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Contents

An Experimental Study on Phase Measurement Using Different Techniques

Bikash De*

Abstract: The measurement of phase difference between two signals by Lissajous method using oscilloscope is a well established technique. But oscilloscope has some inherent limitations particularly in high frequency range. For these reasons an 'alternative method' has been suggested here for the measurement of phase difference. In this 'alternative method', the phase difference between two sinusoidal signals is measured without an oscilloscope with at least same accuracy. Both methods have been studied and the results from each have been compared here.

Introduction

The purpose of this experiment is to measure the phase difference between two sinusoidal signals. Normally Lissajous method using oscilloscope is employed for the measurement of phase difference between two signals. This is a well known technique. So, the oscilloscope is an effective tool for making these measurements. But still they come up with their own embedded limitations. Some of them can be summarized as followed :-(i). Low frequency limitation; (ii) when it comes to analyze very high frequency signals a general cathode ray oscilloscope becomes incapable to produce some reliable result because that much of variations are not supported by normal electronic components used in them. And it is observed that at high frequency a phase difference is introduced by the instrument itself. For the above stated causes, an 'alternative method' has been suggested to measure the phase difference. And in this technique one can measure the phase difference effectively by measuring the amplitude of the signals only.

Theoretical Background of different techniques

<u>1. Measurement of phase difference by Lissajous method:</u>

The well known technique of phase measurement is the Lissajous patterns method. This method requires the oscilloscope to display the variation of one sinusoidal signal voltage with respect to a second sinusoidal signal voltage, rather than with respect to time. In this application, the XY display capability of the signal oscilloscope is used. The reference signal V_1 is applied to the horizontal (X) input,

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oscilloscope is used. The reference signal V_1 is applied to the horizontal (X) input, while V_2 is applied to the vertical (Y) input. Given that the two signals have the same frequency, an elliptical Lissajous pattern will be formed. The pattern is due to the fact that the oscilloscope will plot V_1 values in the abscissa versus V_2 values on the ordinate for each value of time. Fig.1 illustrates the resulting Lissajous pattern. Let us consider the first signal and the second signal can be expressed as: $V_1 = C\sin\omega t$ and $V_2 = D\sin(\omega t + \varphi)$. The phase difference ($\varphi$) may be computed from the Lissajous pattern by noting A and B with the help of the expression, $\varphi = \sin^{-1}\left(\frac{B}{A}\right)$.

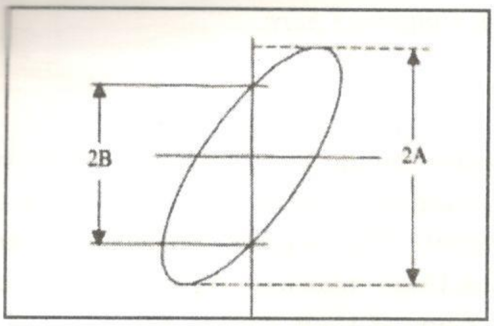

Fig.1 Lissajous Pattern

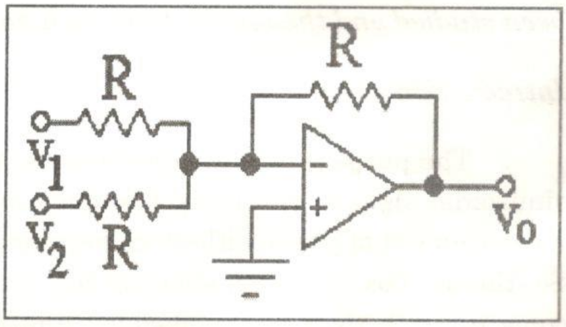

Fig. 2 Op-Amp based inverting adder

2. Measurement of phase difference by 'alternative method':

In this method, a simple op-amp based unity gain inverting adder circuit is used for the measurement of phase difference between two sinusoidal signals. The circuit is shown in Fig 2.The reference signals V_1= Csinωt and V_2=Dsin(ωt+ φ) are applied to the inverting input of the OP AMP. Then the output voltage is given by,

$V_0 = V_1 + V_2 = -R\sin(\omega t + \Psi)$.

Where, $R\cos\Psi = (C + D\cos\varphi)$ and $R\sin\Psi = D\sin\varphi$.

So, $\cos\varphi = \dfrac{R^2 - C^2 - D^2}{2CD}$

Thus by measuring R, C and D one can find out the phase difference between two signals. To avoid loading effect the input signals should be applied through a unity gain buffer amplifier in the experimental circuit.

To study the phase difference between two signals, two types of passive networks are considered here:- i)Set I: Lead-lag network, ii) Set II: RC low pass filter network.

Determination of phase difference between the input and output voltages of a lead-lag network (Set-I)

Hardware structure of a lead-lag network is shown in Fig 3. The phase angle between V_{out} and V_{in} of the lead-lag network is given by,

$$\varphi = \tan^{-1}\left(\left(\frac{f_r}{f} - \frac{f}{f_r}\right)/3 \right),$$

where, f_r represents the resonant frequency of lead-lag network:

$$\text{If } f = f_r = \frac{1}{2\pi RC}, \text{ then } \varphi = 0,$$

$$\text{if } f < f_r, \text{ then } \varphi > 0$$

$$\text{if } f > f_r, \text{ then } \varphi < 0.$$

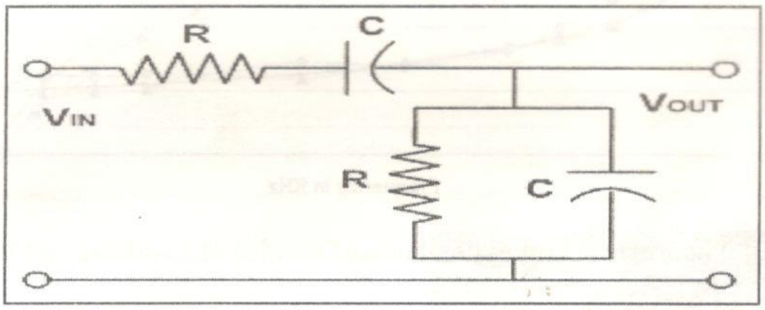

Fig.3 Hardware structure of lead-lag network

In this experiment, the system parameters are: $f_r = 1\ kHz$, $C = 0.01\mu F$, and R = 3.18 kΩ. Both theoretical and experimental results are presented in Fig. 4 for a lead-lag network. It is observed that there is a good agreement between the theoretical and practical results by the 'alternative method' for higher magnitude of phase differences. Similarly, for lower magnitude of phase differences Lissajous method is more suitable than the 'alternative method' for the better representation of the theoretical results. It is also observed that, when $\cos\varphi$ or $\sin\varphi$ tends to unity for both methods there is a disagreement between the theoretical and experimental results.

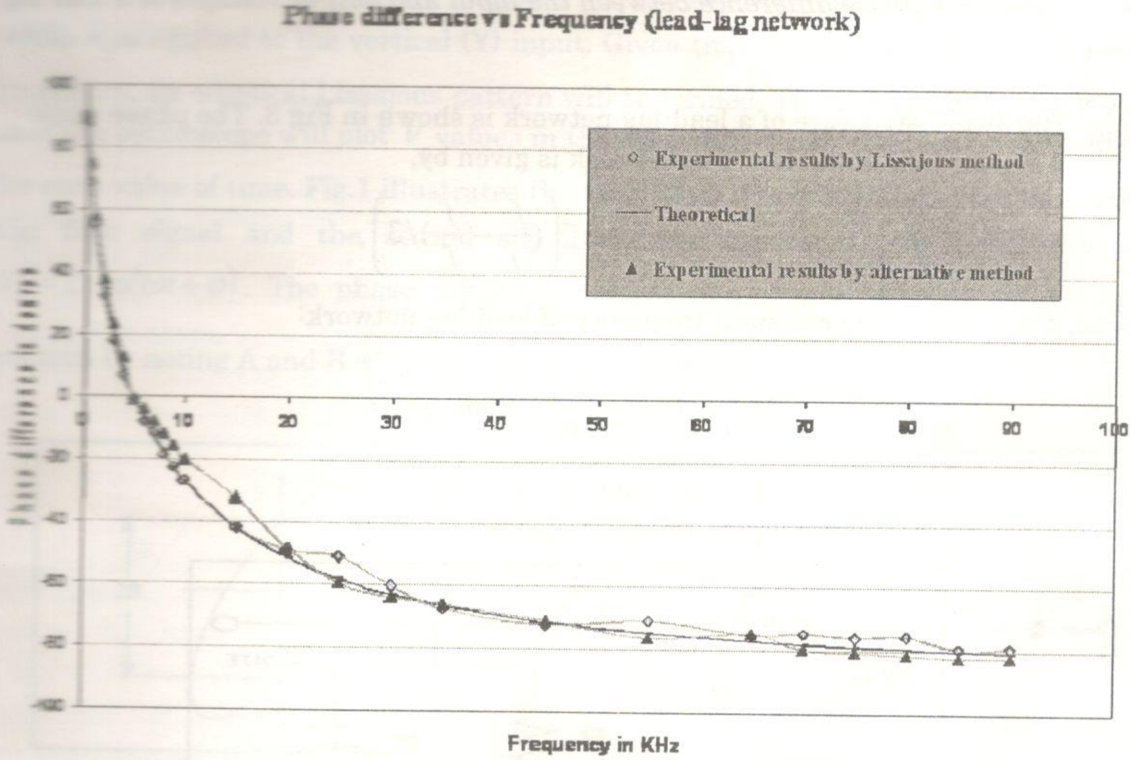

Fig.4 Theoretical and experimental results of Lead-lag network

Determination of phase difference between the input and output voltages of a passive low pass R-C network (Set-II)

An RC network is an electric circuit composed of resistors and capacitors driven by a voltage or a current source. A first order RC circuit is composed of one resistor and one capacitor. Fig. 5 shows the circuit diagram of a passive low- pass R-C network. Here the phase difference (φ), between V_C and V_{in} is given by, $\varphi = \tan^{-1} \varpi CR$.

In the experiment, C = 0.01μF, and R=1.536 kΩ have been used and both theoretical and experimental results are presented in Fig. 6 for low pass R-C network. It is observed that there is a good agreement between the theoretical and practical results by 'alternative method' than the Lissajous method. So the op-amp based unity gain adder circuit is very much useful one for the measurement of the phase difference between two sinusoidal signals.

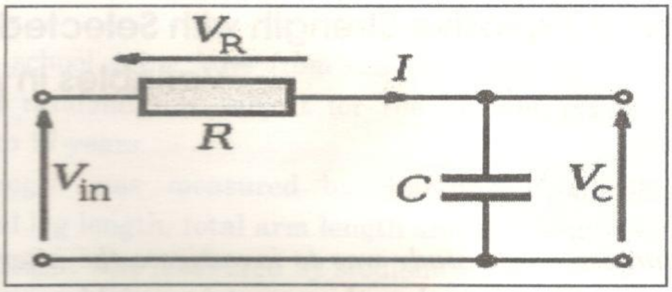

Fig. 5 Hardware structure of first order network

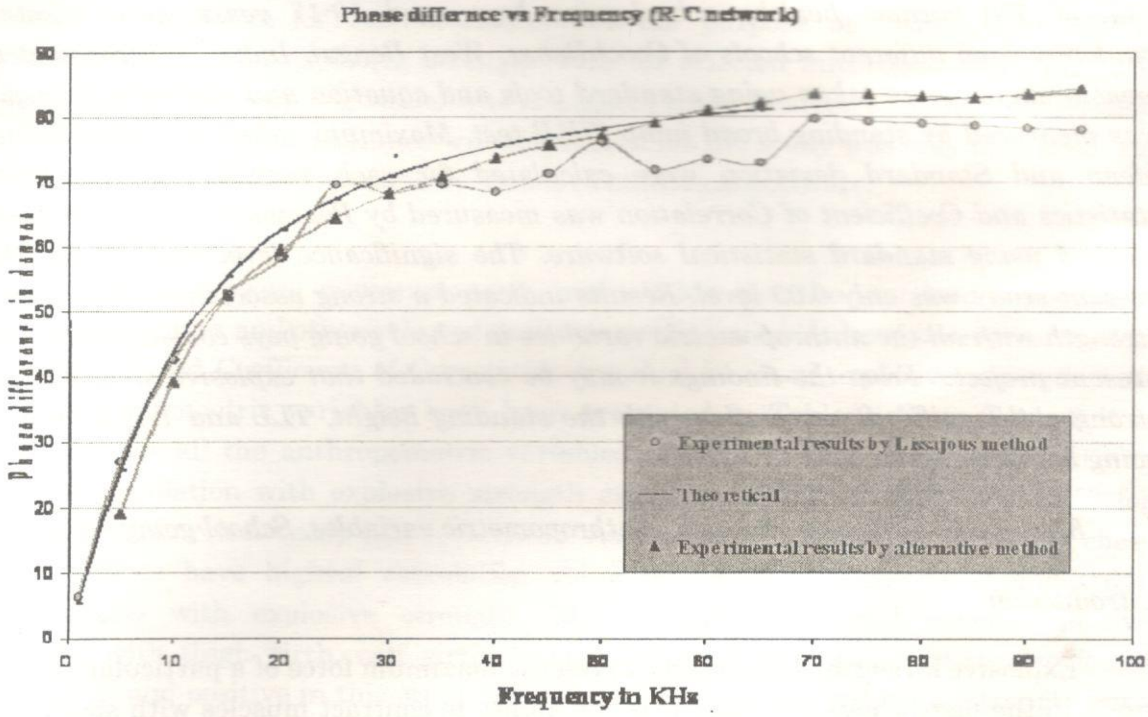

Fig.6 Theoretical and experimental results of R-C network

Conclusions

After the experiment it is observed that in both methods there is a range of frequency where the theoretical result differs with the experimental result. And in both cases the error is dominant when the function tends to its maximum value (i.e. $\sin\theta \rightarrow 1$ or $\theta \rightarrow 90$ for 'Lissajous method' and ($\cos\theta \rightarrow 1$ or $\theta \rightarrow 0$ for 'alternative method'. Finally, one can conclude that the suggested technique (i.e., unity gain op-amp based adder circuit) is also an alternative and useful technique for the measurement of phase difference between two input signals without the oscilloscope at least with same accuracy.

Association of Explosive Strength with Selected Anthropometric Variables in Adolescent Boys

Pintu Sil*

Abstract: The purpose of the study was to investigate the inter-relationship between explosive strength with selected anthropometric variables namely, height, weight, BMI, percent body fat (PBF), total leg length (TLL), total arm length (TAL), chest circumference, thigh girth, calf girth, biceps girth and foot length. For this purpose a total of 576 normal, healthy school-going boys aged 10-17 years were selected randomly from different schools of CoochBehar, West Bengal, India. Anthropometric measurements were taken using standard tools and equation and explosive strength was measured by standing broad jump (SBJ) test. Maximum value, minimum value, Mean and Standard deviation were calculated for each variable as descriptive statistics and Coefficient of Correlation was measured by Pearson's Product Moment Method using standard statistical software. The significance level was set for the present study was only 0.05 level. Results indicated a strong association of explosive strength with all the anthropometric variables in school going boys considered for the present project. From the findings it may be concluded that explosive strength has strong and significant association with the standing height, TLL and TAL in school going boys.

Key words: Explosive strength, Anthropometric variables, School-going boys

Introduction

Explosive strength is the ability to release maximum force of a particular muscle group in the fastest possible time. It is the ability to contract muscles with speed and force in one explosive act. Several study reported strong correlation between different physical abilities with anthropometric variables (Fogelholm et al. 2008, Halme et al. 2009, D'Hondt et al. 2009, and Milanese et al. 2010). In the present study leg explosive strength was considered as motor variables and measured by standing broad jump test. Study was conducted to revealed the relationship with explosive strength with selected anthropometric variables namely height, chest circumference, total leg length (TLL), total arm length (TAL), thigh girth, calf girth, biceps girth and foot length. Findings will be helpful to predict and search athletic talent from the school going boys on the basis of anthropometry.

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Materials and methods

A total of 576 school going boys from different schools of CoochBehar, West Bengal were selected randomly as subject for the present study. The age of the subjects was from 10 to 17 years.

Explosive strength was measured by Standing Broad Jump (SBJ) test (AAPHER, 1976). Total leg length, total arm length and foot length were measured by Anthropometric rod. Height was measured by stediometer. Chest circumference, thigh girth, calf girth and biceps girth were measured by steel tape. PBF was calculated through anthropometric equation developed by Lohman et al. (1980).

Maximum score, minimum score, Mean and Standard Deviation were used as descriptive statistics for each variable. For the purpose of investigation of the relationship between explosive strength with all selected anthropometric variables, Coefficient of Correlation (r-value) was calculated using Pearson's Product Correlation Method. The level of Significance was considered for the study was only 0.05 level. All statistical calculations were done by standard statistical software.

Result and findings

Maximum score, minimum score, mean value and the standard deviation of explosive strength and other selected anthropometric variables have been presented in Table No. 1 and Coefficient of Correlation (r-value) between explosive strength with other anthropometric variables have been presented in Table-2. From Table-2 it is revealed that all the anthropometric variables selected in this study have a strong positive correlation with explosive strength except with Percent body fat (PBF) for which negative relationship has been found. Among these height, TLL, TAL and chest circumference have highest correlation value (r = 0.663, 0.605, 0.603 and 0.615 respectively) with explosive strength. The correlation value between explosive strength with thigh girth, calf girth, biceps girth and foot length were also found significant and positive in this study but relationship between explosive strength with PBF was found negative and significant ($r = -0.108$) only in 0.05 level in this study.

Discussion on findings

The positive correlation between the explosive strength with selected anthropometric variables for the boys might be due to physiological development of the boys in this age group. As the age increases the height, chest circumference, TLL, TAL, thigh girth, calf girth, biceps girth and foot length increased. This increase in anthropometric variables is due to the increase in muscle mass, bone mass, length of legs, foots and hands. With the increase in age greater neuromuscular coordination is achieved in older age which is also influence to develop performance in explosive strength. As the boys grow in age, their neuromuscular and qualitative changes in muscle tissue enable them to coordinate and utilized these developments to the advantage of improving performance in explosive strength. Greater muscular and skeletal mass provide better mechanical efficiency as well as greater strength in performing this explosive strength. Increase in TLL leads to increase in stride length which might be consider as another main reason for the positive correlation between explosive strength with the other anthropometric variables in the school going boys.

Table-1: Maximum, Minimum, Mean and Standard Deviation of different variables

Variables	Maximum value (cm)	Minimum value (cm)	Mean value (cm)	Standard Deviation
Explosive strength	290	88	160.37	27.85
Height	173.0	114.5	142.82	12.00
TLL	104.2	66.0	85.88	8.06
TAL	89.0	45.3	61.38	6.33
Chest circumference	97.0	50.3	65.05	7.43
Thigh girth	62.3	14.0	35.52	4.82
Calf girth	41.8	14.5	26.54	3.17
Biceps girth	29.5	12.4	19.48	2.69
Foot length	28.7	15.9	21.73	1.92
PBF	45.78	2.66	10.21	5.15

Table-2: Coefficient of Correlation of different anthropometric variables with explosive strength in School-going boys

Sl No	Anthropometric Variables	Coefficient of Correlation (r)
1	Height	0.663**
2	TLL	0.605**
3	TAL	0.603**
4	Chest circumference	0.615**
5	Thigh girth	0.522**
6	Calf girth	0.563**
7	Biceps girth	0.562**
8	Foot length	0.541**
9	PBF	-0.108*

** Significant at both 0.05 and 0.01 level, * Significant at 0.05 level only

The significant and negative correlation between explosive strength with PBF might be due to the reason that body fat does not have influence to produce more force or power in motor performance. Research on physical performance capacity found that excess fat reduced athletic performance like jumping, agility and endurance activities. González-Gross *et.al,* (2003) conducted a study on Spanish adolescents and reported a negative association between body fat and physical abilities. Barbara et. al, (2002) in their study reported that fat mass negatively influenced some domains of physical performance and overall functioning.

Conclusion

a) Explosive strength has positive association with height, chest circumference, TLL, TAL, thigh girth, calf girth, biceps girth and foot length in school going boys.

b) Explosive strength has significant negative association with Percent Body Fat (PBF) in school going boys.

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Impact of Orally Used Smokeless Tobacco on Pulmonary Health of Adult Indian Male

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Debasis Koley
Manas Ghosh
Archana Choudhary
Basudev Ghosh
Indra Narayan Ganguli

Short Title: Smokeless tobacco use and pulmonary health

Abstract: *'Khaini' is one of the most widely orally used smokeless tobacco in India. The present study was aimed to investigate the effects of 'khaini' on respiratory functions of healthy subjects who do not have any chronic disease. Pulmonary function test (PFT) was done on 150 khaini users and 140 never-users in district Hooghly of West Bengal state of India. PFT results of 'khaini' users showed significantly low value of pulmonary function indices including forced vital capacity, forced vital capacity in the first second, forced expiratory flow 25-75% and peak expiratory flow rate compared with never user subjects. Significantly higher percentages of 'khaini' users were under pulmonary impairment than never users. Impairment of pulmonary function may be associated with 'khaini'-induced oxidative stress. Tobacco use has been found to be higher among individual with low level of education standard. The result of this study indicates that illiteracy and under-education have strong relation with 'khaini' uses and it requires attention from policymakers.*

Key words: Smokeless tobacco, khaini, spirometry, pulmonary impairments

Introduction

Tobacco use is a public health concern worldwide as well as in India. The World Health Organization reported that tobacco smoking killed 100 million people worldwide in the 20th century and warned that it could kill one billion people around the world in the 21st century [1]. By the early 2030, tobacco related death would increase to about 10 million a year [2]. Tobacco smoking rates have decreased in industrialized countries since 1975, but there has been a corresponding 50% increase in smoking rates in low-income countries [3]. More than 35% of adults in India

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use tobacco in some form, 21% use only smokeless tobacco (SLT), 9% only smoke and 5% smoke as well as use SLT. In West Bengal, a state of India, 14% use SLT only, 15% only smoke and 7% smoke as well as SLT [4]. Tobacco consumption is mainly done in two forms: smoked tobacco and smokeless tobacco (SLT). SLT use has been increasing quite rapidly throughout the world, especially among adolescent boys and young men [5]. Because of vigorous efforts toward increasing awareness of the adverse effects of tobacco, smoking has declined paradoxically the use of SLT has greatly increased [6]. 'Khaini' is one of the widely use SLT in India [7]. In West Bengal 26% of adult male take SLT out of which 13% use 'khaini'. It is composed of tobacco with slaked lime. This smokeless tobacco is placed at lower labial mucosa of oral cavity for 10-20 minutes and sucked from time to time.

Cigarette smoking has extensive effects on respiratory function [8]. Like cigarette the most important constituent of 'khaini' is tobacco. This study attempts to find out whether 'khaini' causes any unfavorable effects for the lungs by pulmonary function test. In this study pulmonary function indices of 'khaini' users were compared with those of control subjects. Pulmonary impairment of 'khaini' users and control subjects was evaluated and compared.

Methods

Study population

The present cross-sectional study was conducted in slum area of Chinsurah; district Hooghly of West Bengal state in accordance with Helsinki declaration. The written consent from the subjects involved in the study was obtained. The study population included 290 male subjects comprising of 150 exclusive 'khaini' users and 140 never users, aged between 18-70 years. Both control and experimental subjects were from same socio-economic group and were involved in same occupation (cultivation and building construction work). Subjects of both groups were matched by BMI. Exclusion criteria for the subjects included presence of any self reported acute illness, lung diseases like chronic obstructive pulmonary disease, heart failure, malignant, chronic liver or kidney failure, diabetes mellitus, history of heavy alcohol or recreational drug use and smoking habit at least last three years.

Protocol

Survey was conducted in three phases: 1. Interview of the subjects and 2. Anthropometric measurements and 3. Spirometry. Interview was done with a structured questionnaire to obtain information on age, occupation, education, food habit, socio-economic status and tobacco related behaviours including types of tobacco use and duration of use. Subjects those were never taken any type of SLT as well as smoking was placed into control group. Subjects those take 'Khaini' at least last three years were placed in the experimental group.

Body weight was measured using bathroom scale accurate to 0.5 Kg. The scale was kept on a flat surface and adjusted with '0' mark. Now the subject was requested to step on it in bare feet. Subjects were asked to put on light garments at the time of weighing. Weight was recorded to the nearest of 0.5 Kg.

Height was measured by using an anthropometric rod. Height of the subject was recorded without footwear and expressed to the nearest 0.1cm.

Body mass index (BMI) was calculated from the height and weight using the following equation: BMI (Kg / m^2) = weight (Kg) / $(height)^2$ (m^2). Subjects having BMI 18.5-25.0 were selected for pulmonary function tests.

Spirometry was done using computerized spirometer (Medikro Spirostar USB Spirometer, Model: M929, Finland). The subject was asked to sit comfortably in a chair. The complete procedure was explained and all doubts, if any, were cleared. Subject was instructed to breathe in full by deep inspiration with close nostrils and sealed lips around the sterile mouthpiece of spirometer and forcefully expire the air out, as fast as possible. Three trials were given for each subject. Best of the three was recorded and analyzed. Forced Vital Capacity (FVC), Forced Expiratory Volume in the 1st second (FEV1), Forced Expiratory Flow between 25% and 75% of Forced Vital Capacity (FEV 25-75%) and peak expiratory flow rate (PEFR) were represented in our results. The data of pulmonary function tests obtained by the spirometer were tabulated in a master chart; from this chart sub table on the basis of age group and duration of SLT use were prepared.

FVC, FEV1 and FEV1/FVC were also expressed as a percentage of predicted to control for the influence of age, gender and height by setting the spirometer according to acceptability standard out line by Jindal. Test values for the FVC, FEV1 and FEV1/FVC fell below the lower limit of the 95% confidence interval of the predicted value were classified as abnormal [9]. A low spirometric FVC together with a normal or high FEV1/FVC ratio has been classified as a restrictive abnormality [10], [11]. The fall in FEV1, PEFR and other flow rates indicate obstructive lung changes [12].

<u>Data analysis</u>

Data obtained from the study were given as mean ± SD. The statistical significance was determined by Student's t test. P value less than 0.05 was accepted as statistically significant.

Results In our study subjects of both 'khaini' users and never users were divided into five groups on the basis of age. Table-1 shows the distribution of subjects in control and experimental group.

Table-1: Particulars of control and experimental group of subjects

PARAMETERS	CONTROL	EXPERIMENTAL
Distribution of subjects: Total	140	150
Age group ≤ 30 years	40	40
31-40 years	30	35
41-50 years	25	30
51-60 years	25	25
> 60 years	20	20
Socio economic status: *Agricultural labor*	75	80
Building construction labors	30	40
Self employee	15	10
Retired	20	20
Education status: No formal schooling	5	29
Less than primary	20	46
Primary but less than secondary	30	60
Secondary and above	85	15
Food habit: *Fruit intake*	Rare	Very rare
Intake of green vegetable	3-4 day/week	1-2 day/week
Smoking habit:	No	No
SLT use: *Type*	No	Only 'khaini'
Frequency	---	4-10 times/day
Quantity	---	5-10 gm/day
Duration	---	3-20 years

Figure-1 to figure-5 show the lung function indices of control and experimental group on the basis of age limit. There is no significant difference of anthropometric parameters between SLT users and never users ($p < 0.05$). All lung function indices of SLT users of all age groups are significantly ($p < 0.001$) lower than their never users counterpart. However, the ratio of FEV1/FVC expressed as percentage showed no significant difference ($p > 0.05$) between the experimental and control group except for age group above 60 years ($p < 0.05$).

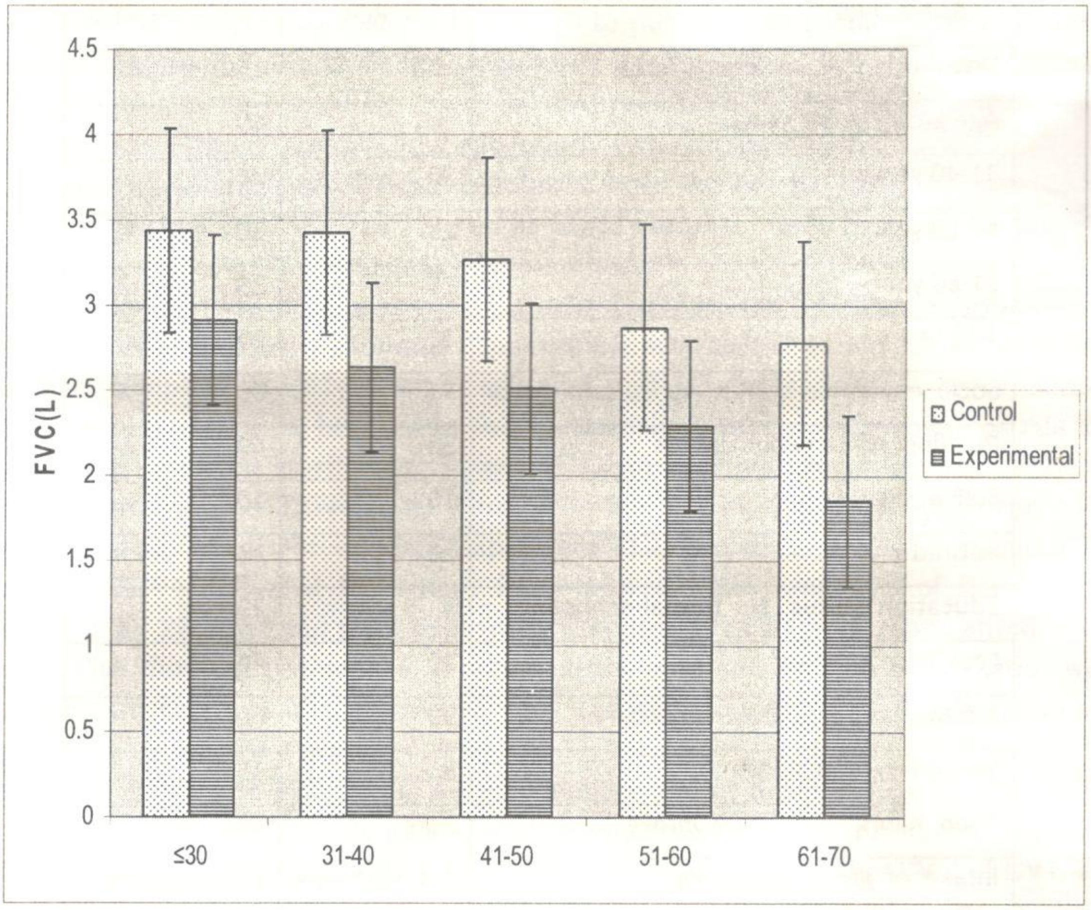
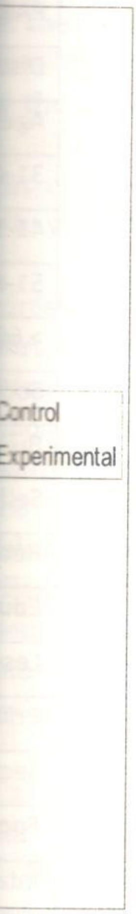


Fig.1: Comparison of FVC between khaini users [experimental] and never users [control] subjects of different age group (bars represent mean value, vertical lines indicate SD, $p < 0.001$ in all age groups).



never users
vertical lines

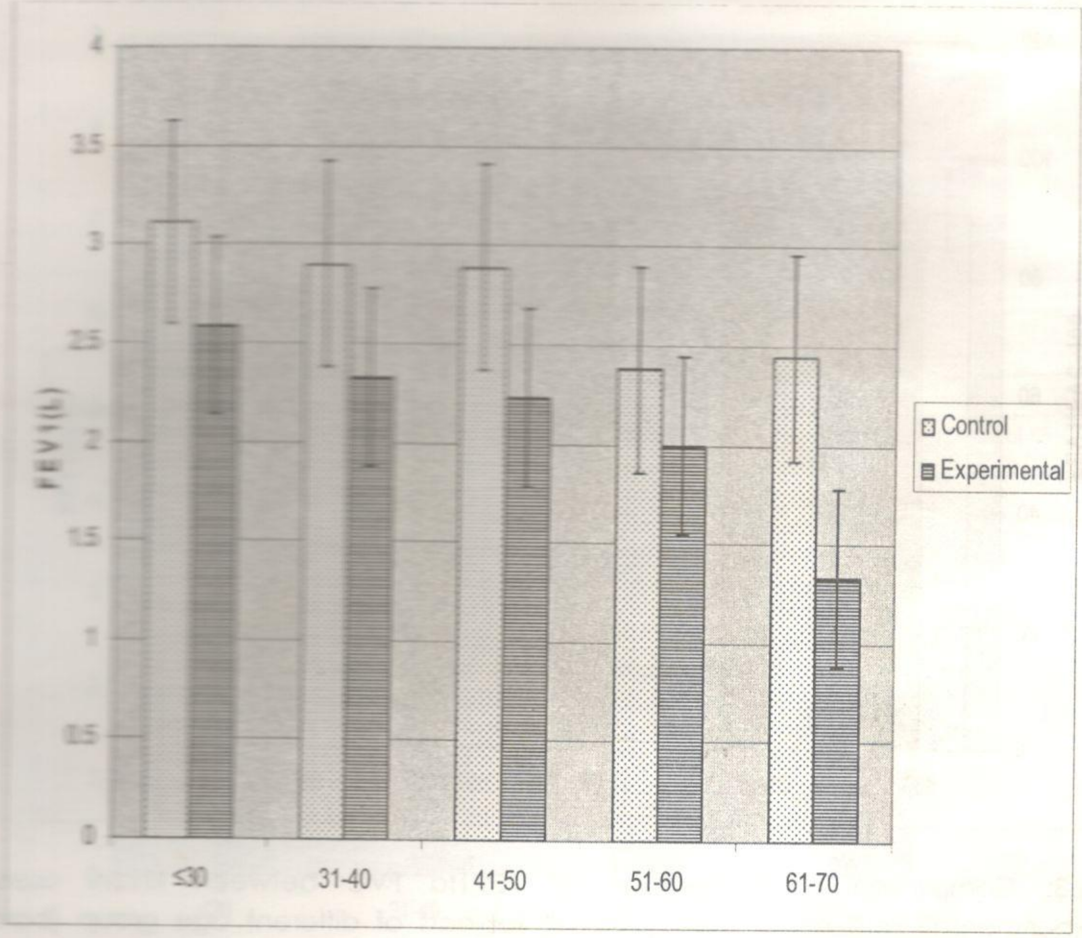


Fig.2: Comparison of FEV1 between khaini users [experimental] and never users [control] subjects of different age group (bars represent mean value, vertical lines indicate SD, $p < 0.001$ in all age groups).

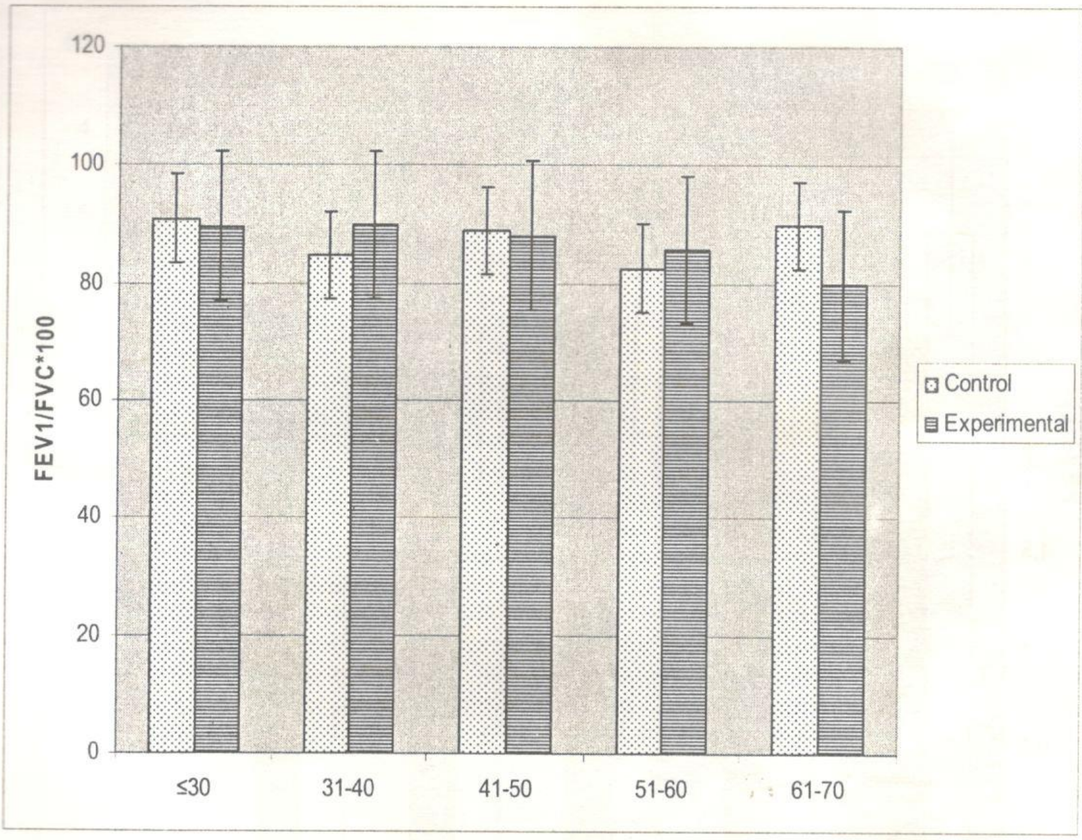


Fig.3: Comparison of percentage of FEV1to FVC between khaini users [experimental] and never users [control] subjects of different age group (bars represent mean value, vertical lines indicate SD, $p > 0.05$ in first four age group and $p < 0.05$ for last age group).

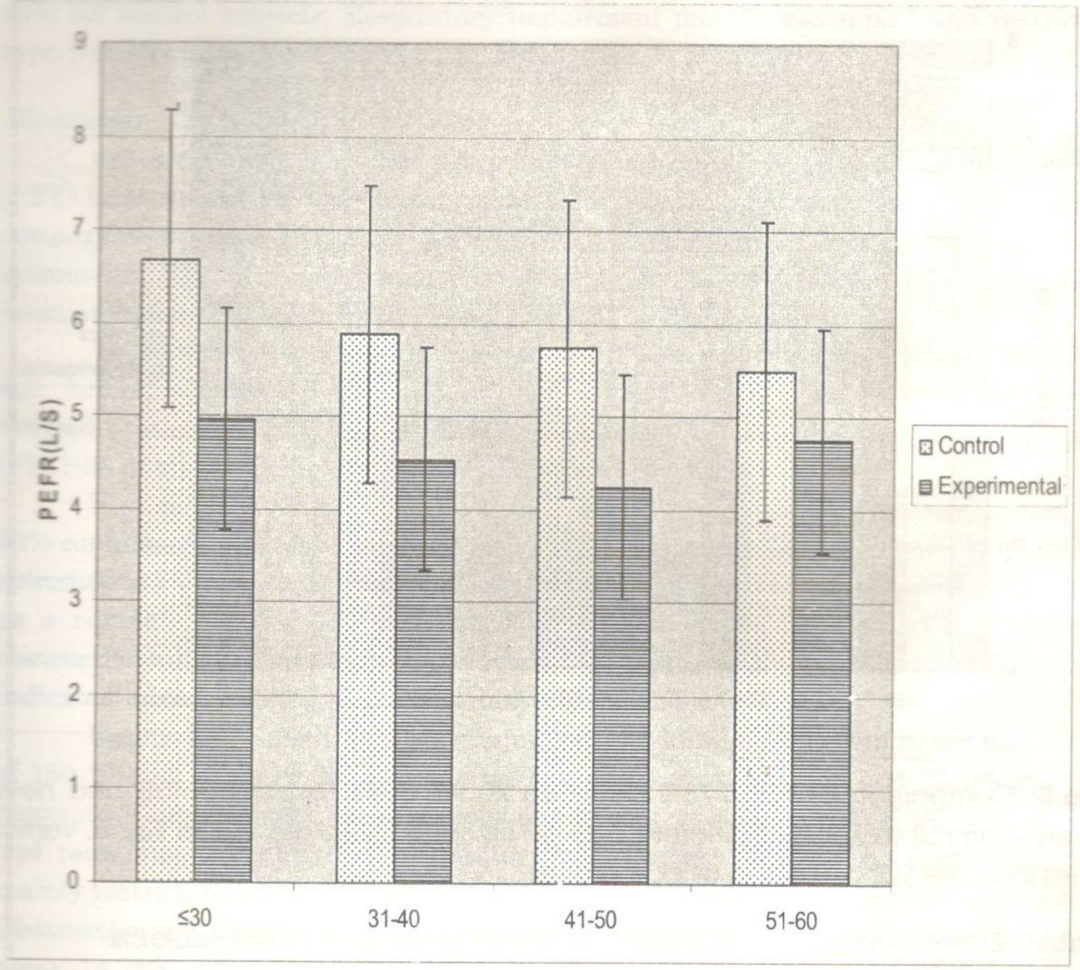


Fig.4: Comparison of PEFR between khaini users [experimental] and never users [control] subjects of different age group (bars represent mean value, vertical lines indicate SD, p < 0.001 in all age groups).

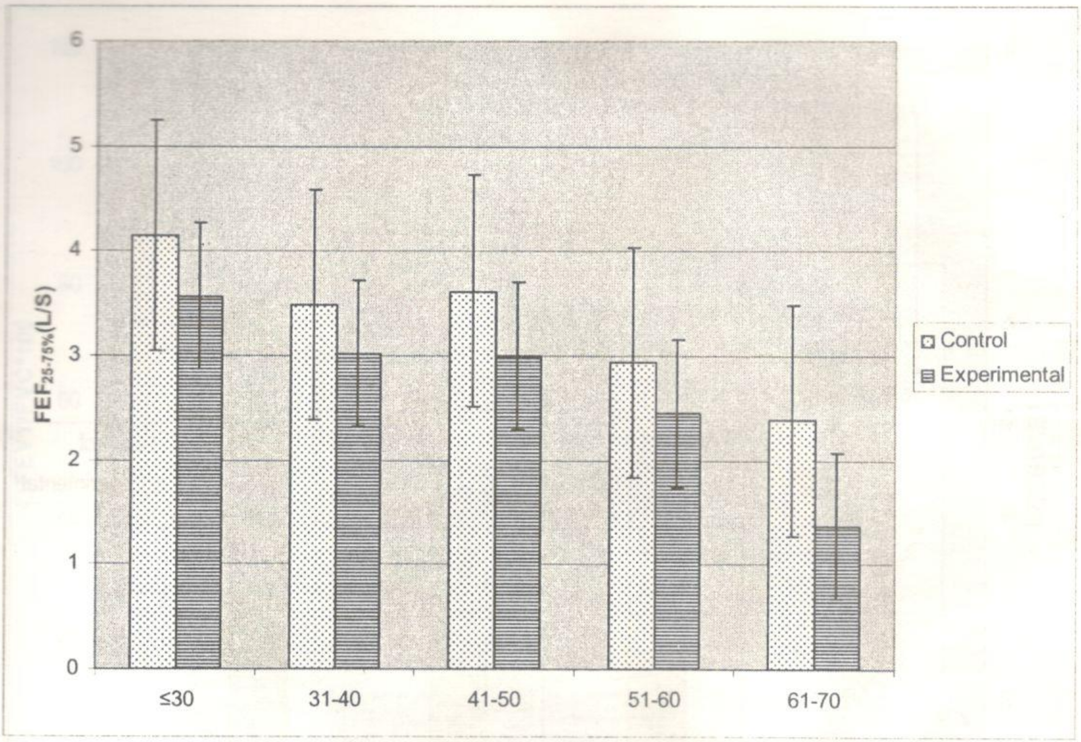


Fig.5: Comparison of FEF25-75% between khaini users [experimental] and never users [control] subjects of different age group (bars represent mean value, vertical lines indicate SD, $p<0.001$ in all age group).

Table- 2: Interpretation of P F T results in 'khaini' users and control subjects

P F T results	Control subject No. (%)	'Khaini' users No. (%)
Obstructive	5 (3.6)	22 (14.7)
Restrictive	20 (14.3)	38 (25.3)
Mixed	10 (7.1)	35 (23.3)
Normal	105 (75.0)	55 (36.7)
Total	140 (100%)	150 (100%)

Respiratory impairment of 'khaini' users and never users was evaluated and compared (Table-2). 63% of 'khaini' users were under respiratory impairment where as it was

25% for control subjects. Respiratory impairment mainly was mixed and restrictive type though obstructive type was also noted.

Discussion

Among the various investigation modalities available, pulmonary function test (PFT) is an invaluable tool for the assessment of lung function. PFT for lungs can be comparable to the ECG for heart[13]. Effects of 'khaini' on PFTs were evaluated with spirometer. PFT of 'khaini' users was done to assess the effect of it on pulmonary function indices including FVC, FEV1, FEV1/FVC, PEFR and FEV25-75%.

There was no significant difference in the anthropometric parameters including age, height, weight and BMI but all pulmonary function indices except FEV1/FVC showed statistically significant difference between 'khaini' users and never users (Fig.1-5) of all age group except age group above 60 years.

Test values for the FVC, FEV1 and FEV1/FVC fell below the lower limit of the 95% confidence interval of the predicted values were classified as abnormal [10]. A low spirometric FVC together with a normal or high FEV1/FVC ratio has been classified as a restrictive abnormality [10], [11]. The reduced values of FEV1, PEFR indicate obstructive lung impairment. While reduced the values of FVC, FEV1 and FEV25-75% indicated mixed, restrictive and obstructive impairment [14].

Respiratory impairment was found both in 'khaini' users and never users. Out of 150 'khaini' users 55 (36.7%) had normal respiratory function and 95 (63.3%) had respiratory impairment. However, out of 140 control subjects 105 (75%) had normal and remaining 35 (25%) had respiratory impairment. Respiratory impairment was mainly restrictive type in control subjects, whereas it was mixed type in 'khaini' users. Obstructive impairment was also found but in low percentage (Control: 3.6%; 'khaini' users: 14.7%).

There was no considerable difference between economic status of control and experimental group of individuals. Both groups were from families of lower socio-economic status. Expenditure on tobacco has been found significantly higher in proportion of their daily income in India [15]. This may be a cause of poor living status and lack of intake of antioxidant-rich food in their diet.

Smokeless tobacco produces oxidative tissue damage which can be attenuated by antioxidants [16], [17]. Oxidative stress resulting from imbalance of reactive oxygen species and antioxidants contribute chronic airway limitation [18], [19]. Antioxidant-rich foods such as green leafy vegetables and fruits that may help reduce the oxidative stress caused by tobacco [20] are usually lacking in the diet of study subjects. This makes them more vulnerable to tobacco-induced oxidative stress. Thus 'khaini'-induced impairment of pulmonary function may be due to increased oxidative stress from tobacco, main constituent of 'khaini'.

Education standard has been found worse among 'khaini' users in comparison with it's never user counterpart (Table: 1) which is also supported by the previous observations [21], [22], [23].

In termination, the results of the present study demonstrate that 'khaini' use is associated with low pulmonary function indices with duration dependent manner. There is an inverse relationship of education standard with 'khaini' users. Thus attention of policy makers is vital for restricting 'khaini' use through uplifting basic education for sustainable development of the society.

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Regeneration of Plantlet through Somatic Embryogenesis in a High Yielding Variety of *Arachis Hypogaea* L. Var. ICG 11337

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Sharmistha Maity

Abstract: *Somatic embryogenesis and plantlet regeneration using embryonic axes of Arachis hypogaea L. variety ICG 11337 had been attempted. Apical portion of the embryonic axes were cultured in Murashige and Skoog's basal media with various concentrations of 2,4-dichlorophenoxy acetic acid (2, 4-D). After 30 days of incubation, explants were sub-cultured in the same media without 2,4-D. Application of N6- benzylaminopurine (BAP) or gibberellic acid (GA3) showed better germination of somatic embryos than the hormone free medium. Survival rate of the in vitro regenerants in the field was above 90%, grew normally and set viable seeds in the experimental garden.*

Key Words: ***Arachis hypogaea, In Vitro Regeneration, Somatic Embryogenesis***

Introduction

The genetic engineering is expected to produce novel groundnut cultivars with qualities hardly thought of at the present time. However, an efficient *in vitro* plant regeneration protocol is essential prerequisite for improvement of crop plants through genetic engineering. Somatic embryogenesis is an extremely elegant *in vitro* technique for rapid regeneration of very high number of uniform clonal plantlets and also useful in experiments on genetic transformation. [1] A large number of reports have been accumulated on somatic embryogenesis in *Arachis hypogaea* using various explants viz. immature cotyledon [2], [3], mature cotyledon [4], [5], mature zygotic embryo derived leaflets [6], immature embryonic axes [7], [8], [9], hypocotyls [10], immature leaflets [4] and mature embryonic axes. [11] The tissue culture response in groundnut is strongly influenced by the plant genotype, the hormone content of the culture medium, as well as by the age of explant source. [8], [11], [12], [13], [14], [15], [16] The type of auxin and their concentrations present in the medium influence the somatic embryogenesis process in groundnut. [3] Therefore, a general protocol for somatic embryogenesis in groundnut is difficult to formulate. In the present investigation attempts had been made to induce somatic

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embryogenesis process in the elite variety ICG 11337 using embryonic axes of mature un-imbibed seeds and their subsequent development into plantlets.

Materials and Methods

Seeds of the high yielding, tikka susceptible groundnut variety ICG 11337 procured from ICRISAT, *Patancheru*, India were washed with 2% (v/v) liquid detergent (Teepol) for 5 min and surface sterilized with 90% ethanol for 2 min followed by treatment with 0.1% (w/v) mercuric chloride solution for 5-6 min and finally washed repeatedly with sterile distilled water. Embryonic axes were excised from these seeds. Radicle part of the embryo axes were removed carefully and the apical portion of the embryo axes were used as explant for the induction of somatic embryos. Explants were inoculated in the MS basal media[17] with 6% sucrose and 200 mg l^{-1} casein hydrolysate and supplemented with various concentrations of 2, 4-D (5–40 mg l^{-1}) and solidified with 0.6% agar powder (somatic embryo induction medium). Cultures were incubated in the dark at 25±2°C for 30 days. After 30 days explants were subcultured in the MS basal (sucrose 6%, casein hydrolysate 200 mg l^{-1} and solidified with 0.6% agar powder) medium without 2, 4-D (somatic embryo development medium). Cultures were incubated in the same conditions and responses were recorded after 30 days. For germination of the somatic embryos MS basal media were supplemented with either GA_3 (0.25 mg l^{-1}) or BAP (1 mg l^{-1}). Data were shown along with their respective standard errors (SE), and were analyzed by ANOVA. After obtaining a significant F– value (α = 0.05), the treatment means were separated by Duncan's Multiple Range Test (DMRT). All statistical analyses were performed according to Little and Hills. [18] Plantlets regenerated through somatic embryogenesis were first washed carefully to remove the nutrient agar adhered to the roots and subsequently were transferred to half-strength MS liquid medium without sucrose and incubated in the culture room in unplugged condition. When growth of the plantlets, exhibited by the emergence of new leaves, was observed those were transplanted to plastic pots containing sterile sand-soil mixture (1:1) with adequate water and little amount of half-strength MS salts. The plastic pots with transferred plantlets were covered with transparent polythene bags to maintain high humidity level and kept in the culture room for 7–10 days under controlled environmental conditions. Survived plants were transplanted to the experimental garden. The process of the transfer and gradual acclimatization to the natural conditions were stringently followed.

Result

The response of the excised embryonic axes of the variety ICG 11337 in the development medium is presented in Table 1. In the control, somatic embryogenesis was not observed. The cultures in 15 to 20 mg l^{-1} 2, 4-D, showed 100% frequency of somatic embryogenesis. The mean number of somatic embryos per explant was highest in 15 mg l^{-1} 2, 4-D (16.35 ± 2.01) (Figure 1A). Supra-optimal level of 2, 4-D in the induction medium proved to be inhibitory. So far as the *in vitro* germination of somatic embryos is concerned, the frequency of germination of somatic embryo increased significantly (Table 2) with the application of either BAP (1 mg l^{-1}) or GA_3 (0.25 mg l^{-1}). Although the somatic embryos generated in the present study exhibited bipolarity (Figure 1B) with distinct root and shoot pole, root development occurred readily along with their germination. Regenerated plantlets obtained via somatic embryogenesis (Figure 1C) when transferred to the soil showed 90.25% survival (Figure 1D). All the regenerants grew normally and set viable seeds in the experimental garden.

Discussions

In the present investigation, it was observed that 15 mg l^{-1} 2; 4-D gave the best explant response. It was also observed that percent somatic embryogenesis initially increased with the increase in the concentration of 2, 4-D in the induction medium. The percent somatic embryogenesis decreased significantly at a very high level of 2, 4-D (40 mg l-1). Reduction in the percent embryogenesis with increase in the concentration of 2, 4-D was in conformity with the results obtained by other workers in groundnut [3], [11] and also in other plants like tea [19], papaya [20] and in *Bauhinia variegate.* [21] A concentration of 20 mg l^{-1} 2, 4-D gave satisfactory explant response in terms of somatic embryogenesis in different varieties of *Arachis hypogaea* using various explants. [2], [10] Those findings are in conformity with the results obtained in the present investigation in terms of the percent embryogenesis. However, Baker and Wetzestein (1994) [3] reported that 5 mg l^{-1} 2, 4-D gave best response in terms of somatic embryogenesis using cotyledon as explant in the cultivar AT 127 of *Arachis hypogaea.* The number of somatic embryos per explant in the present study decreased significantly at relatively higher concentrations of 2, 4-D and these findings corroborated with the results of Venkatachalam *et al.,* (1997) [10], Banerjee *et al.,* (2012) [21] and Banerjee (2013) [11]. Ozias-Akins (1989) [22], Hazra *et al.,* (1989) [7] and McKently (1991) [8] used different auxins and obtained variable results. On the basis of their observations Baker and Wetzstein (1994) [3] concluded that a homogeneous and uniform pattern of somatic embryogenic response in groundnut was rather difficult to formulate which was again supported by Banerjee (2013) [11]. The use of different genotypes and or explant sources might have contributed to the divergent results reported. [3], [11], [16] Leaving aside the role of 2, 4-D in somatic embryogenesis in groundnut [3], [9], [10], [23], [24], [25] and the effect of BAP in induction of somatic embryos has also been

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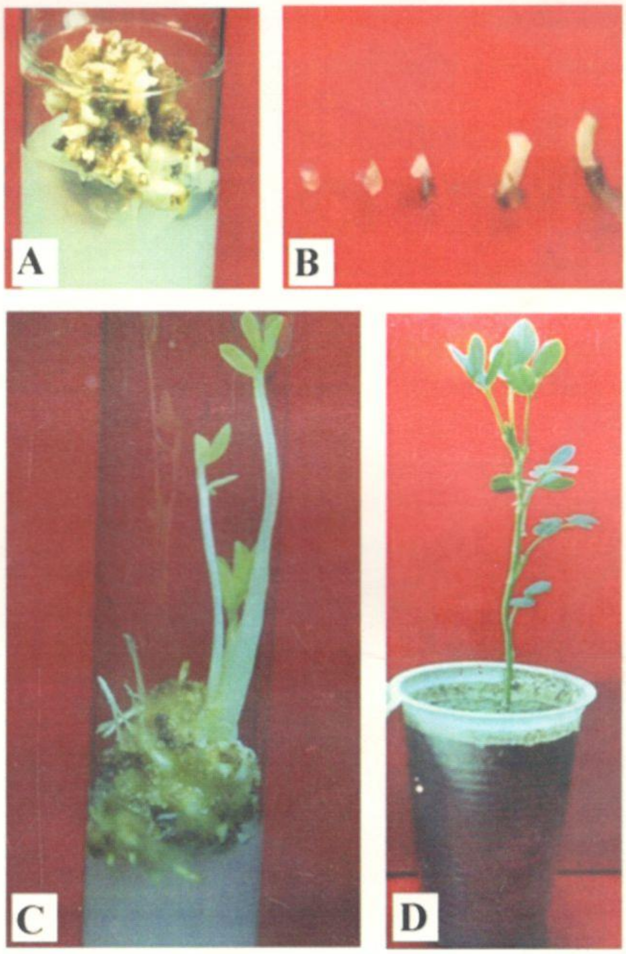

Figure 1

Somatic embryogenesis in *Arachis hypogaea* L.

Figure Captions

A. A cluster of somatic embryos;

B. Bipolar somatic embryos at different stages of development;

C. Plantlet derived from somatic embryo;

D. Plantlet established in pot

reported.[4] In the present investigation higher sucrose level (6%) had been used which was found to favour somatic embryogenesis in several other plants like *Trifolium* [26], *Dalbergia latifolia* [27] and groundnut. [2], [11] Although the somatic embryos possess both root and shoot meristems, simultaneous development of root and shoot was infrequent. [4], [11] Root development in the somatic embryos occurred readily in all the varieties in PGR-free as well as in the media supplemented with either BAP (1 mg l^{-1}) or GA3 (0.25 mg l^{-1}). The frequency of shoot development also increased in those media. These observations corroborated with those of Bandyopadhyay *et al.,* (1996). [28] A similar result was reported earlier.[10], [11], [25] The conversion of somatic embryos into plantlets depended on the type and concentration of *auxin* used in the somatic embryo induction medium. The higher concentration of auxin in the induction medium may be responsible for the low conversion frequency[2]. However, the difference in explant response, the number of somatic embryos per explant and the germination percentage in *Arachis hypogaea* might be due to their varietal difference as reported previously in groundnut [10], [11], [29], [30] in *Helianthus anuus* L. [31] and in coffee [32]. In view of these findings, it could be suggested that somatic embryogenesis and subsequent regeneration of plantlets could be an efficient *in vitro* method for propagation of *Arachis hypogaea* variety ICG 11337. The protocol of somatic embryogenesis, therefore, might facilitate germplasm conservation and gene transfer research in groundnut and more particularly of this elite commercial variety.

Table-1: Direct somatic embryogenesis from excised embryonic axis of *Arachis hypogaea* L. var. ICG 1137 (response recorded after 30 days).

Induction medium with 2,4-D (mg/l)	Development medium (PGR-free)	
	Explant response (%) ± SE	Number of embryos per explant ± SE
0	0	0
5	73.66 ± 4.33^{d}	7.26 ± 0.49^{d}
10	82.25 ± 3.54^{c}	9.88 ± 1.84^{c}
15	100.0 ± 0^{a}	16.35 ± 2.01^{a}
20	100.0 ± 0^{a}	11.25 ± 1.88^{b}
40	95.33 ± 5.22^{b}	9.12 ± 0.33^{c}

Table-2: *In vitro* germination of somatic embryos of *Arachis hypogaea* L. var. ICG 1137 (response recorded after 30 days of culture).

PGR (mg/l)	Root formation (%) ± SE	Shoot formation (%) ± SE
0	100 ± 0	62.42 ± 4.48[c]
BAP 1	100 ± 0	76.33 ± 5.79[b]
GA_3 0.25	100 ± 0	88.26 ± 3.66[a]

Note: In both Table-1 and Table-2 Mean values followed by same letter are not significantly different at 0.05 level (DMRT).

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Organogenesis and Somatic Embryogenesis of *Nyctanthes arbor- tristis*, an Important Medicinal Shrub

Sharmistha Maity*

Abstract: Nyctanthes arbor-tristis belongs to the family Oleaceae is an important medicinal shrub and has been used in traditional system of medicine. It is used in the treatment of sciatica, gout, malaria, cancer, liver dysfunction etc. and has anti-spasmodic, anti-helmintic, antimicrobial, and anti-leishmanial properties. In vitro rapid clonal propagation is very important to combat the poor seed germination and ultimately to conserve germplasm. Cotyledonary node and cotyledon were cultured in different concentrations and combinations of napthalene acetic acid and 2- isopentenyl adenine. Both organogenesis and embryogenesis were achieved in the same media conditions in a single culture which is the novelty of the present investigation.

Key Words: Nyctanthes arbor-tristis, In Vitro Regeneration, Somatic Embryogenesis

Introduction

Nyctanthes arbor-tristis belongs to the family Oleaceae and is a large shrub by habit. It is distributed mostly in tropical and subtropical countries including India. The plant parts of *Nyctanthes* have been used in traditional system of medicine. It is used in treatment of sciatica, gout, malaria, cancer, liver dysfunction (Basu 1993; Nirmal et al 2012). The anti-spasmodic and anti-helmintic properties have been reported by Das et al (2010). The antimicrobial, anti-leishmanial properties were reported by Tandon et al, 2001 and Podder et al, 2008. The present day requirement of *Nyctanthes* for the herbal industry is met from the natural populations which causes unrestricted large-scale exploitation from the natural habitat. Poor seed germination poses problem for its propagation. Thus this becomes a threat for extinction in the future. Tissue culture technology can provide an alternative way for rapid multiplication of elite clone and germplasm conservation (Vasil 1988). There are reports of *in vitro* propagation of *Nyctanthes arbor-tristis* through direct shoot regeneration from different explants (Siddique et al, 2006) but these reports provided low multiplication rate. Somatic embryogenesis of *Nyctanthes arbor-tristis* has not been assessed as far as the review of literature is concerned. Therefore, to meet the need of elite clones of *N. arbor-tristis,* the present study has been initiated to standardize a simple protocol for *in-vitro* propagation of this medicinal plant.

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Materials and Methods

Plant materials and explant preparation

Fresh cotyledonary node, cotyledon from 2 weeks old *N. arbor-tristis* were taken as explants and were washed under running water for 5 minutes, immersed in 2% Teepol and washed thoroughly under running water. Then they were surface sterilized using 0.05% $HgCl_2$ for 3 minutes. Surface sterilized explants were rinsed 3-4 times using sterile double distilled water.

Culture medium and conditions

The culture medium (MS) was augmented with different concentrations and combinations of 2iP (0.2- 4mg/l) and NAA (0.2- 4mg/l). The pH of the medium was adjusted to 5.7 and solidified with 0.8% w/v agar. The media were autoclaved at 121°C and 104 Kpa for 15min. One explant was cultured in each tube and cultures were incubated at 25±2°C under 16 hour photoperiod.

The experiment was designed to study the effect of different concentrations and combinations of 2iP and NAA on shoot bud regeneration, multiple shoot induction and elongation. After 6weeks of culture the number of shoots per explant was counted. The experiment was still carried out to develop the somatic embryos from the cotyledon explant. The developed embryos further developed into complete plantlets when they were placed in media devoid of PGR. Data were statistically analyzed.

Rooting of the elongated shoots and acclimatization

Elongated shoots with 5- 6 leaves were incubated on half strength MS medium fortified with NAA (0.4- 3 mg/l) and IBA individually and in combination and then implanted on ½ strength semi-solids and liquid MS medium respectively. Plantlets with well ramified root system were transferred to plastic cups containing autoclaved sand and soil (1:1) and maintained in same environmental conditions for one week. Plantlets were then transferred to earthen pots containing coarse sand, compost and garden soil.

Results and Discussion

Direct regeneration of plant through shoot buds

Of the different plant parts cultured in various concentrations and combinations of NAA and 2iP, best results were achieved with cotyledonary nodes so far as the direct regeneration of shoots or shoot buds are concerned. The other explants like de-embryonated cotyledons did not develop shoots directly. Regeneration of shoots was maximum at relatively high level of 2iP (2mg/l) with low NAA level (Table 1). The shoot regeneration potential however decreased with increase in NAA (0.2 and 0.5mg/l) and 2iP (2- 4mg/l). The average length of shoots ranged from 2.2 – 4.7cm, and with further increase in the concentration to 2mg/l a slight decrease in the length of the shoots was noted. Thus it was found that the average length of the leafy shoots showed distinct relationship with the level of PGRs.

Plantlet regeneration through somatic embryogenesis

In the present investigation of *N. arbor tristis*, friable as well as nodular embryogenic calli were developed from cotyledon explant (table 1). With the increase in concentration of 2iP from 0.2- 4mg/l with a constant level of NAA (0.2mg/l) the number of somatic embryos developed per explant was increased and it was about 77 embryos per explant in the combination of 0.2 mg/l NAA and 4mg/l 2iP. The combination of 0.5mg/l NAA and 4mg/l 2iP gave best response among the tested combination in terms of somatic embryo development. Whereas, when the level of NAA further increased, the number of somatic embryos per explant decreased at the combination of low level of 2iP. Upon further increase in NAA level, the development of somatic embryos totally inhibited at NAA (2mg/l) and 2iP (0.5- 1mg/l). At this relatively high level of NAA, when 2iP concentrations were gradually increased, again the explants started to develop somatic embryos. About 76 somatic embryos per explant were developed at the combination of NAA 2mg/l and 4mg/l 2iP. Thus it can be inferred from the present finding that an increased ratio of NAA and 2iP in the medium might possibly suppress the process of somatic embryogenesis. The combination of NAA and 2iP and their relative level in the medium was very important and crucial in terms of the development and number of the somatic embryos per explant. The somatic embryos so formed later developed into plantlets in the same medium after 6 weeks with the simultaneous development of shoots and roots from opposite poles.

In the present study, complete plantlets with well developed shoots and roots were produced from different explants of *N. arbor tristis* through direct adventitious shoot bud regeneration as well as through callus mediated somatic organogenesis. It has been clearly revealed from earlier references, that direct and indirect organogenesis was achieved separately in different media conditions. However, in the present study plant regeneration through direct and indirect means could be observed in the same growth conditions. The present study revealed that cytokinin like 2iP proved to be the preferred cytokinin for direct organogenesis which is in conformity with Maity et al (2007) in *Acacia auriculiformis*. However this is the first report regarding callus mediated embryogenesis in *N. arbor tristis*. Siddique et al (2006) reported that both 2iP and adenine sulphate were required for multiple shoot regeneration which in sharp contrast to our findings. It was further reported that a combination of 2iP and NAA was required for somatic embryo development from cotyledon and no development of embryos were observed from other explants in the same cultural conditions. This differential response of different explants to somatic organogenesis might be attributed to the level of endogenous growth regulator. This led to the conclusion that somatic embryogenesis in *N. arbor tristis* requires a critical amount of cytokinin and auxin concentration apart from the macro and micro nutrients.

Thus the efficient and the reliable plant regeneration protocol optimized in the present study can be potentially utilized for the ex-situ conservation as well as mass propagation of *N. arbor tristis* clones for the herbal industry for therapeutic purposes.

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Table-1: Response of cotyledonary node and cotyledon explant of *Nyctanthes arbor tristris* on MS agar medium supplemented with different plant growth regulators after six weeks.

Plant Growth Regulators		No. of shoots /cot. node	Mean length of shoots (cm)	Nature of callus formed from cotyledon
NAA mg/L	2iP mg/L			
0.2	0.2	1.75 ±0.2	4.4±0.8	Profuse nodular callus
0.2	0.5	2.10±0.1	4.0 ±0.7	Profuse nodular callus
0.2	1	3.00±0.3	3.25±0.6	Profuse nodular callus
0.2	2	5.00±0.2	3.33±0.7	Profuse nodular callus
0.2	4	7.3±0.4	3.40±0.7	Profuse nodular callus
0.5	0.2	1.5±0.8	4.7±0.9	nodular callus
0.5	0.5	1.0±0.5	3.5±1.2	nodular callus
0.5	1	1.0±0.6	3.2±1.0	nodular callus
0.5	2	7.5±0.5	4. 7±0.9	nodular callus
0.5	4	6.25±0.9	3.00±0.6	nodular callus
1	0.2	1.5±0.9	4.45±0.7	nodular callus
1	0.5	4.0±0.3	4.00±1.3	nodular callus
1	1	5.4±0.8	4.00±1.3	nodular callus
1	2	6.8±0.8	-	nodular callus
1	4	-	-	Without development of shoots
2	0.2	1.0±0	3.10±0	Soft friable callus
2	0.5	2.6±0.1	-	Soft friable callus
2	1	3.0±0.1	-	Soft friable callus
2	2	-	-	Soft friable callus
2	4	-	-	Without development of shoots

Table-2: Response of the callus developed from cotyledon explant of *Nycttanthes arbor tristris* on MS agar medium supplemented with different plant growth regulators after ten weeks.

Plant Growth Regulators		No. of somatic embryos / explant
NAA mg/L	2iP mg/L	
0.2	0.2	0
0.2	0.5	0
0.2	1	50±1.3
0.2	2	63±0.2
0.2	4	77.04±0.46
0.5	0.2	65±0.8
0.5	0.5	68.0±0.5
0.5	1	70.0±0.6
0.5	2	73.0±0.5
0.5	4	86±0.2
1	0.2	8.24±0.66
1	0.5	10.0±2.3
1	1	20.7±0.8
1	2	56.9±0.8
1	4	72.64±2.08
2	0.2	00
2	0.5	0
2	1	0
2	2	15.48±1.36
2	4	76.23±1.66

Success and Failure of Participatory Forest Management in India: A Case Study of Indian *Sundarban*

Chandan Surabhi Das*

Abstract: *A participatory approach to forest management was introduced in West Bengal in 1991 after the introduction of the Indian Forest Policy, 1988. The present study is the outcome of the programme in Indian part of Sundarban in connection with the raising public awareness of the ecological, economic and socio-cultural value of biodiversity and promoting local community participation in its sustainable conservation and management programmes. It also addresses the success story of the people's attempt to safe return of the stray tiger back to the forest. It also examines the government efforts to create alternate livelihood options in order to dilute the biotic pressure on the ecologically fragile mangrove ecosystem.*

Key words: ***Participatory Forest Management, Joint Forest Management (JFM), Forest Protection Committee (FPC), Eco-Development Committees (EDC), Straying Tiger***

Introduction

A participatory approach to forest management organized at a grassroots level by community-based institutions (known as, joint forest management) has been implemented in India since the 1970s and is considered, by and large, to be successful forest management model (Balooni, 2002). It is based on 'give and take' relationship between the two major stakeholders, viz. village community and the Forest Department, mediated in most cases by a non-governmental organization.

Forest resources of India are being depleted rapidly due to increasing population pressure (Mondal et al, 2010). The existing forest and wildlife protection laws have not proved efficient in their preservation. So, the participatory forest management programme has been emerged in protected areas (PAs) as a dynamic social parameter to protect its diversified wildlife and wealth from the fringe people as well as from poachers.

The Indian Forest Policy (1988) and the subsequent government resolution on *participatory forest management* emphasised the need for people's participation in natural forest management. The policy document asserted that local communities should be motivated to identify themselves with the development and protection of the

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forests from which they derive benefits. Under joint forest management (JFM), the village communities are entrusted with the protection and management of nearby forests. The central premise is that local women and men who are dependent on forests have the greatest stake in sustainable forest management.

Study Area

The present study covers 37 fringe villages of two *Sundarban* blocks (*Gosaba* and *Hingalganj*) which are closely attached to the *Sundarban* Tiger Reserve (STR) with a total area of 802.28 km^2 and a population of 3,79,332 (2001). STR is a part of the *Sundarban* Biosphere Reserve (SBR) and has a total reserved forest area of 2,585 km^2. Within the Reserve, about 1,330 km^2 has been notified as *Sundarban* National Park which also forms the core area of the reserve. The remaining area forms the buffer zone where people easily enter with or without valid permit to eke out their livelihood.

Methodology

Data related to participatory forest management is available neither in the beat offices of the forest department nor in the head quarter of *Sundarban* Development Board. Some data are found only in STR office, *Canning* and *South 24 Parganas* Forest Office, *Alipur*. It was, therefore, decided to collect the primary data from the village survey of the fringe blocks. The data on different forest participatory programmes and eco-development activities in Sundarban was collected on the locality (villages with Forest Protection Committees and Eco-development Committees), number of members involved, protected area, name of the eco-development activities, cost of the project, people's perception about the activities, and benefits gained by the stakeholders etc. This ensured that the data collected represents the total picture for the area under review. These are then organised, classified, tabulated and mapped using suitable techniques and methods.

Results and analysis

(1) Participatory Forest Management Programmes in *Sundarban*

In the early 1970's, the World Bank and other agencies realized that 40% of the rural population in developing countries lived below the poverty line, and that there was a need for "people's participation" in rural development (Chandy & Eulaer, 2000). Participatory management of forests under JFM was first introduced in India in late 1980s and were largely been a success story all over (Vyas, 2002). Non-wood forest products (NWFPs) have a key role in JFM efforts. The true spirit of JFM gets translated only when forests are also managed to meet the people's needs (Banerjee, 1990). In 1991, WB Forest Department decided that Forest Protection Committees (FPC) should be constituted for the purpose of development of degraded forests in the

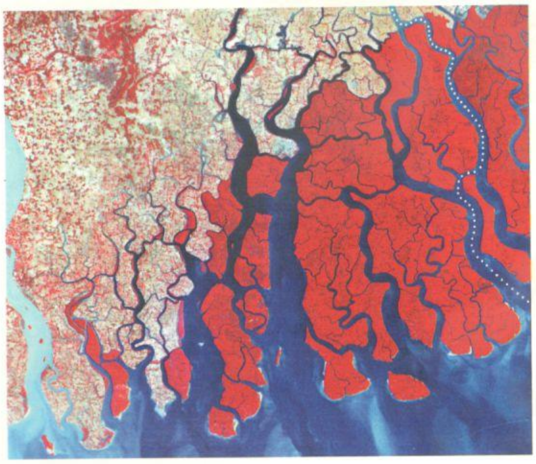


Plate 1.1 *IRS-1C LISS-3 FCC, DoP: 22 January, 2001 FCC: pale yellow and magenta coloration denote reclaimed and cultivated areas, dark red patches at the lower right of the image represent the numerous islands, dotted line shows international border with Bangladesh. Image base = 105 km.*

Plate 1.2 *An enlargement of a portion of the above image, showing the sharp boundary between mangroves and human habitations. In location like these, it is common for the tigers to stray into inhabited areas and cause widespread depredations. Locality reference to this area is provided by Fig. 4.1. Base of the image is approximately 30 km across. (IRS-1C LISS-3 FCC, DoP: 22 January, 2001)*

Sundarban and members of such committees, as beneficiaries. The FPCs members became entitled for these benefits after protecting the forest for at least five years. The benefits included right of honey collection, NWFPs, and 25 percent of produce out of thinning and coupe operations.

On the other hand, *eco-development of forest-fringe areas* aims to reduce the pressure of population on biotic resources of the forests by introducing different sustainable development programmes (Das, 2012). The objectives is to promote conservation, but this, in turn, should mean better lives for local people and a more satisfying occupation for foresters at all levels. Subsequently, in 1996, WB Forest Department resolved that, in addition to the FPCs, Eco-Development Committees (EDC) should also be constituted for the purpose of protection and development of wildlife in protected areas of Sundarban. Members of EDCs became entitled for the benefits, in form of collection right of firewood and 25% share of profits from ecotourism, after protecting an area at least for one year.

(2) Increasing forest areas

Since the issuance of the resolutions, 11 FPCs and 14 EDCs were formed in the bordering villages of *Sundarban* Tiger Reserve (STR) (Sanyal, 2002). In STR, the total area brought under FPC and EDC initiatives stands at 14.6 per cent of forest area (STR, 2004). A detailed list of these committees is provided in Tables 2 and 3. The lists show that empowerment principles were tried to be followed and some participation of women and Schedule Caste or Schedule Tribe population were ensured in the committees. The results of formation of the FPCs and EDCs had been encouraging. It was estimated that the total area of dense mangrove forests in Sundarban increased by 10.55 km^2 between 1992 and 2000, from 1,952.87 km^2 to 1,963.42 km^2. This was achieved mainly due to increased natural regeneration as a result of lower disturbance to the system. The yearly increment of workable areas under dense mangrove was estimated as 106 ha in STR and 105 ha in rest of SBR (Sanyal, 2002,). Based on the above, yearly average production capacity of the augmented 211 ha (106 ha in STR and 105 ha in rest of SBR) may be calculated as follows:

Figure 1

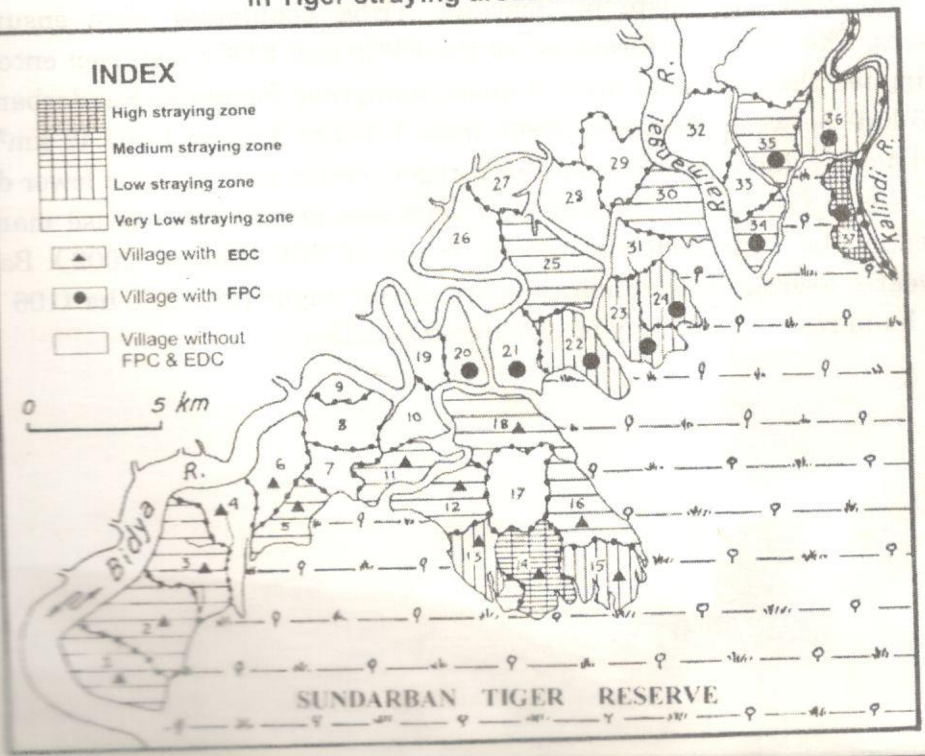
Table-1: Augmentation of Different forest products after introduction of FPCs and EDCs in Sundarban

Category	Forest products	Amount ($m^3 yr^{-1}$)
STR (*active FPCs: 11; active EDCs: 12*)	Production of timber (106×3.02 m^3)	320.12
	Production of fuelwood (106×0.63 m^3)	66.78
Rest of SBR (*active EDCs: 21*)	Production of timber (105×0.22 m^3)	23.10
	Production of fuelwood (105×0.45 m^3)	47.25
Total production potential		457.25

SOURCE: Sanyal, 2002 and STR, 2004

This is an example of the total production potential (475.25 m^3 yr^{-1}) from joint forest management activities over an area of 1,000 km^2 after meeting the timber and fuel wood requirement of the members of the FPCs.

Participatory forest management Programmes in Tiger straying areas in STR



(3) Safe return of the stray tigers

The villages under study are also famous for tiger straying hazards (Fig I). To minimise the hazards FPCs and EDCs have a great role. After the implementation of these participatory programmes (Fig I), tiger straying frequency as well as depredation caused by straying tigers was minimized dramatically. They have also played a great role to rescue the stray tiger from the violent mob and helped its return to the forest safely. Out of the 125 (1986-2005) reported incidents of tiger straying in STR, only nine tigers have been killed by the arrogant villagers (Das, 2005). Most of these unfortunate incidents occurred before the introduction of FPCs and EDCs.

(4) Eco-development activities in Sundarban

The management problems are basically of two types – those arising due to physical character of the terrain and those caused by institutional aspects. Availability of safe drinking water, lack of an efficient transport and communication have lead to backwardness of the area. Eco-development programmes tries to address both of these problems through the EDCs. Some of these include construction of irrigation channels, ponds, bricks-paved paths and jetties, installation of deep tube wells, solar lights etc., introduction of apiculture, pisciculture, crab culture, and duck-and pig-rearing. Another attempt includes distribution of fuel-efficient smokeless stoves (*chullās*), seedlings for farm forestry, fruit-orchard, fuelwood and fodder species to the villagers of the fringe areas. These have significantly helped improvement of local economy as well as increment of forest cover. Organisation of medical camps, vocational training etc. is also carried out through the EDCs. Trainings on other commercial activities like sewing, weaving and repairing of machines of various kinds are also imparted.

(5) Role of NGO

Most of the NGOs active in *Sundarban* are working at the grass-root level to improve the socio-economic and ecological condition of the area. If the broader goal of regional development in order to reduce pressure on the wilderness is to be achieved, it would be better if the NGOs are also made partners of JFM. This would serve the Forest Department to pin-point the development needs for the people of the forest-fringe areas. Some work in this direction initiated in 2004 in *Gosaba*, where two NGOs—Nature Environment and Wildlife Society (NEWS) and Sundarban Environment and Eco-Development Organisation (SEED)—started working as facilitator of the development activities being carried out by the FPCs and EDCs using United Nations Development Programme (UNDP) funds.

Table-2: Forest Protection Committees formed in fringe villages of Sundarban Tiger Reserve

PA/ Forest Block	Forest Beat/ Station	Village with FPC	No. of members involved						Total Protected area (Ha)
			Gen	SC	ST	Male	Female	Total	
Jhilla	Bagna	Hetalbari	2	374		367	9	376	500
Jhilla	Bagna	Kalidaspur	15	539	18	548	24	572	300
Jhilla	Bagna	Emlibari		331		324	7	331	580
Jhilla	Bagna	Bhuruliapara	12	394	50	440	16	456	567
Jhilla	Bagna	Adibasipara-Kumirmari	5	332	23	345	15	360	875
Jhilla	Bagna	Mitrabari	16	347	62	417	8	425	360
Jhilla	Bagna	Bagnapara	2	361	26	385	4	389	500
Jhilla	Bagna	Gobindapur	-	195	5	192	8	200	860
Arbesi	Jhingakhali	Samsernagar	32	203	38	271	2	273	2584
Arbesi	Jhingakhali	Kalitala-Pergumti	74	331	12	406	11	417	1544
Arbesi	Jhingakhali	Hemnagar	11	235	20	273	3	276	4174
TOTAL			169	3642	254	3968	107	4075	**12844**

SOURCE: Govt. of West Bengal (2010), STR (2004) and Field Survey

Initial reports from the area indicated a high satisfaction level for the villagers towards the projects where the NGOs were involved. It is expected that more collaboration with the NGOs would be seen in future JFM projects. A short list of some major NGOs working in Sundarban is appended at the end.

(6) <u>Evaluation</u>

As observed by MacKinnon *et al.* (1999), JFM projects that try to integrate the dual objectives of conservation and development are often destined for limited success or even failure because their agenda are mostly conflicting. In India, however, the eco-development projects should benefit from the experiences learned in other countries that initiated the JFM movement earlier. These lessons are important for planning the JFM in Sundarban also where, till now, the approach of formation of FPCs and EDCs were 'top-down' and not 'bottom-up'. The two approaches need to be coherently integrated (Cox, 1998).

Table-3: Eco-development Committees formed in fringe villages of Sundarban Tiger Reserve

PA/ Forest Block	Forest Beat/ Station	Village with FPC	No. of members involved						Total Protected area (Ha)
			G	SC	ST	M	F	Tot	
Pirkhali	Sajnekhali	Dayapur		319	7	316	10	326	960
Pirkhali	Sajnekhali	Pakhiralaya	76	441		481	36	517	480
Pirkhali	Sajnekhali	Dulki		189		176	13	189	640
Pirkhali	Sajnekhali	Sonagaon-Dulki		68		68		68	700
Pirkhali	Sajnekhali	Jemespur	1	346		339	8	347	650
Jhilla	Dattar Station	Lahiripur-Chargachi		328		298	30	328	2000
Jhilla	Dattar Station	Bidhan Colony-Luxbagan	12	197	18	223	4	227	520
Panchamukhani	Dattar Station	Lahiripur-Santigachi		328		298	30	328	2400
Panchamukhani	Dattar Station	Enpur-Rajatjubilee		155		155		155	700
Pirkhali	Bidya	Bijoynagar	76	389	6	391	80	471	680
Pirkhali	Bidya	Mathura khand	62	419	38	414	105	519	550
Pirkhali	Bidya	Satyanarayanpur	5	554	21	434	146	580	800
Pirkhali	Bidya	Amlamethi	24	138	8	162	8	170	500
Pirkhali	Bidya	Bally	72	176	10	211	47	258	770
Total			328	4047	108	3,993	490	4483	**12,350**

SOURCE: Govt. of West Bengal (2010) and Field Survey

However, lack of integration between these two is exposed to a great extent in the issues of conservation of forests and wildlife in *Sundarban* particularly FPC villages of *Hingalganj* block. The study reveals that some FPCs of *Hingalganj* are totally inactive and even some of them are involved in the poaching of wildlife and felling of trees against some vested interests. There is also question of inadequate number of FPCs and EDCs in the vast fringe zone of STR (Das, 2009). Fig 1 shows that the 14 villages are without FPCs and EDCs, but they obviously deserves as residents of these villages are exploiting *Sundarban* Reserve Forest severely like other people of the fringe areas. Progress of eco-development activities is also poor in these villages. Different activities carried out by the EDCs are now at stake, because, in most cases, there is no local market of the products like ducks, piggery, mushroom etc. So, people in the fringe areas are again entering into the forest to collect crabs, fish, fuel wood etc which have a steady market value.

Table-4: Lessons learned from Joint Forest Management projects of other countries

Lesson	Impact on project design
Need for common understanding of project objectives.	Project objectives defined and tested through series of workshops involving local people. Orientation workshops to project staff, local stakeholders and concerned NGOs.
Need to incorporate Protected Area concerns into regional planning and regulation.	Project design includes specific Protected Area components
Need for linkage between conservation and development objectives.	Village eco-development funds dependent on reciprocal agreement that specifies conservation actions of local people. Priority development interventions that directly depend upon or enhance biodiversity conservation.
Need for active participation of beneficiaries.	Participatory rural appraisal. Participatory micro-planning.
Need to define project's scope.	Analysis of implementation capacity and human pressure for defining project scope
Risk of project investments acting as magnet to draw migrants into the area.	Project design incorporates (1) voluntary reactions; (2) not providing social services; (3) strong encroachment control; (4) alternative livelihoods; (5) limiting investments; (6) monitoring of migration activity; (7) project areas with relatively sedentary populations.
Need to identify parties to disputes.	Provide mechanisms for conflict resolution.

SOURCE: World Bank (1996) in MacKinnon *et al.* (1999). (Slightly modified)

Conclusion

Poverty, lack of awareness, and overpopulation lead to excessive exploitation of the forests and thereby cause a serious threat to conservation of *Sundarban* forest. These will continue to increase the pressure on the forests unless their socio-economic conditions are improved drastically. Conservation of tigers, a keystone species in the

Sundarban ecosystem, will be next to impossible unless the local people are truly involved in management, the decision-making process, and developing techniques for sustainable yields from the forest. If the broader goal of regional development in order to reduce pressure on the wilderness is to be achieved, it would be best if the NGOs are also made partners of JFM. This would serve the Forest Department to pin-point the development needs for the people of the forest-fringe areas (Singh, 2003).

The ratio of participation, however, remains far from satisfactory in most FPCs and EPCs. However, there is a growing trend to increase the number of FPC Committees in the fringe villages of *Sundarban*. But, the increase would need to be guided by the capacity of the field level forest staff or the staff NGOs and their ability to effectively coordinate and monitor the progress. Because, the Government authorities like *Sundarban* Development Board (SDB) or Forest Department have no such infrastructure to monitor these activities strictly. Different NGOs acting on *Sundarban* may take part a great role. Otherwise these committees remain only on paper or instead of preserving forest resources they may accelerate the process of forest degradation by allowing the poachers or unauthorised persons into the forest.

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Appraisal of Social Group under *Sarva Shiksha Abhiyan* in India

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Abstract: *Social justice and equity are by themselves a strong argument for providing elementary education for all. It is an established fact that elementary education improves the level of human well being. Government of India launched Sarva Shiksha Abhiyan (SSA) in 2001-02 as a comprehensive and integrated flagship programme of the Union Government in partnership with the State Governments and Local Self Governments to attain Universal Elementary Education (UEE) covering the entire country. This paper is an attempt to look into the relative performance of out of school children in the age group of 6 -13 years among different social groups (ST, SC, Muslims, and OBC and Others) in order to assess how far the process of Sarva Shiksha Abhiyan has achieved to fulfill its commitment in the elementary education level with the historic Right to Education (RTE) mandate.*

Introduction

Social justice and equity are by themselves a strong argument for providing elementary education for all. It is an established fact that elementary education improves the level of human well being especially with regard to life expectancy, infant mortality and nutritional status of children. Also, elementary education has a significant impact on economic development [1]. In keeping with this, Government of India launched *Sarva Shiksha Abhiyan* (SSA) in 2001-02 as a comprehensive and integrated flagship programme of the Union Government in partnership with the State Governments and Local Self Governments to attain Universal Elementary Education (UEE) covering the entire country. One of the fundamental objectives of SSA is that all children should complete eight years of elementary schooling by 2010, and SSA also focuses on elementary education of satisfactory quality with emphasis on education for life. It is an initiative to universalize and improve quality of education through decentralized and context specific planning and a process based time bound implementation strategy. The programme lays emphasis on bridging all gender and social category gaps at primary stage by 2007 and at elementary education level by 2010 (Government of India, 2004: 1-3). To strengthen this programme, Government of India enforced a historic Right to Education (RTE) act on the1st April 2010 that promises freedom from illiteracy for this vast and diverse country. Despite the fact that the RTE Act secures the right of all children to free and compulsory education till

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completion of elementary education (in the age group of 6 to 14 years) under the legislative framework as envisaged in Article 21A of the Constitution and SSA emphasis on bridging all gender and social category gaps, it is about sixty-four years after independence since the Government of India failed to publish the data of educational level of population according to caste. No doubt, the latest literacy level of the country appearing from census report 2011 is an important achievement as compared with the past-74 in every 100 Indians can now read, write and understand written text in contrast to 64 in 2001 (Telegraph, 2011a:1), the census report still do not publish the data of literacy level of population according to castes in the country, mainly, because of the failure of forming political will among the political parties of India [2]. But to bridge the gap of educational level between different social groups including castes and to bring about social justice and equity at educational level for all, the census data regarding existing performance of educational level for different age groups among various social groups, seem to be an essential task. This paper is an important attempt to look into the relative performance of out of school children in the age group of 6 -13 years among different social groups (ST, SC, Muslims, and OBC + Others) in order to assess how far the process of *Sarva Shiksha Abhiyan* has achieved to fulfill its commitment in the elementary education level with the historic Right to Education (RTE) mandate.

The Data Set

In order to assess how far the measures taken under SSA have succeeded in the elementary education level of the country for children in the age group of 6 to 14 years, a nation-wide independent sample survey of households was conducted in all the states and union territories of India in 2009. With support from the Ministry of Human Resource Development, the survey was entrusted to the Social and Rural Research institute, a specialist unit of IMRB International, which conducted it with guidance from the Research Evaluation and Studies Unit of Ed. CIL's Technical Support Group for SSA, based on total samples of households of primary sampling units of 64th round National Sample Survey organisations (Social and Research Institute, 2010) [3]. The sample survey of households was conducted in all the states and Union Territories of India during February – May, 2009. A similar survey was also conducted in 2005. In that survey also, similar sampling design and methodology were used. However the present study may also help in assessing the relative progress of the elementary education level for children on the estimates of out of school children in the age group of 6-13 years among different social groups of the country.

The survey has provided, among others, the estimates of out-of-school children by social groups, viz. Schedule Caste (SC), Schedule tribe (ST), and Muslims and Others Classes (OBC + Others) [4]. It is estimated that there are19,05,82,581 children in the age group of 6-13 years. Out of these, the estimated number of out-of-school

Others Classes (OBC + Others) [4]. It is estimated that there are19,05,82,581 children in the age group of 6-13 years. Out of these, the estimated number of out-of-school children in the country is 81,50,618 who comprise 4.28% of the total children in the same age group (ibid:5). It is pertinent to note that the percentage of out of school children is the highest among the Muslim population. At an overall level, 7.67% of the estimated Muslim population is out of school. The percentage of out of school children is the lowest among the OBC + Others category (2.67%) at an overall level. The SC category out of school children in the nation (5.96%) is the second highest among all social categories. Although the estimated ST population out of school has the third highest among all social categories at an overall level, the proportion of out-of school children for ST population (5.60) is very close to SC figure (ibid: Table C8.3, p.72).

Among the social group categories in the age group of 6-13 years, there is a significant decrease in the out of school ST children which reduces from 9.54% of the estimated ST child population in 2005 survey to 5.60% of estimated ST, in 2009. The decrease in the out of school is also significant among the OBC + Others category - from 5.55% in 2005 to 2.67 % in 2009. The proportion of out of school SC children has also attributed reductions from 8.17% in 2005 survey to 5.96% in 2009. But, more significantly, the proportion of out of school Muslim children remained on the higher side among all social groups. It decreases from 9.97% in 2005 survey to around 7.67% of the estimated Muslim child population in the same age group(6-13 years) in 2009 survey (ibid: p.10 & p.72). These results however lend credence to the fact that in all social groups the estimated percentage of out of school Muslim children in the age group 6-13 years remains on the highest position in both 2005 and 2009 and the relative decrease of out of school Muslim children in the same age group is much lower compared with others viz, ST, SC and OBC + Others in 2009 survey since the previous survey conducted in 2005.

Lowest Performance for Muslim Children

These results thus imply that though SSA has been designed to provide elementary education to children in the age group of 6-13 years, there still exists a large number of out-of-school children in India, Muslim child population registering the highest proportion among all social groups (ibid:p.72). State level findings obtained from latest survey conducted in 2009 reveal that the states which have higher percentage of Muslim children out of school than national average of Muslim child population in the age group of 6-13 years (7.67) are Arunachal Pradesh (30.96%), Delhi (10.18%), Nagaland (11.33%), Uttar Pradesh (16.31%), Uttarakhand (12.95%), Haryana (10.91%) and Bihar (10.81%). For ST children, the states that registered higher percentage of child population than national average of ST population in the same age group (5.60%) are Rajasthan (17.25%), Orissa (17.39%), Arunanachal Pradesh (9.27%) and Uttar Pradesh (6.88%). For SC child population, Bihar

(12.89%),Uttar Pradesh (8.41%), Uttarakhand (7.65%), Rajasthan (8.78%) and West Bengal (7.65%) have higher percentage of child population aged 6-13 years than its nation average (5.96).Turning to OBC+ Others, although seven states, namely, Uttar Pradesh, Rajasthan, Orissa, Nagaland, Mizoram, Assam and Arunachal Pradesh and one union territory namely Delhi have higher percentage of child population out of school aged 6-13 years than its nation average (2.67%),the notable figures belong to Arunachal Pradesh (18.15%), Nagaland (7.78%), Rajasthan (6.67%) and Assam (6.00%).

State level estimates ,however, show that among different social group categories, nine states namely Arunachal Pradesh, Nagaland , Uttar Pradesh, Uttarakhand, Haryana, Bihar, Rajasthan, Assam and West Bengal and one union territory namely, Delhi have much higher incidence of out of school population aged 6-13 years. The social group category analysis reveals that among all social groups Muslim child population has the highest proportion of out of school child population aged 6-13 years(in the range of 10.18%-30.96%) and these ranges are registered by seven states including one union territory namely Arunachal Pradesh , Nagaland , Uttar Pradesh, Uttarakhand, Haryana, Bihar and Delhi. Also important is that Arunachal Pradesh state not only shows the highest proportion of Muslim out of child aged 6-13 (30.96%), she also registers the highest proportion of OBC+ Others child population out of school (18.15%) and the third highest ST child population out of school (9.27%) for the same age group. Similarly Uttar Pradesh has much higher proportion of SC child population (8.41%) and ST child population (6.88%) out of school, despite the fact that she possesses the second highest proportion of Muslim child population out of school under the same age group. Uttarakhand and Bihar also have much higher proportion of out of school children for SC category together with the notable incidence of Muslim child population out of school aged 6-13 years. Similarly, Nagaland has also much higher proportion of out of school children for OBC+ Others category (7.78%) together with her registering 11.33% of Muslim child population out of school.

Acute Problems for Most Poor Performing States

These findings, thus, clearly shows that out of seven states including one union territory which have much higher incidence of out of school children for Muslim child population aged 6-13 years, five states, namely Arunachal Pradesh, Uttar Pradesh, Uttarakhand, Nagaland and Bihar, and one union territory, namely, Delhi also show higher incidence of out of school children for other social group categories. It implies that most of the states which record higher incidence of out of school Muslim children aged 6-13 years also indicate higher incidence of out of school children from other social groups.

Significantly, only three states which have higher incidence of out of school children (aged 6-13) from other social groups except Muslim are Rajasthan, West

Bengal and Assam. But Rajasthan state not only possesses the highest proportion of ST child population out of school(17.25%), she also registers the second highest proportion of SC child population out of school(8.78%) and also has much higher proportion of out of school child population for OBC+ Others category(6.67%). For other two states, namely, West Bengal and Bihar, although a significant proportion of out of school children aged 6-13 years is registered by SC (7.65%) in West Bengal and by OBC+ Others category (6.00%) in Assam, the incidence of out of school children for the same age group is highly pronounced in Rajasthan because the latter possesses much higher incidence of out of school children among all social groups except Muslim.

This study also shows that among all social groups under study (Muslim, ST, SC, OBC+ Others), six Indian states (Arunachal Pradesh, Uttar Pradesh, Uttarakhand, Nagaland, Bihar and Rajasthan) and one union territory (Delhi) simultaneously register high incidence of out of school child population in the age group of 6-13 years for two or three social groups, all the first five states and the only union territory (Delhi) recording high incidence of Muslim child population out of school as one of the social groups.

These findings however suggest that nine states and one union territory have much lower performance in providing useful and relevant elementary education for all children in the age group of 6-13 years by 2010. As regards the socio-economic characteristics of low performing states in elementary education is concerned, it can be said that almost all the states which have much lower performance of elementary education for children aged 6-13 years not only records lower than the latest average literacy level of the country - 74 in every 100 Indians can now read, write and understand written text - appearing from census report 2011, but also have lower per capita income among all Indian states and union territories. Nagaland and Delhi show some exceptions. Although the literacy rate of Nagaland in 1911 census (80.11%), a special category of Indian states, is higher than national average, the per capita income is much lower than national average. But, more strikingly, despite the fact that Delhi, the capital city of India, registers higher per capita income as well as higher literacy rate than national average for a long time, she shows much lower performance in providing elementary educational level for Muslim and SC child population in the age group of 6-13 years.

Suggestions

Findings and outcomes of the SSA assessment report conducted by 2009 survey should be incorporated to substantiate the lacunas and problems and strategies need to be devised accordingly. Though SSA programme aims that all children should complete eight years of elementary schooling (in the age of 6 to 14 years) by 2010 with emphasis on bridging ,among others, social category gaps at elementary education level by 2010 and India joins the league of over 130 countries which have legal guarantees to provide free and compulsory education to children with the Right to Education(RTE) Act coming into force on April 2010, one of the important findings of 2009 survey is that nine Indian states show much lower performance in providing useful and relevant elementary education for Muslim, SC and ST children among all Indian states, Muslim children in particular registering the worst performance of all social groups in most of those states. Also, one of the important weaknesses of SSA programme is that the capital city of India is stealing much behind in providing elementary education to Muslim and SC child population in the age group of 6-13 years in particular. However, it can be said that almost all the states ,which show much lower performance of elementary education, not only register lower than the average literacy level of the country but also have lower per capita income than the average of all Indian states implying much poorer socio-economic condition for the former.

The need based financing for SAA projects and the effective utilisation of those resources may enable all states and union territories in general and the lower performing states in particular to fulfill SAA goal in providing useful and relevant elementary education to all children. It may be noted that Thirteenth Finance Commission (THFC) awards were estimated before the RTE came into existence in April 2010.The revised allocation for SSA for implementing RTE are estimated to be Rs.2.31 lakh crores for the next five years (2010-2015). As SSA is now the designed vehicle to implement the RTE, taking into considerations the revised norms of SSA and its financial implications, the centre: state shares have been revised, with centre now will provide a 65% share, 25% will be contributed by states, and the Rs.24068 crores allocated under THFC will now contribute the remaining 10% of the requirements, thus ensuring adequate funds (Sankar, 2011: 82; Chakraborty, 2011:84). Apparently, the THFC grants for elementary education, no doubt, have helped the transition from SSA to RTE, but the problems still remain. If the states, which show much lower performance in elementary education appearing from 2009 SSA assessment report, in particular fail to provide their own share for SSA programme allocated under THFC, it requires that the centre should fill its gap. Also this study calls for preparing census report among all caste groups in India for children in the age group until completion of elementary education (up to class eight) in particular to suggest concrete policy measures for useful and relevant elementary education to all children influencing thereby to promote social justice and equity in providing elementary education for all.

Notes

1) The universalisation of quality elementary education is a critical foundation for secondary education and employment skills which have a significant impact on economic development (Govt. of India, 2009: 207)

2) However, on May 19, 2011, the Union Cabinet of India gave the green signal to conduct an integrated census to find out the caste, religion and poverty levels of citizens set to be started next month across the country, while the last caste census was carried out in 1931 (Telegraph, 2011b:10).

3) The sampling frame used for primary Sampling units in rural areas is the list of villages covered in NSS 64th Round (2007-2008). In case of urban areas also, the sampling list of Urban Farm Survey (UFS) blocks covered in NSS 64th Round. One of the important limitations of this survey is that the NSS (64th round) did not cover (i) *Leh* (*Ladhak*) and *Kargil* districts of *Jammu & Kashmir* (ii) interior villages of *Nagaland* situated beyond five Kms of the bus route and (iii) villages in *Andaman and Nicobar* Islands; so, those areas remained outside from this survey (Social and Research Institute, 2010:23).

4) As regards social category (SC, ST, OBC, *Muslim*, Others) is concerned, OBC and others have been combined. However this does not include Muslims. All Muslims, whether belonging to OBC or others, have been classified into a single separate category as Muslims (Social and Research Institute, 2010: 14, 18).

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Role of Some Important Factors in Affecting Ration Off-take of the Poor - A Case Study in the Burdwan District of West Bengal

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Abstract: *During the sample survey we notice that many BPL card holder poor households are not willing to draw their ration food-grains in the Burdwan district of West Bengal. Generally, it is assumed that the poor households will draw their full quota of ration food grains to meet their minimum calorie requirement and consumption level, due to their financial incapacity and low purchasing power. But, in reality, we see the reverse. This scenario has slapped a strong blow to our minds so that our commonsensical faith and belief that if the Government arrange for supplying food grains to the poor through the fair price shops then the food security will be ensured , have been shattered. So, this is the backdrop of this study. In this paper we have tried to analyze the basic reasons behind such surprising scene. We have been prompted by this peculiar fact to search for the factors that are responsible to determine the decision for ration off take of the poor households. Moreover, this paper tries to test the homogeneity of means and sample proportion between two groups of people of our study i.e, ration drawers and non ration drawers.*

Introduction

In India Public Distribution System is an important measure and tool to provide food security to the poor people. The Public Distribution System is a part of the welfare attempt of the Government to provide food and as maximum as possible required calorie to the beneficiaries of the Public Distribution. There is no doubt, that despite the honest and sincere effort on the part of the Government, it may be quite impossible to meet the full requirement of food of all the households in the country. That is why there is always an attempt on the part of the Government to supply some minimum quantity of food grains or what may be called "quota" to the households who hold some documents in the form of ration cards and certificates of their income status as to belong to the B.P.L category. The Public Distribution System will be effective as a food security measure if those for whom it is meant can reap its benefits.

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Objective

Various economists have examined the performance of Public Distribution System empirically in different parts of India. Notable among them are Balakrishnan and Ramaswami (1997), Indrakanth (1997), Jos Mooij (1994), Kripa Sankar (1997), Machaiah (1995), Madhura Swaminathan (2001), Menezes (1995), Parikh (1994), P. S. George (1979, 1984), S. Mahendra Dev (1995, 1998), Shikha Jha and Srinivasan (2001), Suryanarayana (1995), etc.

In this study our objective is to assess the efficacy of the Public Distribution System in terms of its utilization. While we have undertaken the study of food security system in the District of *Burdwan* through a sample survey of 300 representative households using stratified random sampling, it has been our belief that all the households categorized as the households belonging to the B.P.L and having rights to enjoy the ration facility, do draw ration food grains as per their full quota of ration food grains, as decided by the Government. But we observed with a surprisingly disbelief that a significant percentage of households in the B.P.L category, for whom the Government has arranged ration facility, do not draw their full quota of ration food grains. Therefore, it became the thrust of the endeavor to enquire why such a paradoxical incident happens in the District of *Burdwan*. We shall proceed to explain analytically what in reality lies behind the screen, what are the factors or causes that would determine the decision for ration off take. So in this paper we want to test the homogeneity of means and sample proportion between ration drawers and non ration drawers in the *Burdwan* district of West Bengal, India.

Methodology

In this study we collect data by personal interview method. So this study mainly depends on the primary data. Respondents are not always accurate in response to our enquiry. So there may be some sort of discrepancy or bias in this case. We have tried to minimize the bias by cross checking. Here we consider only the poor families, who belong to the B.P.L category. In our study we selected 300 representative households from the *Burdwan* district of West Bengal using stratified random sampling method during the month of November, 2009. In this study our objective is to assess the efficacy of the Public Distribution System in terms of its utilization. In the period of sample survey we observed that a significant percentage of households in the B.P.L category, for whom the Government has arranged ration facility, do not draw their full quota of ration food grains. Therefore, it became the thrust of the endeavor to enquire why such a paradoxical incident happens in the District of *Burdwan*. We shall proceed to explain analytically what in reality lies behind the screen, what are the factors or causes that would determine the decision for ration off take. So in this paper we want to test the degree of homogeneity of different variables among ration drawers and non ration drawers.

Factors affecting decision for ration off-take

In the recent years we have seen that many poor households are not willing to draw their full quota of ration food grains. The result is very much surprising. So we tried to find out the actual reasons behind this fact. In this study, we consider a number of factors that influence the decision for off take of ration food grains. These factors can be classified into five groups as follows.

Table-1: Different factors affecting ration off-take

Sl. No.	Factors	Variables	Notations
1.	Economic factors	(a) Total family Income (b) Income of the Head of the family (c) Income of the other members of the family (d) Gap between open market price and ration price of rice (e) Gap between open market price and ration price of wheat	M_i H_i OTH_i PR_i PW_i
2.	Socio-Cultural and Demographic factors	(a) Ratio of dependent persons to total persons (b) Caste of the Household (c) Educational qualification of the household (d) Age composition (e) Family size	D_i K_i E_i A_i FF_i
3.	Geographical factors	(a) Location of fair price shop	L_i
4.	Psychological factors	(a) Quality of the ration food grains	Q_i
5.	Other factors	(a) Public awareness (b) Other sources of acquiring food grains (c) Ration facility (d) Frequency of money receipts (e) Quantity of ration food grains	P_i S_i R_i F_i QN_i

Analysis of Data

In our study, all the representative households are classified into two categories, namely, (a) ration drawers and (b) non-ration drawers. The descriptive statistics for both of these groups would identify the basic characteristics of our sample population. Therefore, we now present the descriptive statistics for both the groups. Among the 300 representative households we have 165 ration drawers and 135 non ration drawers.

Table-2: Descriptive Statistics of All Surveyed Population

Variables	N	Mean	Standard Deviation	Standard Error of Mean	Coefficient of Variation
T_i	300	0.5500	0.4983	2.877E-02	90.60
M_i	300	1794.8667	518.7864	29.9521	28.90
H_i	300	762.1000	238.1224	13.7480	31.25
OTH_i	300	1032.7667	421.3506	24.3267	40.80
PR_i	300	4.2320	0.5326	3.075E-02	12.60
PW_i	300	2.9325	0.4539	2.620E-02	15.50
D_i	300	0.4767	0.5003	2.888E-02	104.80
K_i	300	0.4633	0.4995	2.884E-02	107.80
E_i	300	0.5667	0.4964	2.866E-02	87.59
R_i	300	0.6100	0.4886	2.821E-02	80.10
A_i	300	0.5900	0.4927	2.844E-02	83.51
P_i	300	0.6000	0.4907	2.833E-02	81.78
S_i	300	0.4733	0.5001	2.887E-02	105.70
QN_i	300	0.3633	0.4818	2.781E-02	97.55
L_i	300	0.6767	0.4685	2.705E-02	69.23
Q_i	300	0.5167	0.5006	2.890E-02	96.88
F_i	300	0.4667	0.4997	2.885E-02	107.10
FF_i	300	4.7733	1.2438	7.181E-02	26.10

SOURCE: Author's own calculation based on primary sample data.

Table-3: Descriptive Statistics of Surveyed Population of Ration Drawers.

Variables	N	Mean	Standard Deviation	Standard Error of Mean	Coefficient of Variation
M_i	165	1565.1818	382.0156	29.7399	24.30
H_i	165	701.6970	233.0593	18.1436	33.51
OTH_i	165	863.4848	305.3678	23.7729	34.83
PR_i	165	4.1773	0.5589	4.351E-02	13.59
PW_i	165	3.0582	0.4752	3.699E-02	15.60
D_i	165	0.6303	0.4842	3.769E-02	76.91
K_i	165	0.6485	0.4789	3.728E-02	70.29
E_i	165	0.4667	0.5004	3.896E-02	107.22
R_i	165	0.7576	0.4299	3.346E-02	57.35
A_i	165	0.6303	0.4842	3.769E-02	73.50
P_i	165	0.7818	0.4143	3.225E-02	50.07
S_i	165	0.5091	0.5014	3.904E-02	97.24
QN_i	165	0.2242	0.4184	3.257E-02	168.44
L_i	165	0.7939	0.4057	3.158E-02	51.20
Q_i	165	0.7273	0.4467	3.478E-02	63.95
F_i	165	0.4424	0.4982	3.878E-02	108.64
FF_i	165	4.7636	1.1837	9.215E-02	24.29

SOURCE: Author's own calculation based on primary sample data.

Table-4: Descriptive Statistics of Surveyed Population of Non-Ration Drawers.

Variables	N	Mean	Standard Deviation	Standard Error of Mean	Coefficient of Variation
M_i	135	2075.5926	526.8578	45.3447	25.38
H_i	135	835.9259	223.7446	19.2569	26.77
OTH_i	135	1239.6667	451.2264	38.8354	36.40
PR_i	135	4.2989	0.4923	4.237E-02	11.45
PW_i	135	2.7789	0.3743	3.222E-02	13.50
D_i	135	0.2889	0.4549	3.915E-02	157.57
K_i	135	0.2370	0.4268	3.674E-02	180.08
E_i	135	0.6889	0.4647	3.999E-02	67.46
R_i	135	0.4296	0.4969	4.276E-02	115.67
A_i	135	0.5407	0.5002	4.305E-02	92.51
P_i	135	0.3778	0.4866	4.188E-02	128.80
S_i	135	0.4296	0.4969	4.276E-02	115.70
QN_i	135	0.5333	0.5007	4.310E-02	93.89
L_i	135	0.5333	0.5007	4.310E-02	93.89
Q_i	135	0.2593	0.4399	3.786E-02	169.65
F_i	135	0.4963	0.5018	4.319E-02	101.11
FF_i	135	4.7852	1.3180	0.1134	27.54

SOURCE: Author's own calculation based on primary sample data.

In Table-2 the descriptive features of all surveyed population are presented. We consider mean, standard deviation and standard error of mean and the coefficient of variation for different variables for 300 representative households, we interviewed for the study. What we note is that only 55% of 300 households draw their full quota of ration food grains. The coefficient of variation with respect to the decision for ration off take is as high as almost 91%. This clearly indicates that we cannot expect any consistency in respect of the decision for ration off take by the households in the district of Burdwan.

From Table-3 and 4, we get the descriptive statistics for the ration drawers and non-ration drawers. Here we see that among the 300 representative household's only 165 households draw their full quota of ration food grains and the remaining 135 households do not. Here also we find out mean, standard deviation and standard error of means and the coefficient of variation for different variables for the ration drawers. All these in fact reveal the features of ration drawers and non-ration drawers in the district of Burdwan. Refer to Table-3 and 4 we note that out of 300 representative households only 55% draw their full quota of ration food grains and the remaining 45% do not. Amongst the ration drawers and non-ration drawers, the level of income of all categories (income of head of the family, total family income and income of the other members of the family) is not widely fluctuating as indicated by the coefficient of variation. Same is true with respect to price gap of wheat and rice. Still it is important to point out that both the groups of ration drawers and non-ration drawers have the coefficient of variation to the extent of approximately 25% and 35% respectively for the monthly family income and the income of the other members of the family. Thus for these two groups monthly family income and incomes of the other members of the family are expected to have same variation. But, this is not true with respect to the income of the head of the family. Here we see that the incomes of the head of the family amongst the group of ration drawers are subject to more fluctuation as contrasted with that amongst the group of non-ration drawers.

Test of Homogeneity of Means of Variables affecting the Decision for Ration Off –take

In order to identify the variables that would significantly affect the decision for ration off take, it is necessary to know whether the means of the variables of the two groups of households (here, ration drawers and non-ration drawers) are significantly different or not. Refer to Table-5 and 6. We have considered eighteen variables and we find out mean of these variables for both ration drawers and non-ration drawers. Then, we find out the mean difference of these eighteen variables and the standard errors of the mean difference. In order to test the homogeneity of the means of these variables between the ration drawers and non-ration drawers, we consider t test based on the statistic, $t = \dfrac{(\overline{X} - \overline{Y}) - (\mu_X - \mu_Y)}{S.E.(\overline{X} - \overline{Y})}$, which is $t_{n_1+n_2-2}$.

It should be noted that for the quantitative variables computation of means and their differences for the groups of non-ration drawers and ration drawers are meaningful. But, the same thing when the variables are qualitative and represented by the dummies carries no sensible meaning. Therefore, in the case of qualitative dummy variables, we have considered the sample proportion of families that belong to one particular category for both groups of non-ration drawers and ration drawers. In Table – 5 the variables M_i, H_i, OTH_i, PR_i and PW_i have been measured in terms of rupees. The family size symbolized by FF_i is measured in terms of number as usual.

Table-5: Test of Homogeneity of Means of the Quantitative Variables affecting the Decision for Ration Off-Take in the District of *Burdwan , West Bengal.*

Variables	Mean Difference	Standard Deviation	Standard Error	t-statistic
M_i	503.3333	644.1444	55.4391	9.079*
H_i	140.3704	301.9524	25.9879	5.401*
OTH_i	362.9630	562.3602	48.4003	7.499*
FF_i	-8.8889E-02	1.7724	0.1525	-0.583
PR_i	0.1870	0.7310	6.291E-02	2.973*
PW_i	-0.2674	0.6355	5.469E-02	-4.889*

(*stands for significant at 1% level of significance. ** stands for significant at 5% level of significance, *** stands for significant at 10% level of significance.)

SOURCE: Author's own calculation based on primary sample data.

Table-6: Test of Homogeneity of Proportion of Sample in the Population for the Qualitative Variables affecting the Decision for Ration Off-Take in the District of *Burdwan.*

Variables	Mean Difference	Standard Deviation	Standard Error	*Z*-statistic
Di	-0.3407	0.6367	5.480E-02	-6.218*
Ki	-0.4444	0.6654	5.727E-02	-7.760*
Ei	0.2222	0.6765	5.823E-02	3.816*
Ri	-0.3185	0.6653	5.726E-02	-5.563*
Ai	-0.1259	0.7474	6.433E-02	-1.958**
Pi	-0.4296	0.6640	5.715E-02	-7.518*
Si	-9.6296E-02	0.6333	5.451E-02	-1.767***
QNi	0.2815	0.5941	5.114E-02	5.505*
Li	-0.2593	0.6460	5.560E-02	-4.663*
Qi	-0.4444	0.6426	5.531E-02	-8.036*
Fi	3.704E-02	0.7166	6.168E-02	0.601

(*stands for significant at 1% level of significance. ** stands for significant at 5% level of significance, *** stands for significant at 10% level of significance.)

SOURCE: Author's own calculation based on primary sample data.

For testing the homogeneity of mean differences for any determinant of the decision for ration off take we have considered the t test. When the determinants are qualitative and for them we use dummy variables we would test the significance of the difference (for the groups of non-ration drawers and ration drawers) between the sample proportion of the surveyed population that belongs to one category and the sample proportion of the surveyed population that belong to the other category. With this end in view, we would use the normal test based on the test statistics as $Z = \left((p_1 - p_2)/\sqrt{pq\{(1/n_1) + (1/n_2)\}}\right)$ which is $N(0, 1)$. The result is shown in Table – 6.

Thus, we see that most of the mean differences and the differences in the sample proportions between the non-ration drawers and ration drawers are statistically significant for variables, like family income, income of the head of the family, income of the other members of the family. The gap between open market price and ration price of rice and the gap between open market price and ration price of wheat are also the important variables affecting the decision for ration off take. The dependency ratio, caste of the households, the educational qualification and public awareness also play significant role. The location of the fair price shops, ration facility and quantity and the quality of ration food grains supplied, and the alternative sources of acquiring food grains are no less important factors in the decision for ration off take. Thus, from the analysis we gather some ideas as to the nature and importance of the variables we consider as the determinants of the decision for ration off take.

Policy prescription

Public distribution system performs as a food security measure in all the States of India. In different States there are different types of problems of public distribution system. So it is very difficult to make policy recommendation for the country as a whole. But, generally in order to improve the performance of Public distribution system as a food security measure some policy recommendations may be made. The recommendations are as follows:-

(a) The process of identification of the BPL families is faulty in the district of Burdwan, West Bengal. We generally use income criterion as a basis of targeting. But, as the poor households generally works in the informal sector and receive earnings on an irregular basis, the income criterion is not the appropriate basis of targeting. In this case we can recommend the "geographical targeting". Geographical targeting that uses the place of residence as the main criterion for eligibility can provide an effective way of reaching the poor when there are substantial disparities in living conditions across geographical areas.

(b) In the *Burdwan* district of West Bengal some poor households are not willing to draw their full quota of ration food-grains due to the lower quality of food grains supplied through the fair price shops. Since, these poor households supplement their ration quota by purchases from the open market; their welfare depends on the open market price too and hence on the quality difference. So in order to increase the consumption level of the poor, quality of the ration food grains should be upgraded. It is one of the most important factors in promoting the ration off-take.

(c) A whole set of measures is required to reduce the incidence of leakages and corruption in the system. We know that there is a large scale diversion of food grains to free market at both the wholesale and retail levels. Doorstep delivery system of ration food grains may reduce the amount of leakages.

(d) One of the important problems of Public distribution system is that ration food grains are not supplied regularly through the fair price shops mainly in the rural areas. It is not possible for the poor consumers to buy their entire amount of quota at a single time due to lack of their purchasing power. So ration food grains should be supplied regularly through the fair price shops.

(e) Public awareness is also an important factor regarding the decision for ration off take. If public is aware then the demand for ration food grains may increase. So some measures should be taken to increase the public awareness.

(f) Now-a-days the corruption level increases in the distribution of food grains under Antyodaya Anna Yojana and Mid-day meal schemes. The ration dealers sell a major portion of ration food grains in the open market to maximise their profit. So in order to reduce the burden of food subsidy bill this type of leakages and corruption should be abolished at any cost. Proper targeting of the BPL families is very much essential to reduce the substantial amount of leakages.

(g) To help the effective transfer of income to the poor, the gap between the issue prices of essential commodities and their market prices should be sufficient to attract the poor to buy the PDS commodities.

(h) It is seen that quota of ration food grains allotted for the poor people is much lower than the required amount. So the poor people have to buy their remaining amount of food-grains from the open market. In this case consumption level of the poor people may fall as open market price is sufficiently high compared to ration price. So the amount of quota of ration food-grains for the BPL families should be increased. There is no need for providing ration food grains to the APL families. If the non poor people are left out from this scheme then the amount of ration quota can increase for the actual poor families. In this case higher proportion of the minimum consumption level of the poor families can be achieved.

(e) In order to increase the allocation of ration food-grains the amount of procurement has to increase. In this case the actual poor households will get higher amount of ration food grains at the subsidised price level. So their consumption level may increase to some extent.

Conclusion

Generally, it is believed that a lasting solution for poverty is to provide increased employment and income opportunities for the poor. While this is the long term solution, in the short run a consumer oriented food subsidy system could be a viable approach for increasing the nutritional status of the poor. Even within this framework, effective management of purchases, sales, imports and stocks could reduce the Government subsidy.

But from this analysis we see that Public Distribution System is suffering from some problems like low quality of ration food grains, leakages of the food grains, problems of identification of the poor (faulty BPL list), irregular supply of ration food grains mainly in the rural areas, etc. Different States have different kinds of problems. So specificities of a particular State should have to be taken into account. Here, we argue that the cost effectiveness of the system appears to be low partly due to the fact that several indirect benefits of the system go unaccounted. The increased demand for food grains resulting from food subsidies would also lead to multiplier effects, raising the overall growth of the economy. Effective functioning of the PDS would lead to adequate increase in demand and reduce the need for price support to farmers. It would also avoid the paradoxical situation of wide spread hunger alongside mounting stocks of food grains.

Finally, it may be noted that PDS is not the only answer for improving food security of the poor because it can help only those who have purchasing power. Other anti poverty programs have to be strengthened as part of the economic reforms for creating income generation among the poor and vulnerable sections of the people.

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The Economic Growth and Common Prosperity

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Abstract: *Does economic growth necessarily imply all-round prosperity? Often it is found that economic growth does not entail reduction of poverty. But no single idea is more deeply embedded in modern political culture than the belief that economic growth is the key to meeting most important human needs, including alleviating poverty and protecting the environment. Taking into account a five-fold increase in global output since 1950 and considering the views of the advocates of growth that economic growth, it has been shown that during the same period, the number of people living in absolute poverty has kept pace with population growth; both have doubled. The ratio of the share of the world's income that went to the richest 20 percent and that which went to the bottom 20 percent poor has doubled and indicators of social and environmental disintegration have risen sharply everywhere.*

The question is – does economic growth necessarily imply all–round prosperity? Often it is found that economic growth does not entail reduction of poverty, bridging of social disparities or eradication of other evils. But no single idea is more deeply embedded in modern political culture than the belief that economic growth is the key to meeting most important human needs, including alleviating poverty and protecting the environment. Anyone who dares to speak of environmental limits to growth risks being dismissed out of hand as an anti-poor doom-sayer. Thus most environmentalists call simply for "a different kind of growth" although it is seldom evident what kind it would be. Nobel laureate economist Jan Tinbergen and his distinguished colleague Roefie Hueting point out that there are basically two ways for an economy to grow by our current mode of reckoning. One is to increase the number of people employed. The other is to increase the labour productivity – the value of output per worker – of those already employed. [1]

Furthermore, the more environmentally burdensome ways of meeting a given need are generally those that contribute most to the gross national product. [2] We could expend a lot of effort on the probably unrealistic goal of making GNP goes up indefinitely without creating more garbage. But why not, instead, concentrate on ending poverty, improving our quality of life and achieving a balance with the earth? These are achievable goals – if we can free ourselves from the illusion that growth is the path to better living.

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Taking into account a five-fold increase in global output since 1950 and considering the views of the advocates of growth that economic growth is the key to ending poverty, stabilizing population, protecting the environment and achieving social harmony, it has been shown that during this same period, the number of people living in absolute poverty has kept pace with population growth; both have doubled. The ratio of the share of the world's income that went to the richest 20 percent and that which went to the bottom 20 percent poor has doubled. And indicators of social and environmental disintegration have risen sharply early everywhere. Although economic growth did not necessarily create these problems, it certainly has not solved them. [3]

Few would dispute that there has been real and consequential human progress over the past several centuries and that advances in technology and the consequent productivity increases have resulted in real gains in human well - being. At the same time, there is little basis for assuming that economic growth, as we currently define and measure it, results in automatic increases in human welfare. As British economist Paul Ekins points out, it is possible to conclude that a particular instance of growth has been a good thing only by –

- Showing that the growth has taken place through the production of goods and services that are inherently valuable and beneficial;
- Demonstrating that these goods and services have been distributed widely throughout the society; and
- Proving that these benefits outweigh any detrimental effects of the growth process on other parts of society. [4]

Our measures of GNP make no such distinctions. Indeed, a major portion of what shows up as growth in GNP is result of:

- Shifting activities from the non-money social economy of household and community to the money economy – with the consequent erosion of social capital;
- Depleting natural resources stocks – such as forests, fisheries and oil and mineral resources – at far above their recovery rates; and
- Counting as income the costs of defending ourselves against the consequences of growth, such as disposing of wastes, cleaning up toxic dumps and oil spills, providing healthcare for victims of environmentally - caused illnesses, rebuilding after floods resulting from human activities such as deforestation, and financing pollution-control devices.

Standard financial accounting deducts from income an allowance for the depreciation of capital assets. The economic accounting systems by which economic growth is measured make no comparable adjustment for the depletion of social and natural capital. Indeed, economic accounting counts many costs of economic growth as economic gains, even though they clearly reduce rather than increase our well - being. The results are sometimes ludicrous. For example, the costs of cleaning up the Exxon Valdez oil spill on the Alaska Coast and the costs of repairing damage from the terrorist bombing of the World Trade Center in New York both counted as net contributions to economic output. By this distorted logic, disasters that are tragic for the people and the environment are often counted as good for the economy. [5]

In their book for the common Good, Herman Daly and John Cobb Jr revealed that in the United States on an average individual welfare peaked in 1969, then remained on a plateau and fell during the early and mid - 1980s. Yet from 1969 to 1986, GNP per person went up by 35 percent, and fossil fuel consumption increased by around 17 percent. The main consequence of this growth was that most of the US citizens were working harder to maintain a declining quality of life. [6]

Often, how the economic pie is allocated is more important to people's well - being than its absolute size. Studies done by the United Nations Development Programme (UNDP) show that it is not necessary to have particularly high levels of economic output in order for a country to meet the basic needs of its people. In fact, some countries with relatively modest levels of economic output do better in this regard than other countries with much higher GNPs. Saudi Arabia's literacy rate is lower than Srilanka's, despite the fact that its per capita income is fifteen times higher. Brazil's child mortality rate is four times that of Jamaica, even though its per capita income is twice as high. [7]

Obviously, some minimum level of economic output is essential to meet basic needs, and this required level is probably a good deal higher than the current output of the world's poorest countries. However, for most of the world's people, the question of whether their basic needs are met depends less on the absolute level of per capita income than on how productive output is allocated. If the priority in the allocation of that output is to provide people with a good diet, shelter, clothing, clean water, health care, basic transport, education and other essentials of good living, then it is within the means of most countries to do so and thus alleviate human deprivation within their existing levels of productive output. In many instances, it would require little more than reallocating the resources now devoted to military purposes.

Clean water and proper sanitation are perhaps the most important contributors to good health and long life. Experience in places such as the states of Kerala in India proves that such necessities can be provided at quite modest income levels. By contrast, countries with high income levels are experiencing increases in rates of cancer, respiratory illnesses, stress and cardiovascular disorders and birth defects, as well as falling sperm counts. A growing body of evidence links all these phenomena to the by - products of economic growth – air and water pollution, chemical additives and pesticide residues in food, high noise levels and increased exposure to electromagnetic radiation. [8]

Rapid economic growth in low-income countries brings modern airports, television, express highways and air - conditioned shopping malls with sophisticated consumer electronics and fashion labels for the fortunate few. It rarely improves living conditions for the many. This kind of growth requires gearing the economy toward exports to earn the foreign exchange to buy the things that wealthy people desire. Thus, the lands of the poor are appropriated for export crops. The former tillers of these lands then find themselves subsisting in urban slums on starvation wages paid by sweatshops producing for export. Families are broken up, the social fabric is strained to the breaking point, and violence becomes endemic. Those whom growth has favoured then need still more foreign exchange to import arms to protect themselves from the rage of the excluded.

Any mention of the need to end growth elicits protests that this would condemn the poor to perpetual deprivation. Ironically, the argument that the well - being of the poor depends on economic growth comes mainly from professional development workers, economists, financiers, corporation heads and others who have no problem putting food on their tables. When the poor speak for themselves, they more often talk of secure rights to the land and waters on which they live and form which they obtain their livelihoods. They seek decent jobs that pay a living wage. They want health care and education for their children. In a world in which all things come to those with money, they may as well say, “we need money”. But rarely, if ever, do they say, “we must have economic growth”.

They have good reasons, as it is all too common for the deprivation of the poor to increase during periods of rapid economic expansion and decrease during periods of economic contraction. The reason is simple: the policies that favour economic expansion commonly shift income and assets to those who own property at the expense of those who depend on their labour for their livelihood. Although growth itself does not necessarily cause poverty, the policies advanced in its name often do. [9]

Consider, for example, the following policy outcomes typically associated with economic growth:

- Increasing the rate of depletion of natural resources provides financial gains for the economically powerful at the expense of people whose livelihood base is disrupted.
- Shifting activities from the social (non - money) economy to the money economy increase the dependence of the working classes on money and thereby on those who own assets, provide professional services and control access to jobs.

- Shifting control of agricultural lands, forests and fisheries from those engaged in creating subsistence livelihood to property owners engaged in investing for profit adds to measured economic output, redistributes the ownership of these assets to the capital - owning classes, expands the pool of low - cost wage labour and pushes wages downward.

As opportunities for industrial employment have declined in high - income countries, economists have looked to the service economy to pick up the slack. Little note is taken of the fact that much of the expansion of the services economy results from a colonization of the social economies of households and communities. These social economies once productively engaged more than half the working hours of the adult population, mostly women, in meeting many of the basic needs of families and carrying out the countless neighbourly functions essential to the maintenance of healthy, caring communities. Indeed, there was a time when social economies engaged both women and men in carrying out most of the productive and reproductive activities through which people met their basic needs for food, shelter, clothing, child care, health care, care of the elderly, housekeeping, education, physical security and entertainment. Social economies are by nature local non - waged, non - monetized and non - market. They are energized more by love than by money.

As productive and reproductive functions such as child care, heath care, food preparation, entertainment and physical security are transferred from the social economy to the market economy, they show up as additions to economic output and thus contributors to economic growth – though they do little, if anything, to improve the quality of the services we receive. This shift also increases that demand for economic overhead functions, which are counted as additions to economic output, although they are actually an enormous source of economic inefficiency. Consider that when family and community members worked directly with and for one another, there were no tax collectors, managers, government regulators, accountants, lawyers, stock-brokers, bankers, middlemen, advertising account executives, marketing specialists, investment brokers or freight haulers collecting their share of the output of those who did the actual productive work. The full value of the goods and services produced was shared and exchange within the family and the community among those who actually created the value. [10] The result was an extraordinarily efficient use of resources to meet real needs.

Many people find that the market economy's overhead costs have become so high that even with two wage earners and longer work hours, they cannot adequately meet needs that they once met quite satisfactorily on their own. Parents – or more often a single impoverished female parent – are left with little time, energy or encouragement to do more than function as income earners and night guardians. The modern urban home has become little more than a place to sleep and watch television.

Fewer people find time to participate in the vast array of community activities and services that once made neighborhoods more than a physical address. The dense fabric of relationships based on long-term sharing and co-operation that social economies once maintained come unraveled. High rates of deprivation, depression, divorce, teenage pregnancy, violence, alcoholism, drug abuse, crime and suicide are among the more evident consequences in both high and low - income countries. [11]

Because such shifts have given women new opportunities, they are often hailed as a victory for women's equality. Yet rather than promoting new partnerships that involve men more fully in family and community as women expand their participation in the workplace, the change has more often simply increased the burden on women. This has placed heavy stresses on family relationships and left communities dependant on paid professional staff to perform functions that neighbours once provided for one another. Many children grow up in commercial day-care centres or are left at home or in the streets without any adult supervision. Many women who started working as an expansion of their options now find themselves tied to poorly compensated and unfulfilling jobs on which their families have become dependent.

Economists applaud the economic growth that results from creating new highly paid professional classes and new opportunities for the health care, social and security services industries. The net costs to societies – and especially to the poor, for whom the money economy provides inadequate opportunities – are ignored.

The displacement of the poor from the lands on which they live and obtain their livelihoods has been a long historical process. Time after time, the consequence has been economic growth for the strong and deprivation for the weak. Economists estimate that between 1750 and 1850, Britain's per capita income roughly doubled, but the quality of life for the majority of people steadily declined. [12]

In the United States the imperatives of the depression of the 1930s and World War II galvanized political action behind measures that resulted in a significant redistribution of income and built the strong middle class that came to be seen as the hallmark of America's economic strength and prosperity. The resulting structure of relative equality and shared economic prosperity remained more or less intact until the 1970s, when a combination of economic competition from East Asia, labour unrest, inflation and a rebellious youth culture mobilized conservative forces to reassert themselves. An all-out political attack on labour unions, social safety nets, market regulation and trade barriers realigned the institutional forces of American society behind the big- money interests. In the 1970s and 1980s, the percentage of working Americans whose wages placed them below the poverty line increased sharply and the society became increasingly polarized between haves and have-nots with respect to employment opportunities and earnings. [13]

Those who call for expanding the economic pie as the answer to poverty overlook an important reality. Whether or not a person has access to the resources required for survival depends less on absolute income than on relative income. In a free-market economy, each individual is in competition for access to the limited environmental space and the person with the most money invariably wins.

As we have seen above, economic growth often raises the incomes of the wealthy faster than those of the poor. Even if all incomes were to increase at the same rate, the consequence would be much the same – the absolute gap between rich and poor would increase. It is simple arithmetic. Take the uniform annual 3 percent global increase in per capita income that the Brundtland Commission on the Environment and Development proposal as the answer to global poverty and environmental problems. That would translate into a first - year annual per capita increase (in US dollars) "of \$ 633 for the United States; \$ 3.60 for Ethiopia; \$ 5.40 for Bangladesh; \$ 7.50 for Nigeria; \$ 10.80 for China and \$ 10.50 for India. By the end of ten years, such growth will have raised Ethiopia's per capita income by \$ 41 – hardly sufficient to dent poverty there – while that of the United States will have risen by \$ 7,257. [14]

The per capita increase in purchasing power for the United States would thus be 177 times that of Ethiopia.

Without concurrent redistribution, an expanding pie brings far greater benefit to the already wealthy than to the poor, increases the absolute gap between rich and poor and further increases the power advantage of the former over the latter. This advantage becomes a life and death issue in a resource – scarce world in which the rich and poor are locked in mortal competition for a depleting resource base.

If the votaries of growth consider it as the answer to poverty as they seem to be concerned with the plight of the poor, let them advocate measures that deal directly with increasing the ability of the poor to meet their basic needs – not tax breaks for the rich.

Let us have a look at the Indian scenario to show that high economic growth does not necessarily imply high rate of employment nor does it mean reduced levels of poverty and social inequality.

The World might know India for its ever - growing global rich list, foreign acquisitions and the army of trained professionals who have proved their skills in almost every corner of this planet. Back home, however, it remains a nation of millions of the underprivileged – unemployed, under - employed or working at minimal wages as unskilled labourers.

Over 30 million Indians cannot find work despite being in the labour force and another 25 million are officially under employed, though the actual number is believed to be several times larger. According to the National Sample survey organization (NSSO)'s 2007 – 2008 survey, the size of India's workforce was between 416 and 466 million. The lower number indicates the people who look for work every day while the higher one points towards those who join the workforce at some point in the year. Experts believe that better quality employment would draw this temporary labour force to work on a sustained basis. At 8.1% the overall unemployment rate at daily estimates translates into 34 million people who are part of the daily labour force but could not find work.

The visible lack of work measured through unemployment and underemployment statistics does not quite give a true picture. Being employed alone does not guarantee even a passport out of poverty in India as shown by the fact that 41.6% of the population earns less than the international poverty line of $ 1.25 a day in purchasing power parity (PPP) terms.

Overall, the most recent estimate indicates that about 92% of those employed work in the unorganized sector in pitiable working conditions. A recently released survey of the ministry of labour and employment reveals that only 15.7% of the Indian workforce is eligible for paid leave while a meagre 16.3% get some kind of social security.

The private sector is certainly employing more people than before, but the shift involves a significant decline in working conditions quite apart from the fact that the growth in employment even in the private sector is nowhere near enough. [15]

In contrast India has moved into 12th spot in the list of countries with most millionaires a report by Cape Gemini and Merrill Lynch Wealth Management has revealed. The US has the most millionaires. [16]

Many economists advocate the eviction of agricultural labourers in order to create a pool of industrial workers in the name of growth. But the agricultural labourers thus forced off their lands cannot always be gainfully absorbed in urban factories. Here we cite a few instances of such evictions and their consequences.

Before the International Monetary Fund (IMF) and the World Bank restructured Costa Rica's economic policies in the name of easing its foreign debt problems, Costa Rica was widely known as a society that was more egalitarian than its neighbours. It had a strong base of small farmers and few of the large landholdings characteristic of other Latin American societies. The policies imposed by the IMF and the World Bank shifted the economic incentives away from small farms producing the things that Costa Ricans consumed toward large estates producing for export. As a consequence, thousands of small farmers were displaced, their lands were consolidated into large ranches and agricultural estates producing for export and Costa Rica's income gap widened more like that of the rest of Latin America. An increase in crime and violence necessitated sharp increases in public expenditures on police and public security. The country became dependent on imports to meet basic food requirements, and the foreign debt that structural adjustment was supposed to reduce actually doubled. Still the IMF and the World Bank touted Costa Rica's case as a success story because the country supposedly increased its growth. [17]

In Thailand, ten million rural people faced the threat of eviction from the land they lived on to make way for commercial tree farms. Ground water was depleted and mangroves were continually destroyed by export - oriented shrimp farms. Tribal people struggled for recognition of ancestral land rights in the forests of Eastern Malaysia and Indonesia. In the Philippines, the government's land reform program was systemically eroded by the conversion of prime agricultural lands into industrial estates and other no agricultural uses – even as the country needed to spend its scarce foreign exchange on rice imports.

Agricultural chemicals and toxic industrial wastes, including those brought to the region by foreign corporations and agencies under the guise of international assistance, continued to poison the local people. Dams and geothermal projects displaced people and destroyed agricultural and forest lands to meet the energy demands of export-oriented industries. Slum dwellers were evicted to make way for industries and shopping centres that benefit others – the wealthy. Destructive fishing practices commonly supported by corporate interests serving foreign markets, deprive the fisher folk of their livelihoods and threaten the regenerative capacities of the oceans. [18]

Urban development plans in Bangkok, Thailand, called for the eviction of 30,00,000 people for highway and other urban development projects. Low income families that resisted found their water and electricity supplies cut off. [19]

A million Mexican families faced displacement as a consequence of the North - American Free Trade Agreement. The engine of economic growth has proved far more effective in creating development refugees than in fulfilling its promise to end human deprivation in the World's low-income countries.

Let us have a look at the Indian scenario – about four lakh acres of agricultural land across forty districts spread over seventeen states are likely to be acquired soon. As a result one hundred million people including farmers and agricultural labourers face eviction. The states are Uttar Pradesh, Maharastra, Chhatisgarh, Odissa, Jharkhand, Gujrat, Himachal Pradesh, Bihar, Haryana, Punjab, Chndigarh(U.T), Meghalaya, Kerala, Andhra Pradesh, Tamilnadu, Karmnataka, Assam. [20]

Needless to say, West Bengal was in the grip of farmers' agitation against forcible acquisition of fertile agricultural land by the L.F. Government at *Singur, Nandigram* and other places.

If the concern is with sustainable human well-being for all people then we must free ourselves of the obsession with growth, and dramatically restructure economic relationships to focus on two priorities.

1. Balance human uses of the environment with the regenerative capacities of the ecosystem; and

2. Allocate available natural capital in ways that ensure that all people have the opportunity to fulfill their physical needs adequately and to pursue their full social, cultural, intellectual and spiritual development.

But these objectives face barriers erected by the powerful coalition of political interests aligned behind an institutional agenda that is taking us in a quite different direction. These are the corporate interests that benefit when societies make the pursuit of economic growth the organizing principle of public policy. These corporate interests stand in the way of all round social transformation ensuring equitable growth. Our Prime Minister, a votary of liberalization, privatization and globalization, often rattles off growth figures to show how India is advancing conveniently sweeping under the carpet the devastating consequences of his economic reforms for the vast majority of Indians.

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The (W)rites of Change: A Comparative Assessment of Postcoloniality in R.K. Narayan's *The Guide* And V.S. Naipaul's *A House for Mr. Biswas*

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Abstract: *The theme of postcolonial transformation was an inescapable fictional concern for both Narayan and Naipaul, inevitably perhaps because the vantage points of their socio-politico-cultural conjectures in fiction coincided with historical transitions that could not be overlooked. East-West tensions; centre-periphery distinctions; redefinitions in the idea of nation, nationality and nationhood and most importantly a re-visioning of self-identity at both personal and collective levels led to a radical reconceptualisation of the position of the 'postcolonial subject'. This paper seeks to explore, in terms of postcolonial theory, the altering paradigm of individual and collective identity of the 'Indian' in two potentially challenging texts – one concerning the re-vision at 'home' and the other 'beyond.'*

Postcolonial challenge is posited at both 'local' and 'diasporic' planes and it becomes a crucial decider of the many anxieties and ambivalences that follows as a consequence. The doubts arising from a changing India exposed to British colonial rule were equally strong in pre-independent as well as post-independent India. Thus even twenty years after 1947, Narayan felt it necessary to tackle some unanswered questions of colonialism in *A Vendor of Sweets* (1967). We witness the inter-generational tensions in a family affected by cross-cultural influences. The familial & historical certitude of Jagan, the ascetic, is denied to his son who is exposed to an India undergoing rapid industrialisation and experiencing the dynamics of the commodity culture. Narayan explores the inevitable clash of a decisive colonial and post-colonial encounter. Jagan, Gandhian and veteran of the anti-(British) Imperialist wars must necessarily negotiate with this challenge that threatens to invade his own idea of nationality. Mali on the other hand, is faced with the predicament of reconciling an equally invasive American capitalism with India's idiosyncratic sense of the Nehruvite idea of a 'modern' nation.

It appears that there is a dichotomy between the 'East' and the 'West' in the very configuration of the dynamics of socio-cultural attitudes. According to William Walsh, *The Guide* is an apt pointer to this difference of approach:

> *When one speaks in Western terms of the transformation of a character that has the approval of the gods, one thinks either in the catholic way*

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of sin and guilt overcome by Grace, or in the protestant way of a deformed will corrected by it ... But in the transformation of the Eastern tale the personality is relatively passive, the source of change is outside the psyche. [1]

Walsh goes on to elaborate that the process 'itself' is as much to do with illusion and self-deception, as it has to do with sincerity and self knowledge because in the final analysis, binaries are necessarily blurred:

> *This is true of the relations between the self and the community, of the past and the present, of sincerity and deceit, of gods and men. The universe presented in the novel is much less discontinuous, more intimately interwoven...The life which flows through it is more single and unbroken than that distributed through ours.* [2]

This theological paradigm that Walsh mentions might be extended and applied to the socio-politico-cultural paradigm of the novel. As a matter of fact, both *The Guide* and *A House for Mr. Biswas* in their very preoccupations with 'postcoloniality' reveal a coming together of the 'ethos' of the East and the West. In *The Guide*, it is a post-independent 'nation' grappling with its new found identity, just as its people wrestle with the after effects of this transitional status of the socio-cultural 'ethos' of their land. In *A House for Mr. Biswas*, the very cultural lifeblood of the diasporans demands, rather forces a re-evaluation of that 'ethos'. In either case, a negotiation with a bumpy change becomes inevitable in both novels. If Raju, the principal protagonist in *The Guide* goes through a series of contradictory ordeals that affects his identity, Mohun Biswas is no less spared of that, as Naipaul makes the identity-issue coterminous with the urge to construct a meaningful story out of the raw materials of experiences in his own life:

> *In the act of creating the journalistic text Mr. Biswas acquires the ability to comprehend and yet evade reality; the journalistic story becomes the site of contending realities, one following the rationale of daily existence and happenings and the other following the rationale of a good catchy story. This mode of escape ... soon turns into a desire to translate his own life into a story.* [3]

However, it is ironical that fictional escape seems more meaningful than physical escape from the land that has psychologically entrapped the diasporans:

> *(E)scape from Trinidad as actual departure is counterpoised against Mr. Biswas's own special mode of escape into the tangibility and alternative reality of the text itself, of books. Somehow the actual departures –*

Owad's and Anand's – seem to lead to far less satisfactory escapes than Mr. Biswas's own into words. [4]

As such, the spirit of postcoloniality in these two novels is necessarily complicated by the relative positioning of the 'Indian' – as a 'postcolonial' subject and as a 'diasporan'. Although Narayan described the historical engagement of Britain and India as 'an unholy wedlock' that was succeeded by 'a deadlock' and which finally ended in 'a divorce' [5], he nonetheless shows that the Indian could never succeed to re-gain a decolonised or pre-colonised purist self back and so it was an imperative on the part of the Indian writer in English to realise the significance of this 'mongrel(ised)' self, something that Rushdie was to point out later.

In *The Guide*, postcoloniality is manifest as this unavoidable historical reality because of which the resultant change in attitudes speared by the hybridisation of cultures could not be ignored for long as a tragic accident of sorts. Thus even before 'Postcolonialism' had become fashionable in critical circles, Narayan was toying with the nature and consequences of (to borrow the Rushdie-ite signifiers) the *'biriyanification'* and *'chutnification'* of cultures. In *The Guide* there are ample symbolic renderings of this idea. The advent of the railways alters the socio-cultural ethos of *Malgudi* altogether. Raju's act of keeping the nuts and bolts that he collects from the railway tracks in the same suitcase where his mother kept her silk *sarees* is a symbolic indicator of the mingling of tradition and modernity. Abandoning his traditional occupational position, the central protagonist is henceforth recognised with the adjectival appellation 'Railway Raju' as he becomes a tourist guide though not a fully authentic one. Raju's very identity undergoes a metamorphosis as he himself discovers that the values and outlook to life that his father had accepted as time tested, were undergoing massive changes. The manner in which Raju's speech gets conditioned by the slangy, subaltern dialect of the railway workers is something that horrifies his father. Narayan also vividly exemplifies Zygmunt Bauman's concept of 'globalisation', when he shows how the small insulated locale of *Malgudi* is transformed into a tourist destination and how the deliberate exoticisation of the place is practically effecting the theoretical prototype of the Western consumerist 'gaze' falling upon the Orient. If Raju is a 'guide', Marco is an explorer but with his *khaki* attire, binoculars hanging on the neck and cane, he (Marco) is the archeological specialist who '(w)rites' the (hi)story of the *Mempi* hills whose 'story' is familiar to Raju but not processed in the form of a scholastic package. Moreover, although Raju is simply concerned with 'selling'/ 'peddling' his nation to the West, he also projects himself as the 'interpreter' of his culture. With his superficial knowledge of English and over-glamourisation of facts, the authenticity of Raju's words cannot be fully ascertained but nonetheless it positions him as a sort of middleman, the preceptor betwixt the 'foreign' and the 'native' – the prototype of the hybrid postcolonial individual. Raju's life is an example of the very process of coming to terms with the process of postcolonial transformation. The once-fake 'guide' learns how to truly lead his countrymen because his ordeals expose him to the heart of his country and feel the pulse of the nation's reality in the pains, hopes and aspirations of the 'subaltern'-most person of his land. Although ironically, his is the land where miracles 'transform' into make-believes, Raju the *swami* will not resort to magic to solve the crisis of the drought-laden land. He will indulge in the 'rites' of belief and prayer and by risking his own life in the endeavour (because of the prolonged fast), he like the *Mahatma* will lay his own life at stake for the redemption of the nation from its state of slumber – thus initiating the process of metamorphosis whereby a mass of ignorant folks will eventually become a self-confident 'nation'. It is not certain whether Raju's prolonged fast will actually bring the much needed rains, but it is true that for the first time, there is no lack of sincerity on his part, as far as his vows and prayers are concerned.

In *The Guide*, postcolonial transformation(s) do not only take place on a public scale but also in the realm of private relationships. It is Raju, the prototypical Indian 'commoner', who in 'contact' with Marco and Rosie, experiences an upheaval in his personal life that comes up as a challenge to the time-tested modes and manners of mutuality in India. The challenges that come in the way of man-woman relationship in the 'post-colonial' Indian setting (the hyphenated idea in this sense, in keeping with Ashcroft's idea of empirical, historical change following a nation's independence [6]) is exemplified in the triad – namely Raju, Rosie and Marco). Rosie and Marco's conjugal life is a strained one yet their conjugality is never fully sundered either. Marco, in keeping with the idea of 'arranging' for a match, via a newspaper matrimonial (categorically voicing his desire for an educated, good-looking partner) challenges the traditional norm whereby matrimonial alliances were fixed by family elders. It is true that Marco has no immediate family to fall back upon and so decides to choose for himself. However it is also true that in the 'pre-independent era' an upper caste educated gentleman marrying a girl from a *devadasi* family background was a stark social aberration in the Indian context. However, a starker aberration is the 'live-in' relationship of Raju and Rosie, after the latter's estrangement from her husband, right in the face of a conservative Hindu *Tamilian* society. Raju's mother does not look upon at Rosie favourably because Rosie's intrinsically 'complex' identity defies standard expectations of neat individual categories, thus baffling her (Raju's mother) beyond reasoning. On one hand, Rosie is coveted for her talent, beauty and education (a postgraduate in Economics, in those days was a stupendous feat, though it is ironical that Rosie cared less for money matters and more for art and it is Raju, who as her manager is the one who is more commercial-minded). But at the same time, her *devadasi* background (with its quasi-prostitution associations) and her ambition to become a noted classical dancer (that was viewed as erotica from conservative quarters) complicates her situation for which she faces opposition from Raju's mother and his extended family. But indifference on Marco's part and avarice cum exploitation on Raju's part entails that the erstwhile surety in personal relationship that existed for the Indian woman who accepted the *laksmanrekha* of her life, was not to be in the case of Rosie. She remains duty bound to her husband and grateful to Raju yet as Nalini, her true realised identity, she emancipates herself to an unbound plane of aesthetic fulfillment because pitted against this condition of 'postcoloniality', clear-cut boundaries had collapsed for everyone, all the more especially for her – someone who had yearned for the best of 'postcolonial modernity' and yet strived no less to conform to the prescribed norms of tradition, to the best of her ability, but was eventually caught up between the two.

According to Richard J. Lane, postcolonial novels demonstrate some peculiar traits that are identifiably as follows – the constant questioning and subversion of boundaries through 'counter-discourses' writing back and through the canon; syncretist vision which offers multiple perspectives through narrative fusion; the inauguration of new ways of perceiving and mapping colonial contact and postcolonial independence; complex representations of 'madness' and sexuality; feminist rejection of linear and logical narrative structures; secular critiques of orthodox religions; immense linguistic and aesthetic creativity; and the evocation of a 'political consciousness'. [7] These features are visibly present in these two novels in varying permutations and combinations. However, postcoloniality takes a subtler twist in the case of a diasporic novel like *A House for Mr. Biswas.* Naipaul himself admits this while commenting on Narayan:

> *Narayan wrote in English about Indian life. This is actually a difficult thing to do, and Narayan solved the problems...he always seemed to be writing from within his culture...He never mover far from his origins. When I met him in London in 1961 - he had been traveling, and was about to go back to India – he told me he needed to be back home, to do his walks (with an umbrella for the sun) and to be among his characters.* [8]

Naipaul's evaluation of Narayan's fictive world discursively comments on the diasporic predicament (of himself and his fictive counterpart Mohun Biswas) that conditions the nature of 'postcoloniality' with greater (and perhaps more complicated) impact than *The Guide*. In fact Mr. Biswas's quest for self-identity and independence is intrinsically intertwined with the issue of postcoloniality. Biswas's identity is not just complex, it is misshapen as well. Bearing the burden of non-belonging right from his birth, *Biswas* finds himself an oddity who is out of sync with the context of his given situation. Although physically posited in Trinidad, Biswas finds himself psychologically determined by superstitions and caste prejudices of traditional Indian

Hindu community. Although born at 'midnight', the Christian holy hour of resurrection, it becomes 'the inauspicious hour' for him as it adds to the ambiguity of his birth. To complicate matters, Biswas's struggles for an unprejudiced, casteless mentality, alienates him from his familial identification as he fails to perform the roles assigned to him viz. the pundit's helper. Caught between *Hindu* quietism and Western individualism, Biswas is an exception – someone who had not passively accepted the predicament of diasporic history as a betrayal of hope but rather as a challenge to improve his lot against the heavy odds of poverty and prejudices. Yet Biswas's attempts to make something of himself is challenged by an underlying feeling of his absurdity, his unreality as a colonised subject who has been made to feel inauthentic: 'He didn't feel like a small man, but the clothes which hung so despairingly from the rail on the mud wall were definitely the clothes of a small man, comic, make-believe clothes. [9]

In *Finding the Centre* comments on the fundamental challenge to those on whom fell the fate of indentured labour: 'Many Indians, after they had served out their indenture, had found themselves destitute and homeless. Such people, even within my memory, slept at night in the Port of Spain squares'. [10] At the end of the Prologue [11], Biswas feels himself pitted to the Lear-like predicament of being the 'unaccommodated man' (and 'unnecessary' also), as the crisis of his present situation seeks to be akin to the general memory of a legacy of dislocation, homelessness and consequent destitution that his grandparents had suffered from. No wonder, the 'house' becomes a symbol of presence in this world and these dawns on him in a moment of realisation: 'As soon as he saw the barracks Mr. Biswas decided that the time had come for him to build his own house, by whatever means.' [12] Yet Mr. Biswas is not fully able to defy the heavy odds against him and become a success in this regard. The perilous after effects of the indenture legacy of his family haunts him till the very end. It is deeply ironical that when Biswas finally possesses his 'own' house, he is counting his last, reeling under heavy mortgage and estranged from his son. Yet it is a personal triumph, albeit muted. His ownership of a portion of land is significant because his partial independence breaks the colonial pattern in which his ancestors were dispossessed. The material reality of the house gives Biswas an individual presence in the world and is also symbolically in keeping with the colonial subject's independence. But the fact that Biswas still remains economically dependent, unable to completely shed his humble origins is a cruel indictment against the colonial system. In this regard, Mr. Biswas's struggle against all odds becomes symbolic and synonymous with the struggle of the West Indies in general. In *The Way in the World*, describes how the common West Indian was reduced to a mere footnote in history, while a handful of neocolonialists profited at the expense of the general masses:

I ... had been granted a vision of history speeded up, had seen, as I might have seen the opening and dying of a flower, the destruction and shifting about of peoples, had seen all the strands that had gone into the creation of — the agricultural colony, and had understood what simple purposes — after such activity — that colony served. [13]

Moreover the experience of slavery and diasporahood is also stated by 's critique of colonialism in *The Middle Passage* that accounts for the feeling of purposelessness that Mr. Biswas experiences, owing to his failure to live upto a desired monetary command at his disposal:

Sometimes for as much as three months at a time a slave ship would move from anchorage to anchorage on the West African coast...from St Kitts to Grenada to Trinidad to Barbados: one journey answering another: the climax and futility of the West Indian adventure. For nothing was created in the British West Indies...There were only plantations, prosperity, decline, neglect. [14]

However, what is most noticeable in this regard is 's indictment of the colonial education system that functioned as an isolationist from one's 'native' culture, by supplanting it with the colonialist's 'alien' one. From this point of view, the inculcation of knowledge of foreign history and geography at the cost of local history and topographical information, became a mere exercise of decorative formality: 'The history Lal taught he regarded as simply a school subject, a discipline as unreal as the geography.'[15] Again ironically and at the same time, colonial education was a means of escape from impoverished existence, allowing a betterment of economic situation and scope for social mobility. This applies for Biswas's predecessing generation as well as in his case and will also apply in the case of his son Anand. Thus for the colonised children, 'colonial' education also provided a temporary escape from the ignominy of their marginalised social positions. Alec, a classmate knew Biswas for six years but '[h]e never went to Alec's home and Alec never came to his. There was a tacit agreement between them that they would keep their homes secret.'[16] Biswas's inspiration for his struggles against poverty was that he was in a momentary refuge as yet and his 'ideal' home was yet to be arrived at. The 'house' that he desires is thus a far cry from the shameful one-roomed mud hut in the back trace where he resides. The inculcation of a deep sense of shame of being the 'Other' (and the background associated with it) is an attitude perpetuated by this colonial education that deems the colonised's culture as inferior.

Hybridity, according to Homi K. Bhabha, functions as a coercive and hegemonic imposition of alien meanings in the colonialist's context. He terms it as '[T]he name for the strategic reversal of the process of domination through disavowal...the revaluation of the assumption of colonial identity through the repetition of discriminatory identity effects.'[17] Based on this definition, Mr. Biswas's life itself is seen as an endless deferral of desires because he cannot authentically 'be'(come) what he desires to be – the thoroughbred Englishman – the enfranchised and privileged coloniser. In terms of signification therefore, there remains a gap between actuality and aspiration. For instance Biswas's choice of subject for painting at school is an European landscape that is contrary to his lack of experience of it: 'He painted cool, ordered forest scenes, with gracefully curving grass, cultivated trees . . . not the rotting, mosquito-infested jungle he could find within an hour's walk'. [18] As a matter of fact, many an act of Biswas reveals his impulse to be the 'Subject' and not the 'Other'. For instance, his withdrawing into Western books (*Meditations of Marcus Aurelius, Bell's Standard Elocutionist*) when he is upset with his situation at home; speaking English, working for an English newspaper, educating his son in an English school, sending him to England, fantasising about England being an ideal landscape and writing stories in which 'escape' is included in their titles, are all testimony to his basic aspiration – to be aligned with the colonial tradition of privilege. In this regard, Sarah C. Blanton observes that demonstrates ambivalence in his portrayal(s) of colonial subjects, whose very predicament is being assimilated into the colonial culture to escape from the degradations that ironically were being spread and promoted by that 'dominant' culture in the very first place. Thus it would not be fully correct to accuse of 'championing western cultural values' because he is also found at being odds with these values, for not being centred in this value system. [19]

Notes and references

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What a Good Teacher Needs
Some Observations: Some Questions

Sisir Kumar Chatterjee*

Who is a good teacher? The answer is easy: a good teacher is one who teaches well. And what does one mean when one claims about a teacher that s/he teaches well? The answer to this question, again, is not too difficult to suggest: a teacher can be adjudged as having the competence to teach well if and when s/he can help her/his students understand the subject (being taught) easily, clearly and fully by disentangling and explaining all the linguistic and ideational or conceptual complexities underlying the topic of discourse concerned, and can do so in such an interesting way that all or at least most of the students present in the classroom can remain absorbed in the process of teaching-learning and can feel stimulated to try to explore further complications and subtleties related to those aspects of the topic which the teacher has not even directly referred to in the class. A good teacher, in other words, is one who can by way of teaching her/his own specific area in her/his subject can help the students understand some other related areas of the same subject independently, chiefly by arousing their intense interest in the subject in particular and by making them feel the joy involved in the entire mentellectual process of learning or studying in general.

Now, the yardsticks (implicitly emerging out of this frame of definition of the act of teaching well) that can be used to judge whether a particular teacher is good must vary with the variance of subjects. A good teacher of literature, for example, needs to possess some vocal, verbal and articulatory gifts which a good teacher of Chemistry may quite well do without. Teaching History well, again, requires some skills on the part of the teacher which are certainly not the same as those required for teaching Physics or Computer Science well. Teaching Philosophy with competence is evidently not the same thing as teaching Mathematics efficiently, although philosophy, like Mathematics, is considered to be the mother of all sciences. However, as a teacher, and a very ordinary one, of literature, working in different Government colleges of West Bengal for nearly three decades, this writer shares a deep concern about the contemporary situation involved in the process of the teaching/learning of humanistic studies, especially literature. This is not to deny the importance of the teaching/learning of the science and technological subjects. But the teaching of

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literature demands and deserves equal attention particularly in the context of all-pervasive erosion of values in the present times and also in view of the fact that the literature-teaching scenario in our country mostly appears to be in a shambles. And, since teachers form one of the most important pillars of this edifice of human civilization, this article confines itself to an exploration of the qualities and conditions that go into the making of a good teacher of *literature*, although some of them may apply equally well to the good teachers in other disciplines.

To begin with, a good teacher is one who can orient her/his students with a richly wide range of information (and, if necessary, theories) relevant to the topic/subject and essential for its expansion. But, does a good teacher mean one who can only supply the students with loads of information (including data and statistics, where applicable)? Then should we not consider Mr. Google the best teacher in today's world? But, nobody will claim that this omniscient master can take the place of any good teacher of flesh and blood as yet.

Another common feature of good teaching is the teacher's ability to make the subject s/he is teaching interesting. Now, areas of interest vary according to innate, genetically determined predilections, and likes/dislikes or tastes that different individuals have developed from the different environments in which they have been brought up. Some people find fun in the pranks and antics of a circus joker, while some others find their interest stimulated by something as rich as the philosophical contemplations and teasingly and provocatively quizzical articulations of Shakespeare's fools. Some individuals relish farce, while others enjoy being fed with humour, and there may be many more who are satisfied with nothing short of scintillating wit. And, the teacher's problem is that s/he has to address a multitude of students with a wide variety of tastes and likes and dislikes sitting in the same classroom at the same time. A teacher being just one individual, how many teachers can cater to this wide range of bafflingly dissimilar tastes found within a single group of students?

But one thing that we all will almost indisputably accept is that humour is an unfailing means of enlivening any discussion, because craving for fun is universal. Therefore, every good teacher should possess wit and a good sense of humour, both active and passive. Wit is the ability to talk pleasantly, amusingly and intelligently, and humour reveals itself through a mental glibness that helps one to create an ambience of fun either by verbal jugglery or word-play or punning, although the last mentioned device is rightly considered to be a low grade of humour, not only because its effect is ephemeral but also because it very soon turns into a clichéd, effete pattern and may even become tiring. However, wit and humour, again, are innate gifts and can hardly be acquired. Some are born lucky in this respect, while a vast majority are either born to look glum or are born with just some negligible sprinkles of these traits inside them. And, even those teachers who do possess these gifts do not always get rewarded for using them, for they very often remain unreciprocated. Many teachers are heard complaining that their students need to be told when to laugh and when to look grave. And the experience of cutting a joke that dangles in the air unappreciated is worse and more demoralizing for a teacher than that of making a proposal (by a lover to his newly acquainted girl friend) which is curtly turned down.

Another essential requirement for a successful teaching-learning process in any classroom is that the teacher should be able to deal with all the students present in the classroom and to navigate them through the entire process of her/his teaching in such a way that all of them remain all through intellectually alert and active and yet feel relaxed and comfortable. This is a way to combat the suffocating passage of slow time, to make time trot and gallop, in short, to use and enjoy time. But, for how many teachers, most of whom are nourished by, and have somehow imbibed, the spirit of the culture of oratorical methodology of classroom teaching, which is as old as Macaulay or *Mandhaata*, is it possible to inculcate or practice this interactive method of teaching? And even if they wanted to and could, how would they find time and energy needed for keeping the numerically unmanageable and intimidating multitudes of students sitting in each of their classrooms (whether they teach in a school or a college or a university) engaged and involved in the process of teaching/learning?

Most of the teachers, who are now acclaimed as good teachers in their respective fields, must have at some point of time in their early life dreamed of being teachers and also of being good teachers. A good teacher, in other words, should have an inborn and uncommon, all-engulfing passion for teaching. S/he should love to teach and teach untiringly, and should have the subtle and refined sensibility to experience that joyous ecstasy during and after a satisfying session of teaching which is somewhat akin to the hermit's spiritual rapture or the lover's sensual exhilaration. Again, it is only when s/he is extraordinarily passionate about the subject s/he is teaching, that s/he can hope to be able to instill some of that passion into her/his students. But, any sane individual will find it difficult to believe that in a developing country like India, many teachers take up the profession of teaching because they are extraordinarily passionate about the joy that classroom teaching can yield and not because they have not found any other job, or that many teachers can afford to teach only those areas of their subject about which they feel intensely passionate. Besides, even if it is taken for granted, for argument's sake, that most teachers are sufficiently passionate about their job of classroom teaching and about the topic or subject they are required to teach, how many of the students (driven to sitting in the classroom only by some uncertain and unforeseen apprehensions) – who are constantly, pleasantly and cheaply distracted by the plentiful electronic gadgets and other modes of living that sweetly encumber their daily life – can be expected to allow their mind, sensibility and intelligence to be wrought and formatively moulded and affected by the teacher's passion?

And, related to this is the fact that it is only when the teacher's comprehension of the topic or area is two hundred percent that s/he can help her/his students to comprehend it fully, easily, clearly and with great fun. This implies that a good teacher, before s/he proceeds to teach something to others, must first teach it well to herself/himself. Equally, or perhaps even more, important than this is that the teacher should be able to form as clear as possible an idea of the workings of the mind of each individual student attending her/his class simply by reading the student's face or postures inside the classroom. This is absolutely necessary for attaining success in any teaching-learning process, because teaching or learning is quintessentially a mentellectual process. Now, it is possible for a teacher to attain two hundred percent comprehension about the topic/area s/he is required to teach if s/he has sincere intention to comprehend it, is willing to put in the required degree of labour, and has a *spiritual* and intellectual honesty or purity. But, understanding what is happening in the minds of the students sitting in the classroom – who of them are pretending to listen to the teacher but are actually thinking of something else, who are feeling bored by the subject being discussed, who are finding it difficult to keep pace with the teacher's explication, who are being distracted within by some unknown personal troubles, and many more of such cases – just by reading their faces or their gestures and postures, which might very well be deceptive most of the times, is perhaps a genetically ingrained capability and can hardly be acquired from reading and digesting even hundreds of books on psychology or from training, however rigorous that course of training might be.

Another related quality that a good teacher should possess is that s/he should be accessible, though not too easily accessible, to the students so that they can not only discuss their academic difficulties (that is, those rising out of their incapacity to comprehend something, or out of the non-availability of books and materials, etc.) but can also share with her/him some of their personal problems or confusions regarding some issues in their personal lives which are too pressing and which need to be immediately addressed and wisely sorted out, so that they can feel reassured and resume concentrating on studies. What a good teacher should aspire to get from her/his students is love, and certainly not fright. S/he should command awe and admiration but should never create in or outside the classroom an ambience of force and coercion, simply because a teacher is not a ringmaster, and students are not circus animals. Force at best can ensure (specious) slavish obedience but it is love which alone can bring about an internal transformation and can inspire one to improve oneself. So, a good teacher must be able to love her/his students. One may remember in this context what Rabindranath Thakur, who, besides being all that he is known as throughout the world, was himself a great teacher both in the literal and the metaphorical sense of the word, wrote (on 28 August, 1920) in a letter to Charles F. Andrews: "... only [s/]he can teach who can love. The greatest teachers of men have been lovers of men." This is to suggest that a good teacher should be a friend to her/his students.

But, this is an age of consumerism. The teachers too are not free from its all-pervasive influence. And the socio-political system also demands that the teachers pay more attention to the advancement of their career by attending seminars and symposia and workshops and by publishing (research?) papers or books than to investing their energy and enthusiasm into classroom teaching. It is true that research, which is a sort of intellectual training, is supposed to make a good teacher a better one; but research or training alone cannot create a good teacher out of an ordinary one. What a teacher who dreams of becoming a good teacher needs is a prolonged opportunity of handling a classroom, a willingness to face the challenges that the situation involves, to experience the semi-transcendental joy that successful communication can effect, and to feel the frustration that failure to convincingly explain something causes. A good teacher should attain a readiness to undergo the test her/his academic honesty is occasionally put to, to fight out the vice of partiality s/he might betray in privileging the advanced students over the relatively backward ones, to conquer the egotistical folly that her/his analyses/perceptions can never be wrong, that her/his opinions are absolute and therefore unquestionable, and that none of the students can ever come out with ideas/interpretations which are better, sounder or more plausible than hers/his. S/he should at the same time have the intellectual strength to combat the inner psychic strains issuing out of her/his personal life and constantly tending to adversely affect her/his flow of teaching (certainly not used to mean lecturing) by shortcircuiting her/his concentration and hampering her/his exercise of brainstorming . There may be innumerable other such and some infinitely subtler shades of experience that every live classroom offers. All these are experiences which a teacher can expect to have if s/he is willing not to be deaf but to listen to her/his students as much as to speak to them, to try and modify and shape up, where necessary, their thoughts as well as their expressions, to be like them, both emotionally and intellectually, to pretend to be inferior to them in terms of knowledge and logic at times only to lift them at the end along with herself/himself to a level much higher than they had ever thought it was possible to rise in terms of thought and expression. All this clearly demands that a good teacher should be, before anything else, the possessor of a strong physique and a sound mind. A person chronically suffering from physical ailments like gastritis or spondylosis or rheumatoid arthritis or psychic illnesses like depression or neurosis will never be able, for example, to muster that vibrant energy which s/he requires in order to be able to overcome easy fatigue nor to retain that unflappable placidity of mind in all situations in order to be able, for instance, to transcend her/his personal troubles, to keep the wo/man that suffers clinically aloof from the mind that teaches.

A good teacher should choose to be a good and life-long student. S/he should, however, be always eager to learn as much from books as from her/his students. S/he needs to believe that s/he can learn from each particular set of students even some new thing(s)related to the subject s/he has been teaching, or, when this does not happen, at least (something even more vital) about how to teach a particular subject to that particular set of students. If the students are equipped and intelligent enough, they can certainly teach their teacher(s) how to teach them or how not to teach them. A teacher can, therefore, never hope to become a good teacher unless s/he enjoys the opportunity of teaching for a considerably long period of her/his career, if not for the entire span, a set of good students, who are brighter, more intelligent and more sincere than the teacher herself/himself was at their age. All good teachers must be inwardly grateful to their students who have made them so. It is only a set of good students who can keep the teacher in the classroom intellectually alert and agile and engaged in the process of plumbing the depth of her/his thoughts by asking intelligent and pertinent questions, by hinting at gaps in the teacher's communication, by indicating with a few fidgety, but not indecorous, looks and gestures of restlessness where and when the teacher becomes repetitive and therefore boring, or trite in her/his analysis of thoughts and ideas and therefore wasteful in the use of time and energy of both parties, by bringing her/him back to the topic or subject of discussion at hand from the areas s/he might have strayed into (out of an innocent habit of digressing which most teachers are likely to develop in course of their career) with some judicious, but not hurtful, queries, by sharing her/his witty remarks and humorous anecdotes, in short, by allowing themselves to be manoeuvered by the teacher just as a kite flying high in the sky allows itself to be manipulated and controlled by the flier. Good teaching, in other words, then becomes an affair between two devoted partners which, like a smooth courtship, thrives on mutually empathic reciprocity.

There is an extra-pedagogical aspect of the issue that needs to be addressed here. The profession of teaching is considered to be socio-culturally distinguished from other professions by virtue of the special honour, dignity and respectability still associated, albeit to a considerably diminished extent compared to what it was only a couple of decades earlier, with it (for reasons that deserve a separate, full-length discussion). So, people belonging to all cultural levels and all socio-economic strata (including the community of the teachers themselves) believe that in addition to the ability or competence to teach well, a good teacher should possess some qualities which will underscore her/his personality not only inside the classroom, but also, to an infinitely greater extent, outside it, that is, in the wider society. A good teacher, it is believed, should be always calm and patient in her/his honeyed talk, polished and refined in her/his dress and demeanour, suave and sophisticated in her/his interaction with the students as well as with the other people s/he has to deal with in her/his daily life, restrained and cautious in her/his use of language, wise and prudent in her/his decisions, generous and tolerant in her/his attitude to whatever happens to and around her/him. And, another great quality that a good teacher should possess nowadays and especially in a place like our state is an unflinching and unquestioning loyalty to the people in power. If s/he finds it difficult to digest the arbitrariness, peremptoriness or highhandedness of the authority and yet chooses to stay politically correct, s/he has to make corrosive compromises with her/his conscience and intellect, or, if s/he finds it impossible to ingest, s/he has to go into direct confrontation with those adverse forces. But, whichever way s/he decides to react in, s/he has to yet remain both internally and externally unperturbed and intellectually and spiritually strong enough not to allow any dent in her/his passion for teaching. In other words, a good teacher should be perfect in practical ethics, infallible in morality, flawless in the inculcation and practice of humane virtues, and, in short, almost an embodiment of angelic or superhuman perfection, holding up before her/his society a model to follow (although one can legitimately doubt if any student of the present generation would ever like to emulate such a model!)

All the requirements enumerated in the foregoing paragraphs clearly suggest that a good teacher should be as paradoxical a human being as the combination of an intellectual saint (because s/he has to be able either to combat all evils that tend to adversely affect her/his teaching like professional jealousies or wrongful acts of the people in power, stubborn or flexible complications related to her/his service conditions and many a demeaning human limitation of herself/himself as well as of the people closely or remotely related to her/him or to transcend them by properly reasoning out and perspectivising them as quite natural and therefore ignorable) and an actor (because teaching, which is basically a specialized mode of communication and sharing, centering round a given subject, is, after all, a performing art, success in which results largely from the attractiveness of the teacher's voice and its modulation, distinctness of her/his pronunciation, liveliness and effectiveness of her/his use of intonation, and expressiveness of her/his overall articulation). It would not be impertinent to remember in this context that Henry Derozio, one of the most celebrated teachers of India of all times, owed much of his success as a teacher to his versatile talents as a reciter, an actor and a poet.

Most importantly, a good teacher, like a good worker engaged in any other profession, needs constant, proper incentive which becomes her/his source of sustenance throughout her/his career. And, what serves as a steady source of inspiration for the teacher so that her/his motivation never slackens, is the appreciation and love of her/his students. This, in turn, gives the teacher that sense of fulfillment which justifies her/his labour and defines her/his identity in an enviably unique way. This is all the more important for those who aspire to be good teachers in a country like India, where there is no reward/punishment system. But what kind and degree of appreciation and love can a teacher, however good s/he might be, expect from those students who do not attend her/his classes at all or are only compelled to do so by a situational helplessness of some sort or the other?

Let us now reflect, a little side-long, on the specific situation involved in the teaching/learning of *English literature* in our country. In fact, the issue demands a dose of special attention, because a good teacher of English literature needs, in addition to the qualities or features elaborated so far, to ensure one essential condition in order to be able to operate to the best of her/his potentials, without which all her/his qualities as a good teacher are sure to come to naught ---the basic ability of the students to use the language, which they can attain by acquiring the skills to read, write, speak and listen to the language in a way which is acceptable when judged in terms of the criteria of general Indian standard. Assuming that all the teachers of English literature working in all the colleges and universities of India are themselves equipped with adequate language ability, the students are required to acquire these four skills in the use of the English language so that they can understand the teacher when s/he tries to explicate to them the meaning of a literary text in English, can independently read and comprehend most of the major portions of at least one or two seminal reference books relevant to their understanding of the subject or the area, can interact with the teacher in the classroom when necessary, can express the thoughts, ideas and feelings evoked in their mind while studying a particular text, in a grammatically acceptable form of English. But how many teachers of English literature working in the colleges and universities other than those situated in the famous and important cities of India can claim that most of their students are equipped with even the desired level of basic language ability? Most of the students studying English literature at the undergraduate and post-graduate levels find it extremely difficult to frame and therefore to understand complex structures by putting their subjects, verbs and objects or complements and adjuncts in the proper places, or to (re-)arrange their clauses properly; their subjects more often than not disagree with their verbs; their vocabulary is pitifully, abysmally poor; their sense of usage is atrocious; their application of words, whatever little stock of them they have, is either horrible or ridiculous. It is not that all of them are dull or are absolutely devoid of the sensibility required for appreciating literature. On the contrary, some of them may even be found to show much more than a working degree of subtlety and refinement of sensibility which might have enabled them to do extremely well if they had opted to study the literature written in their mother tongue instead. But, the literature they have chosen to study is written in English. The syllabus they are given demands that they should acquire, and assumes that they must have, a considerably adequate level of language ability before they start coming to the classes, which is of course a necessary precondition for negotiating it. But, somewhat ironically, most of the students are found to have chosen this course with the objective that at the end of it they will be able to attain the desired level of ability to use the English language. The teachers can explicate the meaning of the literary texts only in English. The students do not understand the teacher, and they keep sitting in the classroom, when they are not showing how fidgety and restless they have grown, like Walter de la Mare's dumb phantom listeners. No communication takes place inside the class, and the Tower of Babel, that might have connected the earth with the heaven through the ethereal layers of literary nuances, remains a thwarted, defeated project, without a single step of it being ever built. What is pitiable from the teacher's point of view is that s/he has to teach these students a text as difficult, complex and profound as a Shakespeare play or a Hardy novel or an Arnold or Newman essay or an Eliot poem. It is almost like asking a farmer to go to a plot of barren land without even the basic minimum farming implements and to grow potatoes or cabbages or cauliflowers or tomatoes there. The predicament of the teachers is that if they want to make their presence in the classroom and their time spent therein meaningful in any way, they have either to be a great dictator, dictating notes which the students will take down religiously with copiously misspelt words and ill-formed sentences which the teachers will not find time to correct, or will have to be a talking dictionary endlessly supplying synonyms of unfamiliar words encountered by the students almost every other second while reading a text, or will have to be a veritable practitioner of the philosophy of *The Geeta*: *work but expect no results*. What happens in this situation is what is inevitable: the emergence of a special class of private teachers, the flourish of a liberal and open market of an extra-institutional system of education, the phenomenal growth of a huge market of made-easy books written in an easy-to-digest style, and some other systemic loopholes and pitfalls which keep occasionally plaguing the colleges and universities in India.

Now, let us divert our attention to a polemical aspect of the issue. Let us think of a teacher whose methodology of teaching is immensely interesting and profoundly useful so much so that the students become inspired, enlivened, enthused, and also benefit profusely from her/his teaching from the practical, examination-oriented point of view. But s/he possesses none of the other personality-related humane qualities enunciated in the foregoing discussion (it is, of course, an extreme case and a purely imaginary one, furnished for argument's sake). Shall we call her/him a good teacher? Or, if we come across a teacher who possesses all the aforementioned verbal, behavioural and moral virtues and qualities but cannot teach well, shall we deem her/him a good teacher?

So, one more question inextricably related to the issue becomes unavoidable: whose evaluation regarding whether a teacher is good or not should we accept? That of the people of the society the teacher lives in? Or of the people in power? Or of the teachers' colleagues? Or of the teacher herself/ himself? Or of the students'? It should be wiser not to seek for an answer to this question, although it is difficult for this writer to imagine anyone who has or had ever had the good fortune to see a teacher who is unreservedly considered as a good teacher by all the standards of evaluation. But that does not mean that such a good teacher is an impossible phenomenon. There may be some or quite a few at places this writer has not had the good fortune to be in. Or at least there might be some or quite a few in the glorious past, forming a part of and substantially contributing to the rich cultural heritage of India of which we all boast.

Yet, if one takes up the last, least controversial, and apparently the most reliable of the agents or authorities of evaluation mentioned above, one cannot help being plagued by questions like flies: The evaluation of which students should we accept? That of the advanced ones or of the relatively backward ones or of the mediocrity? Of those, for instance, who are equipped with a refined sensibility and an adequate language ability to appreciate literature properly or of those whose mad subjects and wayward verbs and deformed objects or demented complements run riot whenever they try to read or write, let alone speak, English? This leads to another inevitable, though outrageously rustic and almost blasphemous, question: if the legendary English teachers of the past like Professor Taraknath Sen or those of our times like Professor Krishna Sen or Professor N. Krishnaswamy, by some cruel play of Fate, had to teach the undergraduate and post-graduate students for the whole of their career at, say, Khujutipara College or Khandra college or Guru Ghasidas University, would they still reach the same height of fame as they did or have done? Conversely, there were and are many teachers who spent or have been spending their lives teaching in the rural schools, colleges and universities situated in some cases just a few miles or in most cases a few light-years away from (educationally) the most important cities of India. They were/are doomed to remain confined to darkness and were/will be ultimately consigned to eternal night of oblivion. If some of these teachers had had the opportunity to teach in the educational institutions situated in the metropolitan cities, particularly those in which the brilliant and advanced students pursue their studies with sincerity and devotion, would not at least some of them be transformed through time from dim and obscure lanterns into bright little stars in their own sky?

Analogy and Verbal Testimony in *Nyaya Sutra*

Sankar Chatterjee*

Abstract : *Analogy consists in the cognition of approximation; by 'approximation; here is meant the presence of common properties, that is, similarity, e.g.' as the cow, so is this animal, gavaya' words is that by which the objects are signified , or denoted , or made known . On the other hand Verbal testimony is the last pramana granted by the Nyaya philosophy. In fact it is the knowledge of matters derived from words and sentence. It is fact that a verbal statement is valid when it comes from a person who knows the truth of object. The trustworthy person is known as apta. The sentence of apta is valid pramana as Gautama.*

Analogy is considered next to inference. Analogy is that which accomplishes its purpose through similarity to a known object. As *Gautama* says, analogy is that which makes known what is to be made known, through similarity to an object that is already well known; e.g. the ascertain 'as the cow so is the *gavaya*' (i.e. the animal called '*gavaya*' is like the cow). *Vatsyayana* comments: "what is it that is accomplished by this analogy"? When a person finds similarity to the cow, he actually perceives the object that had been referred to in the analogy, and thence he comes to cognise the connection of that object with the name mentioned in that analogy; so that it is this latter cognition that is the purpose accomplished by the comparison (*upamana*). For instance, when the analogy, in the form the animal called *gavaya* is like the cow, has been put forward and the man who has heard this happens subsequently to perceive through the contact of his sense-organs, an object similar to the cow, he realises that 'the word *gavaya* is the name of this object, and comes to cognise the connection of the particular name with the particular object. Similarly, in the case of such analogies as 'the *mudgaparni* is similar to the *mudga*', the *masaparni* is similar to the *masa*' – being put forward, the observer, by means of these analogies, comes to know the connection of the particular names with the particular objects, and thereby obtains the particular herb (*mudgaparni* or *masaparni*) that he requires.

Analogy is the 'knowledge of the relation between the naming word and the object denoted by it' (*samjna-samjni-sambandha-jnana*). Thus, e.g. there is a variety of animal called the *gavaya*. It resembles the cow in other respects excepting the dew-lap.

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A person knows the cow well but has never seen a *gavaya* nor knows the animal denoted by the word gavaya. A forester, who has seen a gavaya, tells him that the *gavaya* resembles the cow. After this he comes across a *gavaya.* He perceives its similarity with the cow. This leads to the recollection of what he previously heard from the forester. He then knows that the animal before him is called *gavaya,* i.e. is denoted by the word *gavaya.* This knowledge is called opacity and *upamana* is the instrument thereof.

Vatsyayana gives two more examples of *upamana.* A person wants to collect the medical herbs called *mudgaparni* and *masaparni*: but he has no previous knowledge of these. He learns from an experienced person that these two herbs resemble *mudga* and *masa* respectively. Eventually coming across the herbs resembling *mudga* and *masa,* he ascertains that these are the herbs called *mudgaparni* and *masaparni.*

Vatsÿayana, Uddyotakara and Jayanta Bhatta spoke of *upamiti* only through similarity (*sadharmya*). Vacaspati Misra says that this form of knowledge may as well be derived through dis-similarity (*vaidharmya*). Thus, e.g. a person from North India tells a person from South India that the camel is an animal which is ugly, lives on hard and sharp throne and has a very long and crooked neck. The South Indian has never seen a camel. Afterwards, coming to the North, he sees a camel. In this animal he perceives all these characteristics which are totally dissimilar to those of all other animals previously known to him. This knowledge of dis-similarity leads him to recollect what he previously heard from the North-Indian and knows that this is the animal denoted by the name camel. Vacaspati Misra claims that to include such forms of *upamiti* derived through the knowledge of dis-similarity. Vatsyayana says: "Thus many other things are to be known as objects of *upamana* in everyday life".

Visvanatha, however, claims that the real implication of this statement of Vatsyayana is different. Somebody is told by an authoritative person that a herb resembling the *mudgaparni* is an antidote to poison. He later comes across a herb that resembles the *mudgaparni.* This leads him to recall what he previously learnt from the authoritative person and ascertains that this herb resembling the *mudgaparni* is also an antidote to poison. Thus *upamana* is not the instrument of only the knowledge of the relation between a word and the object denoted by it; it may as well as certain other things.

Analogy is followed by verbal testimony (*sabda*) as an instrument of right cognition. As Vatsyayana comments, "The assertion of a reliable person is 'word'. That person is called '*apta*' – 'reliable' – who possesses the direct and right knowledge of things, who is moved by a desire to make known to others the thing as he knows it, and who is fully capable of speaking of it. The word '*apta*' is explained as denoting one who acts or proceeds, through '*apti*', i.e. through the direct right knowledge of things.

This definition applies to Sages, as well as to Aryas; the activities of all these people are carried on through such 'words'.

"Thus we find that it is by means of the aforesaid four instruments of cognition, – and not by any other means – that the activities of Gods (*deva*) man (*manusya*) and animal (*pasu*) are carried on".

Vacaspati Misra explains that 'directly known' in the commentary means rightly ascertained through any of the instruments of valid knowledge. But in spite of having such direct knowledge if one does not have the inclination to communicate or if one communicates wrongly, one will not be considered person is 'verbal testimony as an instrument of valid knowledge' (*sabda-pramana*).

The said word is of two kinds – the *Drstartha*, that of which the thing spoken of is perceived, and the *Adrstartha*, that of which the thing is not perceived.

Vatsyayana states that the 'word' of which the thing spoken of is perceived in this word is called *Drstartha*; while that of which the thing spoken of is only believed to exist in the other word is *Adrstartha*. These are the two divisions under which are included all the assertions of sages and ordinary men. For what purpose does the *sutra* mention these two divisions? This mention is made so that the other party (either a pupil or a disputant) may not think that what is a verbal instrument of cognition – is only that assertion of the reliable person which speaks of things that are directly perceived, as it is only such things that can be duly ascertained. This idea had to be guarded against, as such assertions also as speak of things not seen are valid instruments of cognition; as such things also can be duly ascertained by means of inference.

Gautama says that verbal testimony is of two kinds, one having perceptible objects and the other having imperceptible objects. But why does he devote a special sutra to this? Vatsyayana says that the *Nastika* admits verbal testimony as an instrument of valid knowledge only when it has for its objects which are attainable this world. As a result, verbal testimony in the form of scriptures, having as it does objects that are not attainable in this world, would not be *pramana*. As against this, Gautama shows that verbal testimony in both these forms is to be regarded as pramana. But since the objects referred to by the second form of verbal testimony are imperceptible, now can we accept its validity? Vatsyayana answers that in that case the objects are inferentially proved.

As against the *Mimamsakas*, Gautama considers sound (word) as non-eternal. Therefore the *Vedas*, being but collections of words, are also non-eternal. These have as their author a person, who is none other than God. The validity of the *Vedas* is derived from the trustworthiness of God; hence it is not intrinsic but extrinsic.
According to the *Mimamsakas*, however, sound (word) is eternal. The Vedas are impersonal (*apauruseya*). These have no author and are not revealed by anybody.

Therefore the validity of the Vedas is not due to anything external to the Vedas. In other words, the Vedas are intrinsically valid. This leads them to maintain, the 'theory of intrinsic validity of knowledge (*swath-pramanya-veda*).The conditions of knowledge themselves determine its validity. No further proof for the validity of knowledge is necessary. Besides, if the validity of knowledge is determined by an inference, another inference will be necessary to validate the inference itself.

Udayana, in his *Nyaya kusumanjali* elaborately refutes the *Mimamsa* theory of intrinsic validity of knowledge and proves that the Vedas are not eternal. Vacaspati Misra also, in his explanation of Vatsyayana's introduction to the commentary on the Nyaya-sutra, refutes the Mimamsa view and proves that the validity of the Vedas is inferentially determined. At the same time, Vacaspati Misra says that the inference which validates knowledge, being produced by a *proban* free from any defect, is beyond the range of any possible doubt. No further inference is, therefore, necessary to ascertain its validity and so there is no question of any infinite regress.

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Relevance of Five Laws of Library Science in the Modern Era of Information Technology

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Abstract: Advances in information technology have immensely enhanced libraries capabilities of collecting, storing, processing and disseminating information Libraries have embraced various technologies to enhances their efficiency and provide better and improved services to the clientele. The article is an attempt to see how Ranganathan's five laws serve as guiding principles to assess the usefulness of IT in library and information services.

Introduction

The information world today witnesses an explosive situation. The technology has provided the ways and means to cope with this situation by managing information through enhanced capabilities of collection, storing, processing and disseminating information. Information technologies which are relevant for library and information work are computer, CD-ROM, telecommunication, micrographic, fax, electronic-mail, satellite, etc. Many of these technologies are now being used in the libraries for providing better and improved services to the clientele. It all impels us to see how Ranganathan's Five Laws of Library Science serve as guiding principles for assessing the usefulness of IT in library and information services. The five laws are:

1. Books are for use
2. Every reader his/her book
3. Every book its reader
4. Save the time of the reader
5. Library is a growing organism

Ranganathan firmly believed that the library profession will only survive and retain its value if it continuously adapt to changes in its environment. When he framed his laws in 1928, he used the words reader, book and library. But over the years these laws when applied to groups of libraries and the user and the information system could easily be substituted for book, reader and the library when describing the modern library and information service. As the libraries now have adopted new technologies and terminologies, what we need is to hold to the spirit of the laws.

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First law:

'Books are for use' is the first law of library science. I.T. has brought many changes in the form of book (text, graphics, images, audio, video or combination of these and animation). The change in the form of book and presentation has not undermined the basic implications of the first law. The users need embodied knowledge/ information. The use of I.T. ensures convenient access to information carried in any medium with greater precision, accuracy and timeliness making the implication of the first law more meaningful and which can now be restated as 'Information is for use'.

The uses of ITs do not do away with the humanization of the information services. In the increasing information rich world with large amount of database, library networking and the like, users are likely to need more and more help. In such a situation the librarian will function primarily as an enabler, as a various information sources, information systems might best be operated to get what is needed out of them.

Second law:

The second law, i.e. 'Every reader his/her book', in the broadest sense means that everyone irrespective of age, sex, religion, caste, creed, physical status, social status, residential status (rural, urban) must be provided with information he/ she needs. The advancements in technology ensures fulfillment of the implications of the law. They reinforce these by offering instant access to information sources stored in databases or databanks. Some of the doubts are raised about the fulfillment of the implications of the second law. These are:

i) The prohibitive cost of the electronic media will divide the world community into two; 'the information rich' and the 'information poor' creating the scenario in which 'majority of the people forever will be information dispossessed'.

ii) The commercialization of information will lead to the danger of the services being free-based which in turn will result in the loss of 'free' access to information and will give rise to "a class of information deprived or have-nots".

Third law:

According to Ranganathan, the third law, i.e. 'Every book its reader', would urge that an appropriate reader should be found for every book. It demands that information professionals should act as intermediaries between users who need information and the sources, systems or technologies that provide information. In the digital environment, the information professionals must always to there to select the right information to be used as a conceptual tool by the end user to facilitate the turning of information into the required knowledge. The use of I.T. has enabled the libraries/ information systems to develop such services as CAS, SDI, Comprehensive index, catalogues which assist the free flow of information and ensure every piece of information to its user.

Fourth law:

"Save the time of the reader". The last decade has witnessed a tremendous improvement in the information retrieval systems. They have become user-friendly. They contain instructions to assist the end users who are not IT specialists to directly search and retrieve records from an information system. Many devices and techniques have been developed to quicken the information retrieval. Online databases and online catalogues have contributed to a large extent in serving the time of the users. CD-ROM technology has facilitated literature searches at a much faster pace than before. The corollary to the fourth law 'Save the time of the staff' has also been observed with the automation of repetitive jobs of a library which saves a lot of labor and time.

Fifth law:

The fifth law is: "Library is a growing organism". Here the term 'library' refers to the species of institutional forms created by society to manage information resources to provide information to people. The term 'growing' means showing transformation from one stage of development to another.

No doubt, there has been a great growth in the number and variety of information sources as well as in the number of users, but the advances in technologies for the storage and retrieval of information raise the distinct possibility that the library/ information system won't grow much in physical form. Rather, it will shrink in size. Electronic media causes the libraries lose its character as a collection of physical arte facets and serve only as access points to world information. The change and growth is in the direction of 'library without walls' or 'virtual library'. But, I think, whatever transformation the institution of library may undergo, the societal framework at least of the developing countries continuous to demand that the phenomenon of the library persists incorporating some of the traditional features at least.

Conclusion:

Ranganathan's laws form the soul of the library/ information system. The best thing for us would be to see that the spirit of Ranganathan's laws be made to permeate the information system to ensure that the system continues to remain amenable to the needs of society. It is only a harmonious combination of the old and new can ensure the effectiveness of the laws. So it is very desirable that the new technology be integrated into the existing library/information system with as little disruption as possible. To make the system more suitable and feasible in the time to come the technologies used should be compatible enough to participate in the schemes of resource sharing and networking.

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একজন 'না-লেখক' সম্পর্কে দু'-একটি বিস্ময়

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সারসংক্ষেপ ঃ সন্দীপন চট্টোপাধ্যায় (১৯৩৩-২০০৫) হলেন ষাট দশকের একজন প্রতিষ্ঠান বিরোধী, প্রথাবিরোধী, নাগরিক কথাকার। সারাজীবন মূলত লিটল ম্যাগাজিনেই লিখে গেছেন। দু-একটি বড় পত্রিকায় লিখলেও তিনি চিহ্নিত হয়ে রয়েছেন 'লিটল ম্যাগাজিনের প্রিন্স' হিসেবে। তাঁর কথাসাহিত্যের কিছু সাধারণ লক্ষণ এবং সে সাহিত্যপাঠের প্রতিক্রিয়া হিসেবে প্রাবন্ধিকের নিজস্ব অনুভূতি নিয়েই এ লেখা।

সারাজীবন বিপদগ্রস্ত হতে হতে শেষকালে যে বিপদ আসে, তা হৃদয়ঙ্গম করার জিনিসই বটে। হৃদয়ঙ্গম করেন একজন। তিনি কথাসাহিত্যিক সন্দীপন চট্টোপাধ্যায় (১৯৩৩-২০০৫)। একই সঙ্গে তিনি গল্প উপন্যাসের নায়ক-নায়িকাদেরও হৃদয়ঙ্গম করান। বিজন, রাজমোহন, অংশু, নির্মল, নলিনী, প্রতুল, বিভাস, বিল্বমঙ্গল— প্রত্যেকের সেই অভিজ্ঞতা হয়। তাদের স্রষ্টা, আধুনিক বাংলা কথাসাহিত্যের প্রথাবিরোধী এবং প্রতিষ্ঠানবিরোধী এক কালাপাহাড়। 'লিটল্ ম্যাগাজিন'-এর 'প্রিন্স'। 'লিটল্ ম্যাগাজিন'ই তৈরি করেছে তাঁর পাঠকসমাজ। এক হাতে চক-খড়ি, আর অন্য হাতে ডাস্টার নিয়ে নির্মাণ এবং ধ্বংসের মধ্যস্থানে দাঁড়িয়ে থাকেন এই শিল্পী। ফলে, কেউ তাঁকে বিশ্বাস করেনি। করতে পারেনি। এমনকি তিনি নিজেও সবচাইতে বেশি অবিশ্বাস করেছেন নিজের আন্তরিকতাকে। মৃত্যুর পর মাথার বালিশের নিচে 'গীতা'র পরিবর্তে মানিক বন্দ্যোপাধ্যায়ের লেখা উপন্যাস 'পুতুলনাচের ইতিকথা' নিয়ে শুয়ে থাকতে চেয়েছেন।

সন্দীপনের কাছে লেখালেখির প্রথম শর্তই হল সমাজবিরোধিতা। এই লেখালেখিটা আসলে জীবনযাপনেরই সমতুল্য। প্রথম উপন্যাস 'একক প্রদর্শনী'র শেষে পাঠকদের উদ্দেশ্যে তাই তিনি অনুরোধ জানালেন— "আপনাদের যাঁদের গল্পটা ভালো লাগল, তাঁরা অনুগ্রহ করে আমাকেও ভালোবাসুন, কেননা, আমি ও আমার গল্প একই।" তৃণবর্জিত মরুভূমি যেমন মরীচিকা নিয়ে বাঁচে, সন্দীপন তেমনই বাঁচেন তাঁর ভুল স্তবকে বিন্যস্ত জীবন নিয়ে। ফলে, সাফল্য এবং ব্যর্থতার নীল নক্সায় ভরে ওঠে পাণ্ডুলিপির পাতা। অভিশপ্ত 'সিসিফাসের' মতো শব্দের পাথর বারবার তিনি ঠেলে তুলতে চেয়েছেন সাফল্যের পর্বত চুড়ায়। ব্যর্থ হয়েছেন। দমে যাননি। আবার চেষ্টা করেছেন। তিনি উপলব্ধি করেছেন, শিল্পের নন্দনতত্ত্ব একটাই— 'দ্য অ্যাসথেটিক্স অফ সাইলেন্স।' তাঁর কাছে পৃথিবীর বেশিরভাগ সাহিত্যকর্মীই 'অনুলেখক'। 'না-লেখক'। নিছক 'রাইটার' মাত্র। কারণ, লেখার মধ্যে তারা উজাড় করে দিতে পারে না শরীরের অপরিত্যাজ্য অংশ, কিংবা সত্তার সর্বস্ব। সন্দীপনের মতে, সেগুলি লেখায় একমাত্র দিতে পেরেছেন জীবনানন্দ বা কাফকার মতো লেখক। নিজেকেও তাই পূর্ণাঙ্গ লেখক বলে দাবি করেন নি তিনি, চিরকাল একজন 'না-লেখক' বলে ভেবে এসেছেন।

আবেগ নয়, মেধা মননশীলতা বুদ্ধিবৃত্তি— এসবই নিয়ন্ত্রণ করেছে তাঁর লেখাকে। তিনি 'কামুকাতর'। তাঁর বেশিরভাগ লেখাই ভঙ্গিসর্বস্ব, সেক্সসর্বস্ব, পুনরুক্তিময়, একঘেঁয়ে বিষয়বস্তুর পৌনপুনিকতায় ভারাক্রান্ত।

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*সহকারী অধ্যাপক,
বঙ্গভাষা ও সাহিত্য বিভাগ,
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কলকাতা।

সমাজ সম্পৃক্ত নয়। জীবনের কোনো আদর্শ, মূল্যবোধ, নীতি কিংবা নৈতিকতার পাঠ আমরা তাঁর লেখাগুলি পড়ে পাই না। সন্দীপনের বিরুদ্ধে বঙ্গীয় পাঠকসমাজের অভিযোগের তালিকা দীর্ঘ হবে। আখ্যানের ভেতর থেকে তিনি পরম্পরা-বাহিত গল্পত্বকে মুছে ফেলতে চান। বাংলা সাহিত্যের প্রথাসিদ্ধ অন্বয়রীতিকে অবলীলায় তাচ্ছিল্য কিংবা ভেঙে চুরমার করেন এই বিদ্রোহী কালাপাহাড়। তবু বলতে হয়, তিনি একক অনন্য অনবদ্য, ষাট দশকের একজন মৌলিক নাগরিক কথাকার। অনন্যতা তাঁর ভাষাপ্রয়োগে, শব্দনির্মাণে, কাহিনি গ্রন্থনায়, বাচনভঙ্গিতে, চিত্রকল্প ও প্রতিমা প্রস্তুতিতে। তাঁর লেখার হাড়মাস তৈরি হয়েছে আধুনিক কবিতা দিয়ে। বেশিরভাগ লেখা হয়ে উঠেছে তাঁর 'একক প্রদর্শনী', আত্মরূপের প্রদর্শনী। প্রায় সব লেখাই 'আমি'-ময়। সবখানেই সন্দীপন আমিত্বের চর্চা করেছেন। সেখানে লেগে আছে লেখকের, বলা ভাল তথাকথিত 'না-লেখক'-এর বামহাতের বুড়ো আঙুলের ছাপ। বিজন, রাজমোহন, প্রতুল, বিল্বমঙ্গলের স্রষ্টা সন্দীপন, কথাসাহিত্যের নানা চরিত্রের মধ্যে নিজেকে ছড়িয়ে রেখেছেন। গল্প-উপন্যাসে বলতে চেয়েছেন একটাই বহতা-জীবনের কথা। সেটা তাঁর নিজের জীবন।

১৯৭১ সালে বই-এর চেহারায় বেরিয়েছে সন্দীপনের প্রথম উপন্যাস 'একক প্রদর্শনী'। ২০০৫ সালে শেষ উপন্যাস 'ধ্বংসের মধ্য দিয়ে যাত্রা'। মোট উপন্যাসের সংখ্যা ২২টি। প্রায় সব লেখাই আত্মজীবনীমূলক। মানুষের বেঁচে থাকার দীনতাকে নির্বোধের বেপরোয়া ভাষায় প্রকাশ করেছেন তিনি। লেখালেখির ক্ষেত্রে বাংলা ভাষা সাহিত্য ও সংস্কৃতির কোনো পূর্বসংস্কারের বোঝা বয়ে বেড়াননি। প্রাতিষ্ঠানিক মূল্যবোধ ও গতানুগতিক 'ইমেজ'-কে রক্ষা করা নয়, আক্রমণ করাই ছিল তাঁর লক্ষ। ব্যক্তির বিপন্ন অস্বিত্বের প্রিজম দিয়ে তার গোটা জীবনটাকে লেখায় ধরতে চেয়েছেন। তাঁর ধারণা, আধুনিক উপন্যাসের আসল কাজ একটাই। ব্যাণ্ডেজ খুলে রক্তঝরা ক্ষতস্থানটি দেখানো। সেটাই উপন্যাস। প্রতিটি উপন্যাসে সেই কাজটি যত্নসহকারে কমবেশি করে গিয়েছেন তিনি। শব্দ নিয়ে খেলেছেন অনবরত। নির্মাণ করেছেন ভাষার বিচিত্র স্থাপত্যকীর্তি। বিষয়বস্তুর অভিনবত্ব এবং আঙ্গিকের নতুনত্ব তাঁর প্রতিটি উপন্যাসকেই আস্বাদ্যমান করে তুলেছে। বেশিরভাগ লেখায় আঁটসাঁট প্লট, নিটোল কাহিনিবৃত্ত, উপকাহিনি— এসব কিছুই নেই। ঘটনা বিশেষ কিছু ঘটে না। দৃশ্যের পর দৃশ্য খণ্ডাকারে এসে শুধু ভিড় করে। অজস্র টুকরো ছবির 'কোলাজ' তৈরি হয়। কোনো উপন্যাসে চরিত্রের সংখ্যা অল্প। তাদের পূর্ণাঙ্গ বিকাশের কোনো পরম্পরা সেখানে লক্ষিত হয় না। চরিত্রের গতি আছে, পরিণতি নেই। 'একক প্রদর্শনী', 'স্বর্গের নির্জন উপকূলে', 'কোলাজ' এবং রীতিমতো অভিনব দিনলিপির ঢঙে লেখা উপন্যাস 'নিষিদ্ধ স্বপ্নের ডায়েরি'-র কথা প্রসঙ্গত আমাদের মনে পড়ে যায়। 'একক প্রদর্শনী'-তে অজস্র খণ্ডচিত্রের লীলা প্রদর্শিত হয়েছে। তাদের সূত্রধার অরুণ এবং রমা। 'কোলাজ' উপন্যাসে সংগ্রথিত হয়েছে সাহিত্যিক হিমাদ্রি রায়চৌধুরির ১৯৭১ থেকে ১৯৭৫ সাল পর্যন্ত লেখা বিভিন্ন ডায়েরির নানাদিনের লেখালেখির ছেঁড়াখোড়া অংশমাত্র। এখানে কোনো পরিচ্ছেদ বা অধ্যায় বিভাজন নেই। অধিকাংশ লেখাই তারিখচিহ্নিত। নিজের দিনলিপির অংশ নিয়েও উপন্যাস লিখেছেন সন্দীপন। নাম দিয়েছেন 'নিষিদ্ধ স্বপ্নের ডায়েরি'। কবিতা, চিত্রকর্ম, গানের স্বরলিপি মিশে গেছে দিনপঞ্জির সঙ্গে। লেখাগুলো সংখ্যাচিহ্নিত। প্রতিটির শেষে তারিখ দেওয়া আছে। 'আমি ও বনবিহারী' উপন্যাসে একজন ভণ্ড কমরেডের মুখোশমোচন করেছেন সন্দীপন। এই বইটির জন্য তিনি ২০০২ সালে 'সাহিত্য আকাদেমি' পুরস্কার পান।

বেশিরভাগ উপন্যাসের বিষয়বস্তুর মধ্যে একটা পরিচিত ছক লক্ষ করা যায়। স্বামী-স্ত্রী এবং তাদের একমাত্র কন্যা (দু-একটি লেখায় পুত্র) —এই নিয়ে ছোট সংসার। একান্নবর্তী পরিবার থেকে নায়ক 'আইসোলেটেড'। বেশিরভাগ দম্পতির দাম্পত্যজীবনের বয়স আট থেকে দশ বছর। স্ত্রী অসহযোগী।

নায়ক তার কাছ থেকে বেঁচে থাকার উদ্দীপনা কিংবা শিল্পকর্মের প্রেরণা কোনোকিছুই পায় না। তাদের দাম্পত্যজীবনে আসে একঘেঁয়েমি। লোকেশ বা বনবিহারীর মতো কেউ কেউ স্ত্রী'র শারীরিক অক্ষমতা এবং মানসিক ক্লীবতার কারণে তাদের সঙ্গে নিরামিষ যৌনমিলনে তৃপ্ত হয় না। বেঁচে থাকার উদ্দীপনা, শিল্পসৃষ্টির প্রেরণা কিংবা যৌনসঙ্গমে আনন্দ ও উত্তেজনা সন্ধানের জন্য তারা পরকীয়া প্রেমসম্পর্কে জড়িত হয়। বাইরে অন্য নারীর সঙ্গে সহবাস করে। কিন্তু সংসার ভেঙে কখনো বেরিয়ে যায় না। পরনারীর সঙ্গে তাদের এই নিষিদ্ধ সহবাসের ফলে নায়িকা কখনো গর্ভবতী হয়। গর্ভে 'প্লাসেন্টা ফর্ম' করে যাওয়ার পরও কেটে যায় চার-পাঁচ মাস সময়। শেষ পর্যন্ত, নায়কের পরামর্শে এবং সহযোগিতায় তারা গর্ভপাত করিয়ে নেয়। নিষিদ্ধ প্রেম, পরকীয়া ভালবাসাই প্রতুল, বিল্বমঙ্গল, গৌরব, নিখিল, লোকেশদের বাঁচিয়ে রাখে। তাদের বিপন্ন অস্তিত্বের শুশ্রূষা করে এবং মৃতপ্রায় সত্তাকে চালিত করে সৃজনশীলতার অভিমুখে। নিষিদ্ধ ভালবাসা এবং অবৈধ যৌনতাই তাদের বেঁচে থাকার পরম আশ্রয়, একমাত্র অবলম্বন। হেনাময়, রুবিময়, কৃষ্ণাময়, যমুনাময়, জয়ন্তীময় তাদের জীবন। সন্দীপনের ব্যক্তিজীবনেও হয়তো কোথাও লুকিয়ে ছিল অনুচ্চারিত রুবি-হাহাকার। প্রতুল, বিল্বমঙ্গলদের জীবনজুড়ে ধ্বনিত হয়ে ওঠে সেই হাহাকারের উচ্চারণ। নায়করা কেউ ব্যক্তিজীবনে সুখী হয়নি। সকলে একা। সন্দীপনের মতো। বিভাসের মতো। তারা 'ডাবলবেডে একা'। বিভাস একাকী মরে যায় শেষরাতে। স্ত্রী জায়িতা পাশে থাকে না তার। হেনার ভালবাসা পেয়ে প্রতুল বেঁচে যায়। স্ত্রী আলপনা তো তাকে জীবদ্দশাতেই একেবারে মেরে রেখেছিল। হেনার ভালবাসা প্রতুলের জীবনে এনে দেয় অপার্থিব আনন্দের অনুভূতি। সন্দীপন সগর্বে ঘোষণা করেন— 'এখন আমার কোনো অসুখ নেই'। না, নেই তাঁর অসুখ। প্রতুলের নেই। বিল্বমঙ্গলের নেই। রুবির জন্য অপেক্ষাই হয়ে ওঠে লেখক বিল্বমঙ্গলের জীবনের একমাত্র সাধনা। 'রুবি কখন আসবে ?'

'কলকাতা, তুমি কার ?' কলকাতা সন্দীপনেরই। কলকাতা শহরকে একেবারে আষ্টেপৃষ্ঠে জড়িয়ে থাকে তাঁর লেখা। মেট্রোপলিটান এই শহর এবং আধুনিক জীবনের নানা উপসর্গ সেখানে মোটেই উপেক্ষিত নয়, বরং সগর্বে গৃহীত। কলকাতা— প্রতুল, বিভাস, বিজন, রাজমোহনদেরও। সন্দীপন পারেন মানুষের মনের ভেতরে পাশবিক ভিত্তির অস্তিত্ব আবিষ্কার করতে। 'কুকুর সম্পর্কে দুটো-একটা কথা যা আমি জানি' উপন্যাসে অবলীলায় তিনি বলে যান নায়ক হেমাঙ্গের গভীর এক 'অবশেসান'-এর গল্প, মানুষের মধ্যে কুকুর-দর্শন জনিত উপলব্ধির কথা। ভয়ে কেঁপে ওঠে আমাদের বুকের ভেতরটা। আমরাও আবার কুকুর-মানুষ নই তো! আমাদেরও কী অধমাঙ্গ কুকুরের! সত্যি, কী অস্বস্তিই না জাগাতে পারেন ভদ্রলোক। তিনি সমর্থন করেন 'আরব-গেরিলাদের'। 'থ্রিলার'-ধর্মী রচনা 'এসো, নীপবনে' উপন্যাসে এক অপরাধী নায়কের জ্ঞাত ভবিতব্যের দিকে যাত্রার গল্প শোনান। নিষিদ্ধ স্বপ্নে ভরা অদ্ভুত সব দিনলিপি লেখেন। জঙ্গলে কাটানো আদিম লীলায় ভরা একএকদিনের স্মৃতি রোমন্থন করেন 'জঙ্গলের দিনরাত্রি' উপন্যাসে। সাঁওতাল পরগণা, হেসাডি, বুরুডি, ঘাটশিলা। মহুয়া আর আদিবাসী সাঁওতাল রমণী। আদিম যৌন মহোৎসব। এর কেন্দ্রে কবি শক্তি চট্টোপাধ্যায়, সঙ্গে সন্দীপন।

দেবেশ রায়, দীপেন্দ্রনাথ বন্দ্যোপাধ্যায়, মতি নন্দীর মতো সন্দীপনও খাঁটি কলকাত্তাই লেখক, নগরমনস্ক কথাকার। মতি এবং সন্দীপন— দুজনের লেখায় যৌনতা আছে। দুজনেই যৌনতার সঙ্গে মিশিয়ে দেন মনন এবং নান্দনিক সৌন্দর্য। শরীর প্রসঙ্গে তাঁরা বুনে দেন জীবনের বহুমাত্রিক তাৎপর্য। মানুষের আত্ম-অস্তিত্বের বহুকৌণিক সমস্যার রূপায়ণ, সত্তা-সংকটের অমোঘ সব চিত্র, পাঁজরজোড়া নিঃসঙ্গতা— সন্দীপনের গল্পের নায়কদের মধ্যে খুঁজে পাওয়া যায়। ১৯৬১ সালে প্রকাশিত হয় প্রথম গল্পগ্রন্থ 'ক্রীতদাস ক্রীতদাসী'। ঐ বইয়ের প্রথম গল্প 'বিজনের রক্তমাংস' লিখেই সাড়া ফেলে দেন সন্দীপন। এক মধ্যবিত্ত

যুবকের বিচ্ছিন্ন সত্তা ও অস্তিসংকটের গল্প এটি। রেণুবেশ্যার শরীর ভোগ করে সে ক্লান্ত। বিজন রক্তপ্রস্রাব করে। তথাপি সে বেঁচে থাকতে চায়। ডাক্তার পরামর্শ দেয়, যে কোনোদিন তার গুপ্তরোগের ওষুধ বেরিয়ে যাবে। ততদিন পর্যন্ত বিজনের বেঁচে থাকা জরুরি। সন্দীপনের কথাসাহিত্যের নায়ক-নায়িকারা বিজনেরই মতো মৃত্যুর ক্রীতদাস-ক্রীতদাসী। তাদের অতীত নেই। ভবিষ্যৎ মৃত্যু। বর্তমানের আজ পর্যন্ত কোনো ব্যাখ্যা হয়নি। তথাপি, পরস্পরকে যৌনপ্রহার করেও তারা বেঁচে থাকতে চায়। পার্থিব প্রতিকূলতা, যাবতীয় সাংসারিক প্রতিবন্ধকতা, সামাজিক ব্যর্থতা, কোনোকিছুই তাদের প্রেম মিলন যৌনতা এবং সর্বোপরি বেঁচে থাকার আনন্দকে ম্লান করতে পারে না। ১৯৬৯ সালে প্রকাশিত দ্বিতীয় গল্পগ্রন্থ 'সমবেত প্রতিদ্বন্দ্বী ও অন্যান্য'-তে সন্দীপনের ছোটগল্পের ভাষারীতির এক ভৌত রূপান্তর ঘটে যায়। ভাষাকে তিনি পৌঁছে দেন একেবারে আধুনিক কবিতার কাছাকাছি। প্রচুর চরিত্র আসে। এ বইয়ের কোনো লেখাই পূর্ণাঙ্গ ও নিটোল গল্প নয়। গল্পাণু, গল্প-রেশ বা আখ্যান-রেশ বলা যেতে পারে। রচনার ভেতরকার গল্পত্ব তথা 'ন্যারেটিভিটি'-কে সম্পূর্ণ মুছে ফেলে লেখাগুলিকে স্বাতন্ত্র্যের মর্যাদা দেন শিল্পী।

প্রথাবিরোধী লেখক সন্দীপনের প্রতিষ্ঠান-বিরোধিতার অন্যতম শৈল্পিক নিদর্শন হল 'মিনিবুক'-এর উদ্ভব। ১৫/১২/১৯৬৯ তারিখে 'বিপ্লব ও রাজমোহন' নামে প্রথম 'মিনিবুক'টি প্রকাশিত হয়। গল্পের মধ্যবিত্ত নায়ক রাজমোহন প্রতিবাদী এবং বিপ্লবী। সময়ের বারুদ সঞ্চিত থাকে তার সত্তার কেন্দ্রে। অন্তঃসারশূন্য জগতে বাঁচার যোগ্য হেতু খুঁজে পায় না বলেই সে সমাজের প্রচলিত নিয়মের বিরুদ্ধে প্রতিবাদ করে এবং 'বুক-সেলফে' আগুন লাগায়। শেষপর্যন্ত অবশ্য স্বাভাবিকতায় ফেরে। পরবর্তী গল্পগ্রন্থ 'হাঁ, প্রিয়তমা' ১৪/০২/১৯৮৩ তারিখে প্রকাশিত হয়। এর অন্তর্ভুক্ত করা হয় 'বিপ্লব ও রাজমোহন'কে। এক গোধূলি সময়ের মুখোমুখি অস্থির ও উত্তাল রাজনৈতিক সমাজ-প্রতিবেশের (নকশালবাদী আন্দোলনের প্রভাব-প্রসূত) সামনে পরপর এসে সার বেঁধে দাঁড়ায় তিনজন নায়ক— রাজমোহন, অংশু এবং মহেন্দ্র। এরা সময়ের জাতক, নকশালবাদী আন্দোলনের প্রভাব সন্দীপনের তিনটি গল্পে লক্ষ করা যায়— 'বিপ্লব ও রাজমোহন', 'অংশু সম্পর্কে দুটো একটা কথা যা আমি জানি' এবং 'বড় দুঃসময়'। বিষয়গত মৌলিকতায় এরা অনবদ্য। 'দোলনা' মধ্যবিত্তের অস্তিসংকট আর দ্বিধাদ্বন্দ্বে আবর্তসংকুল ভাবনালোকের গল্প। 'মাঝখানের দরজা' বাড়ির গৃহকর্তা ধ্রুব-র সঙ্গে তরুণী পরিচারিকা সিন্ধুর অবৈধ সঙ্গমের গল্প। অসাড় মধ্যবিত্তজীবনের ছবি এঁকেছেন শিল্পী 'আলমারি' এবং 'হাঁ, প্রিয়তমা'— এই দুটি গল্পে। সন্তানহীন মধ্যবিত্ত দম্পতি শুধু টাকা পয়সা ব্যাংকব্যালেন্স ভোগবিলাস সচ্ছলতা আর দামি আসবাব চায়। তাদেরই মধ্যে কেউ হয়তো বীথির মতো, বিয়ের পর পনেরোটা বছর নিশ্চিন্তে ও নিরুপদ্রবে কাটিয়ে হঠাৎ একদিন সন্তান কামনায় অধীর হয়। নারীর মধ্যে জাগে মাতৃত্বলাভের আকাঙ্ক্ষা।

'সাপের চোখের ভেতর দিয়ে' মিনিবুকটি ২৪/০২/১৯৮৪ তারিখে প্রকাশিত হয়। গল্পটি মনস্তাত্ত্বিক। ১৯৮৬ সালে 'প্রতিক্ষণ' থেকে প্রকাশিত 'সন্দীপন চট্টোপাধ্যায়ের ছোটগল্প' নামক সংকলন গ্রন্থের অন্তর্ভুক্ত করা হয় সেটিকে। 'মাতৃস্তোত্র' গল্পের মহীন এবং 'বন্ধ-এর ১০ দিন' গল্পের শুভব্রত— কামুর 'আউটসাইডার' উপন্যাসের নায়কের যোগ্য উত্তরসূরী। নিজের মায়ের মৃত্যুসংবাদেও তারা নির্বিকার থাকে। দোলনা, আলমারি, চটি— ইত্যাদি নিত্য প্রয়োজনীয় তথা দৈনন্দিনের ব্যবহার্য তুচ্ছ জিনিস নিয়ে গল্প লিখেছেন সন্দীপন। অতুলনীয় বর্ণনাশক্তির গুণে ও রচনারীতির নৈপুণ্যে সেগুলি গল্পের মধ্যে আর তুচ্ছ বা নিতান্ত গৌণ হয়ে থাকে না। ক্রমশ তারা লাভ করে গভীর তাৎপর্য এবং সূক্ষ্ম ভাববাহী ব্যঞ্জনা। 'চটি' গল্পের নির্মল চটিসর্বস্ব অদ্ভুত জীবন কাটায়। সাধের চটিজোড়াকে কেন্দ্র করে আবর্তিত হয় তার কামনা বাসনা স্বপ্ন কল্পনা এবং প্রত্যয়।

নিগূঢ় এক আত্মজিজ্ঞাসা, ব্যাপক অর্থে যা অস্তিত্বজিজ্ঞাসারই নামান্তর— সেটাই হয়ে ওঠে এই 'না লেখক'-এর কথাসাহিত্যের কেন্দ্রীয় বিষয়। মূল 'থীম'। তাঁর মাথার পিছনে কোনো বৃত্তাকার বলয় বা পরিধি নেই। সরস্বতীকে ঠোঁটে লিপস্টিক লাগিয়ে গলির মুখে দাঁড় করানোর মূলস্রোতে তিনি কোনোদিন ছিলেন না। সমগ্র সাহিত্যজীবনে স্বধর্মেই স্থিত থেকেছেন। অল্প লিখেছেন বলে পাঠকসমাজে লেখক হিসেবে মান্যতা পাননি। চিরকাল তাই থেকেছেন একজন সফল 'না-লেখক' হয়ে। সন্দীপনের স্বতন্ত্র ও মৌলিক সাহিত্যকর্মের সংক্ষিপ্তসার একজন বিস্মিত ও মুগ্ধ পাঠকের দৃষ্টিভঙ্গিতে ধরা রইল এ লেখায়।

তথ্যসূত্র ঃ

১। গল্পসমগ্র (প্রথম খণ্ড) ঃ সন্দীপন চট্টোপাধ্যায়। সম্পাদনা ঃ অদ্রীশ বিশ্বাস। মিত্র ও ঘোষ পাবলিশার্স প্রাইভেট লিমিটেড। জানুয়ারি-২০০৫।

২। গল্পসমগ্র (দ্বিতীয় খণ্ড) ঃ সন্দীপন চট্টোপাধ্যায়। সম্পাদনাঃ অদ্রীশ বিশ্বাস। মিত্র ও ঘোষ পাবলিশার্স প্রাইভেট লিমিটেড। এপ্রিল-২০০৫।

৩। উপন্যাসসমগ্র (১) ঃ সন্দীপন চট্টোপাধ্যায়। আজকাল। জানুয়ারি-২০০৪।

৪। উপন্যাসসমগ্র (২) ঃ সন্দীপন চট্টোপাধ্যায়। আজকাল। জানুয়ারি-২০০৫।

৫। উপন্যাসসমগ্র (৩) ঃ সন্দীপন চট্টোপাধ্যায়। আজকাল। জানুয়ারি-২০০৬।

৬। সন্দীপন চট্টোপাধ্যায় সম্পর্কে দুটো-একটা কথা যা আমরা জানি। সম্পাদনা ঃ অদ্রীশ বিশ্বাস ও প্রবীর চক্রবর্তী। ভূমিকা। জুলাই-১৯৯৬।

স্বামী বিবেকানন্দের দৃষ্টিভঙ্গীতে অদ্বৈতবাদ

সুপর্ণা মিত্র*

আলোচ্য প্রবন্ধে স্বামীজীর দৃষ্টিভঙ্গী থেকে অদ্বৈততত্ত্বকে বিশ্লেষণের প্রয়াস করা হয়েছে। প্রসঙ্গত এসেছে শঙ্করাচার্য্য প্রবর্তিত অদ্বৈতবাদের আলোচনা। স্বামীজী শঙ্করাচার্য্যের অদ্বৈতবাদের মূলতত্ত্ব 'ব্রহ্মসত্য' এই অংশকে স্বীকার করেছেন, যদিও একই সঙ্গে জগতের সত্তাকে কিভাবে স্বীকার করেছেন তার বিশ্লেষণও রয়েছে। এই আলোচনাতে শঙ্করাচার্য্যের মতের সঙ্গে স্বামীজীর ভাবনাচিন্তার সূক্ষ্মাতিসূক্ষ্ম পার্থক্যের ওপর আলোকপাত করা হয়েছে।

শঙ্করাচার্য্যের অদ্বৈতবাদের মূল প্রতিপাদ্য বিষয় একটি শ্লোকের মাধ্যমে ব্যক্ত হয়েছে—

ব্রহ্ম সত্যং জগন্মিথ্যা
জীবো ব্রহ্মৈব নাপরঃ।

অর্থাৎ ব্রহ্ম সত্য, জগৎ মিথ্যা, জীব ব্রহ্ম ভিন্ন অন্য কিছু নয়।

শঙ্করাচার্য্যের মতে, জগৎ প্রপঞ্চের সকল বস্তুই কোনো না কোনো ভেদযুক্ত। ভেদ তিন প্রকার ; সজাতীয়, বিজাতীয় এবং স্বগত। জগতের সকল বস্তুসামগ্রীই সজাতীয়, বিজাতীয় এবং স্বগত ভেদযুক্ত। কিন্তু ব্রহ্মেতে এইরূপ কোন ভেদ নেই। তিনি একমেবাদ্বিতীয়ম্, অখন্ড সত্তা। অখন্ড ব্রহ্ম ত্রিকালাবাধিত। অতীত, বর্তমান, ভবিষ্যত কোনো কালের দ্বারাই বাধিত বা খন্ডিত হন না। তাই অখন্ড ব্রহ্ম পরমার্থ সত্য।

শঙ্করদর্শনে দ্বিতীয় বক্তব্য হলো জগৎ মিথ্যা।

এখন প্রশ্ন হলো ব্রহ্মই একমাত্র সত্য এবং জগৎ মিথ্যা হলে তথাকথিত এই জড়জগৎ, প্রাণ, মন, ইন্দ্রিয় যেগুলি প্রতিনিয়ত আমাদের সম্মুখে প্রতীয়মান তাদের মিথ্যা বলা যায় কী করে ?

অদ্বৈতবাদী শঙ্করাচার্য্য এই প্রশ্নের উত্তর দিয়েছেন আধিবিদ্যক (Metaphysical) ব্যাখ্যার মাধ্যমে। তার দর্শনে 'মিথ্যা' কথাটির ব্যাখ্যা অত্যন্ত তাৎপর্যপূর্ণ। জগৎকে 'মিথ্যা' বলার তাৎপর্য হলো জগৎ সদসদ্ বিলক্ষণ।

অর্থাৎ প্রতীয়মান জগৎ ব্রহ্মের মতো সৎ নয়, কেননা পারমার্থিক দৃষ্টিতে জগৎ বাধিত বা খন্ডিত হয়ে যায় এবং ব্রহ্মের একত্ব প্রতিপাদিত হয়। আবার জগৎ অসৎ বা অলীকও নয়। শঙ্করের মতে, যা কখনোই কোনো জ্ঞানের বিষয় হয় না, তাই অসৎ বা অলীক। এই অর্থে বন্ধ্যাপুত্র, আকাশকুসুম প্রভৃতি অসৎ। কারণ এদের পক্ষে কোনো জ্ঞানের বিষয়রূপে প্রতিভাত হওয়া সম্ভব নয়। কিন্তু জগৎ আমাদের কাছে প্রতিভাত হয়, এবং জগতের বিষয়গুলিও আমাদের কাছে একান্তভাবেই বাস্তব বলে উপলব্ধ হয়। তাই জগৎ অসৎ বা অলীকও নয়। জগৎ হলো মায়া। 'মায়া' শব্দটি অদ্বৈত বেদান্তে অজ্ঞান, অবিদ্যা প্রভৃতির সমার্থক শব্দ হিসেবে ব্যবহৃত হয়েছে। মায়া ভ্রান্তি উৎপাদনকারী অজ্ঞান বিশেষ। ভ্রান্তির ফলেই আমরা এক বস্তুর স্থানে অন্য বস্তুকে প্রত্যক্ষ করি। কিন্তু প্রকৃত ব্রহ্মানুভূতি হলে জগৎ প্রপঞ্চের পৃথক কোনো সত্তা (existence) থাকে না ; "সর্বং খল্বিদং ব্রহ্ম" - সবকিছুই ব্রহ্মময় এইরূপ অনুভূতি হয়। জগৎকে ব্রহ্ম থেকে পৃথক সত্তারূপে গণ্য করলে তা হবে ভ্রান্ত দৃষ্টি। ব্রহ্মের অস্তিত্বেই জগতের অস্তিত্ব, ব্রহ্ম ভিন্ন জগতের পৃথক কোনো অস্তিত্বই নেই।

স্বামী বিবেকানন্দ শঙ্করপ্রস্থানে অদ্বৈতভাবনার সম্বন্ধে মূল সিদ্ধান্তকে গ্রহণ করলেও মায়া সম্বন্ধে তাঁর নিজস্ব চিন্তা-ভাবনা অনুধাবনযোগ্য। স্বামীজীর মতে, মায়া কোনো পরাতাত্ত্বিক তত্ত্ব নয়, তা একান্তভাবেই বাস্তব। মানুষ সীমিত ক্ষমতার অধিকারী, তার জ্ঞানও আপেক্ষিক ক্ষমতার দিক থেকেও তার সীমাবদ্ধতা আছে। তাই অনন্ত সত্যকে

* *সহকারী অধ্যাপিকা, দর্শন বিভাগ, মৌলানা আজাদ কলেজ, কলকাতা।*

সে উপলব্ধি করতে পারে না। উদাহরণ স্বরূপ বলা যায় যে, জগতে যা কিছু উৎপত্তিশীল তারই বিনাশ অবশ্যম্ভাবী। এই সত্য জেনেও আমরা বিনাশপ্রাপ্ত অনিত্য বিষয় সম্বন্ধে দুঃখ পাই। জন্ম হলে মৃত্যু অবশ্যম্ভাবী, এই চরম সত্যকে জেনেও মন থেকে মৃত্যুকে মেনে নিতে পারি না। তাই মৃত্যু চরম শোকের বার্তা আনে মানুষের জীবনে। জীবনে অনিত্য বস্তুসমূহের প্রতি আমাদের আকর্ষণ বিন্দুমাত্র কমে না, বরং একের পর এক বিষয়ের প্রতি মন অশ্বের মতো ধাবিত হতে থাকে, কোনো কিছুতেই মন স্থিত হতে পারে না। মানুষের অনুভবে আজ যা শুভজনক, তাই কালক্রমে দুঃখজনক বলে সে অনুভব করে। এই সুখ-দুঃখের অনুভবও আবার ব্যক্তিবিশেষের কাছে আপেক্ষিক ; যদিও এই আপেক্ষিকতা সম্বন্ধে আমরা অবহিত নই, তাই সুখ-দুঃখের বিষাদের জটাজালে আমরা আমরণ বদ্ধ থেকে যাই, — একেই বিবেকানন্দ মায়া বলেছেন। এই মায়াকে এই জীবনে কোনোভাবেই অস্বীকার করার উপায় নেই। মায়া হলো মানবজীবনের কতকগুলি বাস্তব ঘটনার বিবৃতি।

প্রসঙ্গত বলা দরকার যে, অদ্বৈতীও মায়াকে সর্বাংশে অস্বীকার করেননি, শাঙ্কর দর্শনে ব্যবহারিক দৃষ্টিকোণ থেকে মায়ার অস্তিত্বকে মেনে নেওয়া হয়েছে। কিন্তু সঙ্গে সঙ্গে এই মায়ার বন্ধন থেকে মুক্তিলাভের জন্য ব্রহ্ম সাধনার কথাও বলা হয়েছে। প্রকৃত ব্রহ্মোপলব্ধির ফলে অজ্ঞানের নাশ হবে, ফলে জগতের মিথ্যাত্ব প্রতিপাদিত হবে।

স্বামীজী অদ্বৈতীর মতো মায়াকে মিথ্যা বলে অস্বীকার করেননি। স্বামীজীর মতে সংসারগতির বর্ণনার নামই মায়া। তাঁর মতে মায়া বলতে কতকগুলো ঘটনাকে বোঝায় যা আমরা অস্বীকার করতে পারি না। তিনি বলেন, মায়ার জগতের মধ্যে থেকেই মায়াকে ছিন্ন করতে হবে। জগতে দুঃখ-বিরোহিত সুখ, অশুভ বিরহিত শুভ নির্ভেজালভাবে পাবার সম্ভাবনা নেই, কারণ জীবনের অর্থই বিনষ্ট সাম্যভাব। আমাদের চাই মুক্তি, জীবন-সুখ বা দুঃখ এসবের কোনোটাই নয়। মনের সংকীর্ণতার জন্যই আমরা নিজেকে বদ্ধ, দুর্বল মনে করি। বিবেকানন্দ দৃঢ়ভাবে চিত্তের এই দুর্বলতা নাশের কথা বলেছেন। তাঁর মতে, ইহলোককে বর্জন করে কেবল পরলোকেই ঈশ্বর লাভ হবে— বেদান্ত একথা বলে না। তাঁর মতে, বেদান্ত জগৎ জীবনকে অস্বীকার করেনি, বরং জগৎকে ভাগবত-সত্তায় উন্নীত করতে চায়। ঈশোপনিষদের মন্ত্র 'ঈশাবস্য মিদং সর্বম্' অর্থাৎ ঈশ্বরের দ্বারা সবকিছু আচ্ছাদিত করে দেখতে হবে। সর্বত্র ঈশ্বরদর্শন বলতে অমঙ্গল, অশুভ এইগুলিকে বাদ দিয়ে ঈশ্বরদর্শন বোঝায় না। অমৃতত্ব ও মৃত্যু একই সত্তার দুই দিক। সেজন্য স্বামীজীর শিক্ষা হলো জীবনে সুন্দর, শোভন প্রকাশের মধ্যেও যেমন ঈশ্বরকে উপলব্ধি করতে হবে, তেমনই ক্ষয়-ক্ষতি, দুঃখ-বেদনার মধ্যে সেই একই ঈশ্বরকে অনুভব করতে হবে। মানুষ যখন সর্বভূতে ঈশ্বরকে প্রত্যক্ষ করে তখনই সে মুক্ত।

উপনিষদে নির্গুণ ও সগুণ এই দুই প্রকার ব্রহ্মের উল্লেখ আছে। শঙ্করাচার্য্যের মতে, নির্গুণ ব্রহ্মাই একমাত্র সত্য। সগুণ ব্রহ্ম বা ঈশ্বর মায়োপহিত চৈতন্য, তাই ব্যবহারিক দৃষ্টিতে ঈশ্বর সত্য হলেও পারমার্থিক দৃষ্টিতে একমাত্র ব্রহ্মই সত্য। স্বামীজী নির্গুণ ও সগুণ ব্রহ্মের মধ্যে অদ্বৈতীর মতো কোনো ভেদরেখা টানেননি। প্রসঙ্গত শ্রীরামকৃষ্ণ পরমহংসদেবের ভাবশিক্ষা স্বামীজীর জীবনদর্শনের মধ্য দিয়ে প্রতিফলিত হয়েছিল। শ্রীরামকৃষ্ণদেব বলতেন - বহু অথবা এক একই সত্তা, যা বিভিন্ন সময়ে বিভিন্ন অবস্থায় মনের মধ্যে অনুভূত হয় মাত্র। তিনি সবসময়েই বলতেন যে ঈশ্বর সাকার নিরাকার দুইই, তিনি এমন এক তত্ত্ব যাতে সাকার নিরাকার দুইই আছে। অনুরূপভাবে স্বামীজীও বলেছেন নির্গুণ ব্রহ্মই জীবন্ত ঈশ্বর। ঈশ্বর ও ব্রহ্ম এক ও অভিন্ন। এই ঈশ্বরকে সর্বপ্রথমে নিজের অন্তরের মধ্যে উপলব্ধি করতে হবে। উপলব্ধি ঘটলে ব্যক্তির সর্বানুভূতির বোধ আসবে। তখন সে পরিবার, সমাজ এমনকি পশুপাখীর মধ্যেও ঈশ্বরের সর্বব্যাপকতা উপলব্ধি করবে। শঙ্করের মতে মুক্তির জন্য জীবকে তত্ত্বমসি বাক্য ব্রহ্মজ্ঞ পুরুষের কাছে গিয়ে শ্রবণ করতে হবে, পরে এই ব্যাপারে অনন্ত সম্ভাবনা দূর করার জন্য মনন করতে হবে, অবশেষে এই তত্ত্বে নিবিষ্ট হয়ে নিদিধ্যাসন করতে থাকলে 'সোঅহম্' এই অপরোক্ষ অনুভূতি লাভ হবে, এর নামই মুক্তি। অদ্বৈত মতে, কর্ম বা ভক্তি কোনোটিই মুক্তির সাধক নয়। ভক্তি ভগবান এবং ভক্তের মধ্যে ভেদজ্ঞানের ভিত্তিতে সম্ভব। অথচ অদ্বৈত মতে সমস্ত প্রকার ভেদই মিথ্যা, একমাত্র আত্মতত্ত্বের জ্ঞানেই মুক্তি ঘটবে।

অপরপক্ষে শ্রীরামকৃষ্ণের ভাবাদর্শে স্বামীজী ব্যক্তিগত অনুভবের মাধ্যমে বুঝতে পেরেছিলেন যে, কেবল শুষ্ক, কট্টর জ্ঞানের সাধনাই মুক্তির পথ প্রশস্ত করতে পারে না, তার সঙ্গে কর্ম এবং ভক্তিরও প্রয়োজন আছে। ভক্তি ভগবান ও ভক্তের মধ্যে ভেদ সৃষ্টি করে না, আত্মপ্রেম মানুষের মধ্যে সংকীর্ণতার সৃষ্টি করে, কিন্তু মানুষ যদি বর্ণ, ধর্ম, জাতি নির্বিশেষে সকল মানুষকে ভালবাসতে চেষ্টা করে, শিবজ্ঞানে জীবসেবা করতে করতে মানুষ নিজেই সেই শুদ্ধ, বুদ্ধ, মুক্ত আত্মার অংশ বলে অনুভব করবে। তাই মুক্তির জন্য জ্ঞান শুধু নয়, কর্ম এবং ভক্তিরও প্রয়োজন আছে।

স্বামীজীর সঙ্গে কট্টর বেদান্তীগণ শঙ্কর, মাধ্ব, রামানুজ প্রমুখদের আরেকটি পার্থক্য হলো, ঐসব আচার্যরা মানুষের অধিকারীভেদের ওপর জোর দিয়েছেন। কিন্তু স্বামীজী অদ্বৈতীয় মতো নিত্যানিত্য বস্তুবিবেক প্রভৃতি অভ্যাসের চর্চা না করলে যে আত্যন্তিক জ্ঞান লাভ হবে না, একথা বলেননি।

তিনি বেদ প্রভৃতি শাস্ত্রকে কেবলমাত্র পন্ডিত, সনাতনধর্মী মানুষের জন্য নয়, জগতে নাস্তিক, ম্লেচ্ছ সকল মানুষের কাছে উন্মুক্ত করে দিয়েছেন। স্বামীজী বলতেন শঙ্করাচার্য্য বেদান্তকে নিয়ে গিয়েছেন অরণ্যের বিদ্যাচর্চায়, আর আমি সেই বনের বেদান্তকে এনেছি জীবনের সর্বক্ষেত্রে কার্যে পরিণত করার জন্য। স্বামীজীর বেদান্তে অহং ব্রহ্মাস্মি অথবা তত্ত্বমসি মহাবাক্যের মধ্যে নতুন মহাবাক্য সংযোজিত হয়েছে তা হলো শিবজ্ঞানে জীবসেবা। তিনি আরও বলতেন যে, বেদান্তের মহান অদ্বৈততত্ত্ব-ই এযুগের পথ নির্দেশ দেবে ; বেদান্তের নিজস্ব আত্মিক সাম্য ও স্বাধীনতার বাণীর মাধ্যমে তার সুদৃঢ় ভিত্তির ওপরে গড়ে উঠবে ভারতের আদর্শ রাজনীতি, সমাজনীতি, অর্থনীতি। তিনি দৃঢ়ভাবে বিশ্বাস করতেন শুধু ভারতের জন্য নয়, সমগ্র বিশ্বের জন্য এই তত্ত্ব নিশ্চিত ভাবে কার্যকরী শান্তি, সম্প্রীতি ও সমৃদ্ধি ঘটাতে সাহায্য করবে। ভগিনী নিবেদিতা স্বামীজীর সমগ্র কর্মপ্রণালীর দুটি মূল উদ্দেশ্যের কথা বলেছেন, এক - জাতি সংগঠন, দুই - বিশ্ব জাগরণ। স্বামীজী বিশেষ অধিকারবাদ, ভোগবৈষম্যকে ধ্বংস করে সমাজে উচ্চনীচ, জাত-পাত নির্বিশেষে সকলের মধ্যে সমতা আনতে চেয়েছিলেন। কেননা তিনি বিশ্বাস করতেন প্রত্যেক মানুষের মধ্যে সেই ব্রহ্মশক্তি সুপ্তভাবে বিরাজ করছে।

স্বামীজী বেদান্তের পরমতত্ত্বকে প্রাত্যহিক জীবনে কিভাবে কর্মক্ষেত্রে প্রয়োগ করা যায় তার উপদেশ ও পথ প্রদর্শন করেছেন। তিনি চার প্রকার যোগের কথা বলেছেন, এর যে কোনো একটিকে নিষ্ঠার সঙ্গে গ্রহণ করলে মানুষের পক্ষে তার আত্যন্তিক লক্ষ্যে উপনীত হওয়া সম্ভবপর হয়। চার প্রকার যোগ যথাক্রমে— জ্ঞানযোগ, কর্মযোগ, ভক্তিযোগ এবং রাজযোগ। জ্ঞান মার্গের বিচার বিতর্কের প্রাধান্য দেওয়া হয়। অর্থাৎ আত্মা কী ? তাঁর স্বরূপ কী ? দেহ ও আত্মা কী ভিন্ন না অভিন্ন? জগতের স্বরূপ কী ? এই সব প্রশ্নের বিশ্লেষণ করে ক্রমশ আত্মতত্ত্বে পৌঁছানো যায়। কর্মযোগের বক্তব্য ভগবদগীতার শিক্ষার তুল্য। অবিরত কাজ করো, কিন্তু কাজে আসক্ত হয়ো না। মানসিক মুক্তি, দৈহিক মুক্তি, আধ্যাত্মিক মুক্তির উদ্দেশ্যে কাজ করতে হবে।

ভক্তিযোগ প্রসঙ্গে স্বামীজী বলেছেন - ভক্তি কখনো বিচারের বিরোধী হয় না। আমরা যাকে প্রেরণা বলি তা যুক্তির পরিণত রূপ। সোজা হয়ে দাঁড়াও এবং প্রেমময় ভগবানের সন্ধান করো। দুর্বল ব্যক্তিত্ব কখনোই ভগবৎ ভক্তি আয়ত্ব করতে পারে না। সুতরাং দেহ, মন, নীতি এবং আধ্যাত্মিকতা কোনো দিক থেকেই দুর্বল হয়ো না।

সর্বশেষে, রাজযোগ। স্বামীজী এই যোগকে মনস্তাত্ত্বিক যোগ বলেছেন। পরমসত্তাকে প্রত্যক্ষভাবে উপলব্ধি করার ব্যবহারিক ও মনোদৈহিক উপায় এই রাজযোগ। অখন্ড অভিনিবেশের দ্বারাই এই যোগ আপন লক্ষ্যে উপনীত হতে পারে। শ্রীরামকৃষ্ণদেবের উপদেশের অনুপ্রেরণায় স্বামীজী বোঝাবার চেষ্টা করেছেন যে, সকল মত ও পথের বৈশিষ্ট্য থাকলেও উক্ত চার প্রকার যোগের মাধ্যমে আত্মজ্ঞান লাভ ও সকল বস্তুতে ব্রহ্মের অখন্ড অস্তিত্বের উপলব্ধি অনুভূত হয়।

বিবেকানন্দ ঃ ব্যবহারিক বেদান্ত

রচনা বসু*

সারসংক্ষেপ ঃ স্বামী বিবেকানন্দের জীবনে ও দর্শনে এক মিলিত শক্তি হিসেবে রয়েছে শঙ্করাচার্যের কাছ থেকে প্রাপ্ত 'তত্ত্বমসি' বা 'অহং ব্রহ্মাস্মি'রূপ অদ্বৈতানুভূতি আর শ্রীরামকৃষ্ণের কাছ থেকে অর্জন করা 'জীবই শিব'—এই অনুভব। এর ফলশ্রুতিস্বরূপ প্রতি ব্যক্তিকে অদ্বয় অখণ্ড শক্তির আধাররূপে জ্ঞান করেছেন তিনি এবং প্রত্যেক ব্যক্তির মুক্তির পথ হিসেবে নির্দেশ করেছেন নিষ্কাম কর্মদর্শনের মার্গকে। একধারে তাতে মিলিত হয়েছে অদ্বৈতবেদান্তের সর্বোচ্চ আদর্শ এবং জীবনের প্রেক্ষাপটে তা বাস্তবায়নের প্রয়াস। কর্মই বিবেকানন্দের প্রধান শক্তি—মুক্তির দিশারী, যার মধ্য দিয়ে সর্বমানসে প্রকাশ লাভ করেছে বেদান্তের এক নতুন অধ্যায়; এরই নাম ব্যবহারিক বেদান্ত।

আপন বহির্ভূত প্রত্যেক বস্তুর সঙ্গে প্রতিনিয়ত সংগ্রামের নামই জীবন। বর্তমান যুগের ব্যাপক অবক্ষয়ের মধ্যে মানুষের প্রয়োজন দৃঢ় আশ্রয়, যেখানে মানুষ এক স্থির আদর্শ লাভ করতে পারে, যার মধ্য দিয়ে সে তার আপন বিস্মৃত স্বরূপ উপলব্ধি করতে পারে। বিবেকানন্দের বাণী ও রচনার মধ্যে দিয়ে মানুষের পক্ষে সেই অচঞ্চল স্থিরভূমি লাভ করা সম্ভব। বিবেকানন্দের কাছে কেবল মানব এবং সত্যেরই অস্তিত্ব ছিল। তাই মনে হয়, তিনি এখনও তাঁর আন্তরিক সেবাময় প্রচেষ্টা দ্বারা এই দুইয়ের মিলন সাধনের চেষ্টা করে চলেছেন। বিবেকানন্দের মানসক্ষেত্র ছিল তারুণ্যপূর্ণ, উচ্ছল, আত্মশক্তি ও আত্মবিশ্বাসে উদ্বেল, অধিকন্তু তা ছিল অনুসন্ধিৎসু এবং সজাগ। তাঁর পশ্চাতে ছিল বহু সহস্র বছরের জাতীয় জীবনের ক্রমাভিব্যক্তি নিয়ে দীর্ঘকালের পথ চলা ভারতবর্ষ আর তাঁর সঙ্গে ছিল এক অদম্য উৎসাহী ভাঙনে-গড়নে পরিপূর্ণ বিপুল বিশ্ব। ব্যক্তিত্বাভিমানশূন্য এই ব্যক্তির আধারে মিলিত হয়েছে প্রাচ্য ও আধুনিক। সমগ্র অতীতের দ্বারা সুনির্দিষ্ট সকল প্রাণের বাণী ধ্বনিত হয়েছে তাঁর কণ্ঠে, যে বাণীই উদ্ঘাটিত করেছে তাঁর নিজস্ব মহিমা ও শক্তির গূঢ় রহস্য। বিবেকানন্দের মধ্যে দিয়েই এক অপার্থিব পবিত্রতা ও অসামান্য শক্তি আজও মানুষকে উন্নত ও পবিত্র করে চলেছে। মানবতার পূজারী এই কর্মীর দৃষ্টিতে মানুষ কখনো অসত্য থেকে সত্যে গমন করে না বরং সত্য থেকে সত্যে আরোহণ করে। এই শিক্ষা এবং মুক্তির উপদেশ—এই হল মানুষের প্রতি বিবেকানন্দের আবেদন। বিবেকানন্দের আধ্যাত্মিক লক্ষ্য যেমন ব্রহ্মলাভ, তেমনি তাঁর আধ্যাত্মিক অনুশাসন হল, স্ব-স্বরূপপ্রাপ্তি বিষয়ে প্রত্যেক আত্মার পূর্ণ স্বাধীনতা।

সত্য, জ্ঞান এবং আনন্দকে আপন অন্তরে উপলব্ধি করেছেন বিবেকানন্দ এবং তাকেই সকলের মধ্যে বিলিয়ে দিতে চেয়েছেন তিনি। বিবেকানন্দের সর্বব্রহ্মবাদ জগতের মূল সত্তারূপে আত্মিক ঐক্যকে স্বীকার করে। অদ্বৈতবাদের এই মূল সূত্র বিবেকানন্দের চিন্তার ভিত্তি। তাঁর মতে দ্বৈত, বিশিষ্টাদ্বৈত এবং অদ্বৈত একই বিকাশের তিনটি অবস্থা। তবে এই বিকাশের চরম লক্ষ্য হল শেষোক্ত অদ্বৈততত্ত্ব। বহু এবং এক-একই সত্তা, বিভিন্ন সময়ে বিভিন্ন অবস্থায় মনের দ্বারা অনুভূত একই সত্তার বিভিন্ন বিকাশ। এক বিপুল গভীর তত্ত্বের এমন সরল সমাধান অসামান্য। বহু এবং এক যদি যথার্থই এক সত্তা হয়, তাহলে সকল কর্মপদ্ধতি, সকল প্রকার প্রচেষ্টা, সকল প্রকার সৃষ্টিকর্মই সত্য উপলব্ধির পন্থা। জগৎ অজস্র বৈচিত্র্য নিয়ে তাঁর চেতনাকে এক অন্তর্নিহিত ঐক্যভাবনায় উদ্‌বোধিত করেছিল। এককে তিনি যতখানি সত্য বলে জানতেন, বিচিত্র্যকে তিনি ততখানিই সত্য বলে জানতেন। জগৎ ও জীবনের বৈচিত্র্যকে তিনি সেই একেরই প্রকাশরূপে দেখেছিলেন। বিবেকানন্দের বৈদান্তিক চিন্তায় এক এবং বহু দুইয়েরই মূল্য সমান। তবু একে দ্বৈতবাদ বলব না। তাঁর অদ্বৈতবাদ রামমোহনেরই অনুরূপ। ব্রহ্মও আছে, ব্রহ্মের মায়াসৃষ্টি জগৎও আছে। বিবেকানন্দের অদ্বৈতবোধ জীব ও ব্রহ্মকে অভেদ করে নিয়েছে, তাতে জীব এক মহা আত্মিক ঐক্যবোধে বদ্ধ

** সহকারী অধ্যাপক, দর্শন বিভাগ, দুর্গাপুর সরকারি কলেজ।*

হয়েছে, সেইসঙ্গে বিপুল মহিমায় আত্মবিশ্বাস ফিরে পেয়েছে। কেউ ছোট নয়, কেউ হীন নয়, কেউ ক্ষুদ্র নয়, সকলেই সেই পরম একেরই অভিব্যক্তি। এই বিশ্বাসে মানুষের জীবন পবিত্র ও শক্তিমান হয়ে উঠুক। বিবেকানন্দ বিশ্বাস করতেন, 'রুচীনাং বৈচিত্র্যাদৃজুকুটিলনানাপথজুষাং। নৃণামেকো গম্যস্ত্বমসি পয়সামর্ণব ইব। বিভিন্ন নদীর উৎস বিভিন্ন স্থানে, কিন্তু তারা সকলেই যেমন এক সমুদ্রে তাদের জলরাশি মিলিয়ে দেয়, তেমনি নিজ নিজ রুচির বৈচিত্র্যবশতঃ সরল ও কুটিল নানা পথে যারা চলেছে, তাদের সকলেরই একমাত্র লক্ষ্য সেই পরম ব্রহ্ম। ঊনবিংশ শতাব্দীর শেষের দিকে আমাদের মানবিকতাবোধ যে একটা নতুন রূপ পরিগ্রহ করেছিল, তার মূলে বৈদান্তিক চিন্তার নতুন দৃষ্টির প্রভাব অপরিসীম। বিবেকানন্দের অদ্বয় উপলব্ধি মানুষ মাত্রকেই জাতিধর্ম নির্বিশেষে দৈবপ্রভায় আলোকিত করেছে। মানবত্বই সত্য ; জাতি, ধর্ম প্রভৃতি ভেদ সেই সত্যের ব্যবহারিক প্রকাশমাত্র। মানবাত্মার অখণ্ডতা বিবেকানন্দের চিন্তাতেই অটল সত্যরূপে প্রতিষ্ঠা লাভ করল। রামমোহন থেকেই ভারতে যে হিউম্যানিজমের অঙ্কুর দেখা দিয়েছে, বিবেকানন্দের মধ্যে এসে বৈদান্তিক সর্বব্রহ্মবাদে তা রূপান্তরিত হল।

বিশ্বাস, প্রেম এবং সেবা—এই তিনের ঘনীভূত মিশ্রণ বিবেকানন্দ। কর্মের মধ্যে দিয়েই প্রকাশ লাভ করে বিশ্বাস, প্রেম এবং সেবা। তাই অদ্বৈতচেতনায় অটল প্রতিষ্ঠ বিবেকানন্দ কর্মের প্রয়োজনীয়তাকে বিশেষ গুরুত্ব দিয়েছিলেন। তাঁর মতে, কর্মই জীবন, কর্মই মুক্তি। তিনি নিজে ছিলেন এক অক্লান্ত কর্মী। তাঁর তৈরি সন্ন্যাসীসম্প্রদায়ের মধ্যে দিয়ে তিনি প্রচার করে চলেছেন কর্মেরই বাণী। ব্রহ্মোপলব্ধি এবং কর্মসাধন—এই দুইয়ের মধ্যে যুক্তির সেতু রচনা করেছেন বিবেকানন্দ। অখণ্ড ঐক্যের জন্য কর্মের সাধনায় ব্যক্তিমানসের জাগরণ ছিল বিবেকানন্দের বৈদান্তিক চিন্তার একটি গুরুত্বপূর্ণ বৈশিষ্ট্য। তিনি আধ্যাত্মবোধে ব্যক্তিকে জাগাতে চেয়েছিলেন, ব্যক্তির মানসিক উত্তরণ ঘটাতে চেয়েছিলেন। তাঁর আত্মপ্রত্যয়সিদ্ধ সত্যধর্মবোধের মূলে ব্যক্তিচেতনা। তিনি ব্যক্তি ও সমষ্টিকে অন্য আলোয় দেখেছিলেন। ব্যক্তির অর্থ তাঁর কাছে সামাজিক বা জৈব নয়, আত্মিক সত্তার অভিব্যক্তিরূপে তা মহিমাপূর্ণ। ব্যক্তির কর্ম মুক্তির জন্য তথা আত্মোপলব্ধির জন্য। এই মুক্তিই আনে আনন্দ, সেই আনন্দ যারা অন্বেষণে প্রতিনিয়ত রত ব্যক্তি-হৃদয়, সেই আনন্দ যার প্রকাশে বিচ্ছুরিত হয় ব্যক্তিত্ব।

অদ্বৈতানুভূতি অর্জন জীবনের পরম লক্ষ্য বা মুক্তি কিন্তু তার যথার্থ পরিণতি প্রেমে। প্রেম আর প্রত্যয় এই দুইয়ের উৎস মানুষের অন্তর্নিহিত সর্বাত্মকতাবোধে। বিবেকানন্দ বলেছেন, যে মুহূর্তে প্রতি মানুষে ব্রহ্মকে উপলব্ধি করলাম, মানুষকে পবিত্র জ্ঞান করলাম, সেই মুহূর্তে আমি সর্ববন্ধন মুক্ত। এর চেয়ে সুন্দর উপলব্ধি আর কি হতে পারে। বিবেকানন্দের ব্যক্তিত্ববাদ সর্বাত্মীয়তার উপলব্ধির ক্ষেত্রে ক্ষুদ্র অধিকারকে ত্যাগ করে বৃহৎ অধিকার লাভ করে। এই বৃহত্তরের ডাক মানুষের সকল দুঃখকে ভুলিয়ে তাকে অন্তরের আনন্দস্রোতে ভাসিয়ে দেয়। তাই সাধারণ জীবনে আমরা যাকে বঞ্চনা, হঠকারিতা ভেবে দুঃখ পাই, বিবেকানন্দ তার থেকে উত্তরণের পথ হিসেবে বলেছেন এক আন্তরিক অনুভূতির কথা। সেই অনুভূতির নাম দেওয়া যেতে পারে শ্রদ্ধা বা স্নেহ বা নিবেদন। এই আত্মনিবেদন যাকে শ্রীকৃষ্ণ থেকে বিবেকানন্দ সকলেই বলেছেন নিষ্কাম প্রেম, তা রয়েছে মুক্তির কেন্দ্রবিন্দুতে। এই মুক্তির স্বাধীনতা—আত্মার স্বাধীনতা। বিবেকানন্দ প্রত্যেক ব্যক্তির মধ্যে এই ত্যাগ ও আত্মনিবেদনের আদর্শকে প্রস্ফুটিত করতে চেয়েছেন। সীতা-সাবিত্রী-সারদা-নিবেদিতার আদর্শকে তিনি বর্তমান সমাজে বাস্তবায়িত করার স্বপ্ন দেখেছেন। এঁরা একাধারে শান্তির দূত এবং মুক্তিকামী। এই শান্তির প্রার্থনা ভবিষ্যৎ প্রজন্মের জন্য আর এই মুক্তির অর্থ নিষ্কামরূপে সকল কর্ম সম্পাদনের মাধ্যমে পরম সুন্দরে লীন হওয়া।

বিশ্বজগৎ মুক্তির নিরন্তর প্রয়াস করে চলেছে। মানুষকে মুক্তি পেতে হয় জীবনের স্বাভাবিক কর্মবন্ধনের মোচন সূত্রে, আত্মস্বরূপকে জেনে। এতো গীতার বাণীরই প্রতিধ্বনি। মায়োপহিত জগতে ইচ্ছায় অনিচ্ছায় জ্ঞাতসারে অজ্ঞাতসারে কর্ম করতেই হয়। অন্ধ কর্মানুষ্ঠানে মুক্তি নেই। জীবাত্মাকে মানুষ যখন সেই একেরই অংশরূপে অনুভব করে এবং কর্মপাশ মোচন করতে করতে চলে, তখনই সে পূর্ণমুক্তির পথে অগ্রসর হয়। জীব বিশেষরূপে ব্যক্তিমাত্র,

জীবাত্মার ক্রমপ্রসার অনন্তের দিকে। অর্থাৎ ব্যক্তিত্ব ক্রমেই বৃহত্তর চেতনার সৃষ্টি করে চলে। অনন্তের দিকে জীবের এই ক্রমগতিতেই তার স্বরূপ উন্মোচিত হয় এবং সেটাই কল্যাণ। বিবেকানন্দে জ্ঞান ও কর্ম মিলেমিশে গেছে। তিনি বলেন, আত্মজ্ঞানই কর্মকে শুচি করে আর নিঃস্বার্থকর্মই এনে দেয় পূর্ণতা। বিবেকানন্দ কর্মযোগ, জ্ঞানযোগ, রাজযোগ এবং ভক্তিযোগের মধ্য দিয়ে মুক্তির পথ দেখিয়েছেন। কোনটিই বস্তুত সম্পূর্ণ আলাদা বা অন্যের বিরোধী নয়। বিশ্বব্যাপী কর্মধারার যে নিরন্তর প্রবাহ তাকেই তিনি ভক্তি ও প্রেমের দিক দিয়ে ব্যাখ্যা করেছেন। জীব এবং পরমাত্মা এক বলেই পারস্পরিক প্রেমের এই আকর্ষণ। এই চারটি পথের লক্ষ্য একটিই, অখণ্ড এককে জেনে খণ্ডতা ও বিচ্ছিন্নতাকে বৈদান্তিক পরিভাষায় আপেক্ষিক বা প্রাতিভাসিক বলে অনুভব করা। এই অখণ্ডতা জ্ঞানই বিবেকানন্দের মূল দর্পণ। এই অদ্বৈতবোধ থেকেই কর্মের প্রেরণা, নীতির সূত্র এবং ব্যক্তির মূল্যবোধ। অদ্বৈতবাদ কিন্তু তাঁকে কখনো জীবনের প্রতি উদাসীন করেনি। মায়ার জগৎকে তিনি মুক্তির কর্মস্থলে পরিণত করেছেন কর্মেরই সাহায্যে। এ কর্ম নিষ্কাম কর্ম। বিবেকানন্দ যে কর্মকেই মুক্তির উপায় বলে ঘোষণা করলেন, ব্যক্তিচেতনার উপর সেই কর্মের প্রেরণা ও শক্তি দিয়েছে প্রবল আত্মবিশ্বাস। শ্রীকৃষ্ণের মত করেই তিনি বলেছেন, মানুষ পদ্মপত্রের মত সংসারে বাস করবে; পদ্মপাতা জলে থাকলেও তাতে যেমন জল লাগে না, মানুষ তেমনি সংসারে থাকবে, ব্রহ্মে হৃদয় সমর্পণ করে হাতে কাজ করবে।

বিবেকানন্দ বারবার বলেছেন, সত্যকার ব্যক্তিত্ব আসে অদ্বৈত চিন্তাতেই। তবে দেহগত ব্যক্তিত্ব ভ্রান্তিমাত্র। মানুষের চৈতন্যাংশ স্বম্বন্ধে অদ্বৈত জ্ঞানই কেবল যুক্তিযুক্ত সিদ্ধান্ত। বিবেকানন্দ অদ্বৈতানুভূতির ক্ষেত্রেও প্রতি ব্যক্তির স্বাধীন বিশ্বাস এবং স্বাতন্ত্র্যকে নির্দেশ করেছেন। বিবেকানন্দের ব্যক্তিত্ববোধ চিন্তা এবং কর্মোদ্যমে। অদ্বৈত চিন্তার সঙ্গে ব্যক্তিত্ববোধকে মেলানো বিবেকানন্দের একটা বড় দান এবং আধুনিক জীবনধর্মেরই বিশিষ্টতায় চিহ্নিত। ভগবদ্গীতাতে শ্রীকৃষ্ণ অর্জুনকে বলেছিলেন আত্মস্বরূপকে জানলে আর কর্মে ঔদাসীন্য আসবে না। নিজের প্রতি যথার্থ বিশ্বাস এলে নিঃস্বার্থ কর্মে আগ্রহ জন্মাবে। সেই একই বাণী আমরা বিবেকানন্দের কণ্ঠে ধ্বনিত হতে শুনি। তিনি দেখিয়েছেন, যথার্থ আত্মবোধে যে ব্যক্তি জাগ্রত, তার প্রবল আত্মবিশ্বাস সমগ্র জীবনকর্মকে বিশিষ্ট করে তোলে। এই আত্মবোধ ক্ষুদ্র অহং নয়, 'এক' রূপে ব্রহ্মের উপলব্ধি।

জগতের সকল দুঃখ সমস্যার একমাত্র সমাধান মানবজাতিকে শুদ্ধ ও পবিত্র করা। তবে পরিত্রাণের উপায় কিন্তু কর্মহীনতা নয়। মানুষকে অবিরত কর্ম করতে বলা হয়েছে। প্রত্যেক কর্মই অপরিহার্যভাবে শুভাশুভ মিশ্রিত এবং শুভাশুভ উভয়ই নিজ নিজ ফল প্রসব করবে। এই শুভাশুভ উভয়ই আত্মার বন্ধন। বুদ্ধ প্রধানতঃ ধ্যানের দ্বারা, যীশু প্রার্থনা দ্বারা যে অবস্থা লাভ করেছিলেন, মানুষ কেবল কর্মের দ্বারাই সেই অবস্থা লাভ করতে পারে। মুক্তির অর্থ সম্পূর্ণ স্বাধীনতা—যেমন অশুভ বন্ধন থেকে, তেমনি শুভ বন্ধন থেকেও মুক্তি। আমরা জানি সোনার শিকলও শিকল, লোহার শিকলও শিকল। তাই আমাদের প্রচেষ্টা হবে শুভ-অশুভ সকল সংস্কারকে জয় করার। প্রথমে অশুভ সংস্কারগুলি শুভ সংস্কার দ্বারা ব্যাহত করতে হবে। যতদিন না যা কিছু মন্দ তা প্রায় অন্তর্হিত হয় অথবা নিয়ন্ত্রিত হয়ে মনের এক কোণে বশীভূত ভাবে থাকে, ততদিন মনের মন্দ সংস্কারগুলি দূরীভূত করে সেখানে ভালো সংস্কারের তরঙ্গ প্রবাহিত করতে হবে। কিন্তু তারপর শুভ সংস্কারগুলিও জয় করতে হবে। সেই রূপেই আসক্ত মন ক্রমে অনাসক্ত হয়ে যায়। সাংখ্যের সেই মহাকাব্য আমাদের প্রতিনিয়ত স্মরণ করায়, সমুদয় প্রকৃতি আত্মার জন্য, আত্মা প্রকৃতির জন্য নয়।

কর্মযোগের তত্ত্ব বুঝতে হলে কর্তব্য কাকে বলে তা জানা আবশ্যক। ব্যক্তিনিরপেক্ষভাবে কর্তব্যের একটি সংজ্ঞা দেওয়া প্রায় অসম্ভব। তবে ব্যক্তি বা অধ্যাত্মের দিক থেকে কর্তব্যের লক্ষণ নির্ণয় করা যেতে পারে। সর্বাবস্থায় সর্ববিধ ব্যক্তির পক্ষে কোন্ কার্যের দ্বারা কিরূপ ভাব আসবে, তা নিশ্চিতভাবে বলা যদিও সম্ভব নয় তবু সকল যুগের, সকল সম্প্রদায়ের ও সকল দেশের মানুষের কর্তব্য সম্বন্ধে বলা যায়—পরোপকারঃ পুণ্যায় পাপায় পরপীড়নম্।

কর্তব্য জ্ঞানে কৃত কর্মই আমাদের কর্তব্য জ্ঞানের অতীত কর্মে নিয়ে যায়, তখন কর্ম উপাসনায় পরিণত হয়। শুধু তাই নয়, তখন কর্মের জন্যই কর্ম অনুষ্ঠিত হয়ে থাকে। কর্তব্যের তত্ত্ব নীতি বা প্রেম যে কোন রূপেই প্রকাশিত হোক না কেন, এর একমাত্র উদ্দেশ্য হল মানবাত্মাকে আপন মহিমায় প্রকাশিত করা। কর্তব্য কর্মের জন্য প্রয়োজন অতি কঠোর ত্যাগ স্বীকার। জ্ঞাতসারে বা অজ্ঞাতসারে এইভাবেই সমগ্র সমাজ সংহতি গড়ে উঠেছে। কর্ম ও অভিজ্ঞতার ক্ষেত্রে স্বার্থপূর্ণ বাসনা কমতে কমতে মানুষের প্রকৃত স্বরূপের অনন্ত বিস্তৃতির পথ প্রশস্ত হয়। সর্বদাই লক্ষ্য করা যায়, স্বার্থপরতা ও ইন্দ্রিয়পরতা থেকে পাপ ও অসাধুতার উদ্ভব আর নিঃস্বার্থপ্রেম ও আত্মসংযম থেকে ধর্মের বিকাশ। আমরা দেখেছি, প্রেম মিশ্রিত হলেই কর্তব্য রুচিকর হয়। প্রেম আবার কেবল স্বাধীনতাতেই দীপ্তি পায়। প্রাপ্ত সমস্ত কর্ম সমাপ্ত করে যদি ধীরে ধীরে শক্তি সঞ্চয় করে অগ্রসর হওয়া যায়, তবেই স্বাধীনতা বা মুক্তি লাভ করা সম্ভব। বিবেকানন্দ কর্ম রহস্য সম্বন্ধে বলতে গিয়ে গাজিপুরের পওহারিবাবার উল্লেখ করে বলেন, তিনি বলতেন—'যন্ সাধন তন্ সিদ্ধি' অর্থাৎ যে কর্মের ক্ষেত্রে উদ্দেশ্য ও উপায় এক হয়, সেই কর্ম আর শুধু কর্ম থাকে না, তা তখন সর্বোচ্চ পূজারূপে অনুষ্ঠিত হয়। প্রবৃত্তি ও নিবৃত্তি উভয়ই কর্ম। তবে নিবৃত্তিই সকল নীতি এবং ধর্মের মূল ভিত্তি, এর পূর্ণতাই সম্পূর্ণ আত্মত্যাগ। অপরের জন্য আমরা যে কাজ করি, তার মুখ্য ফল চিত্তশুদ্ধি। সর্বদা অপরের কল্যাণ করার চেষ্টা করতে গিয়ে আমরা যেন নিজেদের ভুলবার চেষ্টা করছি। এক্ষেত্রে এই আত্মবিস্তৃতিই আমাদের জীবনে এক প্রধান শিক্ষার বিষয়। মানুষ মূর্খের মত মনে করে স্বার্থপর উপায়ে সে নিজেকে সুখী করতে পারে। বহুকাল চেষ্টার পর সে অবশেষে বুঝতে পারে, প্রকৃত সুখ স্বার্থপরতার নাশে এবং সে নিজে ব্যতীত অপর কেউই তাকে সুখী করতে পারে না। যতক্ষণ না আত্মা স্বীয় স্বতন্ত্রতা হারায়, ততক্ষণ কোন শক্তিই আত্মার উপর প্রভাব বিস্তার করতে পারে না। একমাত্র অনাসক্তি দ্বারাই মানবাত্মা নিজের উপর আরোপিত হওয়া সকল প্রভাব জয় করতে পারে। পরোপকারমূলক প্রতিটি কার্য, সহানুভূতিসূচক প্রতিটি চিন্তা আমাদের ক্ষুদ্র 'আমি'-র গরিমা কমিয়ে আমাদের পৌঁছে দিচ্ছে এক সর্বোচ্চ আদর্শের সামনে, যা হল—অনন্তকালের জন্য পূর্ণ আত্মত্যাগ; যেখানে কোন 'আমি' নেই, সব 'তুমি'। জ্ঞাতসারে বা অজ্ঞাতসারে কর্মযোগ মানুষকে ঐ লক্ষ্যেই নিয়ে যায়। 'আত্মত্যাগ'-ই হল সেই লক্ষ্য যেখানে জ্ঞানী, কর্মী ও ভক্ত একত্রে মিলিত হতে পারে।

বিবেকানন্দের কর্মযোগ নিঃস্বার্থপরতা ও সৎকর্ম দ্বারা মুক্তি লাভের একটি ধর্ম ও নীতি প্রণালী। আমরা দেখেছি, কর্ম প্রকৃতির ভিত্তির অংশবিশেষ। কর্মপ্রবাহ সর্বদাই বয়ে চলেছে। প্রকৃত ব্যক্তি কখনো কর্মকে অস্বীকার করেন না, তবে প্রত্যেক বিষয় থেকে নিজেকে প্রত্যাহৃত করবার শক্তি তাঁর মধ্যে সদা জাগ্রত। তিনি জানেন, শক্তিই জীবন, দুর্বলতাই মৃত্যু। শক্তিই সুখ ও আনন্দ, শক্তিই অনন্ত ও অবিনশ্বর জীবন আর দুর্বলতাই অবিরাম দুঃখ ও উদ্বেগের কারণ। তিনিই যথার্থ ব্যক্তিত্বের অধিকারি, যাঁর মধ্যে রয়েছে হৃদয় ও মস্তিষ্কের অপূর্ব সমাবেশ—তিনিই অতুলনীয় বিকশিত আত্মশক্তির শ্রেষ্ঠ দৃষ্টান্ত, তাঁর ভিতর থেকেই এমন কর্মশক্তি উৎসারিত হবে যা জগতের রূপ পরিবর্তিত করবে।

তথ্যসূত্র ঃ

১। স্বামী বিবেকানন্দের বাণী ও রচনা—প্রথম খণ্ড, প্রথম সংস্করণ ২১শে মার্চ, ১৯৬৪, সপ্তদশ পুনর্মুদ্রণঃ জুন, ২০০২, উদ্বোধন কার্যালয়।

২। স্বামী বিবেকানন্দের বাণী ও রচনা—দ্বিতীয় খণ্ড, প্রথম সংস্করণ ২১শে মার্চ, ১৯৬৪, পঞ্চদশ পুনর্মুদ্রণঃ জানুয়ারি, ২০০২, উদ্বোধন কার্যালয়।

৩। বাঙালি মানসে বেদান্ত—ডঃ ভবতোষ দত্ত, ১৯৮৬, সাহিত্যলোক, কলকাতা।

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