig.1. MFC setup in laboratory

Table 1: Voltage and Current production per day at anode.

| Days | Voltage (mv) | Current (ma) |
|------|--------------|--------------|
| 1. | 0.70 | 0.060 |
| 2. | 0.90 | 0.090 |
| 3. | 1.00 | 0.100 |
| 4. | 1.02 | 0.100 |
| 5. | 1.04 | 0.095 |
| 6. | 1.05 | 0.100 |

Fig.2: Days Vs Current (ma)

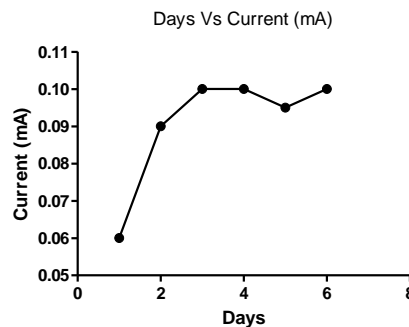


Fig.3: Days Vs Voltage (mv)

After the inoculation with microbes to the anode chamber of mfcs, the fuel cells were operated with sewage waste water as feed to support the formation of biomass and subsequent generation of electricity. The Microbial Fuel Cells were continuously monitored during experiment and readings were recorded at aninterval of 24 hrs, inoculation time was considered as time 0. It is a device that

directly converts microbial metabolic or enzyme catalytic energy into electricity by using conventional electrochemical technology (Allen and Bennetto 1993)

Fuel Cells were operated for 6 days and experimental data showed the feasibility of electricity generation from sewage water (Fig. 1).

The MFC yielded an initial voltage of 0.7 mv and final voltages of 1.05m V (tab.1). Data was recorded after 24 hours time interval for 6 days. The succeeding records show a sudden decrease and increase of current and voltage generated by the MFC (fig3).

The success of specific MFC applications in wastewater treatment will depend on the concentration and biodegradability of the organic matter in the influent, and the absence of toxic chemicals. MFC designs need improvements before a marketable product will be possible (Rabaey et al.2005, Logan et al.2006.) Mainly anodic materials commonly used in MFC reactors, such as graphite foams, reticulated vitreous carbon, graphite, and others, are quite expensive. Simplified electrodes, such as carbon and zinc, may alleviate these electrode costs. The use of expensive catalysts for the cathode must also be avoided.

So far, electron transfer without mediators has always been described as not feasible. With electron mediators the power output is found to be increased significantly (Park and Zeikus, 2002). In our study the voltage obtained was consistent for more than three days with a mediatorless fuel cell. The current and power output obtained is comparable with pure cultures that have been used by various scientists (Schroder et al., 2003, Niessen et al., 2004, Kim et al., 2000, , Kim et al., 2002, Chaudhuri and Lovley, 2003, Rabaey et al., 2005). A power density of the proton exchange membrane MFC is up to two orders of magnitude larger than salt bridge MFC if operated under similar experimental conditions (Min et al., 2005)

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Management of Sports Injuries During College Sports

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We all know that the games and sports play a very dominant role in development of an individual besides his curriculum in the colleges. Maximum students take part in the college sports at different levels. One should be always alert to overcome the injuries which can occur on the play grounds.

By far, the most common sport that leads to injury is running. The most common sports-related injuries primarily are overuse injuries. As the name implies, an overuse injury results from wear and tear on the body, particularly on joints subjected to repeated activity. Certain types of injuries plague sports participants. Most of them, however, are minor. Knowing the early signs and what to do can help prevent them from becoming nagging problems.

These are the top ten sports injuries from head to toe, which the students most likely face:

Muscle Pull

The most common sports injury is a muscle pull, which can happen to any muscle in the body. A muscle pull occurs when sudden severe force is applied to the muscle and the fibers are stretched beyond their capacity. If only some of the fibers tear, than it is a muscle pull. If most of the fibers tear, than it is a muscle tear. No matter how diligently you warm up and stretch, or cool down and stretch, you may pull a muscle from overuse, fatigue or a fall.

Treatment:

The universally held treatment for a muscle pulls or tears is to apply ice and rest until the pain and swelling subside. The ice relaxes the muscle and helps relieve any spasm. Ice should be applied for about 20 minutes on, then 20 minutes off, as much as possible for a few days. The dull ache of a muscle pull usually disappears within a few days. A pulled muscle may go into spasm as a reaction to being overstretched. If the muscle fibers are not gradually re-lengthened, the muscle will pull again with return to activity because it will have healed in a shortened state. In general, you can return to action when the injured body part can be stretched without pain as far as the healthy one on the other side of the body. That may take a week for a calf muscle or more than a month for a hamstring pull.

Neck Pain

A pulled muscle or a muscle spasm in the neck can happen when a tennis player looks up to serve or hit an overhead smash. The pain is on one side of the neck, and the neck may be pulled over slightly to that side. It is particularly painful to turn the head in the direction of the pain. That is, if the pain is on the left side of the neck, the player can turn to the right, but not to the left.

Cyclists who use racing handlebars may also feel neck stiffness. With your back bent low over the handlebars, you have to tilt your neck up to see ahead. After a long ride, the neck muscles may tighten up and go into spasm from this awkward position.

Treatment:

The proper treatment for neck stiffness is to apply ice for 20 minutes at a time and gently stretch the neck. Sit in a chair and hold onto the seat with the hand on the painful side of your neck. Bend your trunk and head to the opposite side. Hold the stretch for 20 seconds or gently drop your chin to your chest and move the chin in a semicircle from shoulder to shoulder five times. The same exercises can strengthen the neck and prevent pain.

Severe pain may require prescription medication, such as a muscle relaxant or anti-inflammatory agents, and physical therapy. Pain radiating down the arm and into the hand may be due to a pinched or stretched nerve, and should be seen by a doctor immediately.

Shoulder Impingement

The shoulder bones are held together by a group of muscles known as the rotator cuff muscles. These muscles (supraspinatus, infraspinatus, subscapularis and teres minor) are responsible for the

shoulder's fine movements, such as throwing a ball. Because of the shoulder's shallow socket and lack of ligament strength, any weakness of the small, rotator cuff muscles makes it easy for the head of the shoulder to slide around in the joint. If the shoulder joint is continually stressed with the arm in an overhead position, as it is in softball, tennis, volleyball, swimming and weight training, the small rotator cuff muscles begin to stretch out. This allows the head of the joint to become loose within the shoulder socket. If the head of the shoulder is loose, when the arm is extended backwards over the shoulder the head will slide forward, catching the tendon of short head of the biceps between the ball and the socket. The same thing happens when the arm is raised to the side above parallel to the ground. The head will drop in the socket and the tendon of the long head of the biceps or the supraspinatus becomes impinged. This impingement causes the tendons to become inflamed and painful.

Treatment:

Many doctors overlook the true problem with a shoulder impingement. They treat the tendinitis with anti-inflammatory agents or corticosteroid injections. But the anti-inflammatory soon wear off, and the next time the shoulder is used, the tendon is impinged again. The pain recurs, requiring another injection or more anti-inflammatory. If shoulder pain lasts for more than a day or two after practicing the serve or hitting a bucket of balls, a program of range-of-motion exercises can help strengthen the rotator cuff muscles. Strengthening these muscles will help hold your shoulder firmly in place, then the head will not slip out of the socket and the tendons will no longer become inflamed or irritated. Physical therapy, ultrasound, moist heat and electrical muscle stimulation followed by rehabilitative exercises are also recommended. If the shoulder exercises do not help ease the pain, or there is numbness or tingling in your hand, consult a doctor.

Lower Back Strain

Almost everyone who participates in sports experiences lower back strain at one time or another, usually from twisting awkwardly, lifting a heavy weight or doing some unpracticed activity. Virtually all lower back injuries are due to weak or tense muscles or muscle strain. Suddenly overloading muscles may pull or tear muscle fibers, sending the back muscles into spasm and causing pain. Weightlifters and tennis players are prone to back injuries because these sports involve unilateral motions.

Treatment:

Fortunately, most simple backaches go away within a few weeks, with or without treatment. After about a week, start a workout that strengthens the lower back, hamstring and abdominal muscles to help support the back to prevent any back pain from recurring. When back muscles go into spasm, the excruciating pain may be disabling. Rest for a few days and take medication such as aspirin or other anti-inflammatory agents. Ice the back for 20 minutes at a time for as long as the pain persists. Physical therapy may also be necessary if these symptoms do not quiet down in about 10 days. This includes ice, then heat, electrical stimulation of muscles, stretching and deep-finger massage. This should be followed by exercises to strengthen the back and abdominals.

Tennis Elbow

Tennis elbow is really an inflammation of the muscles of the forearm and the tendon that connects the muscles to the bones in the elbow. These muscles bend the wrist backward and cause the wrist to turn the palm face up. When the muscles and tendon become inflamed from overuse, the pain is felt on the outside of the elbow (lateral epicondylitis). A tennis player most often aggravates the elbow by hitting the ball late on the backhand side, straining the forearm muscles and tendon. Constantly turning the wrist to put more spin on the serve also can cause pain. A second type of tennis elbow is known as medial epicondylitis. This causes pain on the inside of the elbow. It is most often seen among baseball pitchers, tennis players who hit topspin forehands and weight lifters.

Treatment:

Tennis elbow is cured with lessons more than medicine. Tennis players need to learn how to move the feet to put the body in position to hit with full body weight behind the ball. This takes the stress off the elbow. Injections may reduce the inflammation around the elbow and ease the pain, but they do not address the cause of the problem, which is over-stressing the forearm tendon. Exercises can help improve forearm strength. These exercises include wrist curls, flexing the wrist forward while holding a light dumbbell at the side with the palm facing forward, and reverse wrist curls, the same exercise with the palm facing backward. Squeezing a soft rubber ball until the hand is fatigued also strengthens the forearm muscles

Runner's Knee

The most common cause of knee pain is runner's knee, known medically as chondromalacia patella. This is due to misalignment of the kneecap in its groove. The kneecap normally goes up or down in the groove as the knee flexes or straightens out. If the kneecap is misaligned, the kneecap pulls off to one side and rubs on the side of the groove. This causes both the cartilage on the side of the groove and the cartilage on the back of the kneecap to wear out. On occasion, fluid will build up and cause swelling in the knee.

Treatment:

Treatment involves strengthening the quadriceps muscle, which hooks into the kneecap and helps align it into the center of the groove. Isometric exercises are recommended to begin strengthening the quadriceps by contracting and relaxing the muscle. Strengthening progresses to less than full range-of-motion leg extensions. Do not attempt full leg extensions with the knee bent because this will cause the kneecap to rub more and worsen the symptoms. Treatment also includes stretching the quadriceps, and soft tissue massage to work on the center of the quadriceps. Work from the upper part of the thigh towards the knee, stroking downward. This helps stretch muscle fibers and alleviates the muscle contraction, which is pulling the kneecap up. A large dose of aspirin, two plain or buffered aspirin pills four times a day until the knee improves, also may help reduce inflammation within the kneecap cartilage.

Shin Splints

Shin splints are pains in the muscles near the shin bones. They can be caused by running or jumping on hard surfaces or simply overuse. They occur most often in people unaccustomed to training, although they can also plague experienced athletes who switch to lighter shoes, harder surfaces or more concentrated speed work. The pain occurs on the inner side of the middle third of the shin bone. The muscle responsible for raising the arch of the foot attaches to the shin bone at that spot. When the arch collapses with each foot strike, it pulls on the tendon that comes from this muscle. With repeated stress, the arch begins to pull some of its muscle fibers loose from the shin bone. This causes small areas of bleeding around the lining of the bone, and pain. If the irritated area is about the size of a 50-cent piece or smaller, or shin pain suddenly increases, you may have a stress fracture. The twisting of the tibia can cause the bone to crack. A stress fracture may not show up on an x-ray, and therefore a bone scan is indicated.

Treatment:

The key element of treatment is an arch support to prop up the foot and prevent excessive pronation and pull on the tendon. Many people do well with a simple commercial arch support. This usually solves the problem almost immediately. Others who have a more serious problem may need an orthotic device to control the pronation. To help prevent shin splints, start exercising slowly to warm up the leg muscles, wear athletic shoes with good support and run on a softer surface, for example, changing from asphalt to grass.

Ankle Sprain

The most common ankle sprain happens when the foot rolls to the outside and sprains the ligaments on the outside of the ankle. The outside of the ankle swells up and throbs, and may turn

black and blue around the injury. When a jogger steps gently off a curb and "twists" an ankle, this simply stretches the ligaments, with no real tearing, and is considered a mild sprain. When a tennis player lunges out over a poorly planted foot, partially tearing the fibers of the ligament that is considered a moderate sprain. When a volleyball player jumps and lands on another player's foot, twisting and forcing the ankle violently to the court, most or all of the fibers tear, and this is a severe sprain. If weight-bearing is possible on the ankle after a sprain, the ankle probably is not broken. If you feel pain on the inside of the ankle, then it should be x-rayed to rule out a hair-line fracture.

Treatment:

The true treatment for any ankle sprain is RICE: Rest, Ice, Elevation and Compression. The goal is to limit internal bleeding and cut down on swelling. As soon as tolerable, begin range-of-motion and strengthening exercises. These can help overcome stiffness and restore mobility. To do this, sit in a chair and cross the affected leg over the other leg at the knee. Using the big toe as a pointer, trace the capital letters of the alphabet from A to Z. Hold the big toe rigid so all the motion comes from the ankle. Repeat this exercise hourly, if possible. The letters will be very small at first but they will increase in size as range of motion improves. A good strengthening exercise is light kicking in a pool with a kick board or swim fin to create resistance. Balance training is an important part of rehabilitation. Practice balancing on one foot with the arms extended to the sides without swaying.

Achilles Tendinitis

The Achilles tendon in the back of the ankle is the largest tendon in the body. It transfers the force of muscle contractions to lift the heel. Achilles tendinitis is an inflammation of the tendon, usually due to overuse, such as frequent jumping in basketball or volleyball. The most common cause is excessive pronation of the ankle and foot, which causes the Achilles tendon to pull off center. The pain of a torn Achilles tendon feels like a gunshot in the leg. A partial tear is harder to spot. If the width of the injured Achilles tendon is smaller than the healthy one, or you feel intense pain when standing on your toes, see a doctor for treatment, and possibly surgery.

Treatment:

The treatment is to minimize physical activity until it feels better and to ice the tendon several times a day during this time. Anti-inflammatory agents help to relieve swelling and pain. Stretch the tendon as well by doing toe raises--stand on your toes for 10 seconds and then put your heels flat on the floor. Work up to doing three sets easily, then rise up on one foot at a time. When the tendon has healed, do heel drops. Stand with your forefeet on a raised surface, such as the edge of a step. Let your heels down below the level of the surface so that the back of the calf is stretched. Hold for 10 seconds. Repeat until the calf is fatigued.

Arch Pain

The elastic covering on the sole of the foot--the plantar fascia--runs the length of the foot and holds up the arch. When this shock-absorbing pad becomes inflamed, this is called plantar fasciitis, causing a dull ache along the length of the arch. The ache is due to over-stretching or partially tearing the arch pad. This happens most often to people with rigid, high arches. They feel the pain when they put weight on their foot or when pushing off for the next stride. Pain is particularly intense upon arising or after sitting for a long while. Plantar fasciitis is particularly common among middle-aged people who have been sedentary and who suddenly increase their level of physical activity. Runners are most susceptible, but almost any sport that keeps the athlete standing can lead to arch pain. Inappropriately fitting shoes or a weight gain of 10 to 20 pounds can also contribute to the condition.

Treatment:

The treatment is to put an arch support under the foot immediately to prevent the arch from collapsing and the plantar fascia from stretching. Also, put an arch support in your slippers and wear them as soon as you rise. Even a few steps barefoot without support can stretch the plantar fascia. Arch supports usually relieve pain within a few days. To head off arch pain, begin an exercise routine

slowly, take off any excess weight and wear arch supports in your athletic shoes. Arch pain commonly smolders for months because people do not take the proper precautions. Continuing to do weight-bearing exercises will perpetuate the pain. While the foot is recovering, swim or do water workouts. Or work the upper body only. Some people are able to use a stationary bicycle by placing only the front part of the foot on the pedals.

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Physical and Chemical Characteristics of Soil from Shirala Area of Sangli District, Maharashtra, India

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Abstract :

Assessment of soil quality from Shirala area of Sangli district, Maharashtra, India have been studied. Physical and chemical characteristics were considered or assessment of soil quality in month of sept. 2011 for present study. Physical characters showed maximum water holding capacity, porosity, expansion in volume, apparent specific gravity, absolute specific gravity. Chemical analysis revealed ph, electrical conductivity, organic carbon, available phosphorus, available potassium, calcium, sodium and free lime in %. The physico-chemical characteristics of soil in agronomics is discussed in the present paper.

Key words : Assessment of soil, physico-chemical characteristics.

Introduction:

Soil forms a looses superficial mantle covering the earth's crust and is the seat of continual changes and transformations brought about by genetic factor (Kadam and Patil 2001). Chemical properties, composition and biological characteristics was studied. (Biswas and Mukharjee, 2000). The soil also stores the sun's heat and supplies it to the growing plants. (Kadam and Patil 2001). It provides space for aeration which create a healthy environment for the biological activity of soil organisms (Biswas and Mukharjee, 2000). Humus produces black soil. (Maheshwari 2004). To sustain agricultural production and maintain soil productivity, proper management of the basic resources of the agriculture soil is most essential. Study of the soil fertility parameters is important to determine the nutrient needs of crop and to develop the management strategies for maintaining soil productivity. Soil testing is one of the best available tools, to ascertain the physical characteristics and nutrient status of a field so as to assess the fertilizer requirements for a crop or a cropping system. (Singh, 2007). Shirala area of the Sangli district being an agricultural advanced area and having highest fertilizer use per unit area. Soil fertility status of a particular area can prove highly useful for manufactures, planners, researchers and extension workers for proper distributors of chemical fertilizers. Studies on soil from Shirala area which is mainly concerned with increase in agricultural production. So necessity become to assess the soil quality from Shirala area of the Sangli district, Maharashtra for proper fertilizer use and maintenance of soil health.

Material and Method :

Soil samples around Shirala area of the Sangli district were used for study. But in these area three kinds of soils are observed. These soils are black, clay, red and sandy-clay. So for the study we selected the black soil. The western boundary of Shirala area is western Ghat is not spot of India. Soil samples were taken with sample screw auger according to method adopted by Taylor et. Al. (1998). At each spot, surface litter is scraped and vegetation cover is removed before the collection samples. Generally, 1 kg soil sample is taken for laboratory analysis. Sampling depth of 15 cm from the surface is selected according to adopted method of Maiti. S. K (2003) Physical and chemical characteristics of soil were studied in the month sept-2011 from shirala area of sangli porosity, expansion in volume apparent specific gravity, absolute specific gravity, Soil type and chemical characteristics like ph, electrical conductivity, organic carbon, exchangeable sodium and free lime studied according to Taylor et. Al (1998) Kumar (2002), Somawanshi et. Al. (1999) Gupta (2000). Major equipment used for study include ph meter (model EQ-610), electrical conductometer (Model EG-660), Colorimeter (CL-157), Flame photometer (CL-361), atomic absorption spectrophotometer (Model -202)S and hot plate. Result were confirmed from laboratory Nikhil

Chemical Laboratories, Vishrambag Sangli

Result and Discussion:

Soil texture :

The selected soil sample of shirala area has clay texture and black color. In a given sample of soil, there may be present different proportion , Depending upon their size (diameter), the international society of soil science has give different names to these mineral particles , as clay less than 0.002- 0.02 mm in diameter ,slit 0.002-0.02mm in diameter , fine sand 0.02-0.20mm in diameter, coarse sand 0.20-2.0 mm in diameter. In present work clay and black coloured soil of Shirala area indicates water retaining and humus containing soil . This soil is useful for absorption of more solar radiation falling on the soil in this area.

Water holding capacity:

Water holding capacity of selected soil sample showed 77.90 % . Soil water is a dilute solution of many organic and inorganic compounds ,which is the source of plant mineral nutrients (Sharma ,2004). In present study 77.90 % . Water holding capacity of selected soil sample indicates good inorganic and organic decomposition and smaller size of the soil particles. This will increase amount of organic material and plant nutrients.

Soil porosity :

Porosity of selected soil sample revealed 59.81 % . Soil occupies the pore space between soil particles, which at any time , is not water filled. It is normally lower in oxygen and higher in carbon dioxide content in composition than the above ground atmosphere. (Sharma , 2004) In present study 59.81 % porosity of selected soil sample indicates better texture and organic content of soil provides leaching, aeration and habitat for algae, bacteria, arthropods, molluscus etc. This secretes organic acids, enzymes, CO₂ production in soil and adds organic matter after their death in soil and brings about biochemical, biophysical and geochemical processes in soil.

Table No.1 : Observed Values and Standard Values with their units

| Sr.No | Parameter | Observed value | Std.values and its units |
|-------|----------------|----------------|--------------------------|
| 1. | Ph | 7.44 | 6.5-8.5 |
| 2 | E-Conductivity | .16 | <4.0 Mmhos/cm |
| 3. | Nitrogen | 55.71 | 100-200 Kg/ha |
| 4. | Phosphorous | 22.82 | 30-40 Kg/ha |
| 5. | Potassium | 235 | 110-280 Kg/h |
| 6. | Sulphur | 175 | 114-1823 Kg/ha |
| 7. | Calcium | 0.94 | 0.1-3.2 % |
| 8. | Magnesium | 0.10 | 0.1-0.3 % |
| 9 | Organic Carbon | 0.72 | >0.50 % |
| 10 | Iron | 2.36 | 2.5-4.5 ppm |
| 11 | Manganese | 0.30 | 1.0-2.0 ppm |
| 12 | Zinc | 0.46 | 0.5-1.2 ppm |
| 13 | Copper | 0.35 | 0.3-0.5 ppm |

| | | | |
|----|----------|-----|-------------|
| 14 | Chloride | 152 | 141-425 ppm |
|----|----------|-----|-------------|

Our results are good in agreement with the findings of Ramamurthy et. Al (1967), Verma and Agrawal (1987), Kumar (2002), Maheshwari (2004), Sharma (2004), Singh (2007).

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“हायकू का महत्व व उपयोगिता” (शोध-आलेख)

प्रो. संजय पि. चिंदगे : हिन्दी विभाग प्रमुख, दे.आनंदराव ब. नाईक कॉलेज, चिखली, ता. शिराला, जि. सांगली, (महाराष्ट्र).

हाइकू एक परिचय :

हाइकू मूलतः जापानी कविता है, तो हायकू हिन्दी काव्य का एक प्रकार है। दोनों भिन्न भाषी और भिन्न देशी होने के कारण भिन्न, किन्तु दोनों लघु आकारी है, दोनों में भावध्वनि का एक ही मूल आधार है। ‘हाइकू’ और ‘हायकू’ जापानी और हिन्दी भाषा के नयन तारे हैं। इसीलिए उनकी उपयोगिता है, यही उनके महत्व का आधार है।

‘हाइकू’ मूल रूप में जापानी काव्य विधा है। बौद्ध धर्म, जैन (ध्यान) सम्प्रदाय से यह अधिक प्रभावित रही है। इसका शिल्प ही नहीं वरन् उसकी मूल अवधारणा ही जापानी धर्म संस्कृति और भाषा के अनुकूल रही है। ‘हाइकू’ का जन्म जापानी संस्कृति की परंपरा: जापानी जन मानस और सौन्दर्य चेतना में हुआ और वहीं पला है। ‘हाइकू’ में अनेक विचार धारयें मिलती हैं — जैसे “भारतीय बौद्ध धर्म, उसका चीनी और जापानी परिवर्तित रूप विशेष रूप से जैन सम्प्रदाय, चीनी माओ, कनफ्यूसियस दर्शन और प्राच्य संस्कृति है। यह भी कहा जा सकता है कि एक ‘हाइकू’ में इन सब विचारधाराओं की झांकी मिल जाती है। ‘हाइकू’ इन सबका दर्पण हैं।^१

डॉ. लक्ष्मीसागर वार्ष्णेय ने अपनी पुस्तक ‘द्वितीय महायुद्धोत्तर हिन्दी साहित्य का इतिहास में लिखा है “आकार की लघुता और निमिष की तीव्र सहजानुभूति की अभिव्यक्ति का जापानी नाम हायकू है.....वास्तव में जापानी हाइकू कविता विश्व साहित्य का अंग बन चुकी है। इसलिए हिन्दी तथा अन्य भारतीय भाषाओं में भी उसका प्रचार स्वाभाविक है। यह एक ऐसा नया प्रयोग है, जो छोटी से छोटी कविता में भाव या विचार का पैना पंजीयन स्वयं में अनुभूति एवं शिल्प की विशिष्ट सिध्दी की माँग करता है। हिन्दी हायकू उसका अंधानुकरण नहीं है। उसने हिन्दी कविता को नई दिशा प्रदान की है। हिन्दी कविता के व्यापक होते हुए क्षितिज का आधुनिकतम प्रतीक हाइकू (हायकू) कविता है।^२

अज्ञेय लिखते हैं — हम लोग आज शब्दों के अप-व्यय के युग में जी रहे हैं उसमें इस कविता की ओर ध्यान आकृष्ट करना, इसलिए उपयोगी और महत्व का हैं, कि हम शायद नये सिरे से कविता की ओर शब्द मात्र की सत्ता पहचान सकते हैं। यह आवश्यक नहीं है कि अधिक शब्द कहने से ही अधिक बात कही जाये। कविता को कम से कम मैं तो अभिव्यक्ति प्रधान तथा सम्प्रेषण प्रधान मानता हूँ। इसलिए कविता दूसरे तक पहुँचते हुए दूसरे को भी उतना ही आमंत्रित करती हैं, जितना कि कवि उसे दे रहा है। मैं उसको कविता की बहुत बड़ी सफलता मानता हूँ।

सफलता ही नहीं हायकू की सार्थकता भी इसी में है कि उसमें शब्दों का नहीं भावों का भी अप-व्यय नहीं होता, जो कुछ कहा जाता है थोड़े में, पर बहुत कुछ अनकहा छोड़ दिया जाता है। यह अनकहा ही भाव — ध्वनियों का रस संकेत होता है। हिन्दी में हायकू (हाइकू) केवल अनुवाद तक सीमित नहीं है। हिन्दी कविता में हायकू का प्रमुख प्रदाय यह है कि - उसके प्रभाव के कारण हिन्दी में शिथिल शैली में लिखी जानेवाली लघु कविताओं में कसाव, गंभीरता और अर्थ गंभीरता आ गयी है। वह केवल सूत्र या चुटकुला नहीं रह गयी है।

हिन्दी हायकू के पीछे संस्कृत लोकधर्मी, मुक्तक परंपर, लोककाव्य की नन्ही कविताओं — रोम की छोटी कविताओं — वैदिक ऋचाओं के साथ ही जापानी हाइकू का प्रभाव रहा है, और जापानी हाइकू लिखने वाले जैन (झेन) संत भारतीय ध्यानवाद के जापानी रूप थे। ये व्यापक और बहुदेशीय सांस्कृतिक और साहित्यिक विनिमय के प्रतिफलन हैं।

हायकू छंद अपनी लघुता बिम्बात्मकता एवं अनुभूति काव्य के रूप में हिन्दी में आया। सर्वप्रथम रवीन्द्रनाथ ठाकूर ने जापान यात्रा से लौटने के पश्चात् १९१९ में जापानी पत्रों में हाइकू की चर्चा करते हुए बाशों के दो प्रसिद्ध हाइकूओं का बंगला में अनुवाद किया था।

इसके उपरांत अज्ञेय ने १९५३ में 'अरी ओ करुणा प्रभामय' में जापानी हाइकूओं का अनुवाद प्रस्तुत किया। तथा उन्ही से प्रभावित होकर कुछ कवितायें लिखी तथा अन्य भारतीय भाषाओं में भी हाइकू के अनुवाद हुए तथा मौलिक हाइकू लिखे गए। असमिया में नीलमणि फूकन, बंगला में बुधदेव बसु और अभयशंकर राय, गुजराती में निरंजन भगत, स्नेहरश्मि, मराठी में सदानंद रेगे आदि ने अनुवाद एवं मौलिक हाइकू रचे हैं।

हाइकू के संक्षिप्त एवं १७ वर्णों में शिल्प विधान की चर्चा हिन्दी में कोई नई एवं आश्चर्यजनक घटना के रूप में नहीं है क्योंकि भारतीय वांगमय में प्राचीन काल से ही छंद, लय, ध्वनि की सूक्ष्मता साधना हुई है। यहाँ बीज मंत्रों और सूत्रात्मक काव्यों में अत्यंत लघु छंदों का प्रयोग हुआ है। हाइकू की छंदात्मक निकटता यहाँ के गायत्री जैसे लयात्मक छंदों में मिलती है। भारतीय भाषाओं में त्रिपंक्ति छंद मिलते रहे हैं।

लघु विधा में इसका प्रयोग किया जा सकता है किन्तु वैदिक काव्य में इनका प्रयोग व्यंगात्मक और सूत्रात्मकता तक रह गया है। किन्तु सुखद एवं आश्चर्य की बात यह है कि हिन्दी की ग्राम बोलियों में हाइकू से मिलती जुलती एक साँस की त्रिपादियाँ विषम और असमान रूपों में मिलती हैं।

इसी तरह बघेली में भोलाबाबा के गीत और बुंदेली में 'बम्भेलिया' त्रिपंक्ति होते हैं। इनका उद्भव समाज की दृष्टि से हाइकू के कुछ पहले ही ठहरता है। प्रो. आदित्य प्रताप सिंह अपने हाइकूओं का संबंध पहले इनसे फिर जापानी हाइकूओं से जोड़ते हैं। वे प्रायः भोलेबाबा का यह गीत उद्धृत करते हैं —

“पीपर के पत्ता
डोलै न डोलै, डोले
अन्ब्याही का सरीर।३

उपर्युक्त लघुतम गीत में हाइकू अप्रत्याशित सौन्दर्य संवेदना है। यह एक लम्बी साँस की कविता भी है। बघेली दादर में हाइकू वर्ण विन्यास और सौन्दर्य संवेदन अशंतः देखा जा सकता है —

“ चमेली दुई
कली परी कऊन
अनारी हॉथ।“४

यहाँ माणिक परयो कुवानिक हाथ वाली बात है। अनमेल विवाह पर कटाक्ष है, चमेली दो कली की अंकुरित यौवना है और दूसरी ओर है अनाड़ी, अतः रूप गुण का विरोध भी है। यह दादर बाशों के जापानी हाइकू से कहीं पुरानी है। हायकू कवि बस इन्हीं पल विशेष की घटनाओं को अनुभूति की चिमटी से शिल्पी की भाँति सहजता से पकड़ लेता है क्योंकि यही क्षण और यही घटना कवि मानस को आंदोलित कर देती है, कवि के भीतर एक तरंग का उन्मेष (जन्म) होता है - अज्ञेय की एक कविता है

“उड गई चिड़िया
कापी फिर
थिर
हो गई पत्ती।“५

इसके संबंध में अज्ञेय लिखते हैं — “बात कहते देर नहीं लगती है। जो घटना देखी, उसमें इतनी देर नहीं लगी थी। एक

चिड़िया आकर ज्वार की पत्ती के छोर पर टिकी ही थी कि - शायद मेरी ही यह हिचक के दूसरे पल की हलचल का कुछ आभास पाकर - पत्ती को ठेलती हुई उड़ गई, मानो उसका बैठने आना, पत्ती को छूना और पकड़ने से भी पहले ठेल कर उड़ जाना अलग-अलग क्रियाओं का क्रम नहीं एक ही अविभाज्य क्रिया थी। पंजो और पंखों के धक्के से आहत लम्बी पत्ती एक दो बार कांपी और क्रमशः स्थिर होती चली। “घटना और उसकी अनुभूति वे दोनों इतन में ही संपूर्ण हैं। लेकिन क्या उससे; जो भाव मेरे मन में उदित हुआ वह भी उन शब्दों में सम्पूर्ण हो गया?” नहीं और हाँ भी। कविता तो पूर्ण हुई (हालांकि अज्ञेय इस कविता को अधूरी ही मानते थे, किन्तु जापानी काव्य से परिचय के बाद इसे पूर्ण समझने लगे) परंतु कवि के भीतर एक क्षण में घटी यह घटना एक उन्मेष पैदा कर देती है — चिड़िया का उड़ जाना और पत्ती में कम्पन फिर उसका धीर-धीरे स्थिर हो जाना, यह सम्पूर्ण क्रिया एक पल से घटित होकर जीवन सत्य की ओर संकेत करती है। दीपक बुझने के पहले ज्योति शिखा कम्पित होती है, ज्योति सूक्ष्म में विलीन हो ताजी है और शान्त पड़ी रह जाती है वाती। प्राण पखेरु उड़ जाते हैं, काया का अंतिम कम्पन और फिर मृत देह पड़ी रह जाती है। शायद यही भाव कवि आत्मा के हृदय में हुआ और वह केवल घटना की ओर संकेत करके चुप रह जाता है। यह संकेत ही कविता के भाव को नियोजित करता है।

हाइकू का कवि हाइकू कविता की स्पष्ट व्याख्या नहीं करता। व्याख्या का काफी अंश पाठकों पर छोड़ देता है। क्योंकि “हाइकू सम्पूर्ण कविता नहीं वह सांकेतिक अभिव्यक्ति की कविता है। शब्दों में कुछ कहा जाता है शेष पाठक की ग्रहण शक्ति पर छोड़ दिया जाता है।

अनेक विद्वानों और कवियों ने हाइकू में सत्य की अभिव्यक्ति की जगह भावाभिव्यक्ति पर बल दिया है। रवीन्द्रनाथ ठाकुर के शब्दों में “एइ कविता गुलेर मध्य, जे केवल वाक-संयम ता नय एर मध्ये भवेद संयम।”⁷ ओत्सुजि-भावाभिव्यक्ति को यहाँ तक स्वतंत्र करते हैं कि “भावनाओं की अभिव्यक्ति के प्रयास में हम पहले ये यह नहीं जान सकते, कि हमें अपनी अभिव्यक्ति के लिए कितनी श्रुतियों की आवश्यकता पड़ेगी। यह सत्य है, इसी उदार भावाभिव्यक्ति ने ही कविता को क्लासिक युग से स्वतंत्र कर; उसे विविध मुखी अभिव्यक्ति के लिए भी भाषाओं के लिए समस्त दरवाजे खोल दिये हैं। किन्तु हाइकू का शिल्प-5+7+5 श्रुतियों का क्रम बाह्य रचना विधान ही नहीं, वरन् जापानी भाषा की संरचना एवं (आंतरिक) गठन भी है, जो शिल्प में बाँधता है।

हाइकू वास्तव में सत्रह श्रुतियों की वह नन्हीं कविता है — जिसमें विरोधी बिम्बों का प्रतीकों के मिथुन अप्रत्याशित सौन्दर्य चेतना उद्विक्त करते हैं। अतः हाइकू गति और स्थिरता का समीकरण है। अतः हिन्दी साहित्य में हाइकू का प्रयोग कुछ साहित्यकारों द्वारा अपने साहित्य में हुआ है।

संदर्भग्रन्थ :-

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३. हिन्दी विद्यापीठ पत्रिका - लेख — मुक्त छंद के पूर्वज — आदित्य प्रताप सिंह
४. हिन्दी विद्यापीठ पत्रिका - लेख — मुक्त छंद के पूर्वज — आदित्य प्रताप सिंह पृ. 77.
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६. आत्मने पद — अज्ञेय, पृ. 51.
७. जापानी यात्री — रवीन्द्रनाथ ठाकुर, पृ. 88.

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छायावादी काव्य में नारी चेतना

प्रा. डॉ. सौ. विद्या शशिशेखर शिंदे : हिंदी विभागाध्यक्ष, आय. सी. एस. कॉलेज, खेड, जि. रत्नागिरी

नारी वस्तुतः वह सृजनात्मक शक्ति है, जो जीवन का रूपयन ही नहीं करती, उसे गति एवं दिशा भी प्रदान करती है। अतः जीवन के लिए जीवन को चित्रित करनेवाला कवि उसकी उपेक्षा कैसे कर सकता है? परंतु नारी जहाँ अपनी मृदुता, सहिष्णुता एवं त्यागकारक सदगुणों के कारण पूजित और प्रशंसित हुई है, वही पुरुषों की वासना लोलुप दृष्टि का शिकार भी कम नहीं हुई है। इसके लिए वासना की विनाशकारी आग को बढ़ावा देनेवाला उसका अपना उत्तेजक एवं प्रचंड स्वरूप भी कम उत्तरदायी नहीं रहा है। इसी के चलते वह अक्सर व्यक्तित्व विहीन और पुरुष की भोगवादी दृष्टि का खिलौना बनी है। हिंदी के वीरगाथाकालीन काव्य में नारी भोगविलास का साधन बन गयी थी। उसकी प्रतिक्रिया में आदर्शवादी द्विवेदीयुगीन कवि की दृष्टि अगर उसके सौम्य 'देवी' रूप पर हो केंद्रीत रहती है तो यह भी बहुत स्वाभाविक है। इसके विपरीत छायावादी काव्य चेतना जहाँ उसे वासना केंद्र से बाहर लाने का काम करती है, वही अपेक्षित गतिमयता एवं शक्ति की संभावनाओं से अभिमंडित भी करती है। यह ठीक है कि कहीं-कहीं आत्यन्तिक आवेश के कारण कवियों ने उसे अमूर्त बना दिया है। मूल रूप में इस कालखंड में नारी हमारी मूल सांस्कृतिक चेतना को दहन करनेवाली अपने उज्ज्वल और उदात्त रूप में चित्रित हुई है।

महाकवि जयशंकर प्रसाद नारी को जड देह मात्र तक सिमित करनेवाली वासना की एकांगी दृष्टि का विरोध करते हैं। वह बात को भली-भाँति समझते हैं कि केवल देह की साधना करनेवाला पुरुष सौंदर्य-जलाधि रूपा नारी व्यक्तित्व से विष का संचयन करके असमय ही मौत को आमंत्रित करता है। श्रद्धा और अपनी प्रेम भावना के अन्तर पर विचार करते हुए वह अपनी अबोधता एवं अपूर्णता का सहज साक्षात्कार करते हैं। उनकी अन्तर चेतना उनसे कहती है –

“मनु उसने तो कर दिया दान

वह हृदय प्रणय से पूर्ण सरल जिसमें जीवन का भरामान

जिसमें चेतनता ही केवल निज शान्त प्रभा से ज्योतिमान

पर तुमने तो पाला सदैव उसकी सुन्दर जड देह मात्र

सौंदर्य जलधि से भर लाये केवल तुम अपना गरल पात्र।१

कवि जहाँ नारी के प्रति पुरुषों की एकान्त भोगवादी दृष्टि का विरोध करता है, वही उसके अन्तर व्यक्तित्व को प्रतिष्ठा प्रदान करते हुए उसके माध्यम से जीवन के लिए अमृत तत्व की अपेक्षित साधना का आवाहन करता है। वह जानता है, नारी, स्नेह, सेवा एवं करुणा की प्रतिमूर्ती है। मानवीय सृष्टि की संभावना को साकार ही नहीं करती, उसे सजाती, सवारंती और प्रतिष्ठित भी करती है। नारी के इस समर्पित आदर्श स्वरूप के संबंध में प्रसाद की पंक्तियाँ हैं।

‘नारी’तुम केवल श्रद्धा हो

विश्वास रजत नग पग तल में,

पीयूष स्रोत सी बहा करो,

जीवन के सुंदर समतल में।२

इसमें नारी की गरिमा को उन्नत किया गया है। प्रसादजी की दृष्टि में जैसा कि दर्शन सर्ग में श्रद्धा ने इडा से कहा है नारी वह शक्तिमती शीतल छाया है, जिससे यह धरती भी धन्यता को प्राप्त होती है।

छायावाद के दूसरे महाप्राण निराला की दृष्टि में नारी ही समाज का मेरुदंड है। उनके अनुसार नारी इस प्रकार शांति सुख की अविश्राम धरा प्रवाहित करनेवाली सौंदर्य सरोवर की एक तरंग, उदात्त आवेग, संकुचित, एक लज्जित गति, प्रिय समीर के संग विचरण करनेवाली ‘बहू’ ही नहीं है, वह अपने प्रिय की प्रेरिका और शक्तिदायीनी भी है। ‘राम की शक्ति पूजा

में अमा की पल-पल गहराती अँधेरी रात, आसमान है कि बादलों के माध्यम से जैसे घने अंधकार को उगल रहा हैं, चारों ओर गहरी निस्तबधता छायी हुई हैं और पिछे से विशाल अम्बुधि है कि अप्रतिहन गरजता चला जा रहा है, ऐसी स्थिती में संशयग्रस्त राघवेन्द्र का अपनी विजय के प्रति आशंकित हो उठना बहुत स्वाभाविक है और आशंका के पलों में भीतर तक हिल उठना सहज है। किन्तु इस स्थिती में भी जैसे ही प्रिया सीता की छवि उनके भीतर जगती है, उनका संशय निश्चय में, उनकी दूर्बलता शक्ति में बदल जाती है तब वह कह उठते है —

‘सिहरा तन’ क्षण भर भूला मन, लहरा समस्त,
हर धनुर्भंग को पुनर्वार ज्यों उठा हस्त,
फूटी स्थिती सीता-ध्यान लीन राम के अधर
फिर विश्व विजय भावना हृदय में आयी भर।।३

‘तुलसीदास’ में महाकवि तुलसी के सुप्त संस्कारों को जगाने का काम भी और कोई नहीं, अनल प्रतिमा रत्नावली करती है। रत्नावली को वह शारदा कहते है। अब जिसकी दृष्टि भगवती सरस्वती से एक तार हो उठी हो, वह भला कब तक लोक के अँधेरे मे भटक सकता है। ‘स्व’ की सीमाओं को अतिक्रमित कर अँधकार को चीरकर मानवीय प्रकाश की उज्वलता को प्रशस्त करना सहज हो जाता है। उस समय महाकवि निराला लिखते है —

‘देखा शारदा नील वसना
है सम्मुख स्वयं सृष्टि रशना
जीवन-समीर-शुचि-निःश्वसना, वरदायी
वाणी वह स्वयं सुवादित स्वर
फूटी तर अमृताक्षर निर्झर,
यह विश्व हंस, है चरण सुधर जिस पर श्री।४

प्रकृति के महान गायक कविवर पंत ने नारी को ‘देवि’, ‘माँ’, ‘सहचरि’ और ‘प्राण’ कहते हुए भी मनुष्य रूप से उसे प्रणय एवं सौंदर्य की प्रतिमा के रूप में ही अंकित किया है। उसकी नारी स्वप्नमयी यदा कदा मायामयी भी है, फिर भी वह सृष्टि के उर की साँस है —

‘स्वप्नमयि हे मायामयि
तुम्ही हो स्पृहा अश्रु ‘औ’ हास
सृष्टि के उर की साँस
तुम्ही इच्छाओं का अवसान
तुम्ही स्वर्गिक आभास
तुम्हारी सेवा में अनजान
हृदय में मेरा अन्तर्धान,
देवि ! माँ ! सहचरि ! प्राण ! ५

पंत नारी को ‘अकेली सुंदरता कल्याणी’ सकल ऐश्वर्यों की संघान’ कहने में भी नहीं हिचकते। वह मानते है कि नारी प्रणय चेतना की वह पवन प्रतिमा है, जिसके स्पर्श मात्र से अनुभूती होने लगती हैं, अन्तश्चेतना द्रवित हो उठती है। पंत ने नर की छाया दीन-हीन चिखंदिनी नारी को भी देखा है, उसकी मुक्ति का आवाहन भी किया है। साथ उन्होंने फैशन प्रिय उस आधुनिक स्त्री को भी देखा है, जिसने मुक्त पश्चिमी जीवन की चमक से चमत्कृत हो उसे ही अपना साध्य मान लिया हैं। नारी सुलभ गुणों से हीन इन आधुनिकताओं को सांस्कृतिक दासता का प्रतीक मानते हुए पंत इन्हे नारी के अतिरिक्त सब कुछ मानने

के लिए तैयार है। वह कहता है—

मार्जारी तुम, नही प्रेम को करती आत्मसमर्पण,
तुम्हे सुहाता रंग प्रणय, धन, पद, मद, आत्म प्रदर्शन।
तुम सब कुछ हो, फूल, लहर, तितली, विहगी, मार्जारी,
आधुनिके, तुम नही अगर कुछ, नही सिर्फ तुम नारी।६

पंतजी के काव्य में प्रेम, दया, सहृदयता, शील, क्षमा, परदुःखकातमा, संयम, सहिष्णुता, तप और त्याग जैसे गुणों से विरहित एवं दृष्य के सत्य से वंचित तथाकथित महिमामंडित आधुनिकता को सच्चे अर्थों में नारी के रूप में मान्य करने के लिए प्रस्तुत नहीं। पंतजी नारी के बाह्य सौंदर्य के नहीं, वरन् आत्मा को उन्नत एवं प्राणों को प्राणवत्ता प्रदान करनेवाले उसके आंतरिक सौंदर्य एवं शक्ति के अभिलाषी एवं समर्थक है। जो मानवी महिमा से संपृक्त होकर धरती को पवित्र करती है। वेदना एवं करुणा की गायिका महादेवी वर्मा की दृष्टि में नारी केवल मांसल तथा भोगदायी नहीं है। उनके मत में “आदिम काल से आज तक विकास पथ पर पुरुष का साथ देकर, उसकी यात्रा को सरल बनाकर उसके अभिशापों को स्वयं झेलकर और अपने वरदानों से जीवन में अक्षय शक्ति भर कर, मानवने जिस व्यक्तित्व चेतना और हृदय का विकास किया है, उसी का पर्याय नारी है। रहस्यत्मकता के झीने आवरण को हटाकर यदि मानवीय संदर्भ में उनकी काव्य चेतना को विश्लेषित किया जाय तो यह मान्य करने में संकोच नहीं होना चाहिए कि उनके भीतर प्राणों को जो दीप भाव से जल रहा है उनकी कामना है-

“पथ न भूले एक पग भी,
घर न खोये लघु विहंग भी,
स्निग्ध लौ की तूलिका से
आँक सबकी छाँह उज्वल ।६

उपर्युक्त विवेचन के आलोक से कहा जा सकता है कि छायावादी काव्य में नारी को नवीन दृष्टि से देखा गया है। इसमें छायावादी कवियों ने नारी को सहज मानवीय धरातल पर प्रतिष्ठित करते हुए उसके विभिन्न रूपों को अंकित किया है। परंतु उनकी दृष्टि के केंद्र में नारी का वह शक्ति संचलित प्रेरक स्वरूप है, जो पुरुष को प्रेरित ही नहीं करता, वरन् उसे पूर्णता की दिशा के संधान में प्रवृत्त भी करता है। निष्कर्ष स्वरूप पंत के शब्दों में कहा जा सकता है कि, “छायावादी नारी में भारतीय जागरण का नैतिक बल ही नहीं, उसमें विश्व मानवी का व्यापक सहानुभूती पूर्ण स्वस्थ स्नेह संवेदन भी हैं। वह घर की देहरी लौंघकर यमुना की कामना की गहराईयों में नीचे उतरती हुई सीढियों पर नहीं फिसल पडती। वह देह बंध पर्दा से बाहर निकलकर, मध्ययुगीन कामकाज का गुण्ठन मुख से हटाकर सामाजिक दायित्व के प्रतिजागृत स्त्री स्वातंत्र्य के राजपथ पर नये शील के चरण धर कर भागे बढ़ती हैं।७

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संत साहित्य में गुरु का महत्व

डॉ. अनिल सिंह : उप प्राचार्य एवं अध्यक्ष, हिंदी विभाग, सोनूभाऊ बसवंत महाविद्यालय, शहापुर

प्राचीन भारतीय साहित्य में भी 'संत' शब्द विशिष्ट अर्थ में प्रयुक्त हुआ है। ग्रंथों में कहीं परमतत्व हेतु तो कही अनुकरणीय गुणों के रूप में होता है। श्रीमद् भागवत में सन्त उन्हीं को कहा गया है जो पवित्रात्मा के साथ-साथ तीर्थों को भी पवित्र कर दें। यदि हम मध्ययुगीन साहित्य में देखें तो 'सन्त' शब्द का प्रयोग महात्मा सज्जन महापुरुषों या साधकों के लिए भी प्रयुक्त हुआ है। हम यहाँ देखते हैं कि हिंदी के निर्गुण और सगुण साहित्य में 'सन्त' शब्द व्यापक अर्थ में प्रयुक्त हुआ है। भक्ति काल में उन्हें साधु, सज्जन अर्थात् सांसारिक दुखी:जनों को सुख और शान्ति प्रदान करनेवाले आदि रूपों में दिखलाया गया है। अतः 'सन्त' उन्हीं को कहा जा सकता है जो हमें सत्य का साक्षात्कार कराए साथ ही साथ सत्य, असत्य को समझने का विवेक भी पैदा करें।

हिंदी के सन्त साहित्य की पूर्व-परंपरा व्यापक और प्राचीन हैं। संत साहित्य विस्तृत व व्यापक साहित्य का द्योतक भी है। 'संत' काव्य की जो परंपरा कबीर के समय से चल पड़ी वह उस स्वतः स्फूर्त निर्झर के समान आगे बढ़ी जो किसी मूल स्रोत से आप-से-आप निवृत्त कर सदा होता चला जाता है।^२ उसका मार्ग न तो किसी नहर का सा बना बनाया रहा करता है, न उसके दाहिने — बायें कोई कृत्रिम कगारों की बाधाएँ ही खड़ी रहती है। संत काव्य का आरम्भ पहले बानियों अथवा पदों तथा साखियों के ही रूपों में हुआ था, किन्तु वह पीछे अन्य प्रकार से भी दृढ़-बद्ध होकर दीख पड़ा। फिर भी उसकी मौलिक विशेषताएँ प्रायः ज्यों-की-त्यों बनी रह गई। उनमें कोई उल्लेखनीय अंतर नहीं लक्षित हुआ।^१

संतों का सबसे बड़ा वैशिष्ट्य यह है कि उन्होंने सुनी-सुनाई बातों पर अधिक ध्यान न देकर, अनुभव जन्म बातों पर ही विशेष बल दिया है। ज्यादातर संतों ने ब्रम्ह, गुरु और संत को तत्त्वतः एक ही माना है। संत चाहे हिंदी के हो या मराठी के सभी संतों की विचार धारा, साधना पध्दति, भावानुभूति एवं अभिव्यंजना-शैली में काफी साम्य देखने को मिलता है। सभी संतों ने ब्रम्ह, माया, प्रेम का महत्व, परोपकार के साथ ही गुरु की महिमा पर विशेष बल दिया है।

उपनिषदों में भी गुरु शिष्य दोनों की योग्यता का निर्देश दिया गया है। योग्य शिष्य को ही योग्यता का निर्देश दिया गया है। योग्य शिष्य कोही शिक्षा का निर्वचन उपनिषदें करती हैं, श्वेतात्तरोपनिषद स्पष्टतः गुरु शिष्य के संबंधों का कथन करती हुई कहती हैं कि वही शिष्य विद्या का अधिकारी है जिसकी परकोटि की, परमेश्वर सदृश्य, भक्ति गुरुमें हैं। ऐसे ही शिष्य में परम तत्व का प्रकाश संभव हो पाता है-

यस्य देवे परा भक्तिर्यथा देवे तथा गुरौ ।

तस्मैते कथिता ...र्थाः प्रकाशन्ते महात्मनः ।।

उपनिषदों में गुरु को सीधे 'भगवान' शब्द द्वारा संबोधित किया गया है। अर्थात् गुरु ब्रम्हतुल्य है क्योंकि उसने आत्मसाक्षात्कार द्वारा ब्रम्ह तत्व की उपलब्धि कर ली है। ऐसे गुरु ही आप्त पुरुष है तथा उनके शब्द प्रमाण-रूप हैं।^२

संतों में गुरु-भक्ति ही भक्ति की साधना है। कबीर ने बहुत ही साफ-साफ कहा है कि परमात्मा और गुरु गुणातीत होकर भी गुणमय है। इसके बावजूद भी गुरु ही उपास्य और महान है उनका कथन है —

“परमात्म गुरु निकट विरानैं

जाग जाग मन मेरे ।

धाय के पीतम चरनन लागैं

साई खडा सिर तेरे ।

जुगन जुगन तोहिं सोवत बीता

अजहु न जाग सबेरे ।“

संतो ने गुरु की महत्ता पर प्रकाश डालते हुए कहा है कि लाख प्रयत्न करने पर भी गुरु के बिना ज्ञान की प्राप्ति नहीं हो सकती। अज्ञान रुपी अंधकार में भटकने वालों को कभी भी मुक्ति नहीं मिलती। गुरु के बगैर सत्य और असत्य को भी नहीं जाना जा सकता। कबीर ने ठीक ही कहा है कि गुरु के बिना जीवन में उद्धार हो पाना असंभव है —

गुरु बिन ज्ञान न उंपजै, गुरु बिन मिलै न मोष।

गुरु बिन लखै न सत्य को, गुरु बिन मिटै न दोष।।

गुरु का स्थान सबसे श्रेष्ठ और उँचा है। चाहकर भी उसकी बराबरी न तो किसी से हो सकती है और नही किसी से कि जा सकती है। संतो ने गुरु को सबसे बड़ा आश्रय स्थान माना है। पथ-प्रदर्शन की क्षमता वाले गुरु को ही सतगुरु के नाम से अभिहित किया गया है। सच्चा गुरु ही अनन्त उपकार कर सकता है, क्योंकि वही असंख्य ज्ञान नेत्रों को खोलकर असीम ब्रम्ह का दर्शन साक्षात्कार करता है —

“सतगुरु की महिमा अनंत, अनंत किया उपकार।

लोचन अनंत उघाड़िया अनंत दिखावणहार।।

कबीर की दृष्टि में हितैषी गुरु ही मनुष्य को क्षण भर में देवता बना सकता है। अतः उसका स्वरूप अनन्त व अवर्णनीय है। परमरत्ना के स्पष्ट होने पर चाहकर भी कोई सहायता नहीं कर सकता। कबीर की दृष्टि में गुरु का स्थान ईश्वर से भी बढ़कर है।

कबीर हरि के रुठते, गुरु के शरणै जाय।

कहै कबीर गुरु रुठते, हरि नहीं होत सहाय।।

संतो की दृष्टि में गुरु शूरवीर हैं, काया को कंचन बनाने वाला अहंकार को मिटाने वाला, जन्म-मरण से मुक्त करने वाला, रामनाम का मंत्र देने वाला आदि रूपों में भी वर्णनीय हैं।

कबीर के समान ही अन्य संतो ने भी गुरु की महत्ता को उजागिर किया है। रैदास की वाणी में अपूर्व दीनता और मर्मस्पर्शिता दृष्टिगोचर होता है। इनकी वाणी में गजब का मिठास है। गुरु की महिमा का बखान करते हुए रैदास कहते हैं कि गुरु के दर्शन मात्र से बहुत से कष्ट स्वयं दूर हो जाते हैं-

“माधो सतगुरु सब चेला, आपके बिदुरे मिलन दुहेला।

धन जोबन की झूँठी आसा, सत सत भाखै जन रैदास।।“

गुरु ज्ञाता और प्रदाता है धर्मदास के अनुसार ‘गुरु’ अपने ज्ञान रुपी प्रकाश के जरिए ही हमें जीवन में आगे बढ़ने हेतु प्रेरित करता है। गुरु के वचन वाणी की शक्ति से मन के सब विकार दूर हो जाते हैं, गुरु के चरणों में ही तीनों लोकों की संपदा सहज ही प्राप्त हो जाती है। धर्मदास कहते हैं-

“खुली किबरिया मिटी अंधिरिया, धन सतगुरु जिन दिया है लखाय।

धरमदास बिनवै कर जोरी, सतगुरु चरन में रहत समय।।“

सन्त दादू दयाल ने भी सरल भाषा, आचरण, व्यवहार और सहजवाणी से लोगों को काफी प्रभावित किया। उनके गुणों से प्रभावित होने के कारण ही रज्जब के हृदय में अपने गुरु दादू के प्रति अपार श्रद्धा और निष्ठा थी। यही नहीं उन्होंने गुरु के परब्रम्ह के प्यारे, त्रिगुण रहित, पाखंडों से दूर रहने वाला बतलाया है।

रज्जब के शब्दों में देखा जा सकता है —

“गुरु गरबा दादू मिल्या, दीरघ दिल दरिया।

हँसत प्रसन्न होत ही, भजन भर मलिया।।“

महाराष्ट्र के प्रमुख सन्तो ज्ञानदेव, एकनाथ, समर्थ रामदास, कृपाराम के अतिरिक्त नामदेव अधिक प्रसिद्ध हुए। उन्हें सर्वत्र गोविन्द ही दिखलाई पड़ते हैं। नाम स्मरण के महत्व को बतलाते हुए कहते हैं। गुरु की कृपा से मुरारी को प्राप्त किया जा सकता है। उसी की कृपा से संसार-सागर से पार जाना सरल हो जाता है। नाम देवा चा गया में उन्हें स्पष्ट रूप से कहाँ हैं कि “यदि कोई वास्तविक देवता है तो वे गुरुदेव हैं, अन्य देवों की सेवा करना व्यर्थ है।”

गुरुनानक बचपन से ही बड़े प्रतिभा सम्पन्न और शान्त प्रवृत्ति के थे। उनकी मान्यता थी कि धर्म-खण्ड, ज्ञान-खण्ड, कर्म-खण्ड में सच्चे मन से प्रवेश करने पर मनुष्य पूर्ण रूप से आध्यात्मिक हो जाता है। गुरुनानक ने भी परमात्मा से एकाकार होने के लिए गुरु की महत्ता पर बल दिया है। गुरुही सत्य की राह दिखलाता है, वही हमें सांसारिक जीवन का अनुभव कराते हुए तमाम भ्रमों का निराकरण करता है। गुरु की महिमा के विषय में गुरुनानक कहते हैं-

“काहे रे बन खोजन जाई।

सर्व निवासी सदा अलेपा, तोही संग समाई।

पुष्प मध्य ज्यों बास बसत हैं, मुकुर मांहि जस छाई।

तैसे ही हरि बसैं निरंतर, घट ही खोजो भाई।

बाहर भीतर एकै जानौ, यह गुरु ज्ञान बताई।

जन नानक बिन आपा चीन्है, मिटै न भ्रम की काई।”

इस प्रकार हम देखते हैं प्रायः सभी सन्तों ने गुरु की महिमा का वर्णन किया है। गुरु गोविन्द से बढ़कर वह ज्ञान का भंडार हैं, पथ-प्रदर्शन की पूर्ण क्षमता गुरु में निहित हैं। असीम ब्रह्म का साक्षात्कार कराने में भी पूर्ण रूप से समर्थ हैं। यही कारण है कि सभी सन्तों ने गुरु को अपना सगा और हितैषी माना है। सन्तों ने कथनी और करनी के दिखावे को मिटाकर मानवीय-मूल्यों का जीवन में सही अर्थों में चरितार्थ भी किया है। आचार्य परशुराम चतुर्वेदी ने ठीक ही कहा है- “संत कवियों में से ऐसे बहुत ही कम हुए जिन्होंने अपनी रचनाओं की बाहरी सजावट की ओर भी ध्यान देना आवश्यक समझा। वे अधिकतर इसी यत्न में लगे रहे कि किस प्रकार अपने भीतर के गूढ़ रहस्यों को यथावत् प्रकट करने में समर्थ हो सके।” ३

हिंदी का संत साहित्य, भारतीय साहित्य का सार निरूपक काव्य है। श्रीमती पद्मावती झुनझुनवाला का यह कथन विचारणीय है- “विचार के कारण व्यवस्था को नकारने वाली यह संस्कृति पूरे भारतवर्ष में तथाकथित नीची कही जाने वाली जातियों के बीच से अनेक सन्तों और कवियों को पैदा करती है। नामदेव दर्जी, कबीर जुलाहा, सेना नाई, घन्ना जाट और रैदास चमार जैसे सैकड़ों सन्त महाराष्ट्र, तामिलनाडु, कर्नाटक, आन्ध्र, उड़ीसा, बंगाल और राजस्थान से लेकर पंजाब तक एक सद्विचार के प्रवर्तक के रूप में खड़े होते हैं।” ४

सन्तों ने जन-जन में जिस नवीन चेतना, गुरु भक्ति और आध्यात्मिक एकता के भाव को पैदा किया है वह नित नूतन रूप ग्रहण कर सदैव हमें स्फूर्ति और नवजीवन प्रदान करती रहेगी। अतः लगभग सभी संत मानते हैं कि बिना सतगुरु के सच्चामार्ग अर्थात् ज्ञान का मार्ग प्राप्त नहीं हो सकता। गुरु के मन्त्र के बगैर कोई भी कार्य सफल नहीं होता। गुरु ही माया, मोह, मद, क्रोध, राग-द्वेष से मुक्ति दिला सकता है। गुरु का स्थान ईश्वर से भी बढ़कर है। आत्म-ज्ञान प्रदान करने वाले गुरु, हर काल खंड में पूजनीय, वंदनीय है और रहेगा। गुरु की महिमा का जितना भी वर्णन किया जाय कम ही है, गुरु की महिमा को शब्दों में बाँधा नहीं जा सकता। संत कबीर के शब्दों में कहा जा सकता है -

सब धरती कागद करुं, लेखनी सब बनराय।

सात समुद्र की मसि करुं, गुरु गुण लिखा न जाय।।

सन्तों का मूल लक्ष्य सत्य का विवेचन कर जन-जन तक प्रचारीत और प्रसारित करना भी था। यही कारण है की भाषा और काव्य-सौष्ठव की ओर भी उन्होंने कोई विशेष ध्यान नहीं दिया। साधन विहीन परिस्थितियों के बावजूद भी

भावात्मक व अनुभूतिजन्य अभिव्यक्ति हमें न केवल साधना क्षेत्र अपितु साहित्य में दृष्टिगोचर होता है।

डॉ. त्रिलोकी नारायण दीक्षित ने लिखा है — “सन्त काव्य में साधारणीकरण भी है और वस्तुस्थिति का सौन्दर्य बोध भी। कबीर, दादू, सुन्दरदास और हरिदास निरंजनी की सखियों एवं पदों में सशक्त अभिव्यंजना, गंभीर रहस्यात्मक उक्तियाँ, प्रभाव शाली प्रतीक और भाषा का स्वाभाविक प्रवाह विद्यमान हैं। इनके काव्य में गंभीर अनुभूतियों की कलात्मक व्यंजना दुर्लभ नहीं है। वैसे, सन्तकाव्य जन-साहित्य है जिसमें जन-भावनाओं को जागृत करने के लिए अथक परिश्रम किया गया है। इस प्रयास में सन्त कवियों को आशातीत सफलता मिली। उनके अनुयायियों ने पंथों एवं सम्प्रदायों का गठन भी किया। इनमें सामान्यतः जनता का निम्न वर्ग ही सम्मिलित हुआ। इस पृष्ठभूमि में यह कहना उचित होगा कि सन्त-काव्य धारा का जो महत्व सामाजिक, धार्मिक, सांस्कृतिक एवं राजनीतिक दृष्टि से है, वह साहित्यिक दृष्टि से नहीं है। साहित्य की जो लौकिक सीमाएँ तथा काव्य शास्त्रीय एवं भाषा वैज्ञानिक स्वीकृतियाँ हैं, उनमें इस काव्यधारा को नहीं बांधा जा सकता, परंतु पारमार्थिक, अलौकिक एवं दार्शनिक जगत् की को प्रस्तुत करने वाले सन्त-साहित्य का अपना महत्व है।”

सन्त-मत के प्रचार-प्रसार में रामानंद का उल्लेखनीय योगदान रहा है। इनकी शिष्य परंपरा में कबीर ने बाह्य साधनों को विशेष महत्व न देकर अन्तर साधना पर अधिक बल दिया है। इसी परंपरा को आगे बढ़ाते हुए दादू, नानकदेव, रैदास, ज...नाथ, हरिदास निरंजनी, सींगा, लालदास धर्मदास, रज्जब, सदाना, बेनी, पीपा आदि संत कवियों ने महत्वपूर्ण योगदान दिया है। सींगो ने निर्गुण ब्रह्म की साधना की उनके अनुसार परम तत्व की प्राप्ति हेतु दर-दर भटकने की आवश्यकता नहीं है। अन्तःकरण की शुद्धता से सब कुछ प्राप्त किया जा सकता है-

“जल बिच कमल, कमल बिच कलियाँ, जहाँ वासुदेव अ विनाशी।

घर में गंगा, घर में जमुना, नहीं द्वारिका कासी।।

घर वस्तु बाहर क्यों ढूँढे बन बन फिरा उदासी।

कहैं जन सिंगा, सुनो भाई साधो, अमरपुर के वासी।।”

सन्दर्भ ग्रंथ :

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- ७) सोच विचार — स. नरेन्द्र नाथ मिश्र अंक. १, जुलाई २०१२.

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इदन्नमम : पारिवारिक एवं सामाजिक परिदृश्य (मैत्रेयी पुष्पा)

कुमुद सिंह : शोध छात्रा, मुंबई विश्वविद्यालय, मुंबई

कथानक : इदन्नमम का कथानक श्यामली व सोनपुरा नामक दो गाँवों के संघर्ष की कथा है। सोनपुरा के प्रधान महेन्द्रसिंह आँखों में अस्पताल का सपना लिए दुर्घटनापूर्ण मृत्यु को प्राप्त जाते हैं। उनकी पत्नी 'प्रेम' अपने जीजा के साथ चली जाती है। पीछे रह जाती है नन्हीं 'मन्दाकिनी' तथा उसकी दादी 'बऊ'। अपनी नातिन को बहु से बचाते हुए, बऊ श्यामली नाम के गाँव में आश्रय पाती है। श्यामली के 'दादा' बऊ और मन्दा को हर आफत-बिपत से बचाने को संकल्पबद्ध है। श्यामली में उपजे पारिवारिक कलह के कारण बऊ तथा मन्दा पुनः कई वर्षों बाद अपने गाँव सोनपुरा लौटते हैं। यहीं से शुरु होती है मन्दा के संघर्षों की कहानी, मन्दा अपनी उखड़ी जड़ों को जमाने के लिए राजा, नेता, पुलिस ठेकेदार, अफसरों तथा जगोसर जैसे लोगों को मुँहतोड़ जवाब देती है। उसकी हिम्मत से सुसुप्त गाँव चैतन्य हो उठता है।

सहकारिता आंदोलन न सिर्फ गाँवों को बल्कि वहाँ की जनजातियों को भी अधिकारों के प्रति सचेत करता है।

कहानी के मुख्य पात्रों में मन्दा, बऊ, दादा, कुसुमा भाभी कक्को मकरन्द कायलेवाले बाबा इत्यादि प्रसंगानुरूप महत्वपूर्ण भूमिका निभाते हैं।

पारिवारिक परिवेश : श्यामली वाले दादा पंचमसिंह का एक भरा-पुरा परिवार है। ऊपज से भरे खेत-खलिहान हैं। घर में दादा का बोलबाला है। दादा अपने दूर के रिश्ते की बऊ तथा उनकी नातिन मन्दा को न्याय दिलाने का बीड़ा उठाते हैं। परिवार के साथ-साथ पूरा श्यामली गाँव दादा के साथ है। श्यामली का बच्चा-बच्चा मन्दा व बऊ की सुरक्षा के प्रति सचेत है। दादा की पत्नी कक्को पति के इस निर्णय में उनके साथ पूरा सहयोग करती है।

कक्को तथा दादा का एकदूसरे के प्रति आदरभाव तथा प्रेम दांपत्य संबंधों की गरिमामयी कहानी कहता है। बऊ और मन्दा को आश्रय देने की बात पर परिवार के अन्य लोग ना-नुकुर करते हैं, परंतु कक्को पति के निर्णय से आश्वस्त दिखाई देती है। कक्को का दादा के प्रति अटूट विश्वास तब दिखाई देता है जब देवरानियाँ धोबिन को लेकर कक्को को चेताती हैं। तथा दादा व धोबिन के संबंधों पर संदेह करती हैं। पति पर लगा लांछन कक्को सहन नहीं करती और खरी बात सुना देती है।

वे भभक उठी, "तुम तो बिलात कह गई बैन ! कहनी-अनकहनी। जेठ की मान-मरयादा त्याग दी तुमने। पर यह बताओं कि हम कैसे त्याग दें अपने आदमी का संग ? हमारा तो अनादर नहीं किया उन्होंने ले आए सो ले आए। होगी दुखियाँ।"

"पर इतेक निसाखातिर रहो छोटी, जो कूँड-किरिया धरती गौरा को दादा देंगे, सो अपने हिस्सा में से देंगे। तुम्हारे हिस्सा से नहीं कटने देंगे हम। जोगी को ब्याह गये तो बैरागिन होना ही पडेगा हमें।" १

मन्दा और मकरन्द का रिश्ता तय हो जाने पर प्रेम, मन्दा से एक बार मिलने की याचना करती है। श्यामली के लोगों तथा दादा को इसमें प्रेम की चाल नजर आती है। परंतु कक्को के कहने पर ही दादा मन्दा को प्रेम से मिलने पर राजी हो जाते हैं। स्त्री-पुरुष के संबंधों का मर्म बताते हुए कक्को दादा को राजी कर लेती है, तो इसके पीछे दादा और कक्को की आपसी समझ व आदरभावना के ही दर्शन होते हैं। "इतेक नहीं समझते कि हिफाजत की कित्येक बड़ी कीमत होत है? चाहें राजा से परजा को मिले, चाहे पुरिख से जनीं कों, बात एक ही है। ताबेदारी एक ही सी करनी पडती है। और जई ताबेदारी के चलते फजीहत और बिटम्ना भी.....! क्या जाने किस मोल बिकी हो प्रेम? क्या-क्या सह झेल रही हो?.....और कौन कगार से भेजनी परी हो जे पिराथना?" २

प्रेम की मनोदशा का सच्चा अनुमान लगाने में कक्को सफल होती है तथा एक पुरुष के हृदय में अपराधिन समझी जाने वाली नारी के प्रति संवेदना जागृत करती है। पुरुष से मिला संरक्षण तथा स्त्री से मिला समर्पण ही दांपत्य संबंधों के प्रेम को

जीवित रखता हैं। दादा एवं कक्को आदर्श पति-पत्नी के रूप में चित्रित हुए हैं।

दादा पंचमसिंह के परिवार में संतान, संपत्ति एवं प्रतिष्ठा को लेकर पारिवारिक क्लेश व मनमुटाव : धीरे-धीरे जन्म लेता हैं।

बऊ की जमीने हड़पने के उद्देश से काका गोविन्दसिंह ने मन्दा का सगाई संबंध घर के ही किसी लड़के से करने की बात सुझाई तथा मन्दा और मकरन्द का संबंध कर दिया गया। परिवार में यह संबंध क्लेश व मनमुटाव का कारण बना। मकरन्द की माँ इसी बात पर दादा से लड़ पड़ी तथा अपने पति के सामने जिद लेकर अड़ गई।

“यहाँ तो महाभारत, मचा हैं भइया-भइया में! हम ही हैं कि गूँगे-बहरे बने हुए हैं। संग में भी। पर दादा समझें तब न। समझाए भी कौन? मानेंगे किसी की? हम हैं सो घूँघट-परदा में। अब तो सुसरे ऊँगट-घुँघट में दम घुटने लगा हैं हमारा।” ३

मकरन्द के पिता विक्रमसिंह दादा के बड़े बेटे हैं परंतु बहु का ससुर के प्रति अविश्वास तथा उनके निर्णय के प्रति विद्रोह परिवार में साफ दिखाई देता हैं। और तो और वह दादा के पौत्र पर स्नेह व अधिकार को भी चुनौती देती हैं। “हम किसी की बातों में नहीं आए। बस, इतेक हमारी तरफ से कह दो दादा से कि दादा का अधिकार अपनी औलाद तक था। अब हमारी सन्तान पर है हमारा हक्क, टांग न अड़ावें।” ४

बेटे की जान पर खतरा देखते हुए विक्रमसिंह पत्नी के कुतर्क को मानने पर मजबूर हो जाते हैं। पिता की भावनाओं का अनादर करके पत्नी के सामने घुटने टेक देते हैं।

विक्रमसिंह ने अपनी खटिया पर विपरीत दिशा में करवट ले ली। झुँझलाकर बोले, “हम तो असल स्थिती जाँचने आए थे। क्या पता था कि तुम कैकेयी की तरह वर माँगने अड़ जाओगी।” ५

बऊ की संपत्ति तथा मन्दा-मकरन्द के सगाई संबंध को लेकर परिवार में खट-पट होती हैं। जो कहानी के अंत तक चलती रहती हैं।

दादा के कुटुंब में वैचारिक मतभेद विविध प्रसंगों द्वारा उभरकर आता हैं। दादा केवल बऊ का साथ निभाने के उद्देश से कोर्ट-कचहरी करते हैं। वहीं गोविंद काका बऊ की जमीनों की आमदनी के लोभ में न चाहकर भी दादा का साथ देते हैं। दादा-कक्को मानवता व श मन्दा व बऊ की हिफाजत करते हैं और उसे अपनी नैतिक जिम्मेदारी समझकर अंत तक निभाते हैं। दादा, बऊ से कहते हैं “अरे भाई, हमने कही न, अब आपकी इज्जत-आबरु और हमारी हया शरम सब एक है। इस चौखट का प्रतिष्ठा है गाँव की आन हैं।”

“बऊ, आदमी बड़ा बेबस जीव है। वह आदमी के हाथों ही मारा जाता हैं। स्यार जिनावर तक अपनी जाति का शिकार नहीं करते, मगर आदमी केवल आदमी को ही खाना चाहता हैं। उसी को मिटाने पर तुला रहता हैं। बुद्धिमान होकर भी बुद्धिहीन साबित होता हैं।” ६ (Pg 19)

दूसरी ओर गोविंद काका हैं जो केवल अपने तक ही सीमित हैं वे कहते हैं “कहीं होता है ऐसा कि किसी के हक के लिए कोई दूसरा अपना मूँड़ चिराए!” ७ (Pg 22)

गोविंद काका का एकलौता बेटा यशपाल हैं। जो औरत को पैरों की जूती बराबर नहीं समझता स्वार्थ, लोभ में अंधा है तथा भावनाओं का कोई मोल नहीं लगाता।

कुसुमा, यशपाल की पहली पत्नी हैं जो प्रेम व अधिकार दोनों से वंचित है। कुसुमा भाभी ने पति से तिरस्कृत हो, नई राह खोज ली और उसी पर चलने के लिए प्रतिबद्ध भी हैं। वे कहती हैं “जिन्दगानी के उतार-चढ़ाव सिखा गए सारी बातें। जूझते-जूझते जीवन ही गुन डाला।” ८ (Pg 168)

कुसुमा भाभी खुले-विचारों की महिला हैं जो मकरन्द के माता-पिता के सामने घुटने टेकने से मन्दा को रोक लेती हैं।

परिवार में दादा न्यायप्रिय, काका अर्थलोभी, यशपाल भावनाशून्य कुसुमा भाभी हिम्मती और कक्को शांतिप्रिय व्यक्तित्व दर्शाते हैं। पात्रों की वैचारिक विभिन्नताएँ उनके आपसी टकराव का कारण बनती हैं। दादा की न्यायप्रियता और कुसुमा भाभी का साहस मन्दा को भावी जीवन के लिए प्रेरणा प्रदान करता है।

इदन्मम के कथानक की वास्तविक भावभूमि 'दादा' पंचमसिंह का परिवार है जो एक आम ग्रामीण परिवार की तरह संबंधों की खींचातानी के साथ ही कर्तव्यभाव से संचालित हैं।

सामाजिक परिवेश

ग्रामीण परिवेश का जीवंत चित्रण मैत्रेयीजी के उपन्यासों की विशेषता है। हिन्दी साहित्य में जो स्थान प्रेमचंद जी को उनके 'गोदान' और रेणुजी को 'मैला आँचल' के लिए प्राप्त है वही स्थान मैत्रेयीजी को 'इदन्मम' के लिए प्राप्त है।^१

शहरों में जीवन तेज रफ्तार से दौड़ता है जबकी गाँव में जीवन धीमा व तनावमुक्त होता है। वर्तमान आर्थिक ढाँचे में बदलाव के कारण ग्रामीण परिवेश में आता परिवर्तन 'इदन्मम' में साफ दिखाई देता है। स्त्री-पुरुष संबंधों में सामाजिक धरातल पर कई चाहे और अनचाहे बदलाव उपन्यास में बिखरे पड़े हैं।

'बऊ' का सोनपुरा से पलायन उपन्यास के कथानक का आरंभ है। 'बऊ' को श्यामली गाँव तक पहुँचाने वाले हैं गणपत काका। गणपत काका का संबंध कथानक के किसी विशेष प्रसंग से नहीं है, परंतु एक बात सत्य है की जितने वर्ष 'बऊ' श्यामली में रहीं गणपत काका आज्ञाकारी सेवक की भूमिका निभाते रहें। श्यामली के चीफ साहब, मोदी लला का बऊ के प्रति सम्मान व रक्षात्मक रवैया स्त्री-पुरुष के सामाजिक संबंधों को मजबूत करता है। बऊ के दूर के रिश्तेदार दादा पंचमसिंह बऊ व मन्दा को तब शरण देते हैं जब बऊ के रिश्तेदार व गाँववाले उनसे मुँह फेर लेते हैं। सोनपुरा से श्यामली की यात्रा के दौरान बऊ लगातार चिंताग्रस्त रहीं की अनजाने गाँव में न जाने कैसा बर्ताव हो लेकिन दादा के वाक्यों ने उनकी सारी चिंता दूर कर दी।

“आप घबराना नहीं मातौन। इस गाँव की सीमा में आ गई हो अब। डर-भय निकाल दो अपने हृदय से।”^{१०} (Pg 19)

सोनपुरा वापस पहुँचकर मन्दा ने जब क्रैशर मालिकों के खिलाफ आवाज उठाई तब उसका साथ गाँव के प्रधान, पिरभू नाई, द्वारिका काका और क्रैशर वाले भइयाजी ने दिया। उम्र में बहुत छोटा होते पर भी पप्पू मन्दा जिज्जी के साथ रहा।

गाँवभर के चन्दे से नए ट्रैक्टर को, मन्दा के नाम पर खरीदा गया। इस निर्णय पर सारा गाँव एकमत था। सामाजिक एकता व सौहार्द्र का ही परिणाम था की मन्दा जड़ों से उखड़े सोनपुरा को एक सूत्र में बाँध सकी।

इदन्मम में जातिवाद, शोषण, बेरोजगारी, भ्रष्टाचार, तथा वैश्यावृत्ति जैसी सामाजिक समस्याओं का उल्लेख मैत्रेयीजी ने किया है। होली के दिन चीफ साहब की लड़कियों से किया गया अभद्र व्यवहार, हिंदू-मुस्लिम का जातीय दंगा, गाँव में क्रैशर लगने से बढ़ी बेरोजगारी, ठेकेदारों द्वारा मजदूरों का शोषण, सरकारी अफसरों की द्वेषपूर्ण नीतियाँ तथा बन्ने मासाएब की बेटियों का वैश्यावृत्ति अपना लेना उपर्युक्त समस्याओं की ओर इंगित करता है।

अभिलाख नगर-निगम का ठेकेदार है और सोनापुरा का बाशिंदा भी, जब मन्दा उसके अन्याय के विरुद्ध खड़ी होती है तब वह लठैतों को लेकर उसके दरवाजे पर पहुँच जाता है। मन्दा और अभिलाख प्रतिद्वंदी के रूप में एक दूसरे के सामने खड़े हो जाते हैं। बदलते सामाजिक व आर्थिक ढाँचे के कारण, स्त्री-पुरुष के एक व्यवसाय में होते से बढ़ी यह प्रतियोगिता उभरती हुई सामाजिक समस्या है। अभिलाख कहता है “हमारे मजूरों को सिखाती है। भागवत गुना रही है। शह देती है। अरे, वे हमें नहीं कर सकते हैं काम के लाने? कित्येकऊ फूँक मारती रह तें, बाघ के आगे छिरिया नहीं दहाड़ सकती है उसे तो मिमियाना ही है।”

अभिलाख जैसा पुरुष यह बर्दाश्त नहीं कर पा रहा है की एक औरत उसके बने-बनाये व्यापार को ध्वस्त कर दे आज भी वह स्वयं को बाघ और औरत को छिरिया समझने की भूल कर रहा है।

आधुनिक जीवन की देन हैं अंतहीन इच्छाएँ। अपनी इच्छाओं की पूर्ति के लिए मनुष्य विविध उपक्रम करता है। सरलता एवं तीव्र गति से पद-प्रतिष्ठा प्राप्त करने का महामंत्र है 'अवसरवादिता'। इदन्मम के कथानक में परिवार एवं समाज दोनों स्तरों पर अवसरवादी पात्र विद्यमान हैं। काका गोंविंद सिंह अवसर पाते ही बऊ की सोनपुरा वाली जमीने बेच देते हैं। नगर निगम का अधिकारी सक्सेना अभिलाख को पहाड़ो की ठेकेदारी देता है परंतु अवसर पाते ही अभिलाख उसे रास्ते से हटाकर स्वयं कर्ता-धर्ता बन जाता है डॉ. इंद्रनील सोनपुरा में डॉक्टर की हैसियत से इसलिए आता की राजासाहब के चुनाव क्षेत्र में काम करने से उसे प्रमोट कर सी. एम. ओ (चीफ मेडिकल ऑफिसर) बना देंगे।

इदन्मम का कथानक वास्तव में ग्रामीण राजनीति का जीता जागता स्वरूप है। मन्दा का संघर्ष अन्याय के प्रति कमजोर एवं शोषित वर्ग का असंतोष प्रकट करता है। मन्दा का स्त्री होना कथानक को स्त्री विमर्शवादी पहचान प्रदान करता है डॉ. हरिमोहन के अनुसार "इदन्मम की स्थिति कुछ अलग है। यह उपन्यास ग्राम्य कथा भूमि पर टिका है। जैसा की राजेन्द्र यादव का कहना है-महानगरीय मध्यवर्ग की संघर्ष करती और अपने पावों के नीचे की जमीन की तलाश करती कथा-नारियों के बीच गाँव की मन्दा एक अजीब निरीह, निष्कवच, निच्छल, दृढसंकल्प नारी का व्यक्तित्व लेकर उभरती हैं...उसकी लड़ाई दुहरी है, "औरत होने की और वंचितों के अधिकारों की।" १२ मन्दा सामाजिक क्रांति का अग्रदूत बनकर आगे बढ़ती है और जनसैलाब उससे जुड़ता चला जाता है। इदन्मम उपन्यास का आरंभ "इदमग्नेय पवनाय। इंद न् मम" श्लोक से होता है जो लोककल्याण की भावना लिए है। इसलिए परिवार से आरंभ होकर इसकी व्याप्ति समाज तक होनी स्वभाविक है। ग्रामीण समाज का उल्लेख मैत्रेयीजी की विशेषता है क्योंकि उनके कथा साहित्य में परिवर्तन की पुकार गाँव की गलियों से राजनीति के गलियारों तक पहुँचती है।

संदर्भ :

- १) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ २५
- २) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१२४
- ३) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१५२
- ४) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१५३
- ५) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१५३
- ६) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१९
- ७) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-२२
- ८) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१६८
- ९) हिन्दी के अधुनातन नारी उपन्यास: पाण्डेय इंद्रप्रकाश, हिन्दी बुक सेन्टर, नई दिल्ली संस्कारण-२००४ पृ-९४
- १०) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-१९
- ११) इदन्मम: मैत्रेयी पुष्पा, किताबघर प्रकाशन २४ अंसारी रोड दरियागंज नई दिल्ली संस्कारण-१९९४ पृ-३२५
- १२) साठोत्तर हिन्दी उपन्यास: संपादक, रामजी तिवारी, परिदृश्य प्रकाशन मुंबई संस्कारण-२०००

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जागतिकीकरणाचा 'एसईझेड' कादंबरीवरील परिणाम

डॉ. प्रकाश दुकळे : देशभक्त आनंदराव बळवंतराव, नाईक कॉलेज, चिखली, ता. शिराळा, जि. सांगली,

शंकर सखाराम यांची ग्रंथसंपदा विपुल अशी आहे. कथा, कादंबरी, कविता, ललितगद्य, बालकथा, शब्दचित्रे, एकांकिका अशा विविध वाङ्मय प्रकारात त्यांनी लेखन केले आहे. 'एसईझेड' ही समकालीन वास्तव टिपणारी महत्वाची कादंबरी त्यांनी लिहिली आहे. जागतिकीकरणाने भारतीय शेतकरी जीवनात कोणती स्थित्यंतरे घडू शकतात? याचा परामर्श घेतला आहे. त्यांच्या लेखनात समाज जीवनाचे प्रतिबिंब उमटले आहे.

जागतिकीकरणाचे स्वरूप आणि संकल्पना

जागतिकीकरण ही संकल्पना लोभसवाणी आणि मायावी आहे. जागतिकीकरणाच्या प्रेरणा मुख्यत्वे आर्थिक असून ज्ञान आणि माहिती यासारख्या पवित्र गोष्टींना त्यासाठी शिताफीने वापरून घेण्यात येत आहे. मध्ययुगीन काळी संत ज्ञानेश्वरांची 'विश्वचि माझे घर' ही वृत्ती होती. यातून निष्पन्न होणारे जागतिकीकरण हे धार्मिक – अध्यात्मिक असून त्यामागे मानवमुक्तीची प्रेरणा होती. कार्ल मार्क्सच्या साम्यवादी विचारसरणीत नैतिक अधिष्ठान होते. आमाच्या जागतिकीकरणाच्या सूत्रधारांची प्रेरणा उर्वरित विश्वाला गुलाम करून त्याला गुलामगिरीची जाणीवही होऊ नये अशी व्यवस्था केली आहे. मालकी हक्काच्या भावनेने भांडवली वर्ग जागतिकीकरणाकडे पहात आहे. स्वातंत्र्योत्तर अर्धशतकानंतर खाजगीकरण, उदारीकरण, जागतिकीकरण म्हणजेच 'खाऊजा' या धोरणाची चर्चा भारतात सुरु झाली. आज 'शायनिंग इंडिया', 'भारत एक महासत्ता' ग्लोबल इंडिया, ग्लोबल खेडी, सेझ सिटी, ग्लोबल कंपनी, ग्लोबल अॅकॅडमी, ग्लोबल वॉर्मिंग यामध्ये सामान्य माणूस पुरता भरडून निघत आहे. परदेशी नवीन-नवीन कारखाने आदिवासी भागात बिनबोभाट सुरु होत आहेत. 'सेझ सिटी' साठी तेथील गरीब अल्पभूधारक नागवला जातो; हाकलला जातो.

जागतिकीकरणामुळे लघुउद्योग बंद पडले. सरकारी उद्योगांचे खाजगीकरण झाले. पारंपरिक शिक्षणाच्या क्षेत्रात विविधता आली. शिक्षणाच्या सर्व संधी आज उपलब्ध झाल्या. पण त्याबरोबर विना अनुदान तत्वामुळे शिक्षणाचा बाजार होवून, उच्च शिक्षण माणसाला आवाक्याच्या बाहेर गेले. जागतिकीकरणात सर्वांत भरडला गेला तो शेतकरी वर्ग, पाणी पुरवठ्याच्या सुविधांचा अभाव, विजेचे भारनियमन, प्रमाणात न वाढलेले शेतीमालाचे भाव, बियाणे आणि खताच्या बाबतीतील परावलंबन आणि नापिकी यामुळे शेतकरी व शेताची वाताहत झाली, शेतकरी आत्महत्या करू लागले. बेकारांचे तांडे वाढले. त्याचा परिणाम राजकीय, सामाजिक जीवनात होऊ लागला. जागतिकीकरणानंतर पाश्चात्य संस्कृती वेगाने व आक्रमकपणे भारतात येत आहे.

जागतिकीकरण आणि कादंबरी

कादंबरी या साहित्यप्रकारात दीर्घ कथनाची परंपरा असते. शिवाय हा साहित्यप्रकार जीवनसमांतरता प्रकट करणाराही असतो. लेखकाची संवेदनशीलता आणि जीवनसृष्टी घडविण्यात सभोवतालची सर्वांगीण परिस्थितीही परिणामकारक ठरत असते. कथनाच्या विविध पध्दती हाताळण्याच्या शक्यता कादंबरी या साहित्यप्रकारासाठी उपलब्ध असतात. जीवनाचे बहुकेंद्रित्व कादंबरीत रुपांतरित होत असते. वास्तववाद आणि सामाजिक दस्तऐवजी स्वरूप यांच्यामुळे कादंबरीत कालिक संदर्भ मोठ्या प्रमाणावर उपलब्ध होत असतात. कादंबरीच्या संकेत व्यवस्थेवर लेखकाची जीवनदृष्टीही प्रभाव पाडत असते. या पार्श्वभूमीवर जागतिकीकरणाच्या प्रक्रियेने कादंबरीच्या आशयसूत्रांना आणि आविष्कारांना प्रभावित व्हावे लागणार आहे, असे डॉ. एकनाथ पगार यांनी आपले मत मांडले आहे. कारण लेखक हा समाजाचा एक घटक असतो. त्यामुळे समाजातील बदलते संदर्भ त्यांच्या साहित्यात येणे क्रमप्राप्त असते.

साहित्य ही कलावंतांची वैयक्तिक निर्मिती असते. बाह्य बदल त्यांच्या जीवनाच्या, अनुभवाच्या संवेदनांचा भाग

झाल्याशिवाय व लेखकांच्या अंतःकरणात खोलवर भिडल्याशिवाय तसे साहित्य निर्माण होणार नाही. लेखकाची बांधिलकी सर्वसामान्य माणसांशी असते. कष्टकरी माणसाच्या वेदनेचा संबंध अनेकदा शोषणाशी असतो. अशा वेदनेतूनच साहित्याचा जन्म होतो. जागतिकीकरणाच्या गुंतागुंतीच्या व्यवस्थेतून सामान्य माणसाचे दुःख निर्माण झाले आहे. याच संवेदनशीलतेतून प्रस्तुत लेखकाने कादंबरीची निर्मिती केली आहे.

‘एसईझेड’ कादंबरीतील जागतिकीकरण

‘एसईझेड’ ही कादंबरी २००७ साली प्रकाशित झाली आहे. लेखक शंकर सखाराम हे मुळचे कोकणातील असून मुंबई येथे वास्तव्य करणारे आहेत. ‘सेझ’ विषयी वर्तमानपत्रातील बातम्या वाचून अस्वस्थ होतात. त्यानंतर ते ‘सेझ’ विरोधी आंदोलनात सहभागी होतात. भूमिपुत्रांच्या आंदोलनात स्वतः कार्यकर्ता असलेल्या लेखकाने उभी केलेली ही जिवंत उद्रेकगाथा आहे. रायगड, अलिबाग जिह्यातील काही जमिन सेझसाठी जाणार होती. पिकाऊ जमिनी सेझसाठी घेणार नाही असे सरकारचे धोरण होते. पण सरसकट सर्वच जमिनी ताब्यात घेण्यासाठी सरकारची माणसे छुप्या पध्दतीने काम करतात. त्यामुळे भूमिपुत्रांना संघर्ष उभा करावा लागतो. सेझ मागे हटेपर्यंत लडा थांबत नाही. यामध्ये कित्येक शेतकऱ्यांना आपला प्राणही गमवावा लागतो. सिंगूर आणि नंदीग्रामच्या लढयाची पार्श्वभूमीही या कादंबरीला लाभली आहे. पण स्वतःच्या भूमीसाठी भूमिपुत्र मागे हटत नाहीत. ही या कादंबरीची मध्यवर्ती कल्पना आहे.

कादंबरीचा नायक चंद्रकांत थळे हा सुशिक्षित बेरोजगार आहे. नोकरीच्या कॉलसाठी एम्प्लॉयमेंट ऑफिसमध्ये तो अनेक हेलपाटेही मारतो. पण त्याला नोकरी मिळत नाही. स्थानिक राजकारण त्याला नोकरी मिळू देत नाही. संगणकाचाही तो कोर्स करतो. पण त्याचा काही उपयोग होत नाही. शेवटी तो पोल्ट्री व्यवसायाचे प्रशिक्षण घेतो आणि व्यवसाय सुरु करतो. पोल्ट्री व्यवसायात त्याला अनेक संकटांना सामोरे जावे लागते. स्वाईन फ्लू, चिकनगुनिया या आजारांमुळे कोंबडया खरेदी केल्या जात नाहीत. त्यामुळे त्याचा व्यवसाय बसतो. पुढे तो ‘सेझ’ विरोधी आंदोलनात सहभागी होतो. हे या कादंबरीचे कथानक आहे. खरे तर लेखकाला ‘सेझ’ विषयी लिहायचे असूनही चंद्रकांतच्या पोल्ट्री व्यवसायावर त्यांनी अधिक पाने खर्च केली आहेत. त्यामुळेही पोल्ट्री व्यवसायाची शोकांतिका की सेझची शोकांतिका असा संभ्रम वाचकांच्या मनात निर्माण होतो. पण सेझची आणि जागतिकीकरणाच्या दुष्परिणामांची पार्श्वभूमी उभी करण्यात लेखक यशस्वी ठरले आहेत.

देशी विरुद्ध विदेशी संस्कृतीचे चित्रण

डॉ. भालचंद्र नेमाडे यांनी ‘देशीवाद’ या संकल्पनेची मांडणी केली आहे. त्यातून देश्य जाणिवांचे वेगळेपण, त्याचे खरेखुरे स्वरूप व मोठेपण प्रतिपादन करण्याचा प्रयत्न केला. इथे शंकर सखाराम यांनी देशी आणि विदेशी संस्कृतीचे चित्रण करून देशी संस्कृतीवरील विदेशी संस्कृतीचे आक्रमण दर्शित केले आहे. बडे धंदेवाले, नोकरी-चाकरीवाले, खिशात पैसे असणारे लोक ‘थर्टी फस्टच्या पाटर्न्या’ साजऱ्या करतात. ‘हॅपी न्यू इअर’ हा आता उत्सव बनला आहे. भारतीय वर्षारंभाचा आता विसर पडत चालला आहे. याकडे लेखकाने लक्ष वेधले आहे. पारंपारिक पध्दतीने जनावरांचे रेतन जाऊन तिथे ‘कृत्रिम रेतन केंद्रा’ ची संकल्पना आली. त्यामुळे देशी जनावरांऐवजी आता संकरित जनावरांचे पेव फुटले आहे. ‘सब दुनिया मुट्टीमे’ म्हणणारा मोबाईल आता प्रत्येकाकडे खणखणू लागला आहे. त्यामुळे जवळच्या माणसाशी संवाद खुंटला आहे. देशी वनस्पती काढून आज शेतकरी विदेशी वनस्पती किंवा रेडिमेड दुधाच्या पिशव्या आल्यामुळे दुधाचा धंदा बसला आहे. नागरिकांचे जीवनमान उंचावण्यासाठी वाहन खरेदीसाठी बँका कर्ज देत आहेत. पण व्यवसायासाठी कर्ज देत नाहीत. मॉल संस्कृती उदयाला आली आहे. भांडवलदारांनी मटण, फळ, भाजी पॉश दुकानातून विकायला सुरुवात केली आहे. कोळी, माळी, आगरी, आदिवासी यांना जगू द्यायचे नाही. हे धोरण भांडवली संस्कृती रुजवते आहे. याबाबत अॅडमिरल विष्णू भागवत म्हणतात, “जेव्हा विकसित किंवा अविकसित देशांमध्ये बहुराष्ट्रीय कंपन्या सर्व ताकदीनिशी प्रवेश करतील, त्यांचा मुकाबला करण्याचे सामर्थ्य यश देशातील छोट्या-छोट्या शेतकऱ्यांमध्ये आणि उद्योजकांमध्ये कसे असेल. एक तर बड्या कंपन्यांपुढे ते शरणागती

तरी पत्करतील. त्यांचे गुलाम होणे पसंत करतील किंवा नष्ट तरी होतील, “२ या विधानातून धोका लक्षात येतो. जागतिकीकरण ही संकल्पना भारतीय माणसाला उखडून टाकणारी आहे. त्यामुळे सर्व बाबतीतील देशीयता टिकवून ठेवणे गरजेचे आहे.

जागतिकीकरणाच्या दुष्परिणामांचे चित्रण

सेझ' मुळे चीनने प्रगती साधली आहे. त्यामुळे सेझचे स्वागत करावे असा एक प्रवाह आहे. पण चीनने नापिक जमिनीचा वापर सेझसाठी केला होता हे मात्र विसरले जात आहे. भारतामध्ये मात्र असे होत नाही. आपले ईप्सित साध्य करण्यासाठी भारतीय राजकारण कोणत्या थराला जाईल, हे सांगता येत नाही. त्यामुळे सेझचे दुष्परिणामच आपल्या वाटयाला जास्त येतात. विविध कंपन्यांच्या कारखान्यांना माल पुरविण्यासाठी आता रेल्वे धावात आहे. पण रेल्वेचे रुळ शेतकऱ्यांच्या पिकत्या जमिनीतून गेले. त्या रेल्वे रुळावर शेतकऱ्यांनी किंवा त्यांच्या जनावरांनी जाणे कायद्याने गुन्हा झाला आहे. विज्ञानाने बी-बियाणे आणली. त्याबरोबर नवीन औषधेही आणली. त्यातून दिवसेंदिवस नवीन रोग, कीड निर्माण होत आहे. ऋतुमानात बदल होत आहेत. कमी दाबाच्या पट्ट्यामुळे अचानक पाऊस आणि वीज निर्माण होत आहे. त्यामुळे पिकांचे नुकसान होत आहे. कंपन्यांच्या प्रदुषित पाण्यामुळे मच्छीमारीचा व्यवसाय बुडत चालला आहे. समुद्र किनाऱ्यावर कंपन्यांनी तेल आणि कोळशांनी जहाजे उभी राहत आहेत. त्यामुळे मच्छीमारांना किनारा मिळनासा झाला आहे. कारखान्यांच्या धुरामुळे आणि प्रदुषित पाण्यामुळे भाजीपाला येईनासा झाला. कातकरी औषधी मुळ्या काढतात, त्या मुळ्या औषध कंपन्या कमी किंमतीत घेतात. याच मुळ्यांचा वापर करून महागडी औषधे बनविली जातात. 'भारनियमन हे शेतकऱ्यांना षडयंत्र वाटत आहे. कारण विज कमी आहे हे भासवून नवी परदेशी कंपनी भारतात आणणे; हो सरकारचा उद्देश असावा असे लेखकाचे मत आहे.

'सेझ' मुळे कोकणातील गावेच्या गावे उठविली जाणार, त्यामुळे 'नरेचि उठविला नर.....' अशी स्थिती झाली. सेझविषयी राजकारणी, वर्तमानपत्रवाले अनुकूल वातावरण निर्माण करतात, त्यातून 'विशेष आर्थिक क्षेत्र' हे काळाची गरज आहे, असे भासवतात. सेक्षविरोधी आंदोलनात मार्गदर्शन करताना या कादंबरीतील एक वक्ता म्हणतो, ".....तो जर प्रकल्प सुरु झाला तर आजूबाजूचा हा निसर्ग संपला सारे काळे होईल! बरं ह्या प्रकल्पासाठी कोळसा लागेल तो इथला चालणार नाही. तर तो परदेशातून आयात केला जाईल. परदेश कोळसा काही दिवसाळ मिळणार नाही. फार तर दोन तीन वर्षे. मग हा प्रकल्प बंद पडणार! मुद्दाम बंद पाडला जाणार आणि मग ही पडीक जमीन कोटींच्या भवाने परदेशी लोकांना ते विकणार! शेतकऱ्यांना ही एस. ई. झेड. योजना म्हणजे, शेतकऱ्यांच्या पिकत्या जमिनी अल्प किंमतीत लाटण्याची आखीव योजना आहे" ३ या विधानातून या कादंबरीचा मथिमार्थ व्यक्त होतो.

शेतकऱ्यांचे आंदोलन चिरडण्यासाठी त्यांची दिशाभूल केली जाते. उच्चस्तरीय चौकशी समितीपुढे खरे शेतकरी दाखवले जात नाहीत. शेतकऱ्यांचे आंदोलन चिरडण्यासाठी सरकार पोलिस बळाचा वापर करते. त्यामुळे ब्रिटिश अधिकारी जनरल डायर आणि आजचे सरकार यामध्ये फरक नाही. ही लोकशाही नसून भांडवलशाही आहे. याचे प्रत्यंतर सामान्य माणसाला येत चालले आहे. त्यामुळे 'सेझ' विरुद्ध लढणाऱ्या भूमिपुत्रामध्ये एक आत्मचैतन्य येते, आत्महत्येऐवजी आता परहत्या करण्याचे धाडस त्यांच्यात येते. कादंबरीतील गुरुजी चंदुला सांगतात, "चंदू आपल्या जमिनी चालल्या. आता आत्महत्या करून नाही चालायचं, आत्महत्या नाही चंदू परहत्या, परहत्या करायची. इथं नाही मरायचं, लढून मरायचं, असे इथं एकटाच मरशील, एकटाच जळशील..... त्यापेक्षा तिथं आपल्या भूमीसाठी लढून हुतात्मा हो" ४ हा निर्धार शेतकऱ्यांमध्ये येत चालला आहे. कदाचित ही घटना बेकायदा असेल. पण त्याच्यावर ही परिस्थिती का आली याचा विचारही कादंबरी करायला भाग पाडते.

समारोप

जागतिकीकरणाकडे स्वागतशील भूमिकेतून पहाणे शक्य होत नाही. जागमिकीकरणाचा चेहरा विक्राळ आहे. श्रीमंत

राष्ट्रांनी आपल्या स्वार्थासाठी हे करार केले. ते एवढ्या चाणाक्षपणे केले की विकसनशील व अविकसित राष्ट्रांना ते सोयीचे नाहीत. सेझमुळे भारतीय शेती आणि शेतकरी लढायला जाणार आहे. जागतिकीकरणाने चंगळवाद वाढतो. पण गरिबीही वाढते. यामुळे भारतासारख्या देशात श्रीमंत-गरीब ही दरी आणखीणच वाढण्याची शक्यता आहे. प्रस्तुत कादंबरीत या सर्व परिणामांची मीमांसा लेखकाने समर्थपणे केली आहे. फक्त 'काँग्रेस' हा एकच पक्ष सेझची बाजू घेतो. म्हणतो तो शेतकरी विरोधी आहे. लेखकाची एकच बाब अयोग्य वाटते, सत्तेवर आलेले सारेच पक्ष कमी-अधिक फरकाने तसेच असतात. हा समतोल लेखकाला साधता आला नाही. पण जागतिकीकरणाच्या दुष्परिणामांची नांदी 'एसईझेड' ने परिणामकारक मांडली आहे.

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माध्यमिक विद्यालयातील विद्यार्थ्यांच्या अभ्यास सवयींचा चिकित्सक अभ्यास

प्रा. सुमन साहेबराव बैसाणे : आर. सी. पटेल शिक्षणशास्त्र महाविद्यालय, शिरपूर

प्रास्ताविक :

इतिहासाचा आढावा घेतला तर आपल्याला असे दिसून येईल की काळ जसा बदलत जातो तशी परिस्थिती, विचार, मानसिकता बदलत असते. त्यानुसार शिक्षण सुध्दा काळाच्या ओघात बदलत गेलेले दिसून येते. शिक्षण सर्वांसाठी सक्तीचे, सर्व समावेशक मोफत झालेले दिसून येते. आजच्या शिक्षणाच्या कक्षा अधिक विस्तारलेल्या आहेत. ज्ञानात रोज अधिकाधिक भर पडत आहे. आजच्या स्पर्धात्मक संगणक युगात शिक्षणाचे जागतिकीकरण व खाजगीकरण होत असतांना शिक्षणाचा दर्जा टिकवणे अवघड झाले आहे. आजचा विद्यार्थी ज्ञानार्जन न करता केवळ परिक्षार्थी बनला आहे. विद्यार्थ्यांच्या शैक्षणिक संपादणुकीचा प्रगतीचा विचार केला तर असे दिसून येत की, कधी कधी अधिक अभ्यास करून हवे तसे यश संपादन करता येत नाही. त्याची विविध कारणे असली तरी योग्य अभ्यास सवयींचा अभाव हे कारण अत्यंत महत्वाचे आहे. शिक्षणातील अभ्यासक्रमाची उद्दष्टे साध्य करण्यासाठी विद्यार्थ्यांचा शैक्षणिक दर्जा उंचवण्यासाठी अभ्यास सवयींना महत्त्व आहे. परीक्षा हा प्रत्येक विद्यार्थ्यांच्या जीवनातील महत्वाचा भाग आहे. परीक्षेत चांगले गुण मिळवून पास होणे हे प्रत्येक विद्यार्थ्यांचे ध्येय असते. विद्यार्थ्यांच्या अभ्यास सवयी विषयी समज, गैरसमज दूर होवून त्यांच्या अध्ययन प्रक्रियेत खऱ्या अर्थाने गतीशिलता प्राप्त होण्यास मदत व्हावी म्हणून संशोधकाने सदर विषय निवडला आहे.

संशोधनाची गरज :

- १) विद्यार्थ्यांची अभ्यास करण्याची सद्यस्थिती काय आहे हे जाणून घेण्यासाठी.
- २) विद्यार्थ्यांना अभ्यासाची योग्य व अयोग्य सवयीची माहिती सांगण्यासाठी
- ३) विद्यार्थ्यांना शैक्षणिक संपादनात प्रगती करण्यासाठी.

संशोधनाचे महत्त्व :

प्रस्तुत संशोधनामुळे विद्यार्थी, व समाज यांच्या दृष्टीकोनातून अभ्यास सवयीचे योग्य मार्गदर्शन, महत्त्व, समज, गैरसमज दूर करण्यासाठी उपयोग होईल.

समस्या विधान :

महात्मा ज्योतिबा फुले माध्यमिक शाळा शिरपूर येथील इ. ९ वीच्या विद्यार्थ्यांच्या अभ्यास सवयींचा चिकित्सक अभ्यास करणे व उपाययोजना सुचविणे.

संशोधनाची उद्दिष्टे :

- १) इ. ९ वीच्या विद्यार्थ्यांच्या अभ्यासाच्या सवयींचा शोध घेणे.
- २) मुले व मुली यांच्या अभ्याससवयींचा तुलनात्मक अभ्यास करणे.
- ३) विद्यार्थ्यांच्या अभ्यास सवयींमध्ये सुधारणा घडवून आणण्यासाठी उपाययोजना सुचविणे.

संशोधनाची व्याप्ती :

- १) प्रस्तुत संशोधनाचे निष्कर्ष हे इ. ९ वीच्या शिरपूर शहरातील सर्व मराठी शाळेच्या विद्यार्थ्यांपुरतेच आहे.
- २) विद्यार्थ्यांच्या संपूर्ण अध्ययन प्रक्रियेतील अभ्यास सवयींचाच प्रस्तुत संशोधनात विचार केला आहे.

संशोधनाची मर्यादा :

१) सदर संशोधनात नमुना म्हणून महात्मा ज्योतिबा फुले माध्यमिक शाळेतील इ. ९ वीच्या १२० विद्यार्थ्यांपुरतेच मर्यादित आहे.

२) सदर संशोधनात फक्त विद्यार्थ्यांच्याच प्रतिसादाचा विचार केला आहे.

संशोधनाची पध्दत :

प्रस्तुत संशोधनात सर्वेक्षण पध्दतीचा वापर करण्यात आला आहे. तसेच विद्यार्थ्यांच्या अभ्यास सवयी कशा आहेत ते तपासण्यासाठी अभ्यास सवय शोधिकेचा वापर केला आहे.

संशोधनाची साधने :

प्रस्तुत संशोधनात मिळालेल्या माहितीचे अर्थनिर्वचन करून निष्कर्ष काढण्यासाठी 'टि' परीक्षीका, मध्यमान, सहगुणक संबंध, आलेख तसेच प्रा. एम. एन. पलसानेची अभ्यास सवय शोधिकेचा वापर केला आहे.

संशोधनाची कार्यपध्दती :

प्रस्तुत संशोधनात विद्यालय सर्वेक्षण पध्दतीचे आहे. इ. ९ वी चे तीन वर्गातील १२० विद्यार्थी नमुना म्हणून निवडण्यात आला आहे. विद्यार्थ्यांनी अभ्यास सवय शोधिका प्रश्नावलीचा वापर केला त्यांच्या अभ्यास सवयी कशा आहेत व किती प्रमाणात आहेत. त्यासाठी योग्य व अयोग्य सवयी ठरवून माहितीचे निर्वचन केले व निष्कर्ष काढले.

नमुना निवड :

लॉटरी पध्दतीने इयत्ता ९ वीचे तीन वर्गातील १५० विद्यार्थीपैकी १२० विद्यार्थी नमुना म्हणून निवडले आहेत.

अर्थनिर्वचन व निष्कर्ष :

कोष्टक क्र. १

मुले

| कच्चे गुणांक | मुलांचा प्रतिसाद | एकूण टक्केवारी |
|--------------|------------------|----------------|
| Above 74 | 04 | 6.66% |
| 64 – 74 | 37 | 61.66% |
| 53 – 63 | 37 | 28.33% |
| 42 – 52 | 02 | 03.33% |
| Below 42 | 00 | 00 |

अर्थनिर्वचन :

- १) शेकडा ६% मुलांचा अभ्यास सवयी उत्कृष्ट आहेत.
- २) शेकडा ६१.६६% मुलांचा अभ्यास सवयी चांगल्या आहेत.
- ३) शेकडा २८% मुलांचा अभ्यास सवयी मध्यम स्वरूपाच्या आहेत.
- ४) शेकडा ३% मुलांमध्ये अभ्यास सवयी ह्या असमाधानकारक आहेत.

निष्कर्ष :

शेकडा ३% मुलांमध्ये अभ्यास सवयीत सुधारणा करणे आवश्यक आहे.

कोष्टक क्र. २

मुली

| कच्चे गुणांक | मुलींचा प्रतिसाद | एकूण टक्केवारी |
|--------------|------------------|----------------|
| Above 74 | 02 | 03.33% |
| 64 – 74 | 31 | 56.66% |

| | | |
|----------|----|--------|
| 53 – 63 | 19 | 31.66% |
| 42 – 52 | 08 | 13.33% |
| Below 42 | 00 | 00 |

अर्थनिर्वचन :

- १) शेकडा ३.३३% मुलींचा अभ्यास सवयी उत्कृष्ट आहेत.
- २) शेकडा ५६.६६% मुलींचा अभ्यास सवयी चांगल्या आहेत.
- ३) शेकडा ३१.६६% मुलींचा अभ्यास सवयी मध्यम स्वरूपाच्या आहेत.
- ४) शेकडा १३.३३% मुलींच्या अभ्यास सवयी ह्या असमाधानकारक स्वरूपाच्या आहेत.

निष्कर्ष :

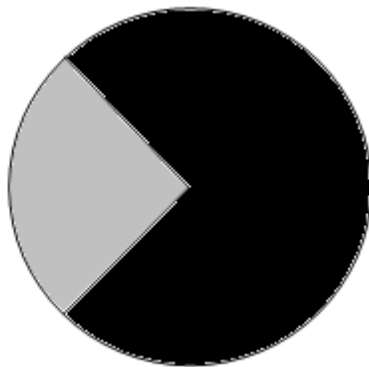
वरील अर्थनिर्वचनावरून असे दिसून येते की शेकडा ४५% मुलींच्या अभ्यास सवयीमध्ये सुधारणा करणे आवश्यक आहे.

कोष्टक क्र. ३

एकूण विद्यार्थी

| कच्चे गुणांक | एकूण विद्यार्थ्यांचा प्रतिसाद | एकूण टक्केवारी |
|--------------|-------------------------------|----------------|
| Above 74 | 06 | 5% |
| 64 – 74 | 68 | 55.66% |
| 53 – 63 | 36 | 30% |
| 42 – 52 | 10 | 08.33% |
| Below 42 | 00 | 00 |

एकूण विद्यार्थ्यांचा प्रतिसाद



■ Above 74

■ 64 - 74

■ 53 - 63

■ 42 - 52

अर्थनिर्वचन :

- १) शेकडा ५% मुले व मुलींचा अभ्यास सवयी उत्कृष्ट आहेत.
- २) शेकडा ५६% मुले मुलींचा अभ्यास सवयी चांगल्या आहेत.
- ३) शेकडा ३०% मुले व मुलींचा अभ्यास सवयी मध्यम स्वरूपाच्या आहेत.

४) शेकडा ८% मुले व मुलींच्या अभ्यास सवयी ह्या असमाधानकारक आहेत.

निष्कर्ष :

वरील अर्थनिर्वचनावरून असे दिसून येते की शेकडा ३८% एकूण विद्यार्थ्यांच्या अभ्यास सवयीमध्ये सुधारणा करणे आवश्यक आहे.

मुले व मुली यांच्यातील तुलना

| कच्चे गुणांक | मुलांची टक्केवारी | मुलींची टक्केवारी |
|--------------|-------------------|-------------------|
| Above 74 | 6.66% | 03.33% |
| 64 – 74 | 61.66% | 56.66% |
| 53 – 63 | 28.33% | 31.66% |
| 42 – 52 | 03.33% | 13.33% |
| Below 42 | 00 | 00 |

अर्थनिर्वचन :

- १) उत्कृष्ट अभ्यास सवयीबाबत मुले मुली यांचा प्रमाणात फरक आढळून आला सर्वसाधारणपणे ३.३३% मुलांच्या अभ्यास सवयी या मुलींच्या अभ्यास सवयीपेक्षा उत्कृष्ट आहेत.
- २) चांगल्या अभ्यास सवयीबाबत ११% मुलांच्या सवयी मुलींच्या अभ्यास सवयीपेक्षा चांगल्या आहेत.
- ३) ३% मुलांच्या अभ्यास सवयी मुलींच्या अभ्यास सवयीच्या तुलनेत मध्यम आहेत.
- ४) असमाधानकारक अभ्यास सवयींच्या बाबतीत १०% मुलांचे प्रमाण मुलींच्या अभ्यास सवयीपेक्षा कमी आहे.

निष्कर्ष :

वरील अर्थनिर्वचनावरून असे दिसून येते की मुलांपेक्षा मुलींच्या अभ्यास सवयीत जास्त सुधारणा करणे गरजेचे आहे.

सर्वसाधारण निष्कर्ष :

१. विद्यार्थ्यांच्या अभ्यास सवयी या काही प्रमाणात योग्य व अयोग्य आहेत हे आढळते. एकूण विद्यार्थ्यांच्यात ५% विद्यार्थी हे उत्कृष्ट आहेत व ५७% विद्यार्थ्यांचे अभ्यास सवयी चांगल्या प्रकारच्या (योग्य) आहेत तर ३८% विद्यार्थ्यांच्या सवयी अयोग्य आहेत असे दिसून येते.
२. मुलींच्या तुलनेत मुलांच्या अभ्यास सवयी मुलीपेक्षा ३% ने उत्कृष्ट आहेत. मुलीपेक्षा मुलांचे अभ्यास सवयी १०% ने अधिक चांगल्या आहेत. मुलांपेक्षा मुलींचे अभ्यास सवयी ३% मध्यम स्वरूपाच्या आढळतात. तसेच मुलांपेक्षा मुलींच्या अभ्यास सवयी १०% ने असमाधानकारक आढळतात. यावरून असे दिसून येते की, मुलांच्या तुलनेत मुलींच्या अभ्यास सवयीत सुधारणा घडवून आणणे आवश्यक व गरजेचे आहे.
३. सर्व विद्यार्थी नियमित अभ्यास करताना दिसून येतात. परंतु त्यांच्यापैकी बरीचशी मुले ही ठरावीक वेळीच अभ्यास करताना आढळतात.
४. सर्व विद्यार्थ्यांच्या अभ्यास पध्दती या चांगल्या आहेत पण तो अभ्यास नंतर त्यांना आठवत नाही असे दिसून येते. अभ्यास करताना मनात इतर विचार येत असतात.
५. बहुतेक सर्व विद्यार्थी नियमित गृहपाठ पूर्ण करतात तर काही मुले मुली यांच्यात गृहपाठ पूर्ण करण्याचे प्रमाण हे अत्यंत कमी असल्याचे दिसून येत.

६. सर्व विद्यार्थी परीक्षेची तयारी करताना नेहमीप्रमाणे पुरेशी झोप घेतात परंतु परीक्षेचा ताण सतत त्यांच्या मनावर दिसून येतो. सर्व विद्यार्थ्यांत पाठांतर करण्याचे प्रमाण अत्यंत कमी असल्याचे दिसून येते.
७. सर्व विद्यार्थी अभ्यास करताना दिसून येतात परंतु त्यापैकी बरीच मुले अभ्यास ठराविक वेळीच करताना दिसून येतात.
८. सर्व विद्यार्थी परीक्षेत संपूर्ण प्रश्नपत्रिका वाचतांना दिसून येतात परंतु प्रश्नांच्या संख्येवरून प्रश्न सोडविताना प्रश्नाच्या संख्येवरून वेळेचे नियोजन करताना दिसून येत नाहीत.
९. बहुतांशी विद्यार्थी गुण कमी पडले याची दखल घेताना दिसून येत नाहीत.
१०. परीक्षेचा निकाल मिळाल्यानंतर बरीचशी मुले चांगले गुण मिळाले नाही म्हणून वाईट वाटून घेतात.
११. बहुतांशी स्वतःला मिळालेल्या गुणांची तुलना इतर विद्यार्थ्यांच्या गुणाशी करताना दिसून येत नाही.

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- २) प्रा. बापट भा. वे. आणि प्रा. आफळे रा. रा., शिक्षणाचे मानसशास्त्रीय अधिष्ठान, श्री. विद्या प्रकाशन, शनिवार पेठ, पुणे (पान नं. १०० ते १०३)
- ३) भिंताडे वि. रा. (१९९९) सुधारीत आवृत्ती शैक्षणिक संशोधन पध्दती, नुतन प्रकाशन, पुणे (पान नं. १० क, २७)
- ४) प्रा. ह. ना. जगताप, शैक्षणिक मानसशास्त्र, अनमोल प्रकाशन पुणे (२००४) पान नं. १७१ ते १७५
- ५) प्रा. चा. प. कदम, शैक्षणिक मानसशास्त्र, नित्यनूतन प्रकाशन पुणे (फेब्रुवारी २००७) पान नं. १ ते १७, १७२ ते १९४.
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- ७) प्रा. ठाकूर रजना राजा, अभ्यास कसा करावा. (तंत्रे व पध्दती), मंबई मॅजेस्टीक प्रकाशन, मुंबई.

महिलांचा राजकीय सहभाग – १९९० पूर्वी व नंतर

श्री. सुनिल हरी पवार, धुळे

प्रस्तावना

राजकारणात महिलांना सक्रिय करून घेण्याची संकल्पना भारतात महात्मा गांधींनी स्वातंत्र्यपूर्व काळापासून रुजविली. “चलेजाव चळवळ” असो की त्यापूर्वीची “दांडी यात्रा” अथवा “मिठाचा सत्याग्रह”. या सर्वांमध्ये स्त्रियांना सहभागी करून एक दूरदृष्टीकोन आपल्यासमोर गांधीजींनी ठेवला.

भिकाजी कामा, अॅनी बेझंट, कस्तुरबा गांधी, सरोजिनी नायडू, कमला नेहरु, विजयालक्ष्मी पंडीत, इ. महान महिलांचा स्वातंत्र्य लढ्यात राजकीय सहभाग अतुलनिय होता.

स्वातंत्र्यप्राप्ती नंतर समाजातल्या ५० टक्के मतदार असलेल्या महिलांना देखिल राजकीय प्रवाहात आणण्यासाठी विविध राजकीय पक्षांचा सातत्याने प्रयत्न राहिलेला आहे. श्रीमती शांताबाई लिमये, जयवंतीबेन मेहता, माई सप्तर्षी अशा अनेक महिलांनी स्त्रियांमध्ये राजकीय व सामाजिक जागृती निर्माण करण्यासाठी प्रयत्न केले. या सर्व महिलांमध्ये राजकीयदृष्ट्या सर्वात यशस्वी व प्रभावी ठरल्या त्या इंदिरा गांधी.

विषयाचे महत्व

भारतात राजीव गांधी यांच्या नेतृत्वाखाली काँग्रेसच्या केंद्रीय सरकारने २२ डिसेंबर १९९२ आणि २३ डिसेंबर १९९२ साली अनुक्रमे ग्रामीण भागासाठी ७३ वी व शहरी/नागरी भागासाठी ७४ वी ऐतिहासिक घटना दुरुस्ती केली. २० एप्रिल १९९३ रोजी राष्ट्रपतींनी त्यास मान्यता दिली. केंद्र सरकारने राज्यसरकारला ७३ च्या च ७४ व्या घटना दुरुस्तीनुसार पंचायत राज व्यवस्थेत व स्थानीक स्वराज्य संस्थेत ३३ टक्के आरक्षण करण्याबाबत कायदा करण्याचे स्वातंत्र्य दिले.

महाराष्ट्राने ग्रा.प / जिल्हा परिषद / प. समित्या या बाबत अगोदरच कायदे तयार केलेले होते. ७३ व्या घटना दुरुस्तीत सुचविल्याप्रमाणे १९९४ मध्ये १९६१ च्या या कायद्यासंदर्भात महाराष्ट्र शासनाने २२ एप्रिल १९९४ रोजी दुरुस्ती विधेयक मंजूर करून नवा कायदा केला. ७३व्या घटना दुरुस्तीनुसार घटनेच्या ११व्या अनुसूचितील कलम २४३ मध्ये २९ विषयांची यादी दिली आहे. संविधानातील या दोन्ही ऐतिहासिक घटना दुरुस्तीतील तरतुदींचा परिणाम होऊन महाराष्ट्रात लगेच झालेल्या महानगरपालिकांच्या निवडणूकीत ४ स्त्रिया महापौर तर नगरपालिकांच्या निवडणूकीत ८० स्त्रिया नगराध्यक्ष झाल्या. अशा प्रकारे पहिल्यांदा सार्वजनिक जिवनातील स्त्रियांचे राजकारणात पदार्पण झाले. कधीही उबरंठा न ओलांडणाऱ्या स्त्रिया मोठ्या प्रमाणात निवडणूका लढवितात, प्रचार करतात आणि कारभार पाहू लागतात हीच मोठी अभूतपूर्व क्रांतीकारक घटना म्हणावी लागेल.

महाराष्ट्रातील सार्वजनिक, राजकीय पटलावर महिलांचा सहभाग कसा वाढत गेला. तो वाढविण्यासाठी काय प्रयत्न केले. महिलांमध्ये राजकीयदृष्ट्या सकारात्मक प्रगती झाली कि नकारात्मक यशचा मागोवा घेण्यासाठी सदर शोध निबंधाचा प्रंपच आहे.

- अध्ययन उद्देश - १) महाराष्ट्रातील महिलांचा राजकीय सहभाग अभ्यासणे.
 २) राजकीय सहभाग म्हणजे नेमके काय याची ओळख करून घेणे.
 ३) ७३ वी / ७४ वी घटना दुरुस्तीचे फलित अभ्यासणे.
 ४) महिलांचे राजकीय जिवन अभ्यासणे.

संशोधन पध्दती -

महिलांचा राजकीय सहभाग अभ्यासत असतांना स्वातंत्र्योत्तर काळातील सक्रिय महिलांविषयी नोंदी,

त्यांच्याविषयी इतरांनी नोंदविलेली मते इ. ची माहिती ऐतिहासिक साधनाद्वारे प्राप्त केली असून त्यासाठी ऐतिहासिक पध्दतीचा अवलंब केला आहे. त्याचप्रमाणे १९९० च्या दशकानंतर महिलांचा राजकीय सहभाग कसा वाढत गेला याचा परामर्श घेण्यासाठी तुलनात्मक पध्दतीचा अवलंब करण्यात आला आहे.

विषय विवेचन

राजकीय सहभाग — एक व्यक्ती / नागरीक या नात्याने राजकीय व्यवस्थेत कमी-अधिक प्रमाणात प्रत्यक्ष वा अप्रत्यक्षरित्या सहभागी होणे म्हणजे राजकीय सहभाग होय.

एच् मॅक्लोसी यांनी राजकीय सहभागाची पुढील प्रमाणे व्याख्या केलेली आहे. “राजकीय सहभाग हे लोकशाही व्यवस्थेत पांढिबा देण्याचे किंवा काढून घेण्याचे त्याचप्रमाणे शासकांना शासितांप्रती जबाबदार करण्याचे मुख्य साधन असते” ते पुढे असे विधान करतात की, “शासकांच्या निवड प्रक्रियेत व सार्वजनिक धोरणांच्या निर्मितीप्रक्रियेत लोकांचा जो प्रत्यक्ष — अप्रत्यक्ष सहभाग घडतो त्याला राजकीय सहभाग म्हणतात.”^१

राजकीय सहभाग हा सक्रिय किंवा निष्क्रिय असतो. तसेच तो वैयक्तिक पातळीवर किंवा सांघिक पातळीवरचा देखिल असू शकतो. राजकीय सहभाग खुला किंवा छुपा ह्या प्रकारचा देखिल असू शकतो. तो राजकीय व्यवस्थेवर अवलंबून असतो. राजकीय सहभागात खालील क्रियांचा समावेश होत असतो.

- १) मतदानात भाग घेणे म्हणजे मतदान करणे.
- २) राजकारणात स्वारस्य दाखविणे व अनौपचारिक राजकीय चर्चेत भाग घेणे.
- ३) जाहीर सभा / निदर्शने वैगरेत सहभाग घेणे.
- ४) निमराजकीय संघटना / दबावगट इ. मध्ये सभासदत्व स्विकारणे.
- ५) राजकीय संघटनेचे सामान्य किंवा क्रियाशिल सभासदत्व स्विकारणे.
- ६) राजकीय / प्रशासकीय पद प्राप्तीचा प्रयत्न करणे किंवा धारण करणे.

महिलांचा राजकीय सहभाग :

१९९० पूर्वी राजकारणात स्त्रियांनी सहभागी व्हावे यासाठी विविध स्त्रि चळवळी सक्रिय होत्या सामाजिक सुधारणा घडून येऊन महिलांना सामाजिक समानतेची वागणूक मिळावी यासाठी कोलकत्ता येथे १९५४ मध्ये भारतीय महिला फेडरेशनची स्थापना करण्यात आली. या फेडरेशनच्या उपाध्यक्षा श्रीमती रेणू चक्रवर्ती यांनी लोकसभेत हुंडाविरोधी विधेयक प्रथमतः मांडले व ते मंजूर होण्यासाठी ह्या फेडरेशनने संसदेच्या दोन्ही सभागृहांच्या दरवाजावर धरणे दिली. अखेर विधेयक मंजूर करण्यात आले. राज्य विधानसभेत व लोकसभेत स्त्रियांना ३३ टक्के आरक्षण असावे असा पहिला ठराव भारतीय पहिला फेडरेशनच्या महाराष्ट्र शाखेने केला. (२)

१९५१ नंतर भारतीय जनसंघाने म्हणजे आजच्या भाजपा या पक्षातील रामभाऊ म्हाळगी, रामभाऊ गोडबोले यांनी महिलांचा राजकीय सहभाग वाढविण्यासाठी प्रयत्न केले. स्त्री वर्गात राजकीय जागृती करणे हा त्यांचा मुख्य उद्देश होता. आण्णबाणीच्या काळापासून महिला राजकीय सहभाग घेऊ लागल्या महाराष्ट्रात सुमतीबाई सुकळीकर यांच्या नेतृत्वाखाली कुमुदताई रांगणेकर, कुसुमताई अभ्यंकर, जयवंतीबेन मेहता या महिला कार्यकर्त्या जनसंघाच्या माध्यमातून राजकारणात सक्रिय झाल्या होत्या.

१९७५ नंतर महिलांच्या राजकीय सहभागाबरोबर सामाजिक सहभाग वाढावा यासाठी काँग्रेस पक्षाने देखिल विशेष प्रयत्न केलेले दिसून येतात. त्यातूनच उषाताई चौधरी, कलम व्यवहारे, विद्या बेलोसे, इ. महिला नेत्यांचा उदय झालेला दिसून येतो.(३)

तरी देखिल १९९० पूर्वी राजकारणात स्त्रियांचे प्रमाण हे अत्यल्प होते किंवा राजकीय उदासिनता होती असे म्हटले तरी

वावगे ठरणार नाही. त्याची विविध कारणे असू शकतात त्यापैकी काही खालील प्रमाणे.

- १) स्त्री शिक्षणाचा अभाव
- २) आर्थिक परावलंबन
- ३) निर्णय निर्धारणातील अत्यल्प सहभाग
- ४) स्त्रि - पुरुष समानतेचा अभाव
- ५) प्रोत्साहनाचा अभाव

स्त्रियांचे मतदानाचे प्रमाण देखिल पुरुषांपेक्षा कमीच दिसून येते. त्याचप्रमाणे १९९० च्या महाराष्ट्रातील विधान सभेत केवळ एकच स्त्रि लोकप्रतिनिधी होती तर लोकसभेत गेल्या ५० वर्षात स्त्रि प्रतिनिधींचे प्रमाण १० टक्के पेक्षा कमी दिसून येते.

१९९२ साली भारत सरकारने ७३ वी व ७४ वी घटना दुरुस्ती स्थानिक स्वराज्य संस्थेत १/३ जागा महिलांसाठी राखीव ठवेल्या त्यामुळे या परिस्थित झपाट्याने बदल होत गेला. चुल आणि मुल या संकल्पनेतून महिला बाहेर येऊ लागल्या. महिला आयोगाच्या माध्यमातून तसेच ८ व्या पंचवार्षिक योजनेत महिला सबलीकरणाचे धोरण याद्वारे महिलांचा राजकीय व सामाजिक सहभाग वाढू लागला. स्त्री पुरुष समानता, शैक्षणिक विकास, आर्थिक स्वावलंबन यामुळे महिला स्वावलंबी बनून त्याच्यात व्यक्तीमत्व विकास होऊ लागला. त्याचाच परिणाम म्हणून महिलांच्या राजकीय जाणीवा तिव्र होऊ लागल्या. त्यांचा राजकीय सहभाग वाढू लागला. त्यातच ३३ टक्के आरक्षण मिळाल्यामुळे महिलांचा राजकीय सहभाग सक्तीचा होऊ लागला. त्यामुळे काही महिला स्वेच्छेने राजकारणात सहभागी होतांना दिसू लागल्या. तर काही राखीव जागा असल्याच्या सक्तीमुळे पतिराजांच्या राजकीय महत्वाकांक्षेला पर्याय म्हणून सहभागी होऊ लागल्या. परंतु एक मात्र दिसून येते की महिलांचा राजकीय सहभागाचे प्रमाण १९९० च्या दशकानंतर वाढू लागले आहे.

मात्र हे देखील मान्य करावे लागले की महिलांच्या राजकीय सहभागावर खालील गोष्टी प्रभाव पाडत असतात.

- १) राजकारणात येणाऱ्या स्त्रियांना बदनाम केले जाते.
- २) राजकारणात पर्दापण करणाऱ्या किंवा करू इच्छिणाऱ्या स्त्रियांना स्वतःच्या घरातूनही पाठिंबा मिळविण्यास अडचणी निर्माण होत असतात.
- ३) लिंग विषयक भेदभाव व त्यामुळे येणाऱ्या मर्यादा.
- ४) आर्थिक स्वावलंबनाचा अभाव.

मुल्यामापन

पतिराजांची राजकीय गरज किंवा महत्वाकांक्षा यामुळे राजकारणात सहभागी महिला या केवळ कठपुतली लोकप्रतिनिधी म्हणून सहभागी होतांना दिसतात व खऱ्या अर्थाने सत्तेचा उपभोग व निर्णय पुरुषच घेतांना दिसतात हे सत्य नाकारून चालणार नाही. त्यामुळे राजकारणात या कठपुतली स्त्रियांच्या प्रश्नाचे एक आव्हान निर्माण होत आहे. यासाठी राजकीय पक्षांनी उपाययोजना करण्याची आवश्यकता आहे.

निष्कर्ष

१९९० च्या दशकापूर्वी देखिल महिलांचा राजकीय सहभाग होता, परंतु तो अत्यल्प प्रमाणात दिसून येतो. तो वाढविण्यासाठी विविध राजकीय पक्षांनी प्रयत्न केलेले दिसून येतात. त्याला काही प्रमाणात यशही आलेले दिसते. परंतु १९९३ नंतर ७३ व ७४ व्या घटना दुरुस्तीने महिलांचा राजकीय सहभाग सातत्याने व सक्तीने वाढला मात्र त्याने कठपुतली महिलांचा राजकीय सहभागासारखे प्रश्न गंभीर होतांना दिसू लागले आहेत. मात्र एक गोष्ट येथे मान्य केलीच पाहिजे की महिलांचा राजकीय सहभाग वाढल्यामुळे राजकारणातील पुरुषी मक्तेदारी कमी होऊ लागली आहेत, राजकारणातील काही मुल्ये निश्चीतच बदलेली दिसून येऊ लागली आहेत. राजकीय गुन्हेगारीकरण व गुंडशाहीला आळा बसलेला असून राजकारणाचा

पोत बदललेला दिसून येऊ लागला आहे.

संदर्भ ग्रंथ

- १) एच् मॅक्लोसी - इंटरनॅशनल एन्सायक्लो पीडीया ऑफ शोशल सायन्सेस (पॉलीटीकल पार्टीसिनपेशन)
- २) डॉ. भास्कर लक्ष्मण भोळे - राजकीय विश्लेषण – पिंपळापुरे बुक डिस्ट्रीब्युटर्स, नागपूर आगार २००८ पृष्ठ १९८
- ३) तारा रेड्डी- महाराष्ट्रातील स्त्री चळवळीचा मागोवा (संपादक मेधा नानीवडेकर) प्रतिभा प्रकाशन पुणे आणि स्त्री अभ्यास केंद्र शिवाजी विद्यापीठ, कोल्हापूर प्रथमावृत्ती जानेवारी २००६ पृष्ठ क्र. २२३ ते २७६.
- ४) इनामदार ना.र.व. वकील - आधुनिक राजकीय विश्लेषण पुणे, शुभदा सारस्वत १९८४.
- ५) प्रा. अ. ना. कुलकर्णी - भारतातील स्थानीक स्वशासन – विद्या प्रकाशन, नागपूर

सारांश :

भारतात महिलांना राजकारणात सक्रिय करून घेण्याची प्रक्रिया म. गांधी, म. पुले, इ. समाजसुधारकांनी स्वातंत्र्यपूर्व काळापासून सुरु केली होती. त्याचाच परिणाम स्वरूप इंदिरा गांधी ह्या भारताच्या पंतप्रधान झाल्या तर प्रतिभाताई पाटील ह्या राष्ट्रपती पदावर आरूढ झाल्या. स्वातंत्रोत्तर काळात महिलांचे राजकारणात सक्रिय होण्याचे प्रमाणे वाढविण्यासाठी महिलांना राजकीय साक्षर करण्यासाठी विविध राजकीय पक्षांनी सातत्याने प्रयत्न केलेले दिसून येतात. १९९२ मध्ये संविधात केलेल्या ७३ वी ७४ वी घटना दुरुस्तीने तर महिलांच्या राजकीय सहभाग अजूनच वाढविला. पण त्याचे काही चांगले, वाईट परिणाम आता दृष्टीक्षेपात येऊ लागले आहेत. पतिराजांच्या राजकीय महत्वाकांक्षाचे पोटी राजकारणात आलेल्या कठपुतली स्त्रियांचा प्रश्न गंभीर होऊ लागला आहे तर स्त्रिया राजकारणात आल्याने राजकारणाचा पोत निश्चितच बदलू लागलेला आहे.
