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Characteristics of Macro Economics and India's Exchange Rate Regimes since independence

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Abstract : In this paper, the effects of several macro economic variable like growths of GDP, per capita NNP, volume of trade, employment and volatility of exchange rate, inflation, terms of trade, etc., on different exchange rate regimes in India since independence is studied.

Background

Indian exchange rate regimes and its impact on several macro economic variables in pre-independence period was not synonymous with the post-independence period. When the international monetary system was under U.K.-dominated gold standard, India followed the silver standard. Rupee was convertible to pound sterling with official fixed exchange rate and the pound sterling was convertible to gold during 1872-73 — 1892-93. The price of silver was falling gradually, whereas the price of gold was officially fixed but its market price was diminishing slowly. This mechanism had greatly influenced the growth of India's international trade because the growth of exportable and importables were 1.6% and 1.82% per year respectively under the silver standard. The positive balance of trade had increased 1.4% per year and the sum of the marginal propensity to export and import was .2613. The GNP grew at the rate of 646% per year. The elasticities of real income per head with respect to exports and imports were .1299 and .114 respectively. But terms of trade was unfavourable in most of the years. (Sen. N. 1992 : 114). Both the exportables and importables were inversely related with the Sterling value of Rupee. The elasticities of exportables and importables with respect to Sterling value of Rupee were — 1.87 and — 2.16 respectively which stated that importables were more elastic. (Trade No. 1,4,5,6 and 8).

But, when England and International Monetary System were under the hey day of Gold Standard, India was forced to introduce the

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Gold Exchange Standard by the suggestion of Keynes during 1892-93—1912-13. Indian Rupee was convertible to Pound Sterling which was officially fixed but slightly upward in the market at an average pence per Rupee whereas silver price was steadily descending. In this regime, Indian exportables and importables grew at the rates of 1.97% and 1.91% per year respectively. Again, the positive balance of trade increased at the rate of 2.28% per year. The sum of the marginal propensity to export and import was .2569. But terms of trade was unfavourable in most of the years. Since both the exportables and importables were positively related with the market rate of Sterling value of Rupee, then the elasticities of exportables and importables with respect to it were 2.213 and 2.3 respectively. There were no correlation between silver price, exports and imports. (Table No. 1,4,5,6 and 8).

Therefore, India, under Gold Exchange Standard, was more stable than the silver standard. Because, the growth rates of Gross National Product and value of trade, the sum of the marginal propensilies to export and import, terms of trade, change of real income per head with respect to value of trade were higher in the former than in the latter. Also, the impact of volatility of exchange rate of Rupee on value of trade was less in the Gold Exchange Standard than the Silver Standard.

Indian Exchange Rate Regimes Since Independence

1. Inflation and exchange rate regimes.

The econometric study conducted by International Monetary Fund (Ghosh A.R., Gulde A, Ostry J.D., Wolf H. 1996) on the choice of exchange rate regimes and inflation suggested that countries with low inflation do indeed have greater proclivity towards pegged exchange rate. Thus, regime could maintain greater monetary discipline and was and anti-inflationary tool.

During 1950-51—1970-71, when India was under the Bretton Woods system and followed pegged exchange rate with dollar at officially fixed rate, then the price index of all commodities rose by 1.86% per year (Average Price Index (GM) = 21.06) and the average percentage change of all commodities over previous year grew at the rate of 3.80% per year. After the breakdown of Bretton Woods System, India followed pegged exchange rate with basket of

currencies during 1975-76—1990-91 where she confronted with 7.41% growth rate of inflation per annum or 3.27% increase in price index per annum (Average Price Index (GM) = 104.07). At last, India started to introduce managed floating exchange rate mechanism along with dollar convertible Rupee since 1991-92. Then she experienced a higher rate of inflation which stepped up 10.77% per annum during 1991-92—1994-96. The regime encountered with 3.98% increase in price index of all commodities per year (Average Price Index (GM) = 238.48). Therefore, lower inflation was observed in India under pegged exchange rate regime with key currency (Dollar) compared with either pegged with basket of currencies or floating exchange rate. (Table No. 1)

2. Growth and Exchange Rate Regimes.

The IMF Study mentioned above also (Ghosh A.R., Gulde A, Ostry J. D, Wolf H. 1996) estimated that the floating exchange rate observed faster growth rates than the pegged rate. The study was synonymous with India's exchange rate regimes although the associations were not so strong.

In the regression analysis, it was found that both the growth rates of gross domestic product and per capita gross domestic product were estimated as 8.12% and 7.08% per annum respectively under the floating exchange rate regime. But the growth rates of GDP and NNP per capita were 1.85% and 0.97% per year respectively during the basket pegged exchange rate regime. It was also seen that the rates were 1.58% and 0.58% per year respectively during the key currency pegged exchange rate regime. Therefore, faster economic growth was observed in India's managed floating exchange rate regime since 1991-92 (Table No. 3).

Higher economic growth is reflected in higher productivity growth. The part of the higher productivity growth under floating rate is seen in faster growth of external trade which is measured as the sum of export growth and import growth. The regression of trend equations of India's exports and imports under different exchange rate regimes stated that exports and imports grew at the rates of 9.31% and 9.04% per annum respectively during the managed floating exchange rate regime whereas the rates were 5.59% and 6.57% per year respectively during the basket pegged rate whereas the

rates were 1.94% and 2.3% per annum respectively in the key currency pegged rate regime. Hence, the higher growth of trade was observed in the floating than in the pegged rate in India (Table No. 4). Again, the higher degree of divergence in the trade balance was also seen in that regime than others (Table No. 7).

The pegged exchange rate system can engender the higher volatility of employment. The annual average growth rate of employment in India in the key currency pegged rate was 3.3% per year in comparison with 1.76% and 2.03% per year during the basket pegged rate and floating exchange rate regimes respectively. Therefore, no regime was strong enough in achieving higher growth rate of employment in Indian economy. Neither Phillips Curve nor wage-price flexibility/rigidity is valid in explaining growth rate of Indian employment. The Fund study postulated higher investment in pegged rate whereas Indian capital formation showed reverse situation. (Table No. 1).

3. Variability, trade and exchange rate regimes.

According to the study of Paul De Grauwe (1996), it is understood that variability of exchange rate has negative effects on growth rate of trade the showed that growth rate of international trade declined in industrial countries as a result of increased variability of exchange rate which encouraged them to pursue more protectionist policy and disintegration in trade.

A similar study by S.K. Varghese (1985) showed that the magnitude of the volatility of exchange rates has been higher during the floating regime, in the Bretton Woods era. Under generalised floating, large scale exchange rate volatility has not enabled to develop exchange rate risk. This was also supported by Stanley Fischer (1977), who also discarded currency board arrangement in present exchange rate management in the developing countries. Williamson dismissed the adverse effects of exchange rate on trade from the influence of IMF study which showed that exchange rate variability and trade did not prove a statistical causal link. But Federal Reserve Bank of New York study showed that volatile exchange rate has led to a significant reduction in trade between West Germany and U.S.A.

In India, the daily variability of exchange rate or rupee with dollar, pound sterling, Deutsch mark, yen and franc measured by

mean and standard deviation, were higher in floating regime that in the basket peg along with a higher growth rate of trade. This finding was supported by the Fund study but not by the study of Paul De Grauwe (J F E I F 1996 10 (1) 83-84).

The characteristic of exchange rate through NEER and REER can be analysed in India to study the impact on trade under different exchange rate regimes to justify above propositions.

The econometric analysis performed here have proved that one percent decline in NEER led to 2.56% and 2.45% increase in exports and imports per year respectively under the managed floating regime. But the rates of increase were 3.8% and 3.69% in exports and imports per year in basket peg regime whereas the rates were 1.23% and .788% per year respectively during the key currency (dollar) pegged rate regime. Thus, the responsiveness of exchange rate as measured by the changes of NEER had influenced a smaller increase in trade in the floating than in the pegged regime. (Table No. 9).

Moreover, it was also found that one percent reduction in REER led to increase in exports by 1.43% per ye[illegible] in imports by 93% per year during the floating era whereas e[illegible]s and imports grew 3.22% and 3.28% per year respectively in the basket pegged exchange rate regime. The rates were 2.51% and 1.34% per year respectively during the key currency pegged exchange rate regime. So, we can conclude that exchange rate variability though REER affected unfavourably on trade in the floating regime. (Table No. 10).

In fact, the trend equations showed that NEER declined 3.14% per year in the floating in comparison with 2.41% per year in the key currency pegged rate and .92% per year in basket currency pegged rate regimes respectively. On the other hand, REER declined 1.25% per year in the key currency pegged rate in contrast with 0.78% per year in the basket pegged rate and .38% per year in the floating regime respectively. Therefore, the growth rate of NEER is greater than REER in all regimes, with showed inverse result against the association between volume of trade and exchange rate variability (Table No. 11).

It is more interesting to note that the sum of the marginal propensity to export and import was higher in the managed floating

than in the basket pegged and key currency pegged rate systems (.992 + 1.098)> (.269 + .423)> (.0187 + .0253) which implied that the multiplier effect on trade was greater in the pegged rate than in the floating rate assuming contant marginal prosperity to consume. Moreover, one percent increase in both exports and imports induced to .458 (= .1628 + .396) percent increase in per capita GDP in the floating regime, .316 (= .17 + .14) percent increase in the basket pegged rate and .374 (= .185 + .189) percent increase in the key currency pegged rate regimes respectively. (Table No. 8 and 5). It was also found that the elasticities of exports and imports were higher in the pegged rate than in the floating with respect to variability of exchange rates. This clearly confirmed that there was no distinct causal link between the variability of exchange rate in different regimes with the changes in GDP per capita or NNP per capita and the multiplier effect on trade. So there is an ample scope to study further on this theme.

INDIA'S TRANSITION FROM PEG TO FLOATING

India's transition form peg to floating rate is synonymous with other developing countries. According to the assumptions of Aghevli and Montiel (1996), India, too, switched over from pegged to floating to (i) ensure macro economic stability (ii) control inflation (iii) enter into greater international competitiveness (iv) move towards greater exchange rate flexibility (v) forgo excessive expansionary policies (vi) improve terms of trade, (vii) achieve greater management of debt, public sector and forex reserves (viii) face external shocks, etc.

India failed to achieve (i) to (iv) during the transition as explained in the earlier sections. Moreover, she could not improve the gross barter terms of trade since the average value was 1.11 in the floating regimes, 1.57 in the basket currency pegged regime and 1.47 in the single currency pegged rate regime respectively. The effectiveness index of depreciation as advocated by Intal (1992) was unfavourable in the balance of payments adjustment in the transition (Table No. 1). The flexibility of exchange rates diverged since NEER declined more rapidly in the floating rate (3.14% per year) than in the single currency pegged rate (2.41% per year) and basket currency pegged (92% per year) rate. On the contrary, REER fell more sharply

in the single currency pegged rate (1.25% per year) than in the basket currency pegged rate (0.78% per year) and the floating rate (.38% per year) respectively. The transition was partly successful in managing public sector and forex reserve but unsuccessful in the management of public debt and trade balance.

Therefore India's move from pegged rate to floating exchange rate has evolved severe uncertainties and external shocks than before. Also economic reform could not claim the success of the pace of the transitional process where India was very weak in formulating the exchange rate policies.

In the transition, the developed countries, too, experienced misalignment of NEER and REER, growing inflation, unemployment, fiscal policy failure and sectoral instability. They have engulfed into the intense power game in forming the optimum currency area and target zone of exchange rate to attain balance of payment equilibrium and in forming a stable payments mechanism. Obviously, they have been searching a strong monetary anchor for sustainable exchange rate development. They need urgently a single international money for pursuing global monetary and fiscal policies.

India's good start in the race of international money and multilateral trade practices is credit worthy but how she will finish following the developed countries, is to be seen more in the latter years in and will depend on political will.

Conclusion

The background of the paper suggested that the macro economic stability, variability of exchange rate, growth and inflation were more favourable in silver standard and gold exchange standard than in the post independence pegged and floating regimes. Also greater stability was seen in gold exchange standard (upto 1912) than silver standard in several macro economic scenario.

The paper concludes that the pegged exchange rate was an anti-inflationary tool and a good measure of variability of exchange rate reduction. It assured greater degree of macro economic stability and produced higher multiplier effect on trade.

On the one hand, the floating exchange rate encouraged for faster growths of GDP, GDP per capita, foreign exchange reserves,

capital market etc. On the other hand, the regime discouraged the growth of employment, favourable terms of trade, reduction of public debt and effectiveness index of depreciation in adjusting balance of payments equilibrium.

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Table No. 1
Exchange Rate Regimes and Macro economic indicators.

Exchange Rate Regimes	INFLATION			Average Gross Barter Terms of Trade	Average (GM) Effectiveness Index of Depreciation (EID)	Average rate of Gross Domestic Saving (%)	Average rate of Gross Domestic Capital Formation (%)	money			EMPLOYMENT
	Average (GM) Price Index of all commodities	Growth rate of Price Index (% per year)	Average % change over previous year of all commodities					Average Growth rate of M_3 (%)	Average growth rate of Bank Deposits (%)	Average growth rate of Bank Credit (%)	Annual average growth rate of Employment (%)
Single Currency pegged rate system. 1950-51—1970-71	21.06%	1.86	3.80	1.47	1.052*	12.11	12.11	3.77	4.05	4.20	3.30
Basket Currency pegged rate system. 1975-76—1990-91	104.07	3.27	7.41	1.57	0.587	21.28	23.50	4.79	4.74	4.79	1.76
Managed Floating rate system. 1991-92—1995-96	238.48	3.98	10.77	1.11	0.330	23.70	24.88	11.17	11.98	15.12	2.03

Source India Development Report 1997, Economic and Political Weekly various issues, Southern Economist April 1 & 15, 1997, Tata's Statistical outline of India 1992-93,
Indian Economy — Dutt R & Sundaram K.PM (S. Chand, New Delhi, 1995).
* 1960-61 — 1970-71.

Table No. 2
Fiscal Deficit, Public Debt and Exchange rate Regimes

Exchange Rate Regime	Average Fiscal deficit as percentage of GDP	(i) Average debt, (ii) Total debt service as percentage of goods and services.
Basket pegged exchange rate 1975-76—1990-91*	6.45%	(i) 43516.08 million U.S.$ (ii) 21.9%
Floating Exchange rate 1991-92 — 1995-96	6.22%	(i) 84586.4 million U.S.$ (ii) 28.2%
Floating Exchange rate Project for 1992-2001.	N.A.	(i) 92678.2 million U.S. $. (ii) 26.9%

Source : India Development Report 1997, Economic and Political Weekly August 20, 1994.
* 1980—1991 for this table only

Table No. 3
Exchange Rate Regimes and Growth rates of GDP, GDP per capita and per capita NNP
1913 = 100 for 1872-73 — 1912-13 and 1980-81 = 100 for 1951-52 — 1995-96

Silver Standard 1872-73—1892-93	Log GDP = 2.93 + .006 t + U (16.78) DW = 1.86 R^2 = .81	Log Real income per head = 1.91 + .0023 t + U (5.50) DW = 2.28 R^2 = .13
Gold Exchange Standard 1893-94—1912-13	Log GDP = 3.045 + .0118t + U (22.44) DW = 67 R^2 = .84	Log Real income per head = 1.93 + .0039 t + U (13.74) DW = 1.26 R^2 = .71
Single Currency pegged rate system 1950-51—1970-71	Log GDP = 4.61 + .0158 t + U (81.48) DW = 1.35 R^2 = .99	Log NNP per capita = 3.05 + .0058 t + U (17.92) DW = 1.57 R^2 = .83
Basket Currency pegged rate system 1975-76—1990-91	Log GDP = 4.98 + .0185 t + U (35.37) DW = .52 R^2 = .96	Log NNP per capita = 3.16 + .0097 t + U (18.76) DW = .766 R^2 = .88
Managed Floating Exchange rate system 1991-92 — 1995-96	Log GDP = 5.53 + .0812 t + U (33.26) DW = 1.68 R^2 = .98	Log GDP per capita = 3.62 + .0708 t + U (40.07) DW = 2.01 R^2 = .98

Source : Sen. N. (1992), Economic and Political Weekly (various issues), India Development Report 1997.
Regressions Equations calculated by author.
All the t values are significant at. 1-2 percent level.

Table No. 4
Exchange Rate Regimes and Growth rate of trade

Silver Standard in India and International Gold Standard. 1872-73—1892-93	Log X = 1.712 + .016 t + U (33.5) DW = .96 R^2 = 0.96	Log M = 1.50 + .0182 t + U (11.4) DW = .40 R^2 = 0.92
Gold Exchange Standard in India and International Gold Standard. 1893-94—1912-13	Log X = 1.946 + .0197 t + U (21.04) DW = .81 R^2 = 0.88	Log M = 1.79 + .0191 t + U (24.75) DW = 1.19 R^2 = .90
Gold Exchange Standard in India International Bretton Woods system 1950-51-1970-71	Log X = 2.671 + .0194 t + U (13.31) DW = .35 R^2 = 0.67	Log M = 2.791 + .0230 t + U (17.53) DW = 1.34 R^2 = 0.77
Basket peg in India 1975-76—1990-91	Log X = 3.52 + .0559 t + U (36.21) DW = .41 R^2 = 0.96	Log M = 3.61 + .0657 t + U (48.36) DW = .82 R^2 = 0.96
Managed Floating exchange rate in India 1991-92— 1995-96	Log X = 4.55 + .0931 t + U (56.53) DW = 2.07 R^2 = 0.99	Log M = 4.61 + .0904 t + U (27.07) DW = 1.36 R^2 = 0.96

Source : Sen. N. (1992), Economic and Political weekely various issues,
Regressions Equations calculated by author.
All the t values are significant at. 1-2 percent level.

Table No. 5
Exchange Rate Regimes trade and real income, NNP, GDP per capita

Silver Standard 1872-73—1892-93	ln Real Income Per Head = 3.92 + .1299 ln X + U (27.37) DW = .539 R^2 = .27	ln Real Income Per Head = 4.004 + .1140 ln M + U (36.11) DW = 1.65 R^2 = .27
Gold Exchange Standard 1893-94—1912-13	ln Real Income Per Head = 3.71 + .1663 ln X + U (82.85) DW = 1.7 R^2 = .54	ln Real Income Per Head = 3.74 + .1731 ln M + U (80.40) DW = 1.41 R^2 = .54
Single Currency Pegged system 1950-51—1970-71	ln NNP per Capita = 5.95 + .1855 ln X + U (81.70) DW = .473 R^2 = .46	ln NNP per Capita = 5.85 + .1898 ln M + U (97.06) DW = .952 R^2 = .601
Basket Currency pegged rate system. 1975-76—1990-91	ln NNP per Capita = 5.85 + .176 ln X + U (224.17) DW = 2.65 R^2 = .94	ln NNP per Capita = 6.12 + .14 ln M + U (98.05) DW = .648 R^2 = .82
Managed Floating rate system 1991-92—1995-96	ln GDP per Capita = 4.10 + .1623 ln X + U (54.64) DW = 9.95 R^2 = .44	ln GDP per Capita = 1.713 + .3964 ln M + U (180.48) DW = 2.07 R^2 = .83

Source : Sen. N. (1992), India Development Report, Economic and Political Weekely 1997, various issues,
Regressions Equations calculated by author.
All the t values are significant at. 1-2 percent level.

Table No. 6
Exchange Rate Regimes, Volume of Trade and External value of Rupee.

Silver Standard 1872-73—1892-93	ln X = 9.85—1.874 (Sterling value of Rupee) + U (−259.37) DW = .87 R^2 = 0.85	ln M = 10.26-2.16 ln (Sterling value of Rupee) + U (−242.75) DW = 1.22 R^2 = 0.85
Gold Exchange Standard 1893-94—1912-13	ln X = 1.11—2.2131 (Sterling value of Rupee) + U (121.95) DW = 1.87 R^2 = .211	ln M = 1.72 + 2.3 ln (Sterling value of Rupee) + U (138.72) DW = .168 R^2 = .251
Single Currency Pegged system 1950-51—1970-71	Re/$ = constant	Re/$ = constant
Basket Currency pegged rate system. 1975-76—1990-91	ln X = 3.83 +2.264 ln (Re/$) + U (107.75) DW = .37 R^2 = .92	ln M = 3.82 + 2.43 ln (Re/$) + U (59.25) DW = .48 R^2 = .77
Managed Floating rate system 1991-92—1995-96	ln X = 3.152 +2.368 ln (Re/$) + U (142.59) DW = 1.77 R^2 = .88	ln M = 3.06 + 2.42 ln (Re/$) + U (104.25) DW = 2.28 R^2 = .96

Source : Sen. N. Ambeddkar B. R. (1947), Economic and Political Weekly Various issues, Regression Equations calculated by author.
All the t values are significant at. 1-2 percent level.

Table No. 7
Exchange Rate Regimes and Growth of B.O.T. and Forex

Silver Standard 1872-73—1892-93	Log BOT = 1.297 + .014 t + U (11.38) DW = 1.73 R^2 = .53	N. A
Gold Exchange Standard 1893-94—1912-13	Log BOT = .905 + .0228 t + U (2.31) DW = .082 R^2 = .603	N. A.
Single Currency Pegged system 1950-51—1970-71	Log BOT = 1.78 + .0515 t + U (6.58) DW = 1.26 R^2 = .31	Log Forex = 3.26 − 0248 t + U (−9.54) DW = .26 R^2 = .536
Basket Currency pegged rate system. 1975-76—1990-91	Log BOT = 2.70 + .1072 t + U (16.32) DW = .547 R^2 = .65	Log Forex = 3.84 − 0227 t + U (−10.3) DW = .46 R^2 = .28
Managed Floating rate system 1991-92—1995-96	Log BOT = 3.62 + .1120 t + U (2.74) DW = 2.05 R^2 = .38	Log Forex = 3.60 + .1514 t + U (8.92) DW = .46 R^2 = .82

Source : Ambedkar B. R. (1947) Sen N. (1992), India Development Report 1997, Economic and Political Weekly, various issues.
Regression Equations calculated by author.
All the t values are significant at 1-2 percent level.

Table No. 8
Exchange Rate Regimes and Marginal Propensities to Exports and Imports

Silver Standard 1872-73—1892-93	X = -75.23 + .1507 GNP + U (73.87) DW = 1.48 R^2 = .74	M = -61.43 + .1106 GNP + U (34.54) DW = 2.05 R^2 = .72
Gold Exchange Standard 1893-94—1912-13	X = -81.58 + .1533 GNP + U (55.48) DW = .976 R^2 = .86	M = -53.69 + .1036 GNP + U (68.61) DW = .857 R^2 = .92
Single Currency Pegged system 1950-51—1970-71	X = -365.24 + .0187 GNP + U (31.54) DW = .335 R^2 = .72	M = 430.94 + .0255 GNP + U (22.85) DW = 50 R^2 = .72
Basket Currency pegged rate system. 1975-76—1990-91	X = -26349.5 + .269 GNP + U (66.39) DW = .506 R^2 = .92	M = -41475 + .423 GNP + U (97.80) DW = .77 R^2 = .96
Managed Floating rate system 1991-92—1995-96	X = -168013.27 + .992 GNP + U (214.27) DW = 2.71 R^2 = .99	M = 184919.1+1.098 GNP + U (94.47) DW = 2.27 R^2 = .98

Source : Sen. N. (1992), Economic and Political Weekly Various issues, India Development Report 1997.
Regression Equations calculated by author.
All the t values are significant at. 1-2 percent level.

Table No. 9
Exchange Rate Regimes, Trade and NEER, (36 country trade weighted and 1985—86 = 100)

Single Currency pegged rate system. 1960-61—1970-71*	ln X = 14.01–1.395 ln NEER + U (–224.53) DW = .66 R^2 = .77	ln M=11.31–788 ln NEER + U (–87.37) DW = .59 R^2 = .46
Basket Currency pegged rate system. 1975-76—1990-91	ln X = 26.46-3.8 ln NEER + U (–188.68) DW = .377 R^2 = .67	ln M=26.38–3.69 ln NEER + U (–127.66) DW = .177 R^2 = .51
Managed Floating Exchange rate system. 1991-92—1995-96	ln X = 20.98–2.56 ln NEER + U (–156.88) DW = 1.57 R^2 = .87	ln M=20.67–2.45 ln NEER + U (–136.75) DW = 1.74 R^2 = .83

Source : Economic and Political Weekly Various issues.
Regression Equations calculated by author.
* As per available data
All the t values are significant at. 1-2 percent level.

Table No. 10

Exchange Rate Regimes, Trade and REER, (36 country trade weighted and 1985—86 = 100)

Single Currency pegged rate system.	ln X = 19.64–2.515 ln REER + U (–274.54)	ln M=14.09–1.34 ln REER + U (–117.68)
1960-61—1970-71*	DW = .532 R^2 = .81	DW = .468 R^2 = .43
Basket Currency pegged rate system.	ln X = 23.98–3.22 ln REER + U (-303.75)	ln M=24.64–3.28 ln REER + U (–212.49)
1975-76—1990-91	DW = .549 R^2 = .60	DW = .337 R^2 = .45
Managed Floating Exchange rate system.	ln X = 17.09–1.43 ln REER + U (–35.01)	ln M=15.1–.93 ln REER + U (–20.09)
1991-92—1995-96	DW = .464 R^2 = .066	DW = 1.04 R^2 = .028

Source : Economic and Political Weekly, various issues.
Regression Equations calculated by author.
* As per available data
All the t values are significant at. 1-2 percent level.

Table No. 11

Exchange Rate Regimes, Trade and NEER and REER, (36 country trade weighted and 1985—86 = 100)

Single Currency pegged rate system.	log NEER = 2.364–0241 t + U (–11.17)	log REER = 2.281–.0125 + t (–8.62)
1960-61—1970-71*	DW = .835 R^2 = .762	DW = .2.5 R^2 = .633
Basket Currency pegged rate system.	log NEER = 2.04–.0092 t + U (–8.14)	log REER = 2.046–.0078 t + U (–6.25)
1975-76—1990-91	DW = .185 R^2 = .55	DW = 1.03 R^2 = .53
Managed Floating Exchange rate system.	log NEER = 1.76–0314 t + U (–9.96)	log REER = 1.81–.0038 t + U (–.93)[a]
1991-92—1995-96	DW = 1.74 R^2 = .85	DW = 1.17 R^2 = .052

Source : Economic and Political Weekly, various issues. Regression Equations calculated by author.
* As per available data
All the t values are significant at. 1-2 percent level.
a = 25-50 percent level.

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Leadership Styles of Panchayati Leaders

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Abstract : The present paper endeavours to identify the present leadership styles of leaders at all the levels of the Panchayati Raj (PR). At first, it describes what leadership styles mean and how many leadership styles are there.

In the second portion of the paper, a brief discussion about previous researches on leadership and power structure of Panchayati Raj is given.

Next, the method and methodology used for the study has been mentioned. Finally, the findings of the study revealed through analysis and interpretation of data collected by administering a questionnaire on various kinds of respondent people, either directly or indirectly related to Panchayat system, have been briefly explained. Tables containing information as regards the styles of leading of panchayati leaders have been inserted into the paper to make it convenient for understanding the statements.

Revitalisation of the panchayat system was on of the first priorities given by the Left Front Government in West Bengal after it came to power in 1977. However, at first, Panchayat legislation enacted by the previous Congress Government was used but it was amended by Left Front Government from time to time in the last few decades. But, it has given the panchayats a new dimension by organising it on the basis of political parties. It is often claimed that true grass-root leaders are to be elected through appropriate democratic process to expediate the rural development programmes. It has long been agreed that even under a progressive legislation, intended poverty alleviation schemes cannot be implemented so long as the rural elites i.e. landlords, money-lenders and higher middle class-people dominate the village power structure. Here again, it appears that emphasis is laid on fulfilling a democratic principle like the representation of the people being elected rather than the right type of leader being elected on the basis of their professional knowledge and commitment for rural development. Is the leadership style really democratic? This paper has made an

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humble effort to identity the nature of leadership pattern of Panchayati Raj in West Bengal. It is generally believed that the Panchayati leadership are by and large democratic. This common belief is tested in this paper.

Leadership is one of the most fascinating areas of administration. Moreover, it is one of the most investigated areas of social science. Leadership is considered as an important factor for making an organisation successful. As leadership plays a central role in understanding group-behaviour, it is the leader who usually provides the direction towards good attainment. Thus, a leader can make, through good leadership, a programme of the organisation successfully executed. Therefore, a good leadership is essential to a business concern, the Government and any other organisation in the society. This area has attracted numerous scholars and researchers for its outstanding role in maintaining and developing the social institutions as well as the business organisations and the government administrative bodies. In fact, the sheer number of studies on this topic is quite fascinating.

In our society, there are different types of leadership. They are religious leader, functional leader, cultural leader, group or community leader, caste leader, political leader and so on.

All these kinds of leaders may be found in our rural society who may be classified into three basic categories viz. traditional, professional and group leaders. In the old and traditional set up of our village society, the leaders were of various types based on functions they performed. With the advent of Panchayati Raj system in 1957, a new group of leaders emerged out of the system. This new group of village leaders are christened as 'Panchayati Leaders'. Therefore, Panchayati leadership is a new addition to the group of old traditional and functional leaders in the village society. These leaders generally belong to the political parties and are directly elected by the villagers. Panchayati leaders are at the helm of PR-System. A panchayati leader is basically a political entrusted with the general administration, is to look after the villagers' social security, economic welfare and political life.

Leadership

Leadership refers to that skill of a person which enables him to persuade the subordinates to apply themselves with zeal and confidence. Bernard L. views a leader as "any person carrying psycho-

logical stimuli to others and effective in conditioning collective responses".[1] According to Bogurdus, a leader is a person who exerts special influence over a number people.[2] Michel views leadership as the numerous varied personal qualities with the help of which certain individuals succeed in ruling the masses.[3] Leadership was perceived earlier as the quality of an individual's behaviou whereby he is able to guide the people and their activities towards certain goals. Nevertheless, leadership is viewed as a role and refers to either the attributes or the behaviour of the person exercising that role. Leadership at the beginning was considered as the personal qualities of a man. This trait approach of the leadership has provided some descriptive insight but has little analytical or predictive value. However, leadership, as we perceive, influences the people by the use of power through some strategies to make them work on behalf of the leader. With the emergence of the contingency theory, leadership is considered situational. Accordingly, leadership is strongly affected by a situation for which the leader emerges and in which he works. He recognises the needs of the situation and then acts accordingly. In other words, it is a mode of interaction between the leader and the follower in a given situation which can be equated as $L = F(f, s)$. Leadership attempts to affect the behaviour of the followers in a particular situation. Nevertheless, leadership is not related to the situation only; it is the result of many other factors.

Panchayati Leadership

Panchayats are autonomous bodies established for rural administration. Panchayati Raj (PR) acts as a small unit of state administration. Panchayat units are lead by some particular class of leaders who have emerged out of the changed socio-economic situation. Unlike other classes of village leaders, they follow the state laws enacted by the State Legislative Assembly and rules formulated by the State Government from time to time for rural administration and implementation of development programmes. Panchayati leaders are mainly administrative leaders who belong to the political parties wherefrom they enter into periphery of the administrative units of the PR through a process of election. But they always remain alert to follow their political objectives and ideologies to fulfil their ultimate political target in addition to the discharge of official duties assigned by the Panchayat Act to them or vested by their superior leaders upon them.

Any leader may be either creative or symbolic. This proposition also holds good in case of panchayati leaders. A Panchayati

leader is symbolic when he keeps his mission to the satisfaction of his group-expectation only. He is dynamic or creative when he attempts to alter or enrich the existing stock of values by being rational minded and free from ego, superstition, selfishness and pride. In a behavioural context, panchayati leaders, like all other leaders, may be autocratic, bureaucratic, democratic or *laissez faire*. Following Rensis Likert, they may be classified into exploitative, authoritative, benevolent authoritative, consultative and participative.

Leadership Style

Leadership is a power phenomenon. A leader should possess some powers which would form the basis of his leadership. But the power is to be exercised through some strategies. Power and strategies together determine what will be the style of leadership. In other words, it can be said that a particular leadership style selects some particular power base and influencing strategies. However, style, power and strategies — the three constituting components of leadership are closely interrelated and interdependent. Different styles exploit different power-bases and strategies.

Broadly, there are four types of leadership style described under different approaches e.g. trait approach, behavioural approach, situational approach and are named variously by different authors. These styles are generally described as autocratic, bureaucratic, democratic and *laissez faire*. In the context of working aptitude, style may be either task-oriented or relationship-oriented. Two dimensional leadership study was pioneered by the behaviour school, — particularly Ohio State University studies and the University of Michigan studies. These two dimensions — task behaviour and relationship behaviour intermingle in different proportions and give birth to different derivative styles. Democratic style has some component derivatives e.g. participative, consultative, supportive, nurturant, etc. The four original styles mentioned above are universally present in every aspect of state and social affairs and in every sector, community and society.

In State administration as well as in autonomous administration there is no exception to this rule. Similarly, in any trading or non-trading concern, one or more of these styles are always present. Panchayati Raj as an autonomous administrative body also applies one or more of those styles at different situations at the same time or in different times.

Previous Researches on Leadership and Power Structure of Panchayati Raj

Alan Beals (1960) observed two kinds of leadership situations that are derived from the Government and the traditional social organisations of the village as well.

Epstein (1967) found in his study that traditional forms of leadership surviving in one village made very little economic development. She noted a positive correlation between political and organisational change. According to her, economics might be the determining variable for such change.

The leadership and political system had also been studied by Oscar Lewi, S (1958) at Rampur Village in U.P. and in the vicinity of Delhi. He noted that in the traditional pattern of leadership, the old men were both the ceremonial and panchayati leaders.

Beteille (1971) studied class, caste and power in a south Indian village named 'Sripuram' from two different perspectives : cast and status—caste e.g. Brahmins, non-Brahmins and Adi Dravids; and land ownership status e.g. land-owners, tenants and agricultural labourers.

Islam (1974) aptly observed that in rural Bangladesh (previously East Pakistan) there was a continuous tension between groups changing to modernization. According to him, "traditional authority is now being challenged by the emerging leaders".

Beriocci (1970, 1972) studied at Hazipur and Tinpara in Comilla district of Bangladesh and correlated socio-political status with land ownership.

Geofrey Wood (1976) also studied the political process and rural power structure in Comilla villages.

Dhillon (1955) identified three factors contributing to leadership e.g. social status of the family, economic status of the family and individual traits like interest in village activities, spare time hospitability, speaking ability, non-aggressive character etc.

Hitchcock's (1959) finding was that the leadership had been manifested among middle high caste.

According to Lewis (1958) possession of wealth, good family background, reputation, advanced age, education, free time, trustworthness etc. are some of the characteristics of an Indian village leader.

Singh (1959) found leadership coming from middle high class or middle income groups. Verma (1971) viewed that 41% of the representatives of the PR at village level in Karnal District of Haryana

belonged to the middle socio-economic groups and very few of them belonged to the higher socio-economic strata.

For Bachen Eimer R. (1959) the characteristics of leaders would be economic strength, high caste and education.

Abraham (1974) noticed positive relationship between farm size and sociometric community leadership.

Saran (1978) stated that land-ownership was a significant factor of leadership in village life. According to Coldwell, Dumont and Read (1956) panchayat leaders are big land-owners and high caste men.

Shah (1978) also supported the above opinions.

Edward Harper (1959) found caste as an important factor of leadership. Ghosal (1965) highlighted the fact that most of the village leaders in Rajasthan belonged to Rajputs, the dominant caste group of the State.

Yadav (1989) found in four tribal villages of Madhya Pradesh that the Panchayat members and sarpanch were generally from the tribal heads, village headmen, aged and experienced persons.

Haldipur and Paramhansa (1970) also observed that a very large portion of the elected leaders belonged to the upper castes and upper income strata.

According to the findings of the Seventh Evaluation Report on Community Development and Panchayati Raj (1960) the pattern of leadership in the Panchayat reflects socio-economic structure of the village. Generally, caste is not an important determinant of the leadership pattern but most of the leaders are above 40 years and above 90% percent of them are land-holders.

Reddy (1967) examined that the age of about 17.9% of the leaders were below 30 years. 67.1% accounted for the age ranging between 30 to 40 years, and the rest were aged above 40 years.

Indian Institute of Public Opinion (1962) found among the Panchayati leaders in Andhra Pradesh that 29 percent of the panchayat members were below 25 years of age, more than 50% percent were between 25 to 40 years, while 15.4% percent were above 50 years. The IPO carried out a nation-wide survey of the elected leaders in 1964.

Reddy and Seshadri (1972) observed that more than three-fourths of the members in the old and new panchayats were below 40 years of age.

It is revealed from the works of the sociologists like Mehta (1972) Gandrade (1974), Misra (1977), Singh (1985) and others that

power and authority have been primarily based on the caste dominance, land holding status and possession of wealth.

P. Roy's study (1967) provides some broad features that characterise the type of the person who emerges as a leader in an Indian village. The feature are as follows :

(a) individual with high income and high living status;

(b) members of a large family have tendency to be the leaders;

(c) people with more education participate more in the new social organisation;

(d) age and caste are not determining factors to make a leader; and

(c) new leaders are more secular than the common villagers.

There are many more research studies and findings on this subject but all of them cannot be incorporated in this paper because of space constraints.

Identification of Panchayati Leadership Style

(i) Method and Methodology

For this study, Birbhum district of West Bengal has been selected as the survey area. There are 19 panchayat samities (PS) in this district of which 10 P.S. have come under our sample area. From those 10 P.S., 4 Gram Panchayats (GPs) and 200 villages have been selected for this study. For the purpose of data collection three sets of questionnaire were formulated. One set of questionnaire was for the leaders of all levels of the PR, another for the general members of the Gram Panchayats (GPs) and the third one was for the common people. All three sets of questionnaire had been administered to the respondent panchayat personnel and the relevant data had been collected, tabulated, summarised, analysed and interpreted with a view to identify the present leadership styles followed by the leaders at various levels of the PR.

Findings

The qualitative aspect of the questionnaire has been converted into quantitative value on the basis perceived weightage of each question of the questionnaire. Accordingly, the score of each leadership style is to be determined. The style which records the highest score, represents the style of the leader, whoever is tested in the study.

Through observation and analysis of the information contained in tables 1 and 2, the nature of the leadership styles of line and functional leaders of the Zilla Parishad (viz. LL_1, and FL_1) and of the Panchayat samities (Viz. LL_2 and FL_2) and also the nature of leadership styles of line leaders of the Gram Panchayats (GPs) viz. LL_3, have been identified as explained in the following paragraphs.

Table 1

Leadership style of the Leaders of the PR in Birbhum District of West Bengal as Envisaged by the Respondent Leaders.

Sl. No.	Questions	Responses (N = 126)							
		True			False			Total	
		I	II	III	I	II	III	True	False
1(T)	I give the work first then work.	6 (100)	32 (80)	70 (87.5)	—	8 (20)	10 (12.5)	108	18
2(T)	I wish that my subordinates will increase their knowledge on the job.	6 (100)	40 (100)	80 (100)	—	—	—	126	0
3(F)	I do not tolerate any interference from my subordinates	4 (66.6)	6 (15)	16 (20)	2 (33.3)	34 (85)	64 (80)	74	52
4(T)	I always give attention to the progress of work but do not pay attention to anyone's personal progress.	6 (100)	38 (95)	76 (95)	—	2 (5)	4 (5)	120	6
5F	To my opinion all workers have not potential for being the leader.	6 (100)	37 (92.5)	76 (95)	—	3 (7.5)	4 (5)	119	7
6N	I help my subordinates in every matter.	2 (33.3)	22 (55)	11 (22.2)	4 (66.6)	18 (45)	63 (78.7)	35	9
7F	I keep ethical matter concealed but information relating to decision or work disclosed.	6 (100)	86 (90)	74 (92.5)	—	4 (10)	6 (7.5)	116	10

Sl. No.	Questions	Responses (N = 126)							
		True			False			Total	
		I	II	III	I	II	III	True	False
8N	I openly favour those subordinates who work hard.	6 (100)	40 (100)	80 (100)	—	—	—	126	0
9N	I help my subornidates to grow up and assume greater responsibility.	1 (16.66)	10 (25)	13 (10.2)	5 (83.3)	30 (36.75)	67 (83.7)	24	102
10P	I place high value in participative system.	6 (100)	40 (100)	80 (100)	—	—	—	126	0
11P	I believe that all of us have more or less equal potential.	5 (83.3)	31 (77.5)	61 (76.2)	1 (16.2)	9 (22.5)	18 (23.7)	97	29
12B	I believe that the area of responsibility should be clearly demarcated according to rank and position.	6 (100)	40 (100)	80 (100)	—	—	—	126	0
13P	I always go by joint decision.	6 (100)	34 (85)	80 (100)	—	6 (15)	—	120	6
14	I always give stress on rules and regulations more than the fulfilment of target.	5 (83.3)	33 (82.5)	73 (91.2)	1 (16.6)	7 (17.5)	7 (8.7)	111	15
15B	I maintain no personal relationship in the group.	6 (100)	24 (60)	49 (61.2)	—	16 (40)	31 (38.7)	79	47
16L	I fully depend on my subordinates and do not supervise in executing the programmes.	—	—	23 (28.7)	6 (100)	40 (100)	57 (71.2)	23	103

I = Leaders at - ZP (LL_1 & FL_1)

II = Leaders at PS (LL_2 & FL_2)

III = Leaders at GP_s (LL_3 only)

* The figures within brackets indicate percentage.

Table 2

Ranking of Leadership styles as Revealed in Views Expressed by RLs.

Styles	L_1			L_2			L_3		
	Mean	S.D.	Rank	Mean	S.D.	Rank	Mean	S.D.	Rank
Autho-ritative	5.3	0.94	3	26.3	14.38	4	55.3	27.28	4
Bureau-cratic	5.6	0.46	2	32.3	6.54	3	67.3	13.27	3
Partici-pative	5.6	0.46	2	35.0	3.70	2	73.6	8.95	2
Nurtu-rant	3.0	3.74	4	24.0	12.30	5	34.6	32.06	5
Task-Oriented	6.0	0	1	36.6	3.40	1	75.3	4.10	1

Findings

1. The PR-leaders are by and large democratic and participative outside the panchayat office. Leaders at Zilla Parishad (ZP) and Panchayat Samity (P.S.) usually follow the participative style at the time of decision making only. Grass-root leaders at the Gram panchayats (GPs) i.e., LL_3, are more democratic and participative than other leaders at higher level of the PR system.

2. Secondly, PR-leaders are highly bureaucratic in running the office in as much as they strictly follow the rules and regulations in day-to-day activities of the panchayat units.

The lower leaders i.e. LL_3 of the GPs, not only mediate and settle almost all the rural conflicts and disputes but they deal with any other personal or family matter of the local people. Therefore, in this sense, lower leaders are less bureaucratic than the higher leaders.

3. Furthermore, PR-leaders as revealed from the information supplied by them, are highly task-oriented. Top and middle leaders are not relationship-oriented but grass-root leaders sometimes

become relationship oriented in some cases relating to personal matter of the subordinate followers.

4. Moreover, PR-leaders, though not frequently at times adopt authoritative-II style of leading.

Leaders at the top of the hierarchy have such tendency more than those of the middle and lower levels who also sometimes become authoritative albeit, in some special circumstances.

5. In fine, it may be referred to here that PR-leaders have given least preference to the nurturant style of leading which evidently indicates that the PR-leaders hardly follow the nurturant style.

Based on the above discussion as well as on the findings from the analysis and interpretation of the information supplied in the administered questionaire, leadership style of the PR-leaders may be concisely expressed, through the abbreviation : 'DPT-B-A_2 where DPT means Democratic participative task oriented, B refers to Bureaucratic and A_2 denotes Authoritative-II.

Another separate set of questionnaire was administered on the selected common people particularly for the identification of leadership style of the GP-leaders (LL_3) i.e., the Prodhans of the GPs. Table 3 shows the people's opinion. It is revealed from the opinion of the respondent people that the G.P.-Leaders i.e., the Prodhans never follow a particular leadership style rather, they follow multiple style of leading. They articulate different style in different situations. It seems that they follow the situational approach.

In the case of decision making, they follow participative approach but in the case of execution of programmes they follow *laissez faire* style. While in the case of running the panchayat office and maintenance of rules and regulations they are almost bureaucratic, but in dealing with the opposition members they are out and out authoritative. They also use referent style of leading for the purpose of drawing attention of the public. Again they sometimes follow relation-oriented style. Therefore, it is quite evident that the GP-leaders usually follow multiple leadership style. This holds good in the modern concept of leadership. According to modern school, everywhere leadership is complex and multi-dimensional. Present style of GP-leaders can be expressed by way of an abbreviation :

DP-L-B-DR-A_2 where DP means democratic participative, L refers to laisseefaire, B refer to bureaucratic, DR means democratic relationship-oriented and A_2 denotes authoritative-II.

Table 4 contains the list of preferences of style exposed by the information given by the respondent common people. It shows that task orientation is the last preference and bureacratic style is the first preference to the grass-root leaders. *Laissez faire* style comes next to the bureaucratic style in order of preference while democratic style is accorded to the third position. At times, they are accustomed to adopt authoritative style which is actually fourth preference. The participative style of GP-leaders has the fifth position in order of preference. Therefore, it can be implicitly stated that the GP-leaders' style of leading is also multiple and complicated complying with the views of the modern school of thoughts. Their style can be expressed through alphabetic letters such as :

B-L-D-A_2 where B denotes bureaucratic, L denotes *laissez faire*, D refers to democratic and A_2 denotes authoritative II as arranged in order of preference of the leaders.

Table 3.

Leadership style of the GP-Leaders (LL_3) of the PR according to Common People in Birbhum District of West Bengal.

Sl No. Questions	Responses (n = 200)			
	Affirmative		Negative	
	Number	P.C.	Number	P.C.
1B. Prodhan depends on only a few number of political workers.	179	89.5	21	10.5
2B. Prodhan does not always give any satisfactory answer to the questions of any subordinate or villager.	135	67.5	65	32.5

Sl No. Questions	Responses (n = 200)			
	Affirmative		Negative	
	Number	P.C.	Number	P.C.
3B. Prodhan does not visit his area for the inspection of the programmes which are in progress.	102	51.0	98	49.0
4B. Prodhan is interested more in office work than in any public affairs or in any field work.	106	53.0	94	47.0
5P. GP-members keep close relation with the villagers and communicate with the panchayat on their behalf continuously.	23	11.5	117	88.5
6P. Decision is taken by the group wherein prodhan also remains present.	115	77.5	45	22.5
7F. Prodhan maintains a political bias and avoids opinion of members of other political parties.	112	56.0	88	44.0
8F. Prodhan has a tendency to impose his opinion upon the public.	68	34.0	132	66.0
9D. People have trust on the Prodhan for his ability to make appropriate judgement.	107	53.5	93	46.5
10D. Prodhan always takes advice from various persons before taking a decision.	120	60.0	80	40.0

Sl No. Questions	Responses (n = 200)			
	Affirmative		Negative	
	Number	P.C.	Number	P.C.
11R. Age, education and social status of the Prodhan are the factors which draw attention from the people.	179	89.5	21	10.5
12T. Prodhan gives stress on work first, and then on worker.	66	33.0	134	67.0
13L. Prodhan fully depends on his subordinates in planning and executing the programmes.	127	63.5	73	36.5

Table 4

Leadership Styles Practised by the GP-Leaders in Birbhum District.

Style	Mean score	S.D.	Rank
Authoritative	90.0	31.1	4
Bureaucratic	130.5	54.3	1
Participative	89.0	93.3	5
Democratic	113.5	9.2	3
Task-oriented	63	3.0	6
Laissez faire	121.5	7.8	2

Source Information given in Table 3

It is obviously remarkable that the leaders' opinions are different from that of the common people. According to the leaders as depicted in Table 4, the task orientation is their first preference, participative is the second, bureaucratic is the third and authoritative is the fourth. But in the opinion of the common people, the leaders preferably give the task-oriented style last position, participative the fifth position but bureaucratic the first position. Only in the case of

authoritative style, leaders' and the common people's opinion coincides. It has been given the fourth position. According to the common people, laissez more faire style is the leaders' second preference.

Whatever may be the difference in the views of different respondent groups, it is clear from the opinions of both the two groups — ruler and the ruled, that democracy and participation are not the leaders' first preference. They often adopt bureaucracy and sometimes autocracy but in a normal situation they try to follow democracy only in dealing with the people outside the office premises. Moreover, they by and large present more a relationship orientation than task orientation but usually do not follow nurturant style of leading. In a word, Panchayati leaders are mostly possessors of complex character having multiple objectives and following multiple leadership style. However, it is very difficult to identify the nature of P. R. leadership style precisely and point out it in a simple way with a single statement. Nevertheless it transpires from the above discussion that PR-leaders are not out and out democratic. It may contradict the common belief that PR-Leaders are democratic. Democracy here in practice seems to be more a myth than a reality. However, the most important finding of the study is that no single style of leadership is followed by the PP-leader. It actually upholds the modern view of leadership. Autocratic and democratic behaviours are the two extreme points between which there are a number of style or leadership behaviour. Of them, some are selected depending upon forces in the leader himself and needs of the situation in which he operates. Contingency approach recognises that neither democratic nor autocratic nor autocratic extreme is effective in all situations. This is reality. In fact, PR-leaders have applied this contingent approach which is quite explicit in their behaviour.

However empirical research indicates that leadership is still in trouble. It is a fact that success and failure in war or business or a game is largely due to the quality of leadership. Yet surprisingly leadership remains much of "Black Box" or an unexplained concept. It has tremendous influence on human performance but still its inner functions and specific dimensions cannot be precisely dealt with. Our knowledge about human mind is inadequate for analysing their psychological movements and physical actions, their inner reactions and external phenomena. This is our limitation. Nevertheless, we have made an humble effort to this end. We further expect that more and more research-work in this field would enable the scholars to cover up the deficiencies in this area.

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Role of Gender and Age in the Perception of Organizational Role Stresses Among a Group of Clerks of A Nationalized Bank

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Abstract : The main aim of this study is to assess the Organizational Role Stresses (ORS) of a group of clerical employees of a nationalized bank and to find the role of gender and age in the perception of ORS. Thus, 40 males and 40 females, 20 from each group within age 35-44 and 20 above 45, responded to Pareek's ORS Scale (1982). The perception of role stresses were, in general, either average or low, in its different component scales. No effect of age, or age-gender interaction has been revealed. But gender significantly effected the perception of Role Erosion, Personal Inadequacy and Self-Role Distance. The authors discuss the implications of the present findings for further research.

Introduction

Banks are said to be the lubricators of the wheels of production, but in a developing economy, like India, they are required to play a much more constructive role in promoting economic growth. In a developing economy, banks in addition to the traditional functions such as acceptance of deposits, granting of short-term loans and advances, creation of new money, financing specified investments etc., are to act in a more constructive role to break the under-development trap and to make the country ready for take-off. Although banking industry, the main financial pillar of the country, provides an important ground for research work, few researches have been found to be conducted in India on the said industry.

In the Indian scenario, the nationalized banks are not merely playing the role of profit making organisations but they perform some other important functions for the development of the society. All these functions are performed through the selling of service by its

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human workforce to the human customers. Banks may thus be regarded as purely human organizations.

Unfortunately, in recent times it is observed and also reported by the bank customers that banks are not functioning upto the level of expectations. The picture is more miserable for the nationalized banks. Here work gets accumulated and the customers do not get prompt service from the employees. The management of the nationalized banks are eager to know whether the nature of the work, and certain organizational factors or individual factors inherent in the employees are responsible for this type of attitude on the part of the employees.

Speilberger and Reheiser (1994) found that stress at work place results in extensive costs to individuals, organization and society through its adverse effects on employee productivity, absenteeism, health and well-being. Stress affects all categories of workers. In this respect bank employees are no exception. The repetitive nature of the job creates boredom, on the other hand, the employees should remain tension-free in order to deal effectively with money and people. This controversial nature of work often creates stress in the employees. Again, the position the employee holds in the organisation and the expectations of various persons, including himself, from that position creates role stress in the employee.

There have been numerous studies on stress and organizational role stress, of these, the following are relevant for the present study.

Sales (1969) reported that certain personality characteristics such as those comprising **Type A behaviour pattern** may affect the individual's responses to potential stressors. He also emphasized that individuals increased their performance with increased workload (stress), however, that was only when quantity was the performance measure, while with quality (error rate) as the performance measure, the performance declined with increased workload.

Various studies have shown that **role conflict**, role ambiguity and role overload are associated with job dissatisfaction, individual tensions, anxiety, depression and low self esteem [Caplan, Cobb, French Harrison and Pinneau (1975), Caplan and Jones (1975), Kahn (1974), Miles (1975), McGrath (1976), Van Sell, Brief and Schuler (1980)].

Bhatnagar and Bose (1985) studied organizational role stresses among branch managers of a banking organization. The findings of the study revealed that branch managers scored lower on role ambiguity, self role distance and role stagnation indicating that respondents do not really experience major stresses in these areas. On the other hand, three role stresses, namely, role erosion, inter-role distance and role isolation were found to be dominant.

Bednar et al (1996) examined the effects of demographic and socio-economic variables on perceived stress in the work and non-work environment in 112 bank managers and studied the correlation between the two. Significant differences were obtained between genders, management levels and age groups.

Literature survey reveals that though some work has been done on the managerial staff, yet not much has been done to study the organizational role stress of the clerical employees, who are the main working force of the banks and due to organizational policies they have to work in stressful situation. Moreover, the effect of gender and age on the organizational role stress have not been extensively studied on the said population.

The changing nature of women in contemporary society has produced a significant amount of research interest and this extends into the area of the stress-strain relationship (Sutherland and Cooper, 1993). Age is a significant moderator to stress and is thus considered here. Thus the main objective of this study is to assess the ORS of a group of clerical employees of a nationalized bank end to verify the effect of gender and age in the perception of ORS.

Concepts and Operationalization

Role stress has been defined in terms of conflicting expectations. The main characteristics of conflict is the incompatability of some variables relating to the role of an individual which may have some consequences for the individual's role performance (Pareek, 1982). Organizational role stress is the stress experienced by the people within the organization while discharging his/her works.

Hypotheses

The following hypotheses have been formulated after making a literature survey

i) Male and female clerical employees of the nationalized banks experience significantly different levels of organisational role stress.

ii) Age does not make any significant difference in the organizational role stress experienced by the clerical grade employees.

iii) There is no significant relationship between the gender and age of the group of nationalized bank employees in the organizational role stress.

Organizational role stress was studied with regard to (1) Inter-role distance, (2) Role stagnation, (3) Role expectation conflict, (4) Role erosion, (5) Role overload, (6) Role isolation (7) Personal inadequacy, (8) Self-role distance, (9) Role ambiguity and (10) Resource inadequacy.

Methodology

Subjects : A sample of the clerical grade employees working in a nationalized bank having its head office in Calcutta were selected on the basis of their educational level and economic status. The sample consisted of equal number of males and females. The males and females were from two age groups — 35 to 44 years and above 44 years of age. Both the age groups consisted of equal number of employees.

Tools used : ORS Scale of Udai Pareek (1982) was used. The scale has 50 items taking 5 from each of the ten categories. The scale measures the following 10 role stresses —

(1) *Inter-Role Distance* (IRD) Conflict between organizational role and other roles.

(2) *Role Stagnation* (RS) Few opportunities for learning and growth in role.

(3) *Role Expectation Conflict* (REC) Conflicting demands made on the role by different persons in the organization.

(4) *Role Erosion* (RE) : A feeling that some important functions a role occupant would like to perform have been given to some other roles or a feeling that there is not much challenge in the functions given to the role.

(5) *Role Overload* (RO) A feeling that too much is expected from the role than what the occupant can cope with.

(6) *Role Isolation* (RI) : Lack of linkages of one's role with other roles in the organization.

(7) *Personal Inadequacy* (PI) Lack of knowledge, skills or adequate preparation to be effective in a particular role.

(8) *Self-Role Distance* (SRD) : Conflict of one's values and self concepts with the requirements of the organizational role.

(9) *Role Ambiguity* (RA) : Lack of clarity about expectation of others from the role or lack of feedback on how performance is regarded by others.

(10) *Resource Inadequacy* (RIn) Non-availability of resources needed for effective role performance.

The score of each role stress may range from 0 to 20, and the total organizational role stress score may range from 0 to 200. High score indicates high ORS. The split half reliability was .78 for the present sample. Scoring was done according to scoring standard.

Procedure As per the programme schedule developed in consultation with the concerned authority each selected subject was approached personally and after establishing some rapport the tool was administered to the subjects individually and data were collected. Average time for collection of data for each employee was 20 minutes.

Statistical Treatment : The mean and SD for each of the role stress areas were found for the four groups of subjects. To find the effect of gender and age and the interaction between them the two way analysis of variance has been done for each of the role stresses.

Results

Table 1 reveals that the score of the male clerical grade employee are higher than their female counterparts in the areas like Role Erosion (RE), Personal Inadequacy (PI) and Self-Role Distance (SRD). As a whole all the groups of employees perceive either average or low level of ORS.

Table 1

The Average ORS of the Male and Female Clerical Grade Employees

Role Stresses	Male N = 40				Male N = 40			
	Group-I N=20 (35-44)		Group-II N=20 (45-above)		Group-I N=20 (35-44)		Group-II N=20 (45-above)	
	M+	SD++	M+	SD++	M+	SD++	M+	SD++
1. Inter-Role Distance (IRD)	3.80	4.03	4.50	4.80	5.30	3.89	6.00	3.69
2. Role Stagnation (RS)	5.75	3.36	6.55	4.92	6.10	5.00	4.40	2.48
3. Role Expectation Conflict (REC)	3.65	3.16	4.66	4.89	3.70	4.05	4.50	3.00
4. Role Erosion (RE)	8.90	3.35	8.20	3.39	6.15	3.18	6.80	4.03
5. Role Overload (RO)	2.20	2.64	4.65	5.77	4.00	4.66	4.40	2.96
6. Role Isolation (RI)	5.70	3.45	6.10	3.25	4.25	4.03	4.90	3.29
7. Personal Inadequacy (PI)	7.75	4.89	7.15	4.39	4.60	3.87	6.15	2.71
8. Self Role Distance (SRD)	8.10	3.86	8.25	5.00	4.80	3.98	4.65	2.62
9. Role Ambiguity (RA)	4.35	3.77	4.05	4.85	4.30	5.78	3.80	3.48
10. Resource Inadequacy (RIn)	4.75	4.41	5.25	4.07	4.35	4.47	5.50	3.26

Table 2 reveals that no significant effect of gender has been observed for Inter-Role Distance (IRD), Role Stagnation (RS), Role Expectation Conflict (REC), Role Overload (RO), Resource Inadequacy (RIn), but gender played a significant role for Role Erosion (RE) (Significant at .01 level), Personal Inadequacy (PI) (Significant at .05 level), Self Role Distance (SRD) (Significant at .01 level). But

no significant effect of age or age-gender interaction has been observed for any of the above role stresses.

Table 2

Results of ANOVA on ORS Scores

Role Stresses	F Values for		
	Age	Gender	Interaction
1. IRD	0.557	2.557	0.000
2. RS	0.298	1.077	1.718
3. REC	1.101	0.001	0.008
4. RE	0.001	7.001**	0.741
5. RO	2.476	0.732	1.281
6. RI	0.444	2.828	0.025
7. PI	0.275	5.246*	1.498
8. SRD	0.000	15.187**	0.029
9. RA	0.153	0.220	0.010
10. RIn	0.815	0.007	0.127

* Significant at .05 level, F .05 (1,76) = 3.96
** Significant at .01 level, F .01 (1,76) = 6.96

Discussion and Conclusion

The bank employees in general experience either average or low role stresses. This confirms the findings of Kaushal Lal Shyam (1998). Thus, the organizational climate is congenial for work. It can be seen that gender plays a significant role in experiencing the organizational role stress of the employees with special reference to RE, PI and SRD. The findings conform to the findings of Bhatnagar and Bose (1985), Kaushal Lal Shyam (1998), that role erosion is one of the stressors of bank employees. This may be due to longer length

of service of the male clerical grade employees than the female employees. Further investigation is required in this area. The inter-relation of age with role stress variable did not reveal any significant association between the variables. The findings did no confirm the general impression that age gives a person the strength to take stressors in his or her stride or that advancing age makes a person more nervous so that his perception of different stressors get exaggerated.

The employees can be counselled to reduce the gap between their set goals and actual performance by boosting up their performance which may be beneficial to the banks. Again the employees may be given some challenging work (especially female of lower age group) which will make the work more interesting and thus increase productivity. The present work is a preliminary study and it may open avenues for further research in future. Similar studies can be conducted with foreign bank employees and comparison can be made with the nationalized bank employees and it may further be extended to other public sector organizations. The coping strategies of the employees to deal with the organizational role stresses can also be studied.

Glossary

Type A behaviour pattern is a relatively stable behaviour pattern involving the following characteristics Walks rapidly eats rapidly, talks rapidly, is impatient, does more than two things, measures success by quantity, is aggressive and competitive, constantly feels on the time pressure. There is high correlation between *type A* behaviours and coronary heart disease.

Role conflict

When contradictory roles are expected from the same person then the concerned individual suffers from a kind of stress due to the conflicting roles.

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MANAGING VENTURE CAPITAL FOR SOFTWARE ENTREPRENEURS- AN EMERGING SELF-RELIANCE STRATEGY FOR INDIA.

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Abstract : This paper examines the recent trends in growth of venture capitalists' fund in terms of current research. A dramatic increase in venture capital deployment in computer-related industries mainly indicates that Indian can become self-reliant in this respect. It is becoming in-c-reasingly apparent that strategic venture capital investment in the software sector will lead to socio-economic development and growth.

The government of India has very aptly recognised that India must be a global IT Software superpower by 2008. The software technology will help in making communication more effective tool for betterment of standard of living and improving the quality of work. If India is to emerge as a global IT Software intensive society at large, the effective venture capital investment in this sector is the key for achievement.

This paper emphasises software exports in terms of effective venture capital investment activities in that sector.

Key Words : Venture Capital and Software.

INTRODUCTION

Venture capital has attracted increasing attention in the governmental planning levels vis-a-vis the investment strategies taken by the leadbanks/financial institutions in India. The venture capital market is being expanded and its scope of investments and continues to develop at significant rate. The astonishing growth of venture capital funding and financing in creative industries at the recent period is noteworthy. The recent interest in venture capital by investors and policy makers boosts up academic interest for research. The venture capitalists in India are enthusiastic to manage activities by value-addition beyond relieving capital constraints by means of forming strategic partnership with the promising software entrepreneurs and also in other innovative areas.

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The primary focus of this paper is to lay emphasis on the deployment of venture capital investments in software enterprises. The venture capitalists have been playing significant role in commercializing the innovated products/technologies/services by means of launching new enterprises with the active participation of creative entrepreneurs in Indian economic scenario.

Venture capital is a new concept of institutionalization of risk financing for the start-up ventures at seed stage. It includes all private-equity involving seed stage, buy-out, last stage and mezzanine financing.

Venture capital financing involves investments primarily based on creative and relatively new technology with unproven track record entailing high risk but high potentiality. Venture capital is an indispensable need for seed and start-up ventures, particularly in the software industries.

The rest of the paper is organised as follows Section II is a brief review of literature; Section III states a brief history of venture capital; Section IV describes the objective of the study; Section V shows the essential features of venture capital investments; Section VI gives a brief statement of strategic use of venture capital; Section VII reveals a story of development of Software Entrepreneurship in India and its impact on economic growth; Section VIII gives concluding observations.

II. A Brief Review of Literature

This section is all humble attempt to appreciate some of the concepts developed in the works of various experts in the current literature available in India.

Venture capital financing, which is distinct from the traditional sources of financing, is an alternative financing source, particularly when an industry is technology based, the entrepreneur is inexperienced and the investment carries high risk of loss (Verma, 1997; Agarwal, 1998).

The venture capital industry has a significant role in the economic development (Ramesh, 1999).

Venture capitalists take an equity-stake in the firms they finance, sharing in both upside and downside risks (Gompers, 1994).

The focus is now more on a 'private-equity class', concentrating on unlisted new companies (Ramesh & Gupta, 1995; Mukhija, 1997; Mishra, 1998).

Venture capital is long-term fund in equity and semi-equity forms to finance high-tech projects involving high-risk and yet having strong potential of high profitability (Bhat 1991, Singh, 1995).

A partnership can be formed between the entrepreneur and the investors and the venture capitalists essentially provide finance (Gupta, 1994).

The idea of venture capital has developed in the western countries to provide non-conventional, risky finance to new ventures (Pandey, 1996). It is also thought of as a creative capital which primarily serves as expansion capital (Desai, 1998).

Venture capitalists have provided resources and advice to many companies involving high-risk operations (Canadian Institute of Chartered Accountants (CICA), 1987).

The process of venture capital financing may be taken into three stages: entry, value-addition and exit (Panchali, 1999). In addition to capital, the venture capitalists are to provide a broad range expertise to nurture the venture (Raphael, Lawrence and Muller, 1990).

Venture capital, an important instrument used in industrialised countries to encourage specialists and technocrats to setup high-risk industries, is of recent origin in India (Sadhok, 1990).

The lack of sufficient risk capital probably is the most common obstacle to the birth and success of new and technology-based companies (Manohar, 1988).

The objective of venture capital scheme is to promote highly profitable ventures involving innovative products/technologies/services aimed at futuristic markets having high potential for growth (Rathore, 1999).

Venture capital assistance has become the hallmark of many state governments' policies (Menon, 1999).

Growth of venture capital in India is of recent origin. The Central Government has already created a venture capital fund to

provide equity capital for attempting commercial application of technology (Gadia, 1999).

Venture Capital for Software Entrepreneur

A software enterprise would be defined as a company engaged in manufacture or production of software services, project services, package software products, information technology related products/ services, whose turnover from software activities is not less than 80% of its turnover in terms of value (Mahapatra, 1999).

Software is an advanced technology product and of strategic importance to the country. To develop, it would require massive investments in spite of it being a labour-intensive risky industry owing to the nature of the product (Kumar, 1987).

High technology companies mostly engaged in computer-related business like software have received more venture capital to bag more business than any other industry group (Venture Capital Report Ltd., Oxford, 1999).

About 10 per cent of all venture capital had gone to software (Heeks, 1996).

Venture capital particularly has ensured a genuine flow of investment to boost domestic software production (Heeks, 1996).

Some of the software companies find it extremely difficult in finding their source of funds (Mahapatra, 1999).

Venture capital currently represents less than 1 per cent of the sources of funding for software companies in India compared with 30 per cent in the USA (Hanna, 1994).

For most of the software companies, it is extremely difficult to find out the source of seed capital, working capital or venture capital (Department of Electronics henceforth-DOE, 1997). So, in India, adequate finances to a software company should be made available through venture capital funds (DOE, 1996). The union government is planning to set up a venture capital fund for the information technology sector to accelerate its growth (The Statesman, May 5, 1999).

The venture capital fund is active for software enterprises in India (Singh, 1999).

III. The History of Venture Capital in Brief

The concept of venture capital is, perhaps, as old as the human race (Chandra, 1997). As back as in 1874, Gardiner Green Hubbard, the leader in the field of creative investment by means of risk capital, started the Bell Telephone Co. in Boston (Gompers, 1994).

The risk capital market remained largely unorganised and fragmented through out the late 19th century and early 20th century. The first impetus to organised investment came from wealthy Americans (Gompers, 1994). The wealthy Americans are better known as 'Business Angels'. They have contributed greatly in the economic development of the U.S. Harvard Business School Professor, General George F. Doriot started 'to seek out creative men with a vision of things to be done'. It was a tremendous creative drive on the part of Doriot to use venture capital/risk capital towards the commercialization of innovated products and services for mankind.

In Indian entrepreneurial and cultural heritage, Jamsetjee Tata, Dwarakanath Tagore, Ramdulal Dey, Motilal Seal and many other Parsis, Marwaris, Gujaratis, Muslims and Bengalis were the creative venture magnets, who in their own unique ways, pioneered modern enterprises of mid-nineteenth century. Presently in the Information Technology (IT) Software intensive era, Azim Husham Premji, Ashok Soota, Major General A. Balasubrahmanian, Pradeep Gupta, Dadal Bhai, Dewang Mehta, F. C. Kohli, Gopal Srinivasan, Dr. Narasimaiah Seshagiri, Dr. Roddam Narasimhan, Pradeep Kar, NR Narayana Murthy, Raj Saraf, Prem Shivdasani, R. Ramaraj, Rajendra S. Pawan, Saurabh Srivastava, Shashi Ullal, Shiv Nadar, Veer Sagar and many other software entrepreneurs have contributed a lot for the development of Indian IT Software sector.

IV. Objective of the Study :

The focus of the study is on the relationship between the strategic use of the flow of venture capital and the development of software enterprises in our country. The strategic use of the supply of software entrepreneurs is really dependent on the management of strategic development of venture capital (Saha, 1999). The present paper has tried to examine how the software enterprises influence the national export revenue growth and other macro-level objectives of economic growth and employment generation.

In India, some awareness regarding venture capital investment has been noticed in recent times at the governmental planning level and venture capital fund creation has become a key activity in the lead banks/financial institutions.

Venture capitalists with private equity have started operating in the software industry in India. In recent times, Bangalore has come to be known as the 'Silicon Valley' of India. Calcutta is also coming up very fast in terms of development of software enterprises. The software enterprises are really starving for more effective deployment of venture capital funding supports at the state levels. Venture capital productivity in the software enterprises are significantly noteworthy. Managing per capita venture capital productivity efficiently in the emerging business future to steer software entrepreneurship development has become a thrust area to accelerate the pace of economic development (Saha, 1999).

V. Essential Features of Venture Capital Investments

Some of the essential features of venture capital investments are as follows :

* Venture capital investments are essentially unsecured risk financing;
* Venture capital investments are usually to be made for financing newly start-up ventures;
* Venture capital investments are essentially made at seed stage;
* Venture capital is essentially meant for early stage financing of new and young enterprises;
* Venture capital is indispensable to support unproven technology with markets yet to be explored;
* The real venture capital never remains to be restricted to just high technology, proven technologies with proven track records in the market;
* The venture capital involves any risk but essentially meant for commercialisation of innovative technologies;
* Four essential stages e.g. seed finance, start-up finance, introductory finance, expansion/diversification finance are covered by venture capital investment activities;

* The management resources e.g. men, materials, money and information are expected to be efficiently deployed by venture capital investment activities;
* The venture capital investment activities achieve optimization of risks and return in real life situation;
* The venture capital investment activities are necessarily meant to help the new entrepreneurs who has enough of innovative ideas but face severe crisis for financial resources in translating their creative ideas into practice;
* The venture capital investment activities are essentially long-period block financing;
* The high value-added products and services are to be produced from creative technologies with the strategic use of every unit of venture capital;
* The venture capital investment activities are usually matured with high capital gains via capital/stock markets developments;

VI. Strategic use of Venture Capital Investment

Venture capital can be strategically used in different stages of production :

** EARLY STAGE VENTURE CAPITAL INVESTMENT ACTIVITIES are meant for seed financing to start-up production and exploration of markets;
** EXPANSION STAGE VENTURE CAPITAL INVESTMENT ACTIVITIES involve financing for working capital and initial expansion and diversification of products/services to meet the customers' needs;
** MERGER AND ACQUISITION-BUY-OUT STAGE VENTURE CAPITAL INVESTMENT ACTIVITIES involve financing for merger and acquisition, management buy-out and financing to revive the sick units.

Venture capital for technological developments

1. To steer up knowledge-based technological research & development, innovation of information technology, software development, and computer-related products/services;

2. To build up technological infrastructure and overall infrastructural bases;
3. To make optimum use of information technology and updated materials in production process for bringing cost-efficient production system;
4. To implement effective technology transfer into the production processes;

For Bio-technological Research and Development venture capital investment activities are needed :

1. To create high value-addition to the existing agricultural products and services;
2. To commercialize the bio-technically innovated products at large scale;
3. To make effective utilization of scarce natural resources (e.g. land and water) with the fruitful application of bio-technological R&D in reality;
4. To add more and more effective life and to improve the tolerance of crops and animals;
5. To diversify the agricultural products by means of bio-technology;
6. To increase interests in taking up more and more creative bio-technological research and developments by the academicians and researchers;
7. To encourage research on organic farming for strengthening the efforts of making replacement of traditional agricultural practices in order to boost up the agricultural productivity;

Venture Capital needed for Vendor Development and Advancement of Materials

Venture capitalists have immense potential in creating advanced materials through the process of vendor development. The advanced materials are required to produce qualitative products and that should be made available for continuous production. The

advanced materials are begotten with the fruitful application of advanced technology. The process of vendor development for ensuring continuous flow of advanced materials into the production processes needs to be supported by the venture capitalists. One of the most important materials, is 'polymer' which can effectively replace some traditional use of materials like wood, cement, metal, jute, paper and glass in real life situation.

An optium dose of venture capital is needed for rapidly growing computer and software sector :

In the era of computer and IT software intensive economic growth and development an optimum dose of venture capital investment activities is urgently needed in the economic and multiple use of silicon ferrite, alumina ceramics, tantalum selenium in TV, Telecommunications, industrial electronics, telephones, alarms, watches, housing rectifiers, electronic buzzers in steering up entrepreneurship development. The software sector has already significantly contributed to the overall economic development together with computer and electronic industries in India. In the IT Software sector the venture capitalists have tremendous role to initiate development of IT Software entrepreneurship in India.

VII. Development of Software Entrepreneurship in India and its Impact on Economic Development and Growth :

Strategic use of every unit of venture capital investment has become a necessary part of the development of the Indian software enterprises. This is an imperative on the part of governmental planning levels to review the nature of the constraints hindering the software entrepreneurship developments in India. The constraints include access to venture capital finance and skilled manpower, a low level of research and development, access to telecommunications and other infrastructure, access to marketing information, poor demand in domestic market and high piracy in the domestic market prevailing in India.

In spite of these constraints the software entrepreneurs have proved their worth in the global market place. Indian software entrepreneurs face tremendous difficulties in acquiring venture capital

supports from the lead banks/financial institutions. Most of the financial institutions/lead banks require to have collateral securities for funding and thereby they are very much reluctant to provide money to completely new start-up ventures, whereas the software ventures in other countries, are getting enormous venture capital financing supports to show their positive entrepreneurship and commercialization of innovated ideas. The paucity of venture capital investment activities in India software enterprises during much of 1980s inhibited entrepreneurship and innovation.

Venture capital investments have been urged upon because software is moderately capital intensive and very essentially technology intensive. A study revealed that per capita investment levels in the Indian software industry range from less than US $ 2000 for 'body shopping' firms which have only a one room office, phone and fax, to more than US $ 10,000 for those undertaking offshore development, with an average around US $ 5000 (Heeks, 1996).

Borrowing funds are available to Indian software entrepreneurs against the value of the equipment as security alongwith a high interest rate. It hinders high-technology intensity in software development enterprises. Working capital financing is mainly in the form of labour costs. The financial institutions/banks are reluctant to accept the developed software products as collateral even though huge amount of capital has been eaten up into the process of production. All equipments and other tangible assets have been collateral for obtaining start-up seed finances. Hence the software enterprises are facing acute difficulties in getting seed finance and working capital finance from lead banks/financial institutions in India.

In the eastern region particularly in Calcutta, the venture capital investment activities for the development of software entrepreneurship is yet to find the way of achieving the policy-oriented targets of the Government of West Bengal. The West Bengal Electronic Industry Development Corporation Ltd. (Webel) and the West Bengal Industrial Development Corporation Ltd. (WBIDC) have jointly decided to launch IT Venture Fund to the tune of Rs. 100 million being initial corpus with equal contribution in order to give a boost to the information technology sector in the state of West Bengal.

Most of the small enterprises have chosen to be largely self-financing strategy as a result of which the small firms are mostly

undercapitalised inspite of having immense potentialities to grow fast.

The most serious constraint to the Indian software enterprises' development is the lack of supply of skilled human resource which is the key element for software production process. Although there is a dearth of supply of all types of skilled human resource, it is the shortage of the higher skill levels i.e. programme designers, system analysts, project managers that have particularly affected this industry (Heeks, 1996).

The software enterprises, especially exporters, are facing a lot of telecommunication problems, poor transmission quality, inadequate, overloaded and inefficient telephone system and poor electronic mails services. As a result, overall growth of Indian software exports and offshore software development have been slowed down.

Finally, marketing and the matters relating to the development of stock markets and capital markets in India have to be given special attention for the sake of rapid economic progress.

The risk of doing research on software developments and other creative technologies is great. The venture capitalists need to have some tax concessions and pragmatic policy measures to invest into the IT software intensive areas.

In spite of having many constraints of Indian software enterprises, the growth in software exports reveals the fact of high potentialities in the years to come.

Table 1 The Growth in Software Exports

Period	Total growth (%)	Real growth (%)
1987 to 1993	46.4%	28.0%
1987 to 1990	41.2%	29.1%
1990 to 1993	51.8%	27.5%

Source Economic & Political Weekly, vol. XXX. No. 7 & 8, February 18-25, 1995.

The growth of software exports since 1987 to 1993 had been encouragingly steady enough and it has been growing at an astonishing rate. Another success story of the software enterprises in which

the UTI-Software Fund was invested and their market capitalization as on May 3,1999 is given below :

Table 2 : Investment of UTI-Software Fund

Name of Enterprises	Market Capitalization (Rs. Crores)
Aptech	927.6
BFL Software	478.6
CMC Ltd.	577.1
HCL Infosystems	1271.2
Infosys	4188.4
Mastek	238.3
NIIT	4266.6
Pentafour Software	1725.2
Rolta	609.2
Satyam Computers	2864.6
Software Solutions-I	255.7
Tata Infotech	1692.2
VSNL	595.2
WIPRO	16730.0

Table 2 reveals that UTI Software Fund invested in the fourteen software enterprises, has already achieved a sound market capitalization and the public has responded well to their market-offered issues.

It is significantly noteworthy that the Indian industry is geared up to face fresh challenges globally being dominated at present by the software sector which includes designing/developing customised software solutions both on-site and off-site, branded software solutions, data warehousing and imparting training and education to the youth entrepreneurs in India and abroad. The Indian software industry has been progressing fast being the most cost-competitive and is recognised for its ability to provide high value-addition to its products and services owing to the fact that India's quality awareness and

cost-competitiveness in terms of English-speaking trained software professional man power which is really unmatched globally. India's software has already attained 'world-class capabilities' in response to quality assurance by ISO 9000 certification. The software services include customised software development, turnkey projects and consulting and services like data processing and data conversation. The growth of software exports can been seen in Figure 1.

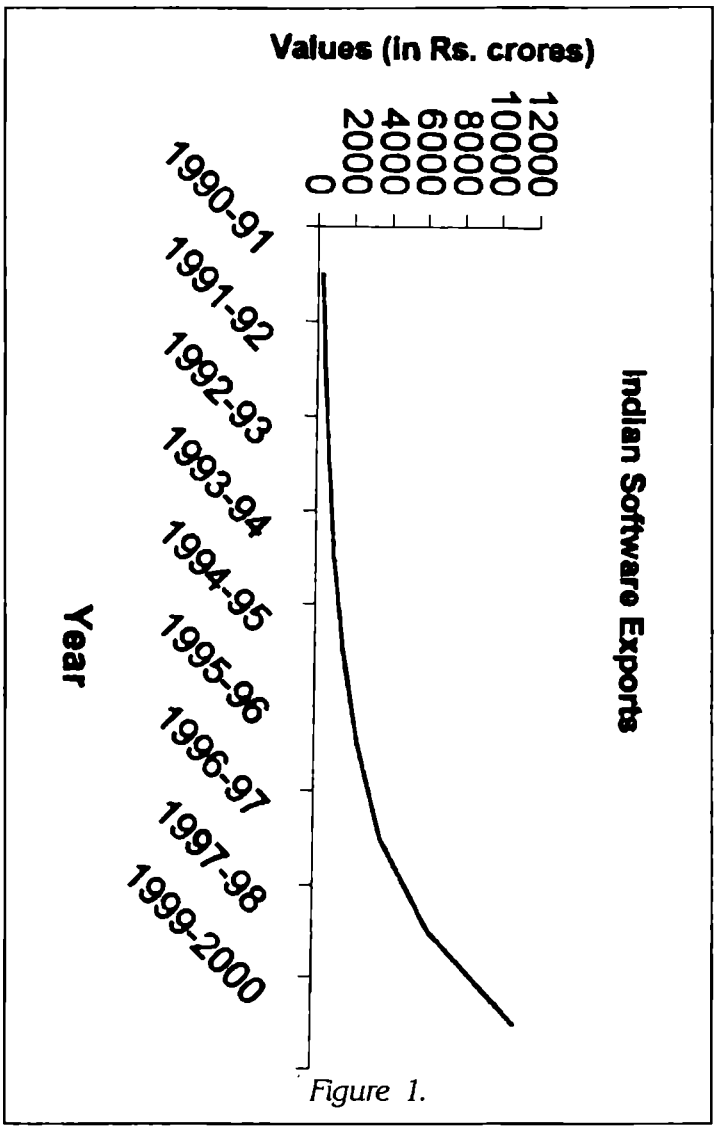

Figure 1.

The package software market share (1998-99) has been depicted in a pie-chart in Figure 2.

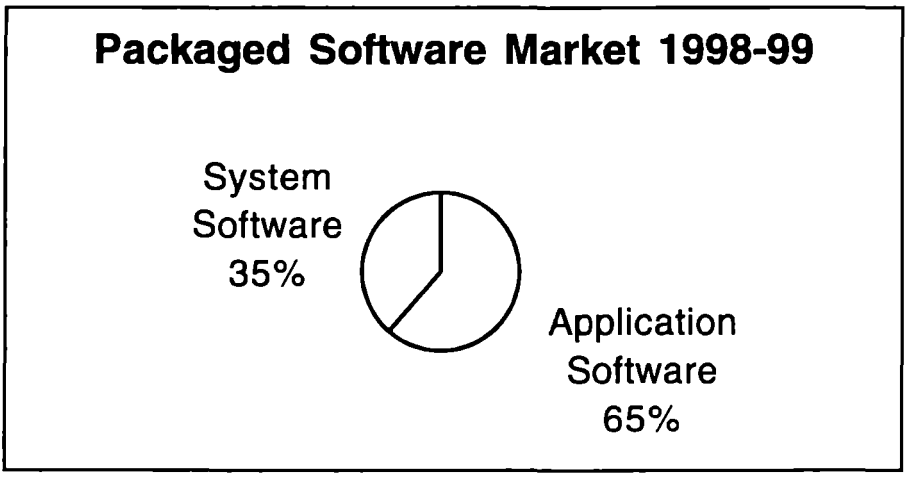

Figure 2.

The System software market share (1998-99) can be seen from Table 3.

Table 3 System Software market share

	Percentage	Value
Client OS	22%	Rs. 170.47 Crores
Server OS	42.6%	Rs. 330.09
System Management utilities	21.3%	Rs. 165.05
Others	14.1%	Rs. 109.26
Total	100.0%	Rs. 774.87 Crores

Source Dataquest, vol. XVII, No. 15, August 15, 1999

The packaged software market includes (i) application software (65.5%) and (ii) system software (34.5%). The top twenty packaged software vendors are (1) Microsoft; (2) Oracle (3) Novell; (4) SAP; (5) Lotus; (6) Intergraph; (7) Tata Consultancy Services; (8)

SDRC; (9) Autodesk; (10) Parametric Technology Corporation; (11) Pentafour; (12) QAD; (13) Ramco; (14) Rational Software; (15) Peutronics; (16) Computer Associates; (17) Informix; (18) Wipro Infotech; (19) Baan; (20) Infosys. These twenty vendors of package software in India holds 44.3% of market share and the rest is held by others.

Table 4 shows the application software market share in 1998-99.

Table 4 : Market share of application software :

	(%)	value (in Rs. crores)
CAD/CAM/EDA/GIS	19.4	285.40
ERP	14.8	217.73
RDBMS	10.2	150.06
Accounting	7.5	110.33
Banking	7.5	110.33
Office suites	7.3	107.39
Web based	6.1	89.75
Groupware	5.4	79.44
Application Tools	4.8	70.61
Others	17.0	250.09
Total	100.0	1471.13

Source Dataquest, vol. XVII, No. 15, August 15, 1999

The overall financial performance of the undernoted software companies, on the basis of some static parameters e.g. sales, profit after tax, gross fixed assets, and return on capital employed as well as some dynamic parameters e.g. growth in sales, profits and assets, has been assigned ranks by the study of Dataquest in 1997-98 and 1998-99 (Table 5) :

Table 5 Ranking of 20 major Indian companies in 1997-98 and 1998-99.

Name of Companies	Ranks 1998-99	1997-98
WIPRO Ltd.	1	1
Visual Soft (India) Ltd.	2	2
Pentafour Software & Exports Ltd.	3	3
Infosys Technology Ltd.	4	4
Satyam Computer Services Ltd.	5	5
NIIT	6	6
HCL Infosystems Ltd.	7	26
Maars Software International	8	8
Infotech Enterprises Ltd.	9	22
Cybertech Systems & Software Ltd.	10	14
Tata Infotech Ltd.	11	19
Aptech Ltd.	12	11
PSI Data System Ltd.	13	41
SSI Ltd.	14	9
DSQ Software Ltd.	15	27
Orient Information Technologies Ltd.	16	20
Sierra Optima Ltd.	17	15
Leading Edge Systems Ltd.	18	7
Silverline Industries Ltd.	19	24
Rolta India Ltd.	20	18

Source Dataquest, vol. XVII, No. 15, August 15, 1999.

These top twenty companies keep control about 70% of the market share. Total software industry revenue was Rs. 2,346 crore in 1994-95 and exports stood at Rs. 1511.4 crore. The software exports stood at Rs. 2308.9 crore in 1995-96 and the export of software gre by 52.77% in 1995-96, 55.35% in 1996-97, 76.46% in 1997-98 and by 72.84% in 1998-99. The domestic software revenue grows dramatically up 110% in 1997-98.

The overall financial performance of the top twenty enterprises in the software sector of India has been able to reveal the fact of success story of the software entrepreneurs. In India, a study revealed that there are about 794 enterprises engaged in the production for meeting the needs of the society regarding software products and services. Their distribution in four regions of the country can be seen in Table 6.

Table 6 : Distribution of software enterprises.

Zone	No. of Enterprises	Percentage
North	123	15.5
East	31	3.9
West	128	16.1
South	512	64.5
Total	794	100.0

Source Dataquest, vol. XVII, No. 15, August 15, 1999

Significantly, the southern zone in India is leading so far as IT software products and services are concerned. The state governments in southern India particularly Andhra Pradesh has taken up very befitting and pragmatic policy measures for IT Software development. The Government of West Bengal has very recently declared its policy measures and most pragmatic approaches for launching a venture capital fund to the tune of Rs. 100 million with the equal contribution to be made by WEBEL AND WBIDC jointly. Our present study revealed that only two software enterprises out of forty-four software enterprises operating in Calcutta have received a meagre amount of venture capital financing support from SIDBI and RCTC. It signifies that the institutionalized venture capital investment activities are very shy and are yet to take a spurt in Calcutta in spite of having enormous potentialities to take a lead in the years to be in the new millennium.

The findings of 'The Software Industry in India (1993-94) Strategic Review' by NASSCOM, reported that the venture capital fund institutions did not make adequate support in terms of total funding required for the software industry. The lack of available

venture capital finance is proving to be a real barrier as it is the single largest problem to the hi-tech industries in India. The lead financial institutions/banks in India feel very shy of making start-up investments as they find it complicated and risky. Owing to the rapid pace of technology and its obsolescence, the financial institutions/ banks viewed software as a very insecure business. But it is proved to be a case of consistent performance in terms of the value of exports as well as domestic business. It grew by an astounding 57% on an average due to high value human capital in the software sector.

The high value software enterprises in India (SQL Star International, Polaris Software, Polaris Software Labs, Huges Software, Subex, Sonata Software, Cybermate, KPIT, Amex Information Tech, Fortune Informatics, Kaashyap Radiant System, Kale Consultants, Compucom Software, Logix Micro Systems, NIIT, WIPRO, Infosys Technologies, Satyam Computer, Visual Soft (India) etc.) have created excellent value for subscribers to their Initial Public Offerings (IPOs). By the end of 1999, the Indian software sector has proved its maturity in almost every aspect of business valuations on the stock markets, financial performance strategy, innovations and technology development that have made the IT Software sector 'The Winner of the Bourses'. The flow of investments through the IPOs considering the high valuations of the existing listed companies. Indian software companies (e.g. Infosys Technologies & Satyam Infoway and others) have already listed their securities in the NASDAO and offered American Depository Shares (ADS) and many Indian companies are queueing up to list their securities in the US market (e.g. Mastek, Pentafour, Silverline Industries etc).

Bangalore-based Infosys Technologies became the first Indian company to have quoted its shares on NASDAO and raised ADR to the tune of $ 70.38 million or Rs. 299 crores in March, 1999.

Indian software companies are also successfully looking forward for merger and acquisition. Compaq Computer (India) acquired the computer products and services business of Digital Equipment (India) for a consideration of $ 83 crores. Digital Equipment has become a totally software-oriented company. Mumbai-based Cybertech tookover Bangalore-based Equinox. Hyderabad-based Infotech Enterprises tookover Cartographic Sciences.

The financial performance in terms of capital appreciation in the period of January to November, 1999 for five Indian Software companies are depicted below :

Table 7 Market capitalization of top 5 companies.

Company	Market Capitalization June, 1999 (Rs. Crore)	Market Capitalization November, 1999 (Rs. Crore)
Infosys Technology	3127.50	30391.33
WIPRO	2400.00	28193.34
Satyam Computer	754.00	9672.16
NIIT	1701.00	9635.45
Visual Soft (India)	530.50	3127.69

Source Dataquest, vol. XVIII No. 1, January 15, 2000

The future opportunities for the Indian software enterprises lie in :

* E-Commerce/E-business/E-tax/E-governance etc.,
* Software maintenance;
* Euro-Currency conversion opportunities;
* Enterprise Resource Planning;
* Database Management System & Data warehousing;
* Y2K solutions;
* Internet Communications;
* e-mail;
* E-Accounting; etc. etc.

NASSCOM reports assure that the earnings growth of software enterprises is estimated to be more than 50% p.a. for those who are moving with value-adding software products and services.

The software industry is remarkably moving fast to grow having the compound annual growth rate (CAGR) 55%. The software sector in India currently has employed more than 1,40,000 professionally equipped man power. India commands 16% market share in the world in the segment of customised software services. India has got exceptional strengths for the development of software industry because of the following facts :

* India possesses the second largest pool of scientific English speaking manpower in the world. This large pool of manpower has made Indian software highly qualitative and relatively cost competitive;
* Existing vibrant industry has sound track record;
* Indian professionally equipped manpower pool has got high adaptability and flexibility with the new technologies;
* The government at the centre as well as at the state levels have identified software as a thrust area of development and growth for new millennium;
* Strategically the large pool of man power of India has mathematical and logical expertise in this vibrant industrial sector;
* India has a strong engineering and scientific base;
* Indian entrepreneurs have got experiences in handling large projects;
* Indian software enterprises have proved themselves with high growth rate for software exports;

The weaknesses of Indian software enterprises as per the Department of Electronics (DoE) reports are stated below :

** The procedures and policies need to be simplified and made favourable for rapid software entrepreneurship development;
** Lack of adequate venture capital investment activities in the software sector;
** Gap in demand and supply of project management skill;
** Absence of original technology;
** Lack of domestic computerisation;
** Lack of products/package orientation;

In spite of having all these weaknesses Indian software entrepreneurs have enormous growing opportunities to capture a sizable

portion of the world market provided pragmatic economic policies will be taken up by the respective governments at state levels with a view to managing venture capital productivity with strategic venture capital investment activities and appropriate measures must be taken up for fighting the threats to overcome the weaknesses in the software sector.

The software industry is the best self-reliance strategy for India as it needs to be equipped with skilled man power pool rather than capital intensive. This industry has got no undesirable environmental side effects. The growth of the Indian software industry for the period 1990-91 to 1995-96 has been spectacular as under :

Table 8 Growth of Indian Software Industry.

(Rs. in million)

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Domestic	2250	3200	4900	6950	10700	16900
Export	2500	4300	6750	10200	15350	25500
Total	4750	7500	11650	17150	26050	42400

Source DoE.

For India, the software entrepreneurs are the harbingers of new technological innovations in order to cherish a challenging target of sustainable economic growth in spite of having a number of negative factors like large population.

Table 9 gives an idea about the projected growth of the software industry.

Table 9 The Projected Growth for the Software Industry.

(Rs. crore)

	1997-98	1998-99	1999-2000	2000-2001	2001-2002	Total Revenue
Export	5850	9250	14600	23100	36500	89300
Domestic	3900	5850	8800	13200	19800	51550
Total	9750	15100	23400	36300	56300	140850

CAGR 55%
Base for exports 1996-97 Rs. 3700 crore
Base for Domestic 1996-97 Rs. 2600 crore
Source : DoE

In order to achieve the abovenoted projected growth for Indian software sector the undernoted thrust areas have been identified :

* Products-New Game Plan :

Historically Indian software enterprises have grown by concentrating on on-site services at a lower cost than in overseas countries. Indian software enterprises have sufficient strength in customised software development. It cannot be ignored that the 'value-adding multiplier effect' by means of producing and selling of more and more customer-wanted software products and package will certainly boost up the Indian economic development and growth.

Indian software enterprises can effectively develop software products and package provided the Government takes initiative to gear up market intelligence, stress on skills to make user-friendly manuals/documents, venture capital investment activities on production and marketing, research and development and to provide much attention on mass awareness at state levels.

Indian software export activities are passing through the significant paradigm shift from on-site services accounted for 95% of our exports during 1990-91 and it has come down to 62% of exports during 1995-96. It is further expected that the on-site services should be less than 40% of our exports by 2002.

Indian software entrepreneurs are capable enough to achieve a linear growth rate directly proportional to manpower employed by concentrating on service activities. Indian software human capital has been growing with 4.1 million technical personnel. There are about 1700 reputed educational institutes including engineering colleges, technical institutes that impart educational training to more than 55,000 persons annually in addition to the Indian Institute of Technologies. The scientific and technical excellence should be constantly upgraded with the imperatives of the latest software innovative technologies in order to face the global cybernatic challenges. It is the need of the hour to add a sufficient number of technical professionals every year to the requirements of the fast growing vibrant software sector in India. In this respect the findings of the undernoted NASSCOM study are important to realise the urgent requirements of the software sector.

** There would be a shortage of skilled manpower by the end of Ninth Five Year Plan about 60,000 professionals with reference to the current sources of software professional supply of

1,40,000. Of this present supply of software manpower about 15.43% professionals employed in the software export industry, 40.71% professionals employed in the domestic software industry and 42.86% are employed with end-user enterprises.

** By the end of Ninth Five Year Plan, the domestic software enterprises would be requiring about 2,25,000 software professionals. So, a clear shortage of 1,68,000 professionals in the software sector.

** By the end of Ninth Five Year Plan, the end-user enterprises would be requiring as high as 80,000 manpower. A clear shortage of 20,000 professionals in the end-user software sector.

** The ratio of men and women software professional in India stands at present 86 : 14. It should stand at 65 : 35 by the year 2002.

** The study revealed a fact the overall educational qualification standard of Indian software manpower is quite healthy.

** Almost 50% of the software manpower is hopefully experienced.

** Indian software professionals are highly rated by their employers for their qualitative performance.

** The study also suggests the education and training must be divided into three broad categories;

(1) Basic/entry level to give basic knowledge regarding IT background;

(2) Target specific to develop special skills and to familiarize with new innovated technologies;

(3) Structures to impart education for awarding BE/B. Tech ME/M. Tech and Ph.D for creating high quality teachers and professionals in software.

VIII. Concluding Observations

We may now come to a corollary that the software sector in India shall be expanding fast with steady growing records regarding exports. The marketing strategies need to be dynamically evolved to maintain continuous creation of positive image of Indian software industry. The paradigm shift from on-site services to off-shore

services is significant. Indian domestic software market needs to be developed with a particular attention toward the diversification into the newer markets.

Indian software entrepreneurs need urgently a venture capital fund to explore markets, building up brand image, collecting marketing information, promotion for ventures and development of packaged-and-customized software products.

For an accelerated growth of software entrepreneurship in all states private equity investments are to be attracted by building up sound infrastructures e.g. software technology park (STP), lucrative office space, uninterrupted power supply, reliable communication and satellite link at reasonable cost.

In the area of software, the rate of obsolescence is very high and innovation becomes the pivot as a result of which the users' wants and requirements is the directing and driving force for software development. Indian software professionals and teachers should identify the emerging areas for constant research and development. The R&D should be based on : (1) industry associated R&D; and (2) government funded R&D particularly at academic institutes and research laboratories for encouraging fundamental research and development. These R&D activities are to identify new products, developing new algorithms, improvement in the existing algorithms, new technologies, new programming languages, novel models for computation etc.

It is highly significant that the Government of India announced the software policy in November, 1986 with an eye to accelerate the pace of overall economic development. The economic liberalisation and simplification in the governmental policy measures have boosted up the interests of the foreign direct investments in the software sector. Profits from software export is exempted and import duty on computer software has been reduced to 10%.

The Indian software industry shall be achieving the expected targets provided the unique finance requirements are made available through venture capital funds, working capital finance, project finance from the lead banks/financial institutions.

The Government of India would take all pragmatic policy measures to replicate the high vigour & vibrant information technology industry of Silicon valley and NRI entrepreneurs. Of late, over fifteen juvenile successful entrepreneurs in the U.S.A. have pledged

their complete support to India's endeavour to become an "IT Superpower". The growth target of IT industry has been over 200% annually with a specific attention to liberalise norms for venture capital funding activities to finance start-ups for achieving this targets.

It is hopefully noteworthy that the issue relating to special guidelines for availability of more venture capital fund through the innovative schemes and special guidelines to be formulated by SEBI to regulate the public issues of software companies are expected to be harmonised very soon.

Various regulatory functions pertaining to venture capital fund, now falling under the Central Board of Direct Taxes, Department of Economic Affairs and Reserve Bank of India should be brought under single authority. Harmonisation of the controlling as well as regulating the venture capital funding activities has been needed utmost in India as almost all IT software issues were hugely over-subscribed in the initial public offerings (IPOs).

Moreover, the OTCEI is planning for a suitable exchange of IT software companies on par with NASDAQ. The OTCEI has been presenting to entrepreneurs and venture capitalists to attract companies for listing. The focus of attention is to play an effective role for itself and is gearing up to encourage small IT software enterprises to tap the market. This route has to be the most potential of bringing scores of IPOs in the years to be in the new millennium.

It is most likely to announce a package of incentives and tax concessions for venture capital funds for innovative and creative knowledge-based industries in order to provide start-up capital for the prospective entrepreneurs in India.

As a logical corollary, it can be emphatically said that the software entrepreneurship development for the IT vibrant industry must be a basic self-reliance strategy for India in the new millennium. The governmental policy measures to attract the entrepreneurs and venture capitalists in India are expected to be more and more pragmatic and investors' friendly.

The ISO 9000 becomes a useful framework for guiding total quality improvement abiding by all TM philosophies in order to deliver an IT software product and service to the customers at global market. TM philosophies emphasise more sophisticated techniques of continuous process improvement in Indian software enterprises.

They are increasingly adapting to international quality standards & brand building for Indian software products.

It is heartening to note that there has been a spurt of Indian software companies going for public issues and public has already overwhelmingly started to invest in the IT software issues. It proves that the public has recognised the hidden strength of the IT software entrepreneurial capabilities in the global market.

National Association of Software and Service Companies (NASSCOM) revealed that the top 200 companies in India have already adopted international quality standards in March 1996 as under :

Table 10 : Award of quality certification to Indian Companies.

Quality Certification	No. of Companies
Already acquired ISO-9000 or equivalent certification	34
In the process of acquiring certification (would have acquired by March 1997)	77
Would have planned to acquire by 1999	82
No plans at present	7
Total	200

The analysis of the NASSCOM study results proved that as to why the USA based entrepreneurs have preferred to get their software developed in India. In the way of abiding by quality improvement philosophies in practice the Indian software entrepreneurs will be able to hold the key of becoming software superpower by its own brand image in the global. The software entrepreneurs in India have been achieving brand-driven quality maturity which is the key for success. Effective venture capital investment activities in the development of software entrepreneurship must be encouraged with the pragmatic governmental policy measures in order to make use of its full potential.

It is targeted that quality manpower required for the software industry must be generated by means of creating 50 software cities around the identified good engineering colleges/universities in India with particular attention to the non-metro cities and towns in various states. The Indian Institute of Information Technologies (IIITs) must be set up at every state to co-ordinate and manage the quality manpower programmes at software cities. The Indian Institute of Management (IIMs) ought to be adequately funded to develop specialised courses on global software marketing skills and to provide project management skills to the prospective software entrepreneurs. Venture capital and sweat equity are key solutions to the specific needs for software entrepreneurs. The government should formulate purposeful venture capital schemes for software entrepreneurs and provide effective as well as harmonised control strategies under SEBI. The national venture capital investment strategies have to be taken up by the government of India without further delay. The IT software literacy should be given up priority and should be made mandatory at the secondary and senior secondary level in the existing education system.

It is noteworthy that the Government of West Bengal has ultimately formulated and adopted an information technology policy, called "IT policy West Bengal 2000". For monitoring the implementation of this policy a high level committee, chaired by the honourable chief minister, will be set up. Various consultative committees focusing on diversified areas of IT software specialization will work under this committee. It is better late than never to realise the most pragmatic applications of computer and IT software technology for mankind.

India becomes an emerging e-commerce destination to the Silicon Valley based Indian computer-software whizkids (e.g. Sabeer Bhatia, Vinod Gupta, Gururaj Despande, Anil Gidwani and Chandra Shekhar and many others). These whizkids are the computer-software icons who have made billions from their start-up ventures in USA. They have given a legitimate dimension of e-business to the globe. In recent times the global computer-software entrepreneurs are impressed to make their venture capital investment activities in the emerging e-commerce in India. We need to take the bus to this trade of the new millennium by making an optimum start-up venture

capital investments for the IT software entrepreneurs as India has already entered in the era of e-commerce. It is now a proven fact that in the USA three out of every five internet software start-up companies belong to the Indian whizkids. Indian knowledge based human capital began migrating to the west as early as the seventies with the rapid growth of IT software industries in Silicon Valley. Indian knowledge-base human capital is highly demanded at abroad particularly in USA to tide over the keen competitiveness of the software industry. The cost-competitiveness of the Silicon Valley based software industry is hidden in the migrated entrepreneurial qualities of the Indian whizkids.

At present in USA there is a huge shortage of IT software human resources. There is a chance of havoc 'brain-drain' or migration of Indian human capital to earn more wages. So it would be wise on our part to take some combating measures against such brain-drain or migration of human capital to the west. We have to initiate venture capital investment activities for our high potential IT software entrepreneurs to take a global leadership in this emerging sector. Indian software entrepreneurs those who have made a mark in the global software market in the last two years are expected to achieve a substantial volume of e-business share in the years to be in the new millennium. The export revenue as well as domestic revenue of Indian software enterprises are expected to be improved substantially.

The number of IPOs by means of enlisting of more new software enterprises/companies through the stock exchanges will be augmented. The market capitalization of the Indian software companies will be overwhelmingly high. India shall be going to be the backbone for the high speed IT software internet economy owing to a large number hardworking, talented and skillful entrepreneurial spirit in the mind set of our human capital. This becomes the toppest resource of new millennium in India. Indian internet-based IT software revolution shall be much greater than the industrial revolution. The IT Task Force recommendations have been tabled and accepted by the government of India in toto during mid-1998. It has brought hope to the Internet Service Providers (ISPs) and IT-software industry as a self-reliance strategy. Total ISP licences issued as on December 1999 is 175. The state-wise break-up is given in Table 11.

Table 11 ISP Licences Issued.

State	No. of ISP licences issued
All-India	26
Gujarat	31
Maharashtra	19
Andhra Pradesh	19
Rajasthan	14
Uttar Pradesh	10
Delhi	10
Tamil Nadu	9
Kerala	7
Karnataka	7
Madhya Pradesh	5
Haryana	4
Chandigarh	4
West Bengal	2
Punjab	3
Orissa	2
Bihar	2
Jammu & Kashmir	1
Total	175

Source Dataquest, vol. XVIII No. 2, January 31, 2000

With the ISP policy announcement, the domestic internet market now includes 175 private ISPs and thereby ending the monopoly of the Videsh Sanchar Nigam Ltd. (VSNL). According to Dataquest, Internet Market Forecast the healthy growth in access market is given in Table 12.

Table 12 : Market Forecast for Internet.

	1999	2002
ISP Licences	175	750
Internet Subscribers	0.24 million	3.75 million
Access Market (Rs. million)	1020	15,000

Source Dataquest, vol. XVIII, No. 2, January 31, 2000

It is noteworthy that the ISPs in the internet era are playing significant role in India. The IT-software entrepreneurs will be getting opportunities for launching more new enterprises/ventures/companies in the vibrant software sector. The eastern region in India will be provided much attention regarding private ISPs which is essential for attracting the potential entrepreneurs in the IT-software sector. Calcutta's Caltiger would be the only Indian company following the free ISP model whereas in India the ISPs are still looking at connectivity charges as a major source of revenue. But it is globally recognised that the ISP must be more or less a free commodity as a basic connectivity. Most of the ISPs are still grappling with the value-adding means in the nascent ISP industry.

Indian software entrepreneurs are making strategic partnerships with the venture capitalists/angel investors for pre-IPO investment opportunities and making enormous returns in a short-time span. In essence, the venture capital funds are taking opportunities to make venture capital investments for companies which have already created value but do not have capability of unlocking this value. The VCFs are essentially assisting in unlocking value through the IPOs in the windows of stock exchanges at the matured stage.

India needs to build a new generation of IT-software entrepreneurs with a high standard of ethics, business philosophy and professionalism as knowledge and intellectual assets are going to be the source of creating wealth. The effective venture capitalists have to perform business activities with the prospective entrepreneurs in the vibrant IT-software sector which has become the key self-reliance strategy for India's prosperity. The knowledge-based intellectual

properties in India must have a 'value-adding multiplier, (VAM) effect on Indian IT-Software industry.

India has many centres of excellence like IITs and IIMs, engineering institutes, universities that have produced many Silicon Valley start-up entrepreneurs. Essentially, India's IT-software entrepreneurs are not expected to bag business at the speed of vibrant internet only, they must also acquire skills to build brands and be brand-driven for IT-software products and services in the global market.

There are ample opportunities for using IT software in our governmental, semi-governmental and educational activities at central, state, municipal and districts level, banks, trade, industry and agriculture and thereby the prospective entrepreneurs shall be achieving higher value-addition and growth with an effect of value-adding multiplier (VAM). We need to grow with value-added wealth with an effect of value-adding multiplier (Saha, 1998).

In the new millennium India must be a global IT software super power and a front-runner in the era of IT revolution. At the governmental planning levels, IT software should be considered as an agent of transformation of every facet of mankind. The output of IT software industry is now Rs. 1,50,000 million and a large part of it belongs to export efforts. The success has come in a large measure with a great efforts of our talented entrepreneurs. However, India's output in IT software sector is miniscule compared to the global total, we should take all sincerest efforts in boosting up IT software entrepreneurial spirit in the mind-set of our prospective entrepreneurs to increase our share in the global market.

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Handloom Industry: A Means to the Development of Rural Economy In West Bengal

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Abstract : The present text is based on a study conducted on the weavers of West Bengal under the sponsorship of U.G.C., New Delhi. This article attempts to find out the problems of artisan-based small scale cottage industries and their role in the decentralised development of the state. A list of suggestions for the development of the condition of artisans and the industry, based on the available information have been included.,

Introduction

The handloom industry is one of the traditional industries of India. It is believed that cultivation and manufacture of cotton had originated in India. Indian weavers enjoyed supremacy in this branch of industry until the industrial revolution in England. It was developed as an artisan-based industry throughout the country and still continues to be the second largest employment oriented industry (next to agriculture) providing employment of more than 10 million people. There are 3.8 million handloms in India. The yearly production of cloth from this sector is above 3514 million meters, out of a total of 11956 million meters from the whole textile industry (NCAER, 1987). From the point of view of employment opportunity, for the development of semi urban and rural areas, and for raising the standard of living of semi-urban and rural people, the handloom industry can be used as an effective vehicle.

Historical Background

During Mughul rule handloom products of India attracted the attention of European traders. East Indian Company was formed to take over the Indo-European trade, which in course of time took over the administrative control of India. Increasing volume of export of cotton goods to Europe from India roused the voice of European cotton manufacturers, who were afraid of increasing competition from Indian exporters. Finally they compelled the British Government to change their commercial interest in India after the Sepoy Mutiny of 1857 (Buchanan, 1966).

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Throughout the nineteenth century British policy towards India was aimed at fulfilment of their twin objectives. They wanted to develop India as a prime producer of raw cotton to feed the increasing demand of cotton mills of England, particularly during the civil war of America. On the other hand, they wanted to convert India as a market for their cotton products. Attacked from both the sides Indian weavers lost their age old domination over the domestic market which almost ruined the Indian handloom weaving industry. Millions of Indian weavers lost their traditional occupation and took to farming. Only those weaving with superior artisan skill and high excellence remained in the profession (Marx and Engles, 1979) This state of condition of Indian weavers has been well described by Karl Marx in his writings "The British Rule in India" in the year 1853.

Situation in West Bengal

The handloom industry in West Bengal has a rich heritage. The ornamental designs, embroidery, the muslins and exotic varieties of clothes were appreciated by the aristocrats all over the world. At the time of independence the weaving industry of West Bengal was not in a very comfortable position. During the days of "Swadeshi Movement" the cotton mills of Ahmedabad had made serious inroads into the markets of "Sarees" and "Dhutis" so long supplied by the weavers of Shantipur of Nadia and Begumpur and Dhaniakhali of Hooghly district. Moreover the weaving industry of West Bengal was solely dependent on the irregular supply of yarn from the mills of western and southern India. These seriously handicapped the industry which continued to influence the course of development of the industry in West Bengal in the post-independence era.

In the post-independence period handloom industry in West Bengal spread over almost all districts. This industry provides employment, food and cloth to various sections of people in different scales. Serious and sustained efforts had been taken to improve the conditions of the weavers as well as the industry by the Handloom and Textile Directorate Govt. of West Bengal, in association with the Development Commissioner for Handlooms, Ministry of Textiles, Govt. of India and many other agencies like West Bengal Handlooms and Powerloom Development Corporation Ltd., and West Bengal Handicrafts Development Corporation Ltd.

There are 3.8 lakh handlooms in West Bengal with a total monthly production of 65,992,448 mts of cloth. A large section of rural population (3.36 lakhs) is engaged in the production of handloom products and a significant number of urban population are engaged in the marketing and trading of handloom products (NCAER, 1957).

Identification of Problems

Handloom industry of West Bengal suffers form deficiency of capital, deficiency of raw materials, poor organisation and inadequate marketing arrangements as the industry is scattered over the state and the production units are very small. It is impossible to improve the conditions of the industry without the help of a concerted and well integrated positive planning of the state government.

Recent Development

At present the basic strategy of the State government for the development of the handloom industry has been the organisation of the poor and scattered weavers into co-operatives and providing these co-operatives with inputs, finance, technical as well as marketing assistance.

Significant development took place in the state since the late seventies when the Government of West Bengal took initiative to reorient and revitalise the industry. The areas of traditional production and prospective areas of resettlement of destitute weavers were identified. Blockwise weavers service centres were developed. Loomless weavers were organised into loomless co-operative societies, loans were arranged and new marketing channels were opened. In the process of reorganisation, an interesting feature was observed. The traditional products of West Bengal were very simple. The immigrant weavers of Tangail and Dhaka brought with them colourful motifs and designs which were mingled with local products. The result was a special type of colourful and exotic variety of good quality fabric which became popular throughout the country.

In spite of the significant development of the industry in the state, particularly since the late seventies it is not free from handicaps. Being an artisan-based industry, the individual weavers and

the artisans constitute the key factor. But with the commercialisation of production, the artisans have become easy prey to the resourceful merchants and powerful master weavers. Co-operative form of organisation was considered to be the most effective way of organising the vast mass of unorganised weavers. It is true that co-operatisation has made some progress, but the claim made about its success at the official level, are highly exaggerated.

The weavers of our state are largely tradition bound, so far as the items produced are concerned. When the industry largely depend on the taste and fashions of the people, which are changing fast, introduction of new designs from time to time is most important for the survival of the industry.

A field survey was conducted to identity the character and some major problems of the industry. 1645 weavers from 45 important weaving centres of 9 major weaver inhabitated districts of West Bengal were interviewed. All the 1645 respondents were mostly heads of families, who organise, guide and control the weaving activities of respective families. These families have among themselves 3821 weavers at work, of whom 1288 persons or 26.72% were loomless. The total 1645 respondents represent 0.56% of the 2,92,360 weavers of selected 9 districts.

All the information were complied into tables to develop a socio-economic profile of the industry.

Socio-economic Profile of the Industry

It appears that major working force of the industry is coming from the age group of 26 to 60 years (see Table 1).

Table 1 Age Composition of the Weavers

Age Group	Percentage
Below 25 years	10
26 years to 40 years	40
41 years to 50 years	26
51 years to 60 years	18
60 years & above	6

Table 2 : Social Profile of the Weavers

Identity		Percentage
Religion	Hindu	85
	Muslims	15
Tradition	Traditional	75
	New entrants	25
Migration	Local	69
	Emigrant	31

A major part of the population of the weavers are Hindus and the industry was developed as a caste dominated one. The Muslim weavers who continue in the industry carry the same tradition of Hindu culture. All the immigrant weavers have migrated from East Bengal, erstwhile, a part of Pakistan. Majority of immigrants (66%) came before 1970, i.e.,before the emergence of Bangladesh. Majority of the migrated weavers have settled down in two districts : Nadia and Burdwan in centres like Phulia, Shantipur, Nabadwip, Dhatrigram, Katwa and Samudragarh.

Table 3 : Product Composition

Products	Percentage
Sarees / Dhuti	62.61
Lungis	6.44
Gamcha	16.60
Mosquito net	2.80
Bed sheets	11.55

It shows that most of the weavers are engaged in weaving *sarees* and *dhutis*. However, *bed sheets, gamchas* and *mosquito nets* are produced in Midnapur.

Table 4 : Housing Condition of the Weavers

Housing condition	Percentage
Thatched House	60
Permanent (R.C.C)	9
Semi-Permanent (Tin roof)	31

Majority of the weavers live under poor housing conditions. Most of the permanent houses have been constructed by their forefathers representing the past glory of the industry.

Table 5 : Income of the Weavers :

Monthly Income (Rs.)	Percentage
Upto 500	10.7
501 — 800	19.0
801 — 1000	24.8
1001 — 1500	30.0
1501 — 2000	9.3
2001 and above 6.2	

Monthly income of the weavers vary from Rs. 500 to Rs. 2000. Collection of information about their income was not very easy. Most of the respondents remained silent on this question. Some of them really do not add up their income. In many of the cases, we have to estimate their income from the volume of their business and family condition, which they finally agreed to reveal. It shows that majority of the weavers earn between Rs. 500 to Rs. 1500 per month, which is indeed a very poor income.

Table 6 : Source of Income

Source of income	Percentage
Weaving is the only source of income	41
Alternative source of income earning	59

Weavers do not generally undertake manual labour, because they fear that the particular sensitivity of their finger required for fine weaving will be lost, only the weavers who weave coarse quality cloths undertake other occupations.

Organisation Structure

Weaving was originally a caste based occupation. In course of time with the specialisation of production emerged the guild system.

The middle man under *dadan* system was introduced to serve European interest. Now-a-days co-operative society is considered to be the most suitable form of organisation. It is observed from the available records that in 1977-1978, 34% of the weavers of West Bengal were organised under co-operative society as against an all India average of 31%. From the survey it is seen that out of 1645 respondents 59% are the members of some co-operative society and 41% are non-members. Non-members were asked why they were not members. Responses are shown (in percentage) in Table 7.

Table 7 Causes for Not Being Member of Co-operatives

Reasons	Percentage
Membership denied	15
Do not consider necessary	21
Ignorant about co-operative society	10
Resistance from Mahajan	23
Indebted to Mahajan	20
Enterprising and getting better profit	11

Many weavers who are members of the co-operative society do not get regular employment from there. Some of them work independently and some of them work under mahajans.

Table 8 : Employment Pattern

Employment	Percentage
Working under co-operative society	26
Working independently	27
Working under mahajan & master Weaver	47

Finance

The weavers depend on various sources for their requirement of initial and working capital, varying from money lender / mahajan to own / family resources. Present data show the dependence of weavers on various sources for setting up new looms.

Table 8A : Source of Funds

Source of funds	Percentage
Own source	55
Family source	19
Mahajan	17
Co-operative Society/ Banks	5
Money Lender	4

For the requirement of working capital our data shows their dependence on varrious soruces as follows

Table 9 Source of Working Capital

Source of working capital	Percentage
Mahajans and master weaver	53
Co-operative Society	27
Own resources	6
Other organisations (KVIB/KVIC)	4

It appears that a major portion of the weavers who constructed their new loom from their own / family sources depend on mahajan and master weavers for their working capital to continue their production.

Marketing

Decentralised production and centralised marketing is the main problem of marketing handloom products. Hand weaving in our country developed as an artisan based cottage industry. Village *haats* used to be the only outlet for distribution of handloom products to distant places. Commercialisation of production separated marketing from production, and the industry has to face serious competition from mill sectors. But slowly marketing agencies have developed. The co-operative societies, the mahajans, the master weavers are the main marketing agencies who are working in this area. The following table shows the dependence of weavers on different marketing channels.

Table 9A : Marketing Channels

Marketing Channels used	Percentage
Own retail outlet	16
Co-operative Society	30
Mahajans and master weavers	54

Respondent weavers were asked about their preference for marketing outlet. According to their reply the following figuries are obtained

Table 10 : Preference for Marketing Channels

Preference for Marketing Outlets	Percentage
Co-operative Society	36
Mahajans / master weavers	19
Open market	45

All the information received about the cost and profit of handloom products can be displayed in the following table.

Table 11 Decomposition of sales price (in Rs.)

Quality of products	Material Cost	Wages	Profit	Sale price
Coarse	80-128	15-35	15-25	110-188
Medium	180-232	40-50	42-60	262-342
Fine	445-550	75-100	110-135	630-785
Super fine	1070-2100	200-1100	340-800	1610-4000

It appears that profit tends to rise as the quality improves. But the amount of wages do not increase in that ratio; the weaver who weaves coarse quality gets Rs. 15 per piece, and can weave two pieces per day making his wage Rs. 30 per day. On the contrary, the person getting Rs. 1100 for fine and superfine weaving, weaves it in two weeks making his wages Rs. 78 per day, which is not in conformity with his skill.

Finally, we may conclude the study with a list of suggestions for the betterment of the industry. It is observed that sustenance of the industry in our country is extremely necessary because millions of people of our state depend on this industry for earning their living. Further, it can be suggested that the extent of coverage of the Co-operative Societies in terms of membership of the weavers is to be enlarged, leaving scope of operation by the most enterprising weavers individually. Maximum effort should be given to make the co-operative societies active. For this, bureaucratic control over their functioning must be replaced by more businesslike operations. Sale of weaver products through apex body of co-operative societies creates more problems than it solves. The retail outlet of the Apex Co-operative Societies should be looked upon as the retail outlets of the Co-operative system, not as that of a big commercial house, and the payments of sale should be made to the societies periodically.

In course of investigation it appeared that non-availability of yarn at a reasonable price is a major obstacle on the way of development of the industry. Therefore, it is suggested that State Government should procure yarns from outside the state to meet the requirement of yarn by the weavers. Distribution of yarn may be made through the apex body of co-operative society, but it is necessary to ensure that the yarn thus distributed actually reach the weavers. Another factor leading to the decline of handloom industry in the state is unequal and unfair competition from the power loom sector. Hence it is suggested that the Handloom (Reservation of Articles for Production) Act, 1985, should be suitably amended to enforce the provision of reservation of production strictly.

One of the most serious weakness of the handloom weaving industry in West Bengal is the lack of diversification of production. In the context of changing dress habits of women in India today production of pieces of cloth with designs suitable for preparing ladies garments like skirts, churidars and pajamas, as well as dress materials for men may be introduced. For raising the industry to new heights of development, leadership in artistic excellence must be encouraged and developed. Hence, in order to train up the new entrants and identify and develop their artistic skill and excellence and also for the development of new designs, some institutions should be opened at suitable places with initiative of the apex body of co-operative societies and other agencies of the State Government. It appears that majority of the weavers depends on mahajans

and master weavers for financing their operation. To bring more weavers under the purview of co-operatives these weavers working under Mahajans are to be approached. In most of the cases they are indebted to the mahajans. This debt may either be paid off by the co-operative societies to which they will become members with funds provided for the purpose by the Government or soft loans may be granted to the weavers by the State Government for that purpose. Throughout the period the principal policy of sales promotion has been rebate on sale of handloom products. This policy must be replaced by innovative marketing. Marketing assistants should concentrate on identification of opportunities for new products and on making weavers aware about the reaction of the customers to the new products. In that case marketing policy should aim at encouraging only the production of those items which can sell without rebate. There is also need to encourage and enforce quality and standard of products. Most of the weavers are unaware about the quality control. Hence, in the context of expanding the market for handloom products, strict enforcement of quality control should be initiated though the Co-operative Societies and other organisation of the Govt. which supply yarn and procure finished products for sale through their outlets. To extend the horizon of market for the woven products along with weaving, tailoring of garments should also be brought under the preview of the Co-operative Societies.

As the products are of utility and high artistic value, handloom textiles are looked upon by people throughout the country with respect. Hence, in order to popularise the handloom products systematic advertisement through electronic media and expositions should be restored to both inside and outside the country.

Products of handloom textile constitute an important item of export of the country. In 1993-1994 cotton fabrics worth Rs. 1297.48 crore and cotton yarn worth Rs. 1608.97 crore were earned from the export. The export is expanding slowly but steadily. At present private traders are exploiting the potential. In some areas of Nadia and Murshidabad district it was found that some very enterprising weavers producing items for the use by women of middle east countries and Japan against export orders. The weavers expressed that they are getting much higher payments for weaving these items. It is therefore suggested that government agencies should collect export orders side by side with the private traders. Standards and specifications of the products may also be set for that. In the context

of setting up World Trade Organisation and phasing out of the multifibre agreement, there is considerable scope for expansion of export trade in handloom products in the forthcoming years. The export of yarn which earns much lower return than the fabrics may be curtailed.

Developed as a labour intensive industry, handloom weaving in Bengal throughout its existence has proved to be an industry of high artistic excellence. During the entire period of is existence, the industry survived a series of onslaughts. Its reorganisation in West Bengal has been made possible for its unique position in the economy of the country, for the efficiency of artisans, and for the helpful attitude of the State Government. But the reorganised industry is only a shadow of the glorious past of the industry in Bengal. With the above suggestions implemented in West Bengal, the industry can play its legitimate role in the decentralised development of the state.

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Quantification of Corporate Social Costs and Benefits for Disclosure in Annual Reports An Overview

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Abstract This paper dwells on the complex and difficult issue of quantifying corporate social costs and benefits. It focuses on accounting and economic techniques of social cost quantification and also throws light on how these techniques may be applied in the corporate sector through numerous case illustrations.

Introduction

The activities of corporate entities create some impacts which affect our sentiment, emotion and aspiration, which inflict on us pain, suffering, anxiety, disease and death, and which we cannot simply afford to ignore. While appraising the performance of corporate entities, if we do not consider these impacts then the decision arrived at will be grossly inaccurate to the extent that it will fail to reflect social expectations. That will generate social tension which will ultimately lead to social conflict. Again these corporate bodies also create some pleasures, benefits and opportunities for the employees and even for community wherein they exist, through their activities and works. So we should take note of the social costs and benefits generated by the corporate entities. Then, and only then we will be able to make accurate decisions based on social impacts of our activities. Now, the process involves two functions. One of them is the identification of social costs / benefits and another is the quantification of the same. For this purpose, we have divided our discussion into the following sections :

I) Identification of social costs / benefits

II) Quantification Techniques concept and methods

III) Quantification — its application

IV) An illustrative case study

V) Conclusion

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I) Identification of Social Costs and Benefits

While identifying the social costs / benefits we have relied entirely on the framework of sustainable development (SD). The mission of SD is to promote an efficient economy, a healthy natural environment and a just society for ourselves and for generations to come. The seven key factors (Henn, 1999) which are required changes for SD are

i) The Efficiency Factor
ii) The Productivity Factor
iii) The Quality Factor
iv) The Ethics Factor
v) The Information Revolution Factor
vi) The Strategic Factor
vii) The Sustainability Factor

Again, the tools and management systems according to Brady et al (1999), required to promote SD in industry are :

i) Cleaner Production Guides
ii) Corporate Environmental Reporting
iii) Design for Environment
iv) Design for Disassembly
v) Eco-Compass
vi) Eco-Auditing
vii) Eco-Efficiency
viii) Eco-Industrial Parks
ix) Eco-Profiling
x) Environmental Auditing
xi) Environmental Management Systems
xii) Environmental Performance Measures
xiii) Life-Cycle Assessment
xiv) Life-Cycle Costing
xv) Life-cycle Management
xvi) Life-Cycle Value Assessment
xvii) Pollution Prevention.
xviii) Product Strewardship.
xix) Social Justice Indicators.

xx) Responsible Care.
xxi) Various National Environmental Standards.
xxii) Supply Chain Management.
xxiii) System Conditions of the Natural Step.

Thus, SD is a multidimentional concept that virtually encapsulates anything and everything relating to Corporate Social Responsibility Reporting (CSRR). So we should identify the corporate social costs and benefits in terms of SD. The task is no doubt tough. However, attempts have been made to identify and classify them while discussing and evaluating different social projects. The essence is that if we want to provide a "true" evaluation of the corporate activities we have to take into consideration all the diverse adverse / favourable effects. (e.g., direct / indirect, primary / secondary, tangible / intangible, tradeable / non-tradeable, internal / external, priced / unpriced, reversible / irreversible, short-term / long-term). At the same time, we have to evaluate the different "values" associated with the corporate activities e.g. utilitarian, naturalistic, scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic, negativistic). This sequence of social costs / benefits can go on ad-infinitum, but at every transition point, they become more diffused and less specific. (e.g. the primary benefits / costs lend themselves to easy identification / quantification and the identification /quantification of secondary, tertiary etc. becomes progressively more difficult).

While analysing the Annual Reports of various companies both in private and public sectors, the following index of corporate social costs / benefits appears to be reflected mostly. These are

i) Community Involvement, e.g.
   I) Provision for educational facilities.
   II) Community health, sanitation, medical establishment and family planning.
   III) Development programmes for minorities and backward classes.
   IV) Development of sports and games.
   V) Aid in national distress etc.
ii) Human Resources, e.g.
   I) Training of employees.
   II) Employment of minorities and backward classes.

III) Retirement benefits.
IV) Employees' welfare programmes.
V) Workers' participation in management, etc.

iii) Concern for Environment
I) Pollution Control
II) Recycle and reuse disposable materials.
III) Conservation of energy.
IV) Preservation of ecology etc.

iv) General Information
I) Maintenance of product / service quality.
II) Monitoring users safety.
III) Consumer education.
IV) Better customer service etc.

Presently various companies (both in private and public sector) are presenting their Annual Reports by incorporating social costs / benefits information in one or more of the various forms[1] like, voluntary Supplementary Statement, Directors' Report, Chairman's Speech, Schedules of Accounts.

Majority of them presented the social information in their Directors' Reports. Some companies like **TISCO** (97-98), SAIL (91-92), have presented it through Voluntary Supplementary Statement. Some companies like **SAIL**, have presented it through Schedules forming part of the balance sheet (97-98). **Hindustan Organic Chemicals Ltd.** have presented it through Chairman's Speech (96-97).

In Table I, we have shown the volume of identification of social costs / benefits (i.e. number of lines that has been used in presenting the information) and quality of identification of social costs / benefits (i.e. number of index that has been focused).

Quantification Techniques Concept and Methods

So far as quantification is concerned, it is the most crucial task to quantify the above mentioned social costs / benefits. Again, the

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1. For this purpose, we have thoroughly scrutinised the Annual Reports of different companies under different industries with the help of a computer software "PROWESS" developed by Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE).

quantification of social benefits is even more difficult than that of social costs. A much used technique for the calculation of net social costs / benefits is cost benefit analysis (CBA). CBA provides a rational framework for project choice using parameters reflecting national goals, social objectives and values. There are a number of approaches and experiments to the quantification of social costs and benefits vis-a-vis CBA.

Different approaches include

1) OECD approach developed by Little & Mirlees (1968)
2) UNIDO approach developed by Dasgupta, Sen, Marglin (1972)
3) World Bank approach developed by Square and Van der Tak (1975)
4) Value Added approach contributed by Mark Chervel (1974), UNIDO (1980)
5) Approach put forward by Ralph Estes (1976)

Different experiments include

1) Benefit-Incidence Matrix developed by Morisugi and Ohno (1995)
2) Econometric Model contributed by Kwan and Chow (1996)
3) Environmental Activity Cost Analysis conducted by Quarles and Stratton (1998)
4) Economic Value Added discussed by Epstein & Young (1998)

OECD approach is suitable for projects with large traded components like production of sugar. UNIDO approach is suitable for transportation, electricity etc. World Bank approach is suitable for irrigation projects. The merits of Value Added concept is that it can be estimated at market prices or factor costs. The concept fits easily with national planning policies when sectoral and national targets are expressed in terms of incremental national income. Ralph Estes' approach gives us a comprehensive idea of social measurement with special reference to CSRR.

Different experiments have had limited applicability. For example, they have been tailored to suit some specific needs. Benefit

Incidence Matrix helps us to represent the structure of benefit incidence derived from various urban development projects associated with a change in environmental quality. Econometric model helps us to measure the economic effects of political movements in China. Environmental Activity Cost Analysis is based on ABC to measure the environmental costs of a chemical processing facility. Economic Value Added can be used to improve the corporate environmental performance.

On the basis of the above approaches and experiments, the different measurement and quantification techniques suggested by the economists and accountants are discussed below

Accounting Techniques

1) **Shadow Pricing / Accounting Pricing** : It may be defined as the opportunity cost associated with the use of a resource for a particular output which does not have a ready market or where the market prices do not adequately reflect social values. Shadow pricing may be of different types. e.g. shadow price of traded goods, or tradeable goods or non-tradeable goods (Standard Conversion Factor) or labour (Shadow Wage Rate).

2) **Net Value Added** : Since the aim of a project is to contribute as much as possible to the national income so the relevant parameter is net value added. Net value added consists of salaries and wages and a residual termed 'social surplus'. The social surplus is represented by taxes, interest, rent, undistributed profits and dividends to shareholders.

3) **Benefit Incidence Matrix** : Morisugi and Ohno (1975) have proposed a matrix called a benefit incidence matrix which represents the structure of benefit incidence derived from various urban development projects with special attention to a change in environmental quality. The matrix consists of the beneficiaries and cost sharer expressed by columns, and the items of benefits and costs, expressed by rows, so that the social efficiency and equity of the project can easily be ascertained.

4) **Activity Based Costing** : ABC is viewed as a framework to address the increasing environmental costs by overcoming many of the measurement problems posed by traditional systems. However, there are relatively few explanations of how to apply the ABC

framework to identify and quantify specific environmental costs. Quarless & Stratton (1998) describes a case study in which a detailed cost analysis process i.e. environmental activity cost analysis (EACA) based on ABC was developed and used to measure the environmental costs of a chemical processing facility.

Economic Techniques Using Market Prices

Under **Loss of earning** approach, industrial relation, soil fertility, industrial safety can be related through econometric techniques to output vis-a-vis sales (earning), showing how earning varies with change in various kinds of input. Under **Opportunity-cost** approach benefits of the activity causing environmental deterioration—say, a housing development-are estimated in order to set a benchmark for what the environment benefits would have to be for the development not to be worth-while. Under **Dose-response** approach, physical impact of an environmental change on a receptor, such as air pollution on material corrosion, acid / rain on crop yield or water pollution on the health of swimmers are measured. Under **Replacement cost** approach, cost of replacing or restoring a damaged asset is taken into consideration to measure the benefit of restoration either by observing what the victims actually spend or by consulting expert opinion on what it would cost to remedy the problem.

Economic Techniques Using Surrogate Market Prices

i) **Stated Preference Method** : Contingent Valuation Method is a direct method, which asks people what they are willing to receive by way of compensation to tolerate the cost, e.g. for measuring effluent management and environmental conservation.

ii) **Revealed Preference Method** : (a) Travel cost method uses the time and cost incurred in visiting or enjoying a natural site as a proxy measure of the price of entering it. (b) Hedonic price method recognizes the fact that the environmental attributes are likely to be capitalised in the price of land, building etc. So the value of improvement in the ecology may be traced back in the market price off the surrounding land, buildings etc. (c) Averting behaviour measures the industrial pollutions by determining the amount of money that the households spend to offset such environmental hazards.

In spite of the above mentioned quantification techniques, the quantification of items like human life, sentiment, emotion, accident,

ailment etc cannot be made accurately. But these approaches help us to arrive at a quantification on the basis of present level of knowledge and present flow of information. If the level of knowledge improves and flow of information increases, quantification or valuation will also improve. However, there should be an effort on the part of the corporate bodies, not only to identify social costs / benefits generated by them but also to quantify them. Some references and approaches have been discussed below to show how these social costs / benefits of corporate entities may be quantified

Quantification in Practice

The following situations are cited as application of the quantification techniques referred to above.

1) can human life value be measured? It sounds utopian. But it has been found possible as lots of studies have been made from time to time. While finding them out, some hard facts come open. How much one is to spend for him and for his dependant family members for food only. Depending upon the average amount one spends for basic food only, it will never be less than Rs. 5 lakhs for a family consisting of 4 persons. For example, a person spends Rs. 8 on an average for basic meal for his family members. For 3 major meals, he is spending Rs. 96 per day (Rs. $8 \times 4 \times 3$). For next 15 years, expenditure on this count will be Rs. 5 lakhs without taking escalation of price in consideration. If this is the position, then for a family of higher standard of living, it will not be less than Rs. 30 lakhs. And this expenditure is required for basic food only, without taking into consideration the other expenditure like clothing, shelter, education etc. If the individual dies, then the family must spend this amount former sustenance, of course with a reduction of 1/4 th of the total expenditure ....."[2].

2) Building a new college for further education in a town is expected to provide employment for people in the area besides other social opportunities. An estimate is made of the number of long-term and short-term job creation. The **Shadow price** of a new job to be created could be the gross wage that the employees would have to pay or the net wage that employees would receive or a weighted overage of the gross pay and net pay for the job.

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2. Excerpts form leaflet of Jeevan Shree Policy of Life Insurance Corporation of India.

3) **Hypothetical P & L A/C for the year XX** (Chakraborty, 1979)

Raw Materials used	Rs. Crores	Sales :	Rs. Crores
Domestic	11.00	Domestic	16.00
Imported	5.00	Export	20.00
		Loss	2.00
Wages :			
Skilled	3.00		
Semi-Skilled	3.00		
Unskilled	4.00		
Salaries	6.00		
Manufacturing O/H	3.00		
Administration O/H	2.00		
Selling & Distribution O/H	1.00		
	38.00		38.00

Using conventional methods, the firm is showing a loss of Rs. 2 crores for the year XX. But if we apply shadow pricing for wages and foreign exchange through the shadow rate (i.e. skilled labour 70%, semi-skilled labour 50%, unskilled labour 40%, foreign exchange 125% and managerial salaries 120%) then we will have the following revised P & L A/C

P & L A/C for the year XX
(Adjusted by social costs and benefits)

Factor	Rs.	Crore	Factor	Rs.	Crore
Raw Materials			Sales		
Imported	1.25	6.25	Domestic	—	16.00
Domestic	—	11.00	Export	1.25	25.00
Wages:					
Skilled	0.70	2.10			
Semi-Skilled	0.50	2.10			
Unskilled	0.40	1.60			
Salaries	1.20	7.20			
Manufacturing O/H	—	3.00			
Administration O/H	—	2.00			
Selling & Dist. O/H	—	1.00			
Social Profit	—	41.00			41.00

It will be thus seen that while the conventional accounting showed a loss of 2 crore, the social cost-benefit computation shows a profit of Rs. 4.75 crores.

Case Studies

Below we present two case studies.

Example — I

Let us take the case of Euro I & II compliance of automobiles. The real objective behind setting high technological benchmarks (like Euro I & Euro II emission norms) is to make an effort towards meeting certain customer satisfaction benchmarks and social obligations. To put it otherwise, non-compliance of these benchmarks will generate social costs. We may quantify these social costs by the amount of money that the automobile manufacturers would be likely to suffer from the Supreme Court's order banning all non-commercial vehicles complying with Euro I emission norms but not complying with Euro II norms in the National Capital Region (NCR). e.g. Maruti Udyog Ltd. (MUL) which has a market share of about 80 percent in the passenger car segment, would be likely to suffer a loss of sales amounting to Rs. 90 crore per month because of decline in sales of 25%, which is the NCR'S share in MUL's sales. Again, central and state government, for their part, will lose revenue from central excise and local sales tax amounting to Rs. 50 crore per month. Again, the auto-components suppliers would be likely to suffer a revenue loss of 46 crore per month due to decline in production vis-a-vis decline in demand for auto-components. Now the social cost of non-compliance of Euro II emission norms may be quantified by the sum total of loss of sales, loss of central and state duties and loss of revenues of auto-components suppliers. i.e. Rs. 90 crore + Rs. 50 crore + Rs. 46 crore = Rs. 186 crore per month.

Example II

Let us take the fifty second Annual Report (for the year ended 31.3.98) of Asian Paints (I) Ltd. The following index of CSRR may be identified as reflected in the aforesaid Annual Report

i) Ecology & Safety,

ii) Conservation of Energy,

iii) Industrial Relation

Suggested Quantification

Here it is illustrated how the specific items of cost or benefit may be quantified following the aforesaid methods.

1) **Ecology & Safety :**

Excerpts from Annual Report "..... Company, in pursuit of its continuing commitment, has been according the highest priority to safety and environment control programmes. Several measures have been implemented to ensure safety in the handling of materials such as storage, charging and discharging. Safety Committees are meeting regularly to review the safety measures. Steps have been taken to control pollution through effluents, dust and emission form chimneys, etc. Samples are periodically drawn and reports are submitted to Pollution Control Boards to ensure compliance with standards....."

Social Impacts Ensuring more safety means reduction in man-days lost due to accident. Controlling the pollution through effluents, dust and emission from chimneys mean compliance with the standards set up by Pollution Control Boards to that effect, and making the surrounding environment less polluted.

Quantification :

		Rs.
1st alternative		
	Cost of implementing safety measures in storage, charging and discharging	**
Add	Cost of conducting regular meeting of Safety Committees to review the safety measures	**
Add	Cost of monitoring pollution control through effluents, dust and emission from chimneys (A) Total	***
2nd alternative		
	Production / earning per day X Number of man-days lost that would have occurred due to accident etc.	**
Add	Fines and penalties that would have been paid to Pollution Control Board due to non-compliance with pollution control standards	**
Add	Cost of punitive shut-down that would have been ordered if pollution standards were not followed (A) Total	***

3rd alternative

Hedonic Price of the improvement in the ecology as reflected in the market price of land, building etc in the vicinity of the factory as a result of safety and environment control programmes = Rs. (A)

2) **Conservation of Energy**

Excerpts: Particulars in respect of conservation of energy and technology absorption by the company are given as Annexures to this report in Form 'A' and 'B' respectively.

The National Productivity Council conducted energy audit of Penta Division and their recommendations in respect of condensate return, control of water ingress, steam consumption etc, are being implemented.

During the year, the company's phthalic division has been awarded ISO 14001 Certification of Environmental Management System by Det Norske Veritas of The Netherlands...."

Social Impacts Reductions in consumption of electricity and consumption of furnace oil per unit of production.

Quantification :

1st alternative :	**Rs.**
Cost of condensate return	**
Cost of controlling water ingress	**
(B) Total	***

2nd alternative Quantification of reduction in consumption (i.e. conservation of energy) of Electricity, Furnance oil and Coal per unit of production. (vide Annexures to Annual Report).

The relevant expression is as follows —

Reduction in consumption of Electricity / Furnance Oil / Coal per unit of production X **Total units of production** with the help of electricity / Furnance Oil / Coal X **unit price** of electricity / Furnace Oil / Coal.

Reduction in consumption per unit of production

Name of Production	Electricity (KWH/Ton/Kl) of	Total Untis Kl) of production	Furnace Oil Total (Litres/Ton/Units production production		Coal Total Units (Ton) of	
Paints, Enamels & Varnishes	9	a	27	d	—	—
Phthalic Anhydride	28	b	—	—	—	—
Pentaery thritl	447	c	0.26	e	3	f
Total	91+28b+447c		27d+0.26e		3f	
Current Rate/Unit	Rs. 4.03		Rs. 6.90		Rs. 1402	

Therefore,

Quantification = (9a + 28b + 44c) Rs. 4.03 + (27d + 0.26e) Rs. 6.90 + 3f × Rs. 1402

= Rs. B

3) **Industrial Relations**

Excerpts Industrial Relations during the period were by and large satisfactory.

A new three year wages agreement was signed with the workmen at Mumbai plant covering terms of employment, deployment, work practices and norms of output in January, 1998 ....."

Social Impacts Satisfactory Industrial relation implies absence of strike, ceasework, go slow, lock-out etc. It ultimately implies lesser number of man-days lost due to industrial dispute.

Quantification

Production / earning per day X number of man-days lost that would have occurred due to strike or lock-out or any other industrial dispute during the year under review. (by Surrogate Valuation) = Rs. (C)

Now the foregoing "quantification exercise" may be reflected in the P & L A/C of the Annual Report in the following manner :

Dr.	P & L A/C (includes)		Cr.
Expenditure on Social Overhead	Amount Rs.	Income on Social Overhead	Amount Rs.
Cost of Ecology & Safety	A or A' or A"	portion of the ecology enjoyed by the company	
Cost of Conserving Energy	B or B'		
Cost of Cordial Industrial Relation	C		

Thus, we see that if the corporate entities keep a detailed record of all its costs on the various index of corporate Social performance then it is possible to reflect them in the Annual Report. The opposite also holds good. i.e.., benefits enjoyed by the company can also be reflected in the Annual Report. Although the quantified figures may not be hundred percent accurate but at the same time they are not false or hypothetical. At most we can say that they are to a reasonable extent accurate. The quantification may not be in conformity with traditional logic, but in no way, it is illogical. It is fuzzy logic. i.e. the logic that deals with the situation "tends to be accurate".

E) **Conclusion** : Some of us may have some reservation against quantification due to the lack of ethical clarity quantifiability. But while appraising corporate social activities we should not preoccupy our minds with philosophical or ethical dilemmas. The essence is that there should be an effort on the part of the corporate bodies for quantification of the social cost and benefits items for CSRR. For this purpose, we should improve the CSRR system of both private and public sector undertakings in India and should maintain a fair degree of intra-company and inter-company comparability of social performance through the following measures

Specific legal provision should be incorporated in the Companies Act regarding the disclosure of social information to serve the purpose of reporting in a better way.

There should be a standard format for CSRR which may be framed out on the basis the formats provided by Abt (1971), Linowes (1972), Dilley & Weygandt (1973), Seidler (1975), Estes (1976).

The various professional accounting bodies like ICAI, ICWAI, ICFAI, ICS should jointly evolve some standard for CSRR by way of guidelines to direct as to how the social cost and benefit items should be quantified in monetary units and reported in CSRR. These standard measurement techniques may be determined on the basis of different approaches suggested by accountants and economists.

These standards should be mandatory, in addition to the normal-legal-financial reporting. This would definitely enhance the importance of corporate reporting system.

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BUDGET AND THE GOVERNMENT ACCOUNTS

Sandip Banerjee

INTRODUCTION

This paper deals with various issues related to the preparation of budget by a state government with special reference to West Bengal. The emphasis is on the accounting part of the budget, rather than the economic aspect. Apart from this brief introduction, the paper is sub-divided into following sections : section II deals with the sequence of action taken by the government for the preparation of the budget. After that, section III describes the form and classification of Government Accounts as presented in the Budget, whereas, section IV gives a description of the codification of Heads of Accounts as presented in the Budget. Lastly, section V takes a look into an alternative method of budget preparation, namely the Zero based Budget.

II. Schedule of Actions in the Preparation of Government Budget

1. Preparation of Annual Budget Estimates

Responsibility for preparation

As per Article 202(1) of the Constitution of India, the responsibility for preparation of the Annual Statement of the Estimated Receipts & Expenditure of the State and its presentation to the legislature lies with the Finance Department.

The materials on which the budget estimates are based should be obtained by the Finance Department from the local budgeting officers. The officers by whom the budget estimates are prepared and the dates by which these estimates are to be submitted to the Government & Accountant General, West Bengal are fixed by making rules in this respect. Each budgeting authority is responsible for correct preparation of estimates with reference to receipts & expenditure with which he is concerned. The estimates should be prepared in quadruplicate with one copy being kept in the office of the local budgeting officer and the remaining copies being sent simultaneously to the A.G., W.B., the Finance Department and the Administrative Department concerned. Where, however, the

responsibility for preparation of the estimates lies with the Administrative Department itself, only three copies need be prepared for transmission to Finance Department & A.G., W.B. and for keeping in the office of Administrative Department.

Over before the stipulated date, the heads of the various Department report their demand for expenditure for the ensuing year in two parts. Part I for continuance of existing ordinary activity, and part II for introduction of new schemes.

Treatment of part I in Finance Department.

Finance Department estimates the resources available for the year on the basis of the trend of the receipt of the past. Proposals from the Department are checked and considered and provision is made as far as necessary for maintaining the existing service. Thus Part I of the budget is provisionally fixed by the Finance Minister and is placed before for approval of the estimates.

In Part II head, schemes are considered with respect to the balances of resources left over after providing for the existing schemes. The preliminary checking is done by the Finance Department. The selected schemes are then placed for further scrutiny before a committee of cabinet called the standing Finance Committee presided over by the Chief Minister. The schemes, which are provisionally approved by the Committee, are included in the Budget and placed before the cabinet for approval.

As per Article 149 of the constitution, the A.G.W.B. is responsible for rendering such assistance as may be settled in consultation with the Finance Department The assistance to be rendered by A.G.W.B. in connection with the budget preparation to the Finance Department may be as follows :

(i) **Estimates of the following heads are prepared by A.G.W.B. and submitted to Finance Deptt.**

   (a) Interest receipt.

   (b) Contributions & Recoveries towards pension & other Retirement Benefits.

   (c) Miscellaneous General Services - Unclaimed Deposits.

   (d) Other Administrative Services - Fee for Government Audit.

   (e) Interest payments.

   (f) Pension & other Retirement Benefits.

(g) Receipts & Expenditure relating to Public Accounts Section of the Budget.

(ii) **Estimates of the "Public Debt" and "Loans and Advances" are prepared by A.G.W.B. and submitted to Finance Department by 10th December.**

(iii) **A.G.W.B. is also responsible for following items of work connected with Budget Estimates :**

(a) To fill in the figures in actual column of the previous year and the first six months of the current year, by detailed heads of account, by 20th November.

(b) To check estimates of "Salaries" with reference to Audit Registers.

(c) To consolidate the local officer's estimates in the case where more than one officer is concerned with one budget head.

(d) To examine local officer's estimate to restrict the inclusion of unsanctioned charge in the estimate.

(e) To enter the figures for Revised and Budget Estimates proposed by local officers in the printed budget estimate froms.

(f) To note the results of the scrutiny of estimates of "Salaries" as well as the validity of charge in the estimates in the "Remarks" column of the budget form.

(g) To furnish to the Finance Department the actuals of the first seven months of the current year under the principal heads of revenue, by 5th December.

(h) To fill in the 8 months' actuals in thousands for current and previous years by detailed heads for each major head, by 12th January.

(i) To furnish, to the Finance Department, the actuals in thousands of rupees for the first 9 months of the current year under the principal heads of revenue by detailed heads, by 11th February.

2. Form in which the Budget Estimate be presented to Legislature :

The budget to be presented by the Government to the Legislature should show in details, the receipts and expenditure of the state in separate columns as :

(a) The actual of the past year.

(b) The budget estimates of the current year.

(c) The revised estimates of the current year.

(d) The budget estimates of the ensuing year.

The estimates of expenditure shall show separately

(a) The sums required to meet expenditure charged on the consolidated fund of the State as described by the Constitution as such — this amount of the estimate is not submitted to the vote of the Legislative Assembly, but nothing can prevent its discussion in either House of Legislative Assembly.

The items of expenditure to be charged on the Consolidated Fund of the State are as follows :

(i) The emoluments and other allowances of the Governor and other expenditure relating to his office.

(ii) Salaries and allowances of Speaker and Deputy Speaker of state legislature and Chairman and Deputy Chairman of Legislative Council.

(iii) Debt charges including interest and sinking fund, and other expenditure relating to raising of loans and services, and redemption of debt, etc. of the State Government.

(iv) Salaries, allowances and pension of the judges of High Court,

(v) Any sum required to satisfy any judgement, decree or award of any court of arbitral tribunal,

(vi) Any other expenditure declared by this constitution or by Legislature, by law to be so charged, e.g. salaries and pension of staff and other expenditure of State Public Service Commission, special expenses under Art 290 of the constitution, and so on.

(b) The sums required to meet other expenditure proposed to be made from the consolidated Fund of the State —

The estimates of expenditure so presented shall distinguish expenditure on revenue account from other expenditure. Whether any proposed expenditure falls within a class of expenditure charged on the consolidated fund of the State, shall be decided by the Legislature of the State or by the Governor.

So much of the said estimates as related to other expenditure shall be submitted to the Legislative Assembly in the form of

"Demands for Grants". Each demand contains, first, a statement of the total amount required, then a statement of the detailed estimate under each demand, divided into items. Major Head under each demand will contain, first of all an abstract by Sub-Major Head, if any, and Minor Heads of the total amount required, then a statement of the detailed estimates distributed under different Sub-heads and Detailed heads. The sub-heads as appeared in the Budget estimates are those prescribed by the Finance Department for that year.

After the demands for grants have been assented to by the Legislature, a Bill, called Appropriation Bill is introduced to provide for the appropriation out of consolidated fund of the State, of all moneys required to meet -

(a) Grants made by the Legislature,

(b) The expenditure charged on consolidated fund of the state. Like Appropriation Bill, another bill, called Annual Finance Bill, containing the annual taxation proposals of the budget, is also introduced.

Both these bills are introduced and passed in the Legislature as Money Bills. So all provisions relating to Money Bill are applied in passing these bills. The Appropriation Bill, when passed is called Appropriation Act and Finance Bill, the Finance Act. No money can be withdrawn out of Consolidated Fund until Appropriation Act is passed. The sums authorised in the Appropriation Act are intended to cover all charges including the liability of past years to be paid during a financial year or to be adjusted in accounts of that year.

The estimates of expenditure embodied in Annual Financial Statement laid before the legislature under Article 202(1) of the constitution are understood to represent Government's full requirement for the financial year. Sometimes, unforeseen circumstances make it necessary to incur expenditure not contemplated in the Appropriation Act. In that case, efforts are made to meet the expenditure out of savings elsewhere within the same grant (voted or charged, as the case may be) by postponement or curtailment or less urgent expenditure. When it is not possible to reappropriate in earlier manner, the course of supplementary estimate is taken. This Supplementary Appropriation out of the Consolidated Fund of the State may be authorised by passing another "Appropriation Act" before the close of the financial year. If the situation so demands that any expenditure on a "new service" or in excess of the total provision

under a "grant" is required to be incurred before passing the Supplementary Appropriation Act, an application should be made to the Finance Department for sanctioning necessary advance from the Contingency Fund of the State for this purpose to be recoured after the Supplementary Appropriation Act has been enacted.

Thus, the expenditure for which no provision has been made in the estimate should rarely, if ever, be incurred. Thus in the above cases when under unavoidable circumstances, an unforeseen expenditure is incurred, the Finance Department should be moved through the appropriate Administrative Department for authorising payment of the amount out of the Contingency Fund of the State pending authorization of such expenditure by the Legislature through an Appropriation Act. Article 267 of the constitution empowers the Legislature of a State to create and utilize a Contingency Fund of the State in this manner. The amount of the fund is to be regulated by the appropriate Legislature.

The grant or appropriation so passed by Legislature and included in the Appropriation Act, will have to be communicated by the Finance Department to respective Administrative Departments by the prescribed date in the shape of lumpsums known as primary unit of appropriation covering all charges including liabilities, if any, of the past years, to be paid during the financial year or to be adjusted in the accounts of that year. The concerned Department will then make arrangements for distribution and communication of the sanctioned funds among controlling and disbursing officers in the manner prescribed in relevant rules. Unspent balances, if any, left over after the expenditure, lapses and non-availablity for utilisation in the following year, and the amount so left over is to be surrendered at the end of the financial year.

III. Form and Classification of Government Accounts as Presented in the Budget

So far as the accounting method is concerned, the major part of the Government, accounts is kept in Single Entry System of accounting as opposed to the commercial method of Double Entry System. This is because that most part of Government accounts is recorded on cash basis. Only a portion of Technical Accounts called the Journal and Ledger is kept on Double Entry System. The main purpose of the Journal and Ledger is to bring out the balances of

accounts as regards the transactions to which to Government acts as a borrower, banker, lender or remitter, as the case may be. Thus the periodical verification of such balance is done through the Double Entry System of accounts.

Thus, on the whole, the Government Accounts are kept in he form of a simple cash book, whatever money received during the year is entered under appropriate head in the account of that year irrespective of the fact as to whether the money becomes due to the Government in that year or as an arrear of the previous year. Similarly, the expenditure side of the Government account under each head during the year shows some portions of arrear and advance payment.

Before going into the details of forms and classification of Government accounts. We have to make some points clear about the principle of Government accounts. As distinct from the commercial organisations, the objective of a good government is to determine the needs of the country, the welfare of the people, and, in connection therewith, to determine the main branches of its activities.

It is a matter of decision as to what expenditure is necessary during any year in carrying out these activities.

Keeping in view the object of Government activities as envisaged in earlier paragraph, the Government expenditure has been classified into five tiers - (1) Sectors, (2) Major Heads, (3) Minor Heads, (4) Sub-heads & (5) Detailed Heads.

Within each of the divisions and sections of the Consolidated Fund, the transactions are grouped into sectors, e.g., "General Services", "Social & Community services", "Economic Services", under which specific functions or services shall be grouped. Thus, the functional subdivision of sectors are Major Heads. These are the main units of classification in Government account which correspond to "functions" of Government such as different services like "Agriculture" "Defence", etc. provided by the Government. Minor Heads, subordinate to the Major Heads, identify the programme undertaken to achieve the objectives of the functions represented by Major Heads. A programme may consist of a number of schemes or activities represented by sub-heads which are below the Minor Heads. In case of non-developmental or administrative nature of expenditure, sub-heads denote the components of a programme or

Minor head, Detailed head may be termed as a classification of object. In the Consolidated Fund, the detailed heads on the expenditure side of the accounts indicate the object or nature of expenditure of a scheme or activity such as "Salaries", Office expenses", "Grants-in-aid" etc.

As indicated in earlier paragraph, these are main strata of expenditure as envisaged in the Consolidated Fund. So, we have to discuss what Consolidated Fund means in Government accounts.

Article 266 of the Constitution of India, states that each state has a separate Consolidated Fund entitled "Consolidated Fund of the State" into which the revenues received by the Government of the State, loans raised by issue of Treasury Bills by that Government, ways and means advances, money received by that Government in repayment of such loans, are credited. No money can be withdrawn out of this fund except in accordance with the Law of Appropriations, as laid down in earlier part of this article. Consolidated Fund has two main divisions -

(i) Revenue Head consisting of Revenue Receipt and Revenue Expenditure

(ii) Capital Heads consisting of Capital Receipts and Capital Expenditure, and Public Debt, Loans & Advances.

The first division is comprised of receipt head dealing with the proceeds of taxation and other receipts classified as revenue and expenditure head dealing with expenditure met therefrom.

The second division is comprised of the following section - (a) Receipt head, dealing with the receipts of capital nature which cannot be applied as a set off to capital expenditure;

(b) Expenditure head, dealing with the expenditure from borrowed funds for increasing permanent assets, or for reducing recurring liabilities.

(c) The sections of "Public Debt, Loans & Advances", comprising of loans raised and their payment by expand Government, recoveries, and transactions relating to 'Appropriation to Contingency Fund' or interstate settlement.

All other public money, other than those mentioned in Consolidated Fund, received by or on behalf of the Government, shall be credited to the *Public Account* and the disbursement therefrom are

made in accordance with the prescribed rules. The examples of items which form part of Public Accounts are : (a) Provident Fund including G.P.F., (b) Small Savings, (c) Reserve Fund, (d) Deposits like Civil Deposits, (e) Advances, (f) Remittances, (g) Suspense & Miscellenous, etc. Thus transactions relating to 'Debt' (other than those included in consolidated fund), 'Deposits Advances, Remittances, and Suspense are recorded in this section of accounts. These are the transactions in respect of which Government incurs a liability to repay money, or as a claim recover or have some adjusting heads indicating inter-treasury cash remittances and transfer between different accounting circles. Suspense head accommodates, temporarily, transactions which cannot be taken into Final heads or which represent amount due to or from others and are cleared by transfer to final heads, or recovery of payment, as the case may be. The transactions in the Public Accounts Section are grouped into sectors and Sub-sectors which are sub-divided into Major Heads of Accounts.

As indicated in earlier paragraphs, Articles 267 of the Constitution Provides that Parliament or Legislature, by law, may establish a *Contengency Fund* in the nature of an imprest which is meant for meeting unforeseen expenditure by the Legislature by supplementary, Additional or Excess grant. The amount of the fund is regulated by appropriate Legislature. In case of Contingency Fund, there is a single Major head of Account and all the transactions met out of the Contingency fund will be recorded under this head.

While an expenditure from Consolidated fund is required to be made as per law in the form of an Appropriation Act, the same proceedure is not recommended by Constitution in respect of Contingency fund and Public Accounts. Hence no vote of Legislature is required for incurring expenditure from Contingency fund for Public Accounts. More over, expenditure out of Public Accounts need no prior or post-facto approval of Legislature. Hence legislative control is less stringent in case of these two parts of Government Account in comparision with the consolidated fund.

The custody of all these three sections of our Government Accounts, the payment of money into them and the withdrawal of money there from shall be regulated by law by Parliament or State Legislature and until provisions in that behalf is so made, shall be regulated by rules, made by President or Governor.

IV. Codification of Heads of Accounts as presented in the Budget

The Appropriation Act of the Legislature provides the authority for spending money for various purposes indicated in the Government Budget as passed. The classification and codification of accounts indicate the purpose for which money can be spent out of Government funds in consonance with the objective of the Government activities.

The pattern of codification of heads for expenditure side of Government accounts is as follows :

(i) A four-digit numeral Code is assigned to the Major Heads in this list.

(ii) This is followed by a two-digit Code for relevant Sub-Major Head.

(iii) It is followed by a three-digit Code for relevant Minor Heads.

(iv) This follows 2 digits (Alpha) for Plan status.

(v) Then comes two digits for Sub-head.

(vi) At last comes two digits for Detailed Head.

This fifteen (15) digit code in the payment side instead of the existing nine (9) digit is in the way of making its permanent entry in today's Government account. However, the receipt side of the Government Account still holds the nine digit codification comprising of Major Heads, and sub-major Heads and Minor Heads. In the receipt side Major Head is codified with four digits, sub-Major Head with two digits and Minor Head with three digits.

This, in general, is the nature of codification of receipt and payment heads. Now, we go for the discussion of Major Headwise booking and classification expand Accounts :

(i) The receipt heads are booked within the range of Major Heads of 0001 to 2000.

(ii) The expenditure heads under Revenue Account are booked within the range of Major Heads of 2001 to 4000.

(iii) Any expenditure under Capital head is booked in the range of Major Heads of 4001 to 6000.

(iv) Public Debt, Loans and Advances book both receipts and payments within the range of Major Heads of 6001 to 7999.

(v) Receipts and Payment of Contingency fund are booked in one Major Head of 8000.

(vi) Public Account booking of both receipts and payments are made within the Major Heads of 8001 to 8999.

This, in a nutshell, is the pattern of codification of Govt. Accounts.

V. Zero-based Budget in the Government Sector

Before ending the discussion on the Government Budget and Accounts, we can say that there are other methods other than that detailed in the earlier part of this article, which can make the budgeted facts and figures more meaningful from the viewpoint of property, economy and effectiveness. One such alternative method, Zero-based Budget, is discussed in the following paragraphs.

Scope of application of Zero-based budgetting in Government Sectors :

Before going into this discussion of the scope of Zero-based budget in Govt. Sector, it is important to discuss what Zero-based Budget (Z B B) means to the commercial sector.

Definition, scope and utility of Z B B

Z B B is an elaborate practise of having a manager justify activities from the lowest point upto the highest as if they were being launched for the first time. The steps that are taken in Z B B are :

(i) Determination and identification of objectives, operations and all activities under the control of person concerned with Z B B.

(ii) Explorations of alternative means of conducting each activity.

(iii) Evaluation of alternative budget levels for various levels of effort for each activity.

(iv) Establishment of measures of workload and performance.

(v) Ranking of all activities on order of their importance to the organisation.

Z B B starts with decision-units which are the lowest levels in an organisation. A set of decision packages is prepared for each unit, which basically describes various levels of service that may be rendered by decision unit. Then all other steps of Z B B are performed, as enumerated above.

Most of the benefits out of Z B B can be extracted through proper administration of this technique by taking into cognizance the peculiarities of a specific organisation. To get maximum benefits of Z B B, measurements of inputs and outputs are necessary. It emphasizes the need to examine each item of expenditure very thoroughly to cut-out all unnecessary expenses and costs. One should proceed from the point zero. Then each essential activity is thought of and justified and the cost that would be necessary for carrying out the activity is allowed in the budget. The essence of Z B B is, therefore, a careful scruitiny of all activities to verify whether they are at all necessary, and to allow only the essential expenditure.

From the above discussion it is clear that Z B B has a very important role to play in the field of discretionary costs. In the Government Sector, a major portion of Government expenditure is in the nature of a discretionary one. Here the selection of an item of expenditure depends on the property, economy and effectiveness of that item. As most of the activities of the Government are intended to the welfare of the State and not to the generation of profit, each item of expenditure should be scruitinised on the basis of property, economy and effectiveness, to carry on the projects of welfare properly in the long run.

Thus Z B B can work and should be integrated into the Government budget process. The Z B B concepts of analyzing alternative approaches to each programme, establishing alternative funding levels, evaluating programme effectiveness and determining organisers' programme priorities were successfully incorporated in the past in some organisations by dividing processes - each of which suiting the special needs of the respective organisation. They can, therefore, be successfully integrated in Government budget, too.

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In the Rung of Middle Management : A Survival Crisis?

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Abstract : A new outlook on the middle management level is gaining currency today. It incorporates both technical competence and the ability to function efficiently in the broader organization. The underlying vision of this approach focuses on the totally and potential of a company's operation. This new perspective develops a stronger work ethic and becomes an emerging frontier view.

Key Word :

Modern Management Fad.

Preamble

A new outlook on the management teams, specially at the middle management level, today, is gradually emerging. The Chief Executive Officers (CEO's) of the industrial community are adopting new views, expectations about this particular level of management. Our observation about the industrially developed West discloses some basic facts. Corporate houses of the Western economies, indeed, function well; their financial results are positive and productivity is up. These facts also incorporate another important point, namely, provision of fewer employment opportunity. The later is vital in this context. Fruhan et. al (1994, pp. 99-100, (4)) rightly observed : "It is time, however, to look beyond the balance-sheet. We must begin to anticipate and address the implications of a new concept of middle management". Let us first enumerate the prevailing norm of 'middle management' as found in practice. Bignell et. al (1995, p; 25,(1)) define it as "..... the level through which the corporate policies and goals established at the top are funneled down to those who carry out the company's mission" The manager of this level interprets, synthesies and communicates the actual happenings in the market and in the operations. This eases the decision making process in such areas as the allocation of resources. Woodward

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(1994, pp : 156-157, (12)) notes, "They bridge the gap between the executive suite and operations with a growing mandate to anticipate, accommodate and implement change"

What has happened to middle management?

Presently, new issues, concerning middle management, emerge even in the drastically streamlined organizations. These are the aftereffects of events like the wave of mergers, leveraged buyouts, evolution of the new management philosophies and cost pressures. These events compel enterprises to improve productivity at minimum costs. To quote Emery et. al (1993, pp : 272-273, (2)) "The new issues force organizations to enhance productivity by cutting corporate facts. Middle management becomes inconsistent with the lean, tightships demanded by a competitive market unlike to fit in the situation of the recent past when this was an important and secure rank within the corporate hierarchy". The modern enterprises are experiencing either complete elimination or contraction of the functions of middle management. However, functions, treated as strategic elements of the core business, remain stable. Emery et. al (1993, p : 274, (2)) observe, ".... by the tens of thousands, middle managers were fired or redeployed".

Reassessing the role of middle manager.

The reassessment of the role of middle manager is based on the philosophy of 'participatory management'. It advocates shortest possible route in the management hierarchy to bring higher quality, higher productivity and, ultimately, higher margin of profits. Halloren et. al (1994, p : 523 (5)) describe the process of reassessment in a prudent manner. They argue, "The reassessment of the role of middle manager is motivated not only by cost considerations but also by other new considerations which are emerging for chief executives as well as for their subordinates. These 'new' considerations enlighten such issues as the structure of enterprises, the motivation of managers and the effects of the cutbacks on long term corporate health.

Let the matter be clarified broadly. An elimination of the middle management cadre will leave fewer rungs on the corporate ladder. It would have an adverse effect on the promotion/advancement opportunities. Besides, ceasing managers would have an obvious long run

impact on such areas as quality, customer service, marketing and product development. Top management, therefore, must review this emerging situation properly. It would have to think afresh of the ways of motivating and compensating the remaining executives. Undoubtedly, the existing managers and the aspirants to management positions have to accommodate and meet new expectations.

Possible consequences of curtailing middle management roles

The whole organization ultimately has to conform to the changes. Lewellen et. al. (1995; p : 437, (8)) observe, "The old pyramid model in which one personnel had perhaps five of six people reporting to him has been flattened; decisions are pushed down to the lowest possible echelon and one middle executive may now have ten or twelve subordinates reporting to him directly ....". Besides, in matrix organization, personnel have had to carry on additional responsibilities. In such organizations the possibility of passing the same to the peers is really bleak. Hence, there are fewer multilayered organisations of experts and functions such as 'internal consulting' are being developed.

This aspect is better realised in the case of manufacturing business units. Previously, the staff functions, including manufacturing services and logistics, of such enterprises, were performed at the division level. Now, these functions have been centralized in corporate headquarters to remove head counts in the operating divisions. This trend is also visible in the electronics industry. (Koshi, 1993, (7)). Project managers now take the charge of traditional middle managers. They accomplish such objectives as launching new product and identifying/mobilising the resources required to get the job done. "Rather than having stable staffs, the executives of this industry, use their technical expertise to determine just what resources they need and their management people skills to harness and direct those resources to meet their objectives." (Koshi, 1993, pp : 324-325, (7)).

Simply, there is more work to perform, Related jobs are being combined to overhaul the management capacity. In the ultimate analysis more work and more accountability are ahead of the new genre of middle managers.

How can this 'new perspective' be manifested?

Bignell et, al (1995, p : 25 (1)) move a step forward to manifest this new trend, specifically, in the area of sales management. Chart 1 gives a snapshot of this idea. They have solicited in favour of a 'turn-around' chief executive. Such an executive will adequately serve the purpose of appointing vice president of sales, national sales manager and product manager. "The chief executive must have his hands full keeping tabs on the other functions that have been 'delayed'." (Bignell et al. 1995, p : 25(1)). A regional sales manager must be there to report directly to the chief executive. This manager must assume the overall charge of marketing plans. This position demands a multidisciplinary background involving an array of skill of, to name a few, establishment of a distribution centre, development of sales territory, recruitment and management of a sales force, creation a product applications/service centre, management of all manufacturing operations etc. Bignell et. al. (1995, p : 25, (1)), however, do not suggest complete elimination of the middle management position. This position, henceforth, must exemplify the breed of middle management. "Essentially, the new recruit will be filling functions that in the past might have been shared by four or five people - a sales manager, manager of distribution and logistics, director of applications, service director and director of manufacturing." (Bignell et. al, 1995, p : 25(1)). This set up will slash sales costs considerably. And, at the same time, is promising enough. "Throughout the company, everyone (will be) working harder and feeling more directly responsible for the bottom line. Consequently, the bottom line (will be) improved." (Bignell et. al. 1995, p : 25(1)).

Stancill's (1991, pp : 589-596 (10)) view also conforms to this new aspect of middle management. He observed, "Previously it was considered a plus point if a business manager had a technical engineering background. Now such background has become a prerequisite of the job". This background evidently helps personnel to identify and leverage the existing opportunities in the market. This, in turn, makes it easy to mobilize the company's resources to develop them profitably, "Clearly, the expectations for middle managers are far more rigorous than ever before" (Stancill, 1991, p : 594(10).

Summing Up

The emerging new approach in the middle management cadre, therefore, enlightens different criteria. It incorporates both technical competence and the ability to function efficiently in the broader organization. The latter may enjoy a number of benefits also. Breaking up manufacturing and non-manufacturing activities will result in an instant flattening of the structure, quicker decision making and empowerment. "Production control system will become much simpler, leading to lower overheads and less wastage since (the organization) will be able to manufacture to order rather than to forecast, there will be no overproduction either." (Jacob, 1995 p: 201(6)).

This new approach has far reaching impact. The underlying vision of this approach focuses on the totality and potential of a company's operations. The remaining middle managers are on a fast track. Their scope and skills are ever more valuable to their enterprises. The new approach is basically an enlarged vision of the role of middle management. At the same time, it is questionable on the following grounds.

First : this approach suggest fewer layers in the management hierarchy. Thus, rapid upward mobility is not assured. There would be fewer rungs on the ladder and fewer jobs to aspire to i.e. competent/skilled personnel invariably would have to suffer. Second: the harder work, fewer promotions and slower raises pose question such as how far is it beneficial to the individual of being one of the new breed of middle managers? Third : new compensation and reward system; as being introduced in the light of this new approach, do not conform to the demands of the new corporates and increased job responsibilities. Finally, Lewellen et. all (1995, p: 446, (8)) opine : "Given all that has changed the time in each grade has increased and salary schemes have not caught up to the new job content. This poses trade-offs that have to be weighted".

Frankly speaking, middle managers become more market-focused. The new perspective on these executives develops a stronger work ethic. The emerging frontier view of this specific rung of management is quite transparent. The middle managers, henceforth, have had to assume greater multitude of functions. In addition" the middle managers (will be) .... increasingly charged not only with .... monitoring the market but also with finding new ways to

motivate subordinates to reach high levels of productivity in the new cost-conscious environment". (Halloren et al, 1994, pp: 527-528, (5)). In this environment, the old way of doing things simply is not good enough and inevitably become obsolete (Van Horne, 1990, p: 3(11)). Management, in general, requires continual adaption to changing conditions.

Notes

1. Interested readers may have a full view in Frank et. al. (1995) (3)) ibid.
2. For details, please see, Shenoy et. al (1991, 9) ibid.
3. The bicycles manufacturing industries of India, as Jacob (1995, pp 201, (6)) observes, "..... will save Rs. 2.5 crore every year in manufacturing costs even if the new system is partly operational"
4. Our readers may have an interesting study in Koshi, O, Darlie (1993, (7)) ibid.

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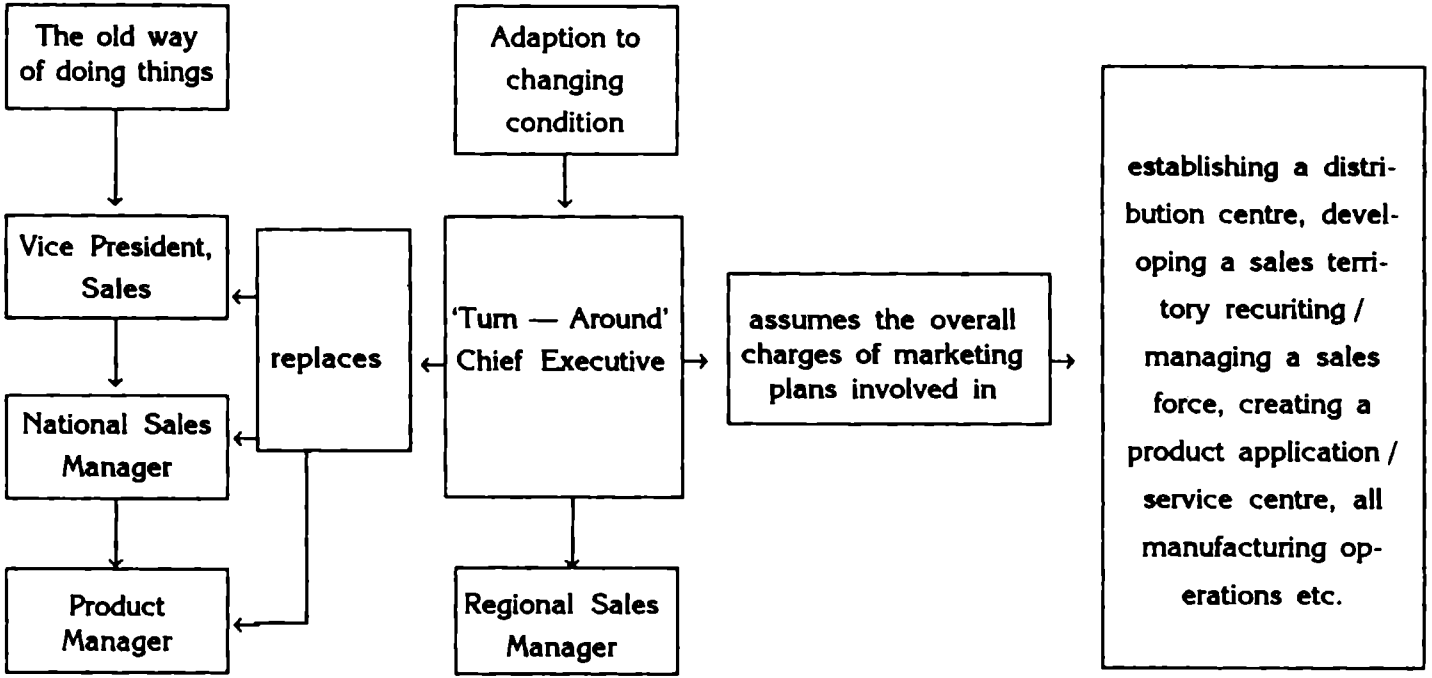
Chart : 1 : Glimpse of The New Perspective.



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