Review of Literature
CHAPTER - II

REVIEW OF LITERATURE

In this chapter, an attempt has been made by the researcher to present an overview of literature pertaining to the concept of job satisfaction and its related areas of knowledge. The reviews are mostly in the line of the objectives, hypothesis and variables selected for the study. It

- Highlights the pitfalls of earlier investigation in the particular area.
- Helps to study the neglected areas, which need more concentration.
- Assists to define and delimit the problem.
- Facilitates to identify and select variables easily.

Gupta (1980) analysed the job satisfaction of teachers at three levels of teaching (primary school, secondary school and higher education). The study revealed that primary school teachers were significantly less satisfied when compared to secondary school and college teachers. It was also inferred that college and secondary school teachers were almost equally satisfied with their job.\(^23\)

Lynch & Verdin (1983), in their study on Job satisfactions in Libraries, revealed that age, participative management, professional experience and the unit in which they work in, have positive relation with job satisfaction and gender has no role in job satisfaction.²⁴

Krishnan and Krishnan (1984) in their study on Organizational variables and job satisfaction, found that there is a positive and linear relationship between age and job satisfaction. The study also reveals that there is a significant relationship between participation in decision-making, leadership style and job satisfaction.²⁵

Rockman (1985) in his research on job satisfaction based on gender autonomy and decision making opportunities identified that decision making powers, independence on the job and gender have influence on job satisfaction.²⁶


Wellmaker’s (1985) approach on “The Relations of Perceived Management Systems and Job Satisfaction of Public Librarians” clearly indicated that there is a strong association between participative management, decision-making power and job satisfaction. The study also showed that there is no association among the factors of Age, Gender, Educational Level and Professional Experience.27

Curry (1986) in their investigation on the casual ordering of job satisfaction and Organisational Commitment revealed that the employees are more satisfied when they have high levels of responsibility and ample opportunities for promotion.28

Khaleque and Rahman (1987) in their study on Job Satisfaction of workers of Jute industries found that older, married and highly qualified workers were more satisfied than younger, unmarried and less qualified workers.29

Rai and Bhatt (1987) in their study on personality determinants of Job Satisfaction of College teachers reported that job satisfaction depends upon a variety of factors, internal and external like salary, advancement, recognition, feeling of achievement, responsibility, dealing of the boss, relation with colleagues, boss and students, financial return and attitude of the management.30

Lindstrom (1988) in his investigation on ‘Age related difference in Job characteristics and their relation to job satisfaction’ found that independence, high content variety, the job itself and job security were the main sources of satisfaction.31

“Employees Satisfaction and Job Climate” was a study by Upali Ananda and Furukawa (1989). This empirical study hypothesized that supportive supervisor and co-workers, social support positively affected the employee’s satisfaction with the work climate. The sample study was 126 Japanese employees working in manufacturing units. The study showed a significant effect on supportive supervision and co-worker social support on

job climate and satisfaction. Further a significant interaction effect was found between supportive supervision and job awareness. The authors suggested that supportive supervision is an essential element of job satisfaction when workers are having low levels of job awareness.\(^{32}\)

Mohan and Sarin (1989) conducted a survey on Job Satisfaction in relation to personality, self esteem and adjustment of 50 teaching and non teaching engineers. They concluded that their Job Satisfaction was influenced by pay, self esteem and total adjustment. It also asserted that job satisfaction has some basic relation with psychological traits in addition to contents of job.\(^{33}\)

Sagar and Devender (1989) examined the relationship among organizational climate, job satisfaction and job anxiety. The sample was 50 officers and 50 sub-ordinates. They were working in different units of an institution of higher studies. Results indicated that the organizational climate was positively related to job satisfaction and negatively related to job anxiety in both officers and their sub-ordinates. These correlations were


stronger for subordinates in the relationship and communications dimensions and stronger for officers in the interaction influence, decision making and goal-setting dimensions of organizational climate.\textsuperscript{34}

Kline and Boyd (1991) in their investigation on “Organizational Structure, Content and Climate: Their relationships to Job Satisfaction at Three Managerial Levels” found that respondents who were in the higher level have attained more satisfaction than middle and lower level employees.\textsuperscript{35}

Mohan Raju (1991) conducted a study on intrinsic motivation of teachers, with an aim to find out the influence of certain personal variables such as gender, education, designation and rural-urban differences on intrinsic motivation. The study revealed that, there was no significant difference in the intrinsic motivation of male and female teachers. The significant difference between the teachers having post-graduate qualifications and those with undergraduate qualifications showed that the level of education attainment had a positive effect on the teachers’ intrinsic motivation. Though teachers differed in their work designation, nature of


their activity were found to be the same. The study concluded that designation had no influence on the intrinsic motivation of teachers. The study also revealed that, teachers working in government schools had significantly attained higher intrinsic motivation when compared to teachers working under different managements.\textsuperscript{36}

Mukhamath and Khadi (1991) conducted a study on factors influencing job involvement and job satisfaction with 176 married female college teachers in India. The investigation inferred that family responsibility and attitude towards teaching were the most influential factors for job involvement and job satisfaction. It was also inferred that family responsibilities and job satisfaction were inversely related.\textsuperscript{37}

Narender Kumar and Jain (1991) conducted a survey on motivational techniques used by the bank executives in the state of Haryana. The analysis revealed that “Praise for good work” had been the most popular technique used by the bank executives. Informal discussion on bank problem with staff members was identified a popular one. Techniques like caring for personal


problems of staff members, co-operative attitude of officers, letter of appreciation, persuasion and request had also been widely used in banks. Among moderately used techniques were staff meetings, family visits and zero difference of treatment and mutual understanding with staff.38

Prasad (1991) has made an attempt to study the motivational dynamics in Indian industry. The study inferred the findings that a) financial benefits, job security and promotion are not motivating factors for management groups whereas these can be motivators for workers, b) Recognition of work emerges as one of the most important factors for motivating people-both manager and workers, c) Factors contributing to dissatisfaction are the lack of explicit company policy and administration, lack of technical competency, sympathetic supervision and lack of opportunity for growth, d) On the other hand, Top-level managers value achievement and self-actualization while middle level managers value advancement type of work and feeling of worthwhile accomplishment. These factors are given least importance by workers.39

---

Sharma (1991) conducted a study on job satisfaction among bank officers with six variables relating to job satisfaction namely seniority, monthly emoluments, urban background and involvement with officer’s association, work technology, managerial apathy. The study revealed that of the six independent variables, only urban background and management apathy had strong and consistent influence on job satisfaction among bank officers. The observed truth is, neither higher emolument nor seniority is likely to promote job satisfaction among bank officers. It concluded that neither officers’ association nor work technology had a strong and consistent relationship with job satisfaction.40

Sharma (1991) has made an attempt to study the job satisfaction among bank employees by studying six leading banks in India. The factors selected for the analysis were college education, monthly emoluments, work technology and type of supervision. The study indicated that banks with higher proportion of college graduates among their clerical did not seem to be blessed with more satisfied work force. Instead, the level of job satisfaction in such banks was lower than the other banks. This study also revealed that, in banks where clerical jobs provided least challenge and

---

discretion or give fewer opportunities to use one's own idea and abilities job satisfaction was relatively lower.\footnote{Baldev R. Sharma, “Job Satisfaction Among Bank Employees”, in Dynamic and Organisational Behaviour Series, V S P Rao and K. Koteswara Rao, (Eds.), New Delhi, Discovery Publishing House, 1991, pp.314-336.}

Dhar and Rajnish (1992) conducted a study on “Job involvement, job satisfaction and some demographic correlates : A study of academicians”. The study showed that among the various demographic variables age had no direct impact on job satisfaction of employees.\footnote{Dhar. V and Rajnish Jain, “Job Involvement, Job Satisfaction and some Demographic Correlates : A study of Academicians”, Indian Journal of Psychology, 67, 1992, pp.5-10.}

Tharakan (1992) made a study on occupational stress and job satisfaction among working women. The study assumed that professional women and non-professional women differed in their job related stress and level of job satisfaction. The subjects were 90 professional working women (doctors, engineers, lawyers) and 90 non-professionals (clerks, officers). The Occupation Stress Index developed by Cooper was administered to measure occupational stress and job satisfaction. The results indicated that relationship between occupational stress and job satisfaction was significantly associated with job status. It was found that professional

Deborah (1993) studied the effect of work-stress on psychological well-being and job satisfaction. The sample study was 153 employees. Their age ranged from 20 to 63 years. They were working in a large public sector organization. Data were collected through standardized questionnaires. The authors hypothesized that high level of work stress would have negative impact on job satisfaction and psychological well-being and that perceived availability of support for work-related problems would have positive effects on levels of well-being. Results revealed that after control for neuroticism there was some support for the proposed effects of work stress and social support on psychological well-being. The study found that role ambiguity and role conflict were significant predictors of psychological well-being and job satisfaction.\footnote{Deborah, J.T. Michelle, N. and Linda, P. “Effect of work stress on psychological well-being and job satisfaction”, Australian Journal of Psychology, 1993, December, Vol.45, No.3, pp.168-175.}

Patricia and Fred studied “Dimensions of work appraisal; stress, strain coping, job satisfaction and negative affectivity”. The sample of the study
was 249 adults working in 75 occupations. Stress, strain and coping were measured with Occupational Stress. Regression analysis was applied to test the data. Results indicated that predictor variables such as age gender, education and job tenure revealed strong, is stress-strain and stress-job satisfaction relationship. Further the authors concluded that higher stress predicted higher strain and lower job satisfaction.45

Bhattacharya (1994) in his study on ‘Job Satisfaction Indexes for Business Executives’ found that nature of work, social relationship at work and working conditions were a great source of job satisfaction to a majority of employees.46

Das and Nayyar (1994) studied the interrelationship between job satisfaction, job involvement and job motivation. The study revealed that there is an inter-relationship between job satisfaction, job performance and job motivation. The correlation matrix showed that job satisfaction, job performance and job motivation have significant correlation.47

Lakshminarayanan and Prabakaran (1994) studied job stress and job satisfaction among the textile workers. The sample consisted of 100 workers selected at random. They were given adopted version of Vernimont’s Job Satisfaction Scale and Stress diagnostic Survey. The t-test was used to analyses the data. The workers with more job satisfaction were found to have less job related stress.\(^{48}\)

Lynne and Karen (1994) investigated “The medicated role of job satisfaction in the work stress, marital interaction relationship”. The study examined the relationship between work stress and marital interaction and whether three role stressors i.e. role ambiguity, role conflict and role overload had a negative impact on job satisfaction. The sample of the study was 80 married men, employed in a large financial institution. The subjects were asked to complete a self-report questionnaire. The questionnaire was consisted of a Job Satisfaction Scale and the daily checklist of marital activities. From the study, it was found that job satisfaction did not mediate the relationship between work stress and marital functioning. Although role ambiguity and role overload predicted job dissatisfaction, the study also

---

indicated that there was no correlation between job satisfaction and role-conflict.49

Pattanayak et al. (1995) in his study on Job Satisfaction of Executives and Supervisors found that personal variables like age, experience and other variables had influence on job satisfaction of both executives and supervisors.50

Sinha and Sarita Singh (1995) conducted a study on “Employees’ Satisfaction and Its Organisational Predictors” with the objectives to identify the employees’ satisfaction in relation to their essential needs & expectations and the direct effect of being satisfied and not satisfied about the nature of job as well as the impact of it on the various facets of the organisation. The study also revealed that both managers and workers give priority to satisfaction for the utilisation of expertise/knowledge and recognition. Managers preferred challenging work, tension-free life and freedom to do


work. Regarding the workers, they opted promotional avenues, good relation at work and good working environment.\textsuperscript{51}

Andrew, G. and Rick, Jo. (1996) made a study of “The influence of gender and grade on perceived work stress and job satisfaction in white-collar employees”. In this study a self-completion questionnaire of a general measure of job satisfaction was used. The survey examined the frequency of occurrence of work-based stressors and perceived control and included a general measure of job satisfaction. The subjects were 675 employees working in a public sector organisation. They were in the age group of 18-61 years. Results revealed that employees in higher grades reported higher levels of job satisfaction. It was also observed that higher grades perceived more control within their working environment. Further the authors reported that no gender difference was found concerning the stress problems. But there was significant difference observed across the grades. From the multivariate analysis, the grade effects were largely accounted for by differences in perceived control. Finally, the authors concluded that

perceived control, role-based and organisational stress as well as grade, gender were the strongest predictors of job satisfaction.\(^{52}\)

Chandriah, et al (1996) made a study on the occupational stress and job satisfaction of managers in industries. The sample consisted of 255 managers including 132 junior and 123 senior managers. Data were collected using Occupational Stress Index, Job Satisfaction Scale, and a Personality Scale to measure Type-A behaviour. Results revealed that junior managers had high source of job related tension in terms of home or work interface. Further, the junior managers were found to have low job satisfaction, higher Type-A behaviour and internal locus of control. Overall, the job pressure and stress were associated with job and low internal locus of control. Type-A behaviour was found to be negatively correlated with external locus of control and positively with job satisfaction.\(^{53}\)

Joshi and Sharma (1997) conducted a study on the "Determinants of Managerial Job Satisfaction in a private organization" which revealed that co-textual factors did have a major role to play in job satisfaction. Co-textual


factors job content and training together account for more than half of the 
variants in job satisfaction. Fifteen variables were found significantly related 
to job satisfaction which were scope for advancement, grievance handling, 
monetary benefits, participation, objectivity and rationality, recognition, 
anthropiliation, welfare facilities, support and warmth, communication, top 
management commitment, resorting and recruiting, career / succession 
planning, performance appraisal.54

Mark and Kelvin (1997) made a study on the “Relational demography 
in supervisor-subordinate dyads: Impact on subordinate job satisfaction, 
burn out and perceived procedural justice”. The sample consisted of 296 
employees including 170 subordinates and 126 supervisors. The mean age of 
subordinates was 33.5 years and for supervisors 38.6 years. Questionnaire 
was used to collect data. Polynomial regression analysis was used to analyse 
the data. The results indicated that relational race was found to correlate with 
job satisfaction but not with burnout.55

54 Rama J. Joshi and Baldev R. Sharma, “Determinants of Managerial Job 
Satisfaction in a Private Organisation”, Indian Journal of Industrial Relations, 
33 (1) July 1997, pp.48-64.
55 Mark, A.W. and Kelvin, W.M. “Relational demography in supervisor – 
subordinate dyads: Impact on sub-ordinate job satisfaction burnout and perceived 
No.4, pp.351-362.
Mary Lily Pushpam (1997) in her study on ‘Attitude towards teaching profession and Job Satisfaction of Women Teachers in Coimbatore’, aimed to find out the association among the factors of job satisfaction and types of schools, type of management, nature of school, experience, age nature of job, location of school and marital status. The result inferred that there was significant relationship between job satisfaction and classes they handled, types of management, nature of school, qualification of teachers. There was no significant relationship between job satisfaction and age, experience, marital status and location of school.56

Harihara Mahadevan and David Amirtaraja made a study of ‘Job satisfaction of officers of Nationalized Banks’. The result showed that retirement benefits, loan facilities, accommodation facilities, working hours, transfer policies, authority and power, grievance handling procedures, work performance, job attitude, status in the society had no relationship with job satisfaction. Working hours, security, transfer policies, promotion policies, authority and power, officers’ association were identified to be dissatisfaction factors for satisfied officers. Salary, retirement benefits, loan

facilities, accommodation facilities, security, customer services, suggestion scheme, work performance, interpersonal relationship, training effectiveness were known to be favorable factors for dissatisfied officers.57

Jocelyn and Cherita (1998) made a study on “Organisational Culture and Climate and correlates of Job Satisfaction”. The sample of the study was 8,126 employees. They were working in a large government service agency. Data were collected using an anonymous survey. The survey measured 19 different aspects of organizational culture and climate. Correlation was used in this study to find out the relationship between the variables. The study identified a positive correlation and significant associations for the measures of job satisfaction on the survey with all remaining measures. The measures of culture i.e. empowerment involvement and recognition were strongly related to job satisfaction. Measures of climate most strongly associated with scores on job satisfaction were communication, followed by goals, creativity and innovations and decision-making.58


Mishra (1998) conducted a study relating job stress and job satisfaction. He examined the role overload as a moderator of the relationship between job satisfaction and job involvement. Further, he examined the potential moderator effect of role overloads on job satisfaction and job involvement. The sample of the study was 400 first line industrial supervisors of diesel locomotive workers. Their mean age was 45 years. Moderated regression and sub-group analysis was used. The results indicated that role overload did not have any moderating effect on the relationship between job satisfaction and job involvement.\textsuperscript{59}

Nazir (1998) in his research on "Perceived importance of job facets and overall Job Satisfaction of Bank Employees" found that among the 13 variables he investigated, duration of work ranked first and management policy ranked 13 among the job satisfaction factors. Regarding back ground variables except income and education no other variable such as age, number of dependents, marital status were found to be associated with job satisfaction. It showed that 76\% of employees were satisfied with their job.\textsuperscript{60}


Rangasamy and Markkandeyan (1998) in their case study on ‘Job Satisfaction of Workers in Tamilnadu State Transport Corporation’ revealed that more than three fourths of the workers in TSTC had attained medium level of satisfaction. The workers who had high and low level of satisfaction in TSTC amounted to 12 percent each. Job security, salary work load, work allocation, training and development and overtime wages contributed the important factors in job satisfaction. Freedom in performance, transfer and labour management relations were the important factors for the dissatisfaction of workers in TSTC. No difference was found in administration, technical and traffic workers in their level of job satisfaction and also in the influence of various factors in job satisfaction.61

Another study was made by Gita and Mishra (1999) relating the integration of personality as a moderator variable to intrinsic job satisfaction and occupational stress. The sample of the study was 250 blue-collar employees with an average age of 30 years. They were from Uptron India Limited at Lucknow. They were administered with Mental Health Inventory, Occupational Stress Index and the SD Employee Inventory. Results showed that occupational stress and job satisfaction were negatively correlated.

---

Integration of personality had a moderating effect on the relationship of intrinsic job satisfaction and occupational stress. The authors concluded that an employee’s integration of personality attenuated the adverse effect of perceived occupational stress on job attitudes and behaviour.62

Hossain & Islam (1999) in their investigation on ‘Quality of work life and Job Satisfaction Government Hospital Nurses in Bangladesh’ showed that the employees who were working in small organisations had attained more satisfaction than the employees of large-scale organisations. The employees who came for morning shift were having more satisfaction than the employees of night shifts.63

Nayak (1999) conducted a research on Leadership style and “Job Satisfaction among supervisors” which revealed that employees who had mutual relationship with supervisors were moderately satisfied.64

Venkatachalam and Velayundham (1999) in their investigation on “Impact of advanced technology on quality of work life: A study on steel plant” indicated that there was a significant relationship between information technology and quality of work life. He conducted that with advancement in technology, employees get less tired, feel more motivated and this leads to greater job satisfaction.\textsuperscript{65}

Dhar and Dhar (2000) in their study on ‘Job Satisfaction and its Correlated: A Psychological Study of the Supervisory Staff of Sugar Mills’ indicated that locus of control and age did not affect the job satisfaction. Experience plays no significant role in job satisfaction and Job Satisfaction was found to be positively correlated with self acceptance.\textsuperscript{66}

Hossain (2000) in his investigation on Job Satisfaction of commercial bank employees in Bangladesh revealed that the employees of public sector banks were more satisfied than private sector banks. Propensity to quit the job was significantly higher among the private sector bank employees. The majority of the employees in private sector banks were dissatisfied because


of job security. He concluded that there was a positive correlation between performance and job satisfaction and negative correlation between job stress, propensity.67

Daftuar’s (2001) study on Job Satisfaction among Government officers revealed that, top level officers were satisfied more than lower and middle level officers. Top officials were highly satisfied in work, promotion, and working conditions. Middle level officers were more satisfied on supervision, pay, and interpersonal relations among employees.68

Green (2001) in his study on eighty persons of a unit of a large corporation revealed that the factors that had significant relationship with job satisfaction were management leadership, team work, supervision, recognition, pay and benefits and security. The study further revealed that after effective steps were taken with regard to these factors the level of job satisfaction improved much.69

---

Panda (2001) made an attempt on Job Satisfaction of Department of Telecommunication employees which revealed that salary, autonomy, recognition, extra benefits in terms of money had more influence on job satisfaction. All other personal variables except experience had no influence on job satisfaction. The employees were satisfied with creativity, mode of operation and dissatisfied with the volatile nature of the industry.\textsuperscript{70}

Ayse Ustun (2002) conducted a survey named “Job Satisfaction in Information Centres: A Comparative study in Istanbul”. The result inferred that relationship with top management in both state and private university libraries were good. Financial opportunities were far better in the private universities than in the State Universities. The private university librarians were more satisfied than State university librarians with regard to pay, social benefits, job security, regarding utilisation of knowledge, ability and experience, work satisfaction, physical conditions, division of work and supervision. Private university librarians were more satisfied than state university librarians. In State university libraries the bureaucratic administration caused more dissatisfaction among the library professionals.\textsuperscript{71}


\textsuperscript{71} Ayse Ustun, “Job Satisfaction in Information Centres: A Comparative Study in Instanbul”, \textit{Library Progress (international)}, 22(1), 2002, pp.1-23.
Sharad Kumar and Patnaik (2002) conducted a survey on Organisational Commitment, Attitude towards work and Job Satisfaction. It was studies of Post graduate teachers of Goa with reference to five factors namely pay, security, social satisfaction, supervisory and growth satisfaction. Differences were identified on security and growth satisfaction between male and female teachers among the ‘below 40’ age group. There were also significant differences among the teachers below 12 years of experience and above. With regard to job satisfaction, there were differences on gender, age and teaching experience. The teachers having more than 12 years of experience felt more secured and satisfied in respect of security. In case of growth, satisfaction of the male teachers of ‘above 40 years’ were better than their colleagues. Their analysis showed that those who had more organisational commitment were satisfied and those who had positive attitude towards work were also satisfied in their jobs.  

Wabha (1975) in his study on “Job Satisfaction of Librarians : A Comparison Between Men and Women” found that male librarians gave more importance to personal development and free decision making in their

---

jobs than the female librarians, and the results indicated that the level of satisfaction of male librarians were better than female Librarians.\textsuperscript{73}

Dhar, Upinder; Dhar, Santosh (2000)\textsuperscript{74} The present investigation has attempted to highlight the relationship of independent variables of locus of control and age with the dependent variables of job satisfaction and its correlates. A vicariate factorial design of 2x2 constitutions was used for the sample of 80 supervisory level employees of the Haryana Cooperative Sugar Mills. The analysis of data revealed that locus of control and age do not affect job satisfaction, whereas components of mental health are significantly correlated with job satisfaction.

Darryn Snell and Satendra Prasad (2001)\textsuperscript{75} since the mid-1970s, opposition has grown within developing countries to the use of 'top-down' development approaches by foreign consultants. Disenchantment with these development strategies, it is often claimed, has led to the current incorporation of participation in consultants' development practices. This


study is concerned with the practice and methods of participatory development planning. It evaluates the strategic plan adopted by the Fiji sugar industry in 1997 in response to challenges that are attributed to the pressures of globalization and international competitiveness. The authors assess the external consultant's self-proclaimed 'participatory methods' in the articulation of these challenges, in the design of restructuring programmed, and in shaping the discourses of reform more generally. The consultant's use of the fashionable 'benchmarking' methodology is seen to be one of the most problematic features of the 'participatory' process.

Munsamy, S. S.; Bachan, L. (2006) in this study stated that the cane diffusion process is widely used in the South African sugar industry for extraction purposes. This paper reviews the operation and maintenance of 3 stationary screens, horizontal bed diffusers installed at Sezela and Umzimkulu sugar factories. Two identical units were installed at Sezela factory in the 1983-84 season and a similar unit was installed at Umzimkulu factory in the 1991-92 season. All 3 diffusers produced extraction efficiencies above 98% and, in the 2005-06 season, all 3 units produced

---

extractions of above 98.5%. The Umzimkulu diffuser was able to produce high extraction efficiencies at higher than design cane throughputs. All 3 diffusers operate at high imbibitions rates of around 440% imbibitions on fiber. The highest cost maintenance item is chain replacement. The average life of a chain has been around 14 years. The chain pins and bushes need to be replaced on average every 6-8 years. A negative aspect of cane diffusion is the extraction of acetic acid and corrosion of downstream equipment. Corrosion is severe in vapour pipes, evaporator and pan domes. However, it can be minimized by using corrosion resistant materials such as 3CR12 steel.

Bhattacharyya, Subhes C. and Quoc Thang, Dang Ngoc (2004)\(^\text{77}\) Vietnam produces about 15 million tons of sugarcane per year and about five mt of bagasse. There is the potential for cogeneration using bagasse, which can also help overcome power shortages in the country. This paper analyses the potential for co-generation from the sugar industry in Vietnam under three different scenarios and finds that between 100 and 300 megawatts of power-generating capacity could be supported by the bagasse generated from sugar mills, depending on the technology considered for

sugar mills and cogeneration and the possibility of renovation of the existing mills. The paper also assesses the expense of cogeneration and finds it to be a cost-effective option for all types of sugar mill. It is found that the cost savings from cogeneration would more than offset the cost of introducing cogeneration in sugar mills with inefficient cane processing technologies. Sugar mills with modern technologies would have a significant amount of excess power and most of these plants would break-even if they sold excess power at around 4.5 cents per kilowatt hour. The break-even cost and the average production cost are sensitive to the investment cost assumptions. The paper thus suggests that cogeneration from the sugar industry is an attractive option for investors in existing mills or new sugar mills alike.

B K S Prakash Rao and Bh Venkateswara Rao (2005)78 Sugar is the second largest agro-based industry in India. The industry provides employment to about two million skilled and semi-skilled workers besides those who are employed in ancillary activities, mostly from rural areas. Though the industry contributes a lot to the socioeconomic development of the nation, it is plagued with a number of problems such as cyclical fluctuations, high support prices payable to farmers, lack of adequate

---

working capital, partial decontrol and the uncertain export outlook. Despite the problems, the industry has good growth potential due to steady increase in sugar consumption, retail boom and diversification into areas such as power generation and production of ethanol. In addition to this, strong possibilities exist for counter trade, if the Government designs and develops sugar industry-oriented policies. With this background, an attempt has been made to examine the problems and prospects of sugar industry in India.

Sirohi, S. S. (2005)\textsuperscript{79} the first part of this paper describes the past status of the cooperative sugar sector in India, particularly during the period 1950/51-1984/85. The second part describes the present status (1985 to present) of the sector under the following headings: working cooperative factories; era of liberalization; high cost of production in cooperative sugar mills; Statutory Minimum Price (SMP) and State Advised Price (SAP) for sugarcane; and sugar production cycle. The third part discusses several required changes in sugar policy, including: the establishment of an apex body for the sugar industry; decontrol of sugar; revival planning for the sugar industry; creation of a cane price fund for the stabilization of production; corrective steps to cover lapses in government-managed

\textsuperscript{79} Sirohi, S. S., "Status of cooperative sugar industry in India - past, present & future.", Cooperative Sugar, 2005 (Vol. 36) (No. 12), pp. 969-974
cooperative sugar mills; and the establishment of a cane quality laboratory in each mill. The future of the Indian cooperative sugar sector in 2005 onwards is then discussed. Further recommendations for improving the health of the sugar industry are summarized.

Jane Fisher and Peter S. Carberry (2004)\textsuperscript{80} over the last 10 years, farming systems research in Australia has become increasingly participatory, with grower groups obtaining funding to run trials on local issues. This study reviews the processes, learning and impacts of farmer-led participatory on farm trials (POFT) in the grains, wine-grape and sugar industries, using evaluative inquiry and action learning methodologies. A review of “grey” literature against a framework has raised questions about the rigor of trial design and reporting processes in both the grains and wine-grape industries. The sugar industry is less developed along the pathway of farmer-led research. Farmer-led on-farm trials cover a range of activities, and have no one set way of implementation. The important starting point to participatory on farm research is defining and developing a shared mental model. The capacity building in communities associated with on farm trials is important to the success of the on farm research.

Yuan-Duen Lee and Kun-Tang Lin (1999) This research, with Taiwan Sugar Corporation as its subject, is intended to explore the relationships among superior's leadership style, employees' communication satisfaction and leadership effectiveness. A questionnaire survey of the organizations affiliated to Taiwan Sugar Corporation resulted in a collection of 632 valid samples. Through both Pearson correlation analysis and path analysis of the data, the researchers managed to discuss the relationships among superior's leadership style, employees' communication satisfaction and leadership effectiveness. Meanwhile, analysis of variance was employed to determine the differences between superior's leadership style, employees' communication satisfaction and leadership effectiveness in terms of demographic variables.

COSTA, Dirceu P. Pereira da and BARBOSA, Frederico Simões. (1980) a sectional study on schistosomiasis mansoni was carried out at nine sugar plantations belonging to the Catende sugar mill. The plantations are located in typical sugar cane country in the southern part of the humid

---

coastal forest region of the State of Pernambuco. Results show that schistosomiasis is a very severe disease in the area. The overall infection rate was 43.8%, distributed according to sex and age groups as shown in table 1; whereas, 64.6% of the field workers were infected. The hepatosplenic forms had a 4.1% prevalence rate (see tables 1 and 2), and on two of the plantations this rate rose to 8.7% and 9.1%. *Biomphalaria straminea* was the only intermediate host found in the area and was found to have the very low infection rate of 0.07% as is common in these natural conditions.