EMPLOYEE-CENTERED SUPERVISION AND PRODUCTIVITY IN THE JUTE INDUSTRY OF PAKISTAN

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Jute is one of the most important manufacturing industries of Pakistan. It plays a pivotal role in the economic prosperity of the country. In terms of employment of manpower, it is next to the cotton textile industry but in terms of foreign exchange earning, jute industry is second to none. It is primarily an export industry and has received considerable attention from the Government through the Pakistan Industrial Development Corporation and later on its successor the East Pakistan Industrial Development Corporation. This industry is based on raw jute which is designated as the golden fibre of Pakistan. The economic betterment of the people of East Pakistan is closely linked with the success of the jute industry.

This thesis is an attempt at a critical study of the supervisory practices in the jute industry and their influence on the productivity of the workers. It analyses the orientation of the supervisory people towards production and towards workers under their control and their relation to the needs and expectations of the workers. The influence of variables like workers' education, job experience, machine adjustment, job security, pay satisfaction, company pride, group cohesiveness, etc. as determinants of productivity is also focused. Besides, the thesis makes an effort to verify a few observations that have been made by some Western Scholars about the supervisory practices in Pakistan including an examination of the validity of Professor Rensis Likert's hypothesis that employee-centered supervision is applicable in all cultures including the under-developed countries.

The fundamental findings, in the course of this work, indicate that the sub-supervisors or the line sardars by which name they are called in the jute industry have a greater influence on workers' productivity than the supervisors. The supervisors are mostly production-centered and confine their role to

'policing' while the line sardars blend and integrate their production-orientation with employee-orientation and obtain more favourable response to higher productivity. Contrary to popular belief, the study shows that job experience and education of the jute mill workers have little influence on their productivity. The other fundamental findings of the work are that workers' pay satisfaction, economic motivation and machine adjustment have considerable influence on productivity. The importance of the above findings is that management may increase productivity by improving the supervisory practices and company policies without any additional investment of capital.

My claim to any original interpretation of facts and measurements is limited mainly to chapter four to chapter six. Chapter one deals with the problem, Chapter two with the objective and scope of the study. Chapter three is an attempt to review the existing literature on the subject. Chapter seven summarises the discussions into conclusions which may be of some assistance to policy makers.

The task which confronted me when I took this research was two fold. First, there was the need of collecting information without which no study could be possible; second, listing and interpreting the available facts and research findings elsewhere. Major portion of the reference work was done between May 1965 to April 1966 at the Business School, University of Western Ontario, London, Canada, particularly relating to books and journals not available at Dacca. Part of the final draft was prepared at the Graduate School of Business Administration, Harvard University, U.S.A. in the summer of 1967. For the remaining part of the work, the entire time was spent in East Pakistan, gathering facts and analysing them. A considerable portion of my time and energy was spent in observing the operations of the jute mills and interviewing relevant people. The entire field work was done by me alone. My work was made somewhat easier

by the exhibition of my four earlier research publications and a letter of request from the Head of the Department of Commerce, Dacca University, addressed to the management of the Jute mills for co-operation.

In the development of this thesis, I have tried to subordinate ready made recommendations to the quantitative measurements and documented reference. I have tried to understand the view points of the workers, sub-supervisors, supervisors and other upper management people, but I have based my analysis on factual evidence obtained through interview and actual observation. The co-operation received from management was more than what was expected. In my view, the information inserted in this thesis for the first time, should be of more permanent use and should encourage more intensive studies than my analysis. My endeavour in the area of man-boss relationship and productivity will be amply rewarded if it fills an important gap in our contemporary knowledge even partially, and if the future generation equipped with better statistical data and psychological tools find in it some basis for comparing their knowledge with my own.

My gratitude is due to Professor A.F.A. Husain, Member, Planning Commission, Government of Pakistan and Dr.A. Farouk, Head of the Department of Commerce, Dacca University, who pulled me into research activities. In choosing the subject, most valuable suggestions came from Professor R.E. Sproule, and Professor A. Mikalachki of the Business School, University of Western Ontario, London, Canada and Dr. Danilo Orescanin of the Business School, University of Indiana, Bloomington, U.S.A. They very kindly looked through some portions of the work and offered their criticisms which were of considerable practical significance. Besides, I had the privilege of discussing my findings with a few reputed scholars of whom Professor Rensis Likert, Director, Institute for Social Research, University of Michigan, Ann Arbor and Professor Fritz J. Roethlisberger of the Graduate School of Business Administration, Harvard University,

SYNOPSIS OF CONTENTS

CHAPTER - I

The Problem : Over the past several decades the man-boss relationship has been the most popular topic of research in organisational behaviour. Many studies have been concerned with the relationship between supervisory style of leadership, productivity, and worker attitude towards the supervisor. The Survey Research Center at the University of Michigan first focused its analysis on the dichotomy between employee-Centered and Production-Centered Supervisors.[1] This study of ours is about supervisory style and productivity with special reference to employee-centered supervision that have emerged out of the Michigan researches. Employee-centered supervision is defined as that pattern of supervision in which the supervisor is people-oriented in that he thinks he is dealing with human beings rather than work. An employee-centered supervisor for the purpose of this study refers to that type of supervisor who feels that people will do a better job if he takes an interest in them, creates the feeling that he is fair, will keep his promise and look to the individuals' needs. Although he is charged with the responsibility of getting production, an employee-centered supervisor, according to our definition, believes that he can accomplish that goal through the medium of his people smoothly and safely in an environment of mutual trust and employee involvement in the work.

Employee-centered supervision defined above is in sharp contrast to "production-centered" supervision in which the supervisor is task-oriented in the sense that he sizes up his job as one of hitting the work in and out and pressing the people to work harder on pangs of drastic action.

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1. Likert, Rensis, New patterns of Management. Mcgraw-Hill Book Company Ltd., New York, 1961. Pages 5-25.

   See also his recent book The Human Organization : Its Management and Value, Mcgraw-Hill. New York, 1967.

A supervisor is production-centered if he assumes the role of a hard task master looking upon the people as instruments of getting work done rather than as individuals with needs and emotions.

The basis of distinction between employee-centered supervision and production-centered supsrvision in the above definition is one of degree only. No "social club sort of environment" has been implied in the concept of employee-centered supervision,[2] because social satisfactions represent an important aspect of the totality of benefits that may evolve from organisational association, but social satisfactions may compete with other rewards in the sense that an increase in one results in a reduction in another. For instance, the amount of wages that can be earned under piece rate are reduced if socialising like extended tea breaks reduces productivity. In the same way late attendance and early departure may result in reduction in productivity. In our concept of the term 'employee-centered supervision' we have assumed that limited on-the-job socializing may increase productivity without increasing the cost side of the ledger. A production-centered supervisor's worry about socializing expresses the cultural precept that work is work and play is play and the two should not be mixed. An employee-centered supervisor on the other hand channels social satisfactions to enhance the co-operative process and increase the benefits of organizational association.

Apparently the distinction is on the basis of an assumption that the successful accomplishment of the supervisors' job depends primarily on his ability to get the help from his subordinates. He will build his relationship on the basis of what Mary Parker Follett calls "Co-action" as constrasted with "Coercion."[3]

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2. Albers, Henry H. Organised executive action. Wiley and Sons Inc. New York, 1962, Pages 462-63.

3. Follett, Mary Parker, Creative Experience, Longmans, Green & Co., New York, 1924, P. xiii.

We have viewed the job of a supervisor to be two-pronged : (a) figuring out how to meet the production demands of the organisation and (b) at the same time satisfying the demands of his people for a friendly and considerate boss. In other words, according to our concept, a supervisor becomes truly employee-oriented when he attempts to integrate the needs of his people with the organisational goals. Looked from this point of view, supervision is not just a matter of giving orders or overseeing subordinates to make sure that they follow rules; supervision means building an effective workforce and motivating each member of it to turn in his best performance.

Our definition of employee-oriented supervision is closely related to the pattern of supervisory behaviour implied in Mayo's concept of 'Social Man'[4] and Likert's "modified theory of organization"[5]. A number of terms have been used to express this philosophy of management or a particular aspect of it. These terms include democratic supervision, permissive supervision, consultative supervision, participative supervision, supportive supervision, positive supervision, considerate supervision, etc. Lack of standardisation of terminology is attributed to the newness and developmental stage of the field.[6]

However, inspite of the diversity of terminology, the following elements have been recognised to be contributing to the employee-orientation of a supervisor.

(a) Being sympathetic on work problems of his people.

(b) Being sympathetic on personal problems of his people.

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4. Mayo, Elton, The Social Problems of an Industrial Civilization, Graduate School of Business Administration, Harvard University, 1945.

5. Likert, op. cit.

6. Gordon, Thomas. Group-centered leadership, Houghton Miffin Co. Boston, 1955, P. 104.

(c) Being less critical of his employees.

(d) Being able to help the people in their job-related problems.

(e) Being willing to help the employees on their job-related problems.

(f) Sharing information with the employees.

(g) Allowing employees to participate in decisions affecting their work.

(h) Being consistent in giving orders and maintaining discipline.

(i) Letting employees know where they stand in the job problems.

(j) Giving general rather than close supervision.

(k) Interacting socially.[7]

From the above factors, it will be apparent that the employee-centered supervisor that we have in mind for this study is one who takes positive, hopeful and constructive view of man and who has respect for the capacity, self-direction and critical thinking of his group. He is that type of man who capitalises on what Keith Davis calls "plus-values." He adds the energies of his people to his own to accomplish the organisational goals, in contrast to the job-centered supervisor who gets only "minus values" since his people waste their energies in nervous worry and resistance to him.[8]

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7. Herzberg, F.L., et al, Job Attitudes : Review of Research and opinion. Psychological service of Pittsburg, 1957, P. 180.

8. Davis, Keith, Human Relation At Work. Mcgraw-Hill, New York, 1962, P. 168.

CHAPTER - II

OBJECTIVE AND SCOPE OF THE STUDY

Objective : The main objective of the present study is to examine the supervisory practices in the administration of industrial enterprises in Pakistan with special reference to the front-level supervision. There were several considerations that prompted the selection of this area for the purpose of investigation in this study. These considerations were :

1. The desire to ascertain what is actually happening in the industrial concerns in Pakistan in the matter of supervision at the front-line level. Practically no work has been done so far in this area although some information is available about the operatives and top level of management.[1,2,3]

2. The desire to test some of the observations that have been made about front-line supervisory personnel in underdeveloped countries by some Western Scholars.[4]

3. The desire to determine the claim of Rensis Likert about the applicability of the concept of employee-centered supervision and democratic processes of handling people in the setting of an underdeveloped country with social, cultural and economic background quite different from those in the USA where the philosophy of employee-centered supervision has been found to work well.

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1. Husain, A.F.A. and A.Farouk, Social Integration of Industrial Workers in Khulna. Bureau of Economic Research, Dacca University, 1964.
2. Husain, A.F.A., The Human Impact of Technological Changes in Pakistan. Oxford University Press, Dacca, 1956.
3. Islam, Nurul. "The Economy of Pakistan" in The Economic System of the Commonwealth, (ed) Hover B. Calvin, Cambridge University Press, London, 1962.
4. Weatherford, Willis, D. Jr. "Pakistan" in Labor in Developing Economies, (ed) Walter Galenson, University of California Press, 1963, P. 30.
   See also Fayerweather, John, Management of International operations. Mcgraw-Hill Book Co. Inc. 1960. P. 373.

The study of supervisory behaviour and productivity along the foregoing lines was considered to be a useful field of investigation. There were several reasons for this :

Pakistan is in the midst of gigantic efforts through her Third Five Year Plan to speed up the process of economic growth. In the context of Pakistan's developing economy, the importance of productivity increase cannot be over emphasised. Increased productivity in any industrial unit would mean a lowering of costs which could in turn be reflected in increased profits, improved wages and a lowering of prices. Increased productivity means better conservation of the country's meagre foreign exchange resources and achievement of its Five Year Plan targets at lower costs. It also means competitive strength for Pakistani exports in the overseas markets. However, the present pressing problem of Pakistani industrial firms is low productive efficiency and high costs. Although the overall productivity reflects the impact of multiple factors, supervisory efficiency in marshalling, men, materials and equipment is considered very significant in this respect. As is true for other economically underdeveloped areas of the world, finding and training managerial and supervisory resources required to implement development projects is one of the most critical problems of Pakistan[5,6,7,8]. According to Drucker, an American expert on management, whether the countries of

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5. Harbison, Frederick H. and Ibrahim A. Ibrahim, Human Resources for Egyptian Enterprise. Mcgraw-Hill, 1958, P. 36.

6. U.N., Processes and Problems of Industrialisation of underdeveloped countries, 1955, P. 41.

7. U.N., Public Industrial Management in Asia and the Far East, 1959, P.43.

8. Gardner, B.B. and D.G. Moore, Human Relations in Industry, Richard D. Irwin Inc. Homewood, Ill., 1955, Page 10.

reportedly not really interested in output and equipment; workers and supervisors often being fined summarily or dismissed.[14] In the opinion of I.L.O. Productivity Mission, labour-management relations are one of the weakest points in Pakistan industry. The losses of production due to unsatisfactory relations between factory owners, workers and supervisors are said to be substantial. Apparently there was a need for examining the supervisory pattern in Pakistan and for recommending ways and means to equip the industrial concerns with proper supervisory cadres particularly in the lower echelons of management where the lapses are said to be critical. The Government of Pakistan feels that this area will become more critical than the shortage of highly qualified top level personnel as the country's industrial expansion programme gets momentum.[15] Weatherford observes that there is no more crying need for Pakistans' industrial growth than to revise her supervisory practices.[16] Another foreign visitor referring to India remarked "you have good generals and soldiers but rather weak at the sergeant's level." He was referring to the 'maistry' as the first line supervisor is called in India.[17] This observation is true for Pakistan as well, in the opinion of a number of managers contacted by us. The I.L.O. Productivity Mission also found that the shortage of junior managers and supervisors was severe.[18]

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14. Report of I.L.O. Productivity Mission in Pakistan. East Pakistan Labour Journal, December, 1957, Vol. X, No.IV, Pages 235-240.

15. Government of Pakistan: The Third Five Year Plan, (1965-70), Page 218.

16. Weatherford. op. cit.

17. Srinivasan, K., Productivity and Social Environment. Asia Publishing House, Bombay, 1964, P. 139.

18. Report of the I.L.O. Productivity Mission, op. cit.

It is primarily because of these considerations that the author selected the front-line supervision for investigation. It was felt that the study will provide useful data to make recommendations for raising the productivity of industrial enterprises in Pakistan and to suggest ways and means to assure harmonious labour-management relations in the country's frantic effort to optimize the use of its scarce resources.

Besides, the study hopes to provide information and reading materials for colleges, Universities and management development centers as well as Governmental agencies engaged in planning the programmes of managerial and supervisory education in the country.

An attempt was made to see how supervisors at the Front-Line level deal with their people, to what extent they are employee-centered, how they size up their jobs, how they feel about their roles in the organisation and what kind of guidance and supervision they themselves get from their supervisors. The author had his focus on the following general hypothesis taken from Likert.

"It is probable that the theory will prove applicable in other countries and cultures. People in all cultures seem to respond to treatment which, in terms of their values, contributes to their sense of personal worth and importance. Since this is the essential concept of the principle of supportive relationships, it appears to company management in cultures quite different from that in the United States. The research on leadership and management in countries less developed industrially supports the view that the principle of supportive

relationship has wide applicability."[19]

[illegible] relationship between supervisor and the [illegible]. The following specific hypotheses were developed for verification through empirical investigation. [illegible] supervisor in the [illegible],

1. Front-line supervision in Pakistan is authoritarian and not employee-centered. [illegible] the supervision. The [illegible] the group [illegible].

2. Supervisors at the Front-line level are not employee-centered partly because of the authoritarian pressure on them for production; they merely transmit below the pressure exerted on them from above. [illegible] may, the greater [illegible]

3. The greater the employee-orientation of a supervisor, the greater the section productivity. [illegible] greater is the [illegible].

4. Employee-orientation renders high productivity only when it is integrated with production-orientation.

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19. Likert. R., New Patterns of Management. op. cit. Pages 246-47. This is, of course, not unanimously accepted by management writers. For instance, Dubin has cautioned against reaching global generalisations on the basis of Likert's declaration. See (a) Dubin, et al, "Leadership and Productivity, Chandler Publishing Company, San Fransisco, 1965, Page 9.
(b) Krech, D., and Crutchfield. Theory and Problem of Social Psychology. Mcgraw-Hill, New York 1948, Page 423.
(c) Hagen, Everett E. On the Theory of Social Change: How Economic Growth Begins. Dorsey Press Inc. Homewood, Illinois, 1962, Page 73.
(d) Black, James Menzies, Assignment Management; A guide to Executive Command. Prentice Hall, Page 192.
The basis of Dubin's objection is the that "management and supervision is culturally defined." In support of his argument, Dubin has referred to the inter-University studies of comparative national industrial systems. See Frederick H. Harbison and Charles A. Myers. Management in the Industrial World, Mcgraw Hill, New York, 1959.
Hagen's argument is that our eastern society is based on authority - father over son, elder brother over younger brother, husband over wife, mother-in-law over daughter-in-law. black's argument is that people in the East are not accustomed to the technique of persuation.
However, Likert has based his assumption on studies carried out in Japan and India. For instance, Rice seems to lend support to him on the basis of the former's study in textile mills in India. According to Rice, the findings of Ahmedabad Experiments in the social, technological and economic changes are likely to have more than local significance, see A.K. Rice, Productivity and Social Organisation: The Ahmedabad Experiment, Tavistock Publications Ltd., London, 1958, P. 5.

CHAPTER - III

A BRIEF REVIEW OF LITERATURE ON EMPLOYEE-CENTERED SUPERVISION

It has already been mentioned that this study is about employee-centered supervision and productivity. The starting point is the finding of the famous Hawthorne studies as described in "Management and Worker"[1]. The Hawthorne experiments have negated the long held view that "Workers are simply individuals working next to one another". Mayo and his colleagues who conducted the experiments were astonished by the elaborate relationship they observed among the workers, their work, and their supervisors. The group in the Bank Wiring Room was responding to the methods of scientific management by restricting their production ~~restriction~~ to levels which the group felt appropriate. Incentive system could not prevent restriction. The group was seen agreed not only on what was regarded as reasonable day's work, but also on what were regarded as appropriate mechanisms for enforcing the standards so agreed, on how to behave towards supervisors, on spare time activities, on the standing of individuals within the group.[2,3] The observation in the Relay Assembly Room revealed that when hostilities, resentments, suspicions, and fears of workers are replaced by favourable attitudes, a substantial increase in production took place.[4]

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1. Roethlisberger, F.J. and William J. Dickson, Management and Worker, Harvard University Press, 1938.
   See also their recent book Counseling in an Organization, Division of Research Graduate School of Business Administration, Harvard University, 1966.
2. Landsberger, Henry A. Hawthorne Revisited, New York State School of Industrial and Labor Relations, Cornell University, Ithaca, 1958, Page 61.
3. The 14 workers in the Bank Wiring room was not, however, a solid group. Researchers have identified two sub-groups with one isolate. It was infact the sub-group B which controlled output to a pre-determined level that represented their conception of a fair day's work. Clique B's main focus of integration was control of output while clique A was a "protective social group" rather than a "Protective task group" having its focus of integration on members' social or non-work goal. Vide Roethlisberger and Dickson, op.cit. Pages 508-510
4. Working extra hard because of the feeling of participating in something new and special has come to be known as the "Hawthorne effect". Edgar H. Schein. Organizational Psychology, Prentice Hall, New York, 1965, Page 2.

5. Satisfactory interpersonal relationship between a supervisor and the people working under him is positively related to productivity.

6. The greater is the influence of the supervisor in the organization, the higher is his effectiveness.

7. The closer the supervision, the lower the group productivity.

8. High productivity supervisors try to build up cohesive teams and develop group supportiveness.

9. The higher the satisfaction of the employees about pay, the greater is their productivity.

10. The higher the feeling of job security, the greater is the productivity.

11. The higher the employee's satisfaction with the Company, the greater is their productivity.

12. The higher the employees' pride in their company, the greater is their productivity.

13. Productivity of a work group is positively related to the age of its members.

14. The greater the experience of a workgroup, the higher is its productivity.

15. The productivity of a group is positively related to its educational attainment.

16. The higher the machine adjustment of a workgroup, the greater is its productivity.

17. The productivity of a workgroup is positively related to its economic motivation.

18. Pakistani workers respond favourably to supportive supervisory treatment inspite of their being born and conditioned in authoritarian environment.

In order to test the above hypotheses the author conducted investigations into the jute industry of Pakistan. Information collection was limited to the following areas of front line supervision :

1. Productivity of workers.
2. Supervisor's perception toward his people.
3. Supervisor's employee-orientation as perceived by the employees.
4. Production-orientation of the supervisor as perceived by the employees.
5. Peer group loyalty among the group members.
6. Workers' satisfaction with their supervisors as perceived by them.
7. Workers' satisfaction with the company.
8. Workers' satisfaction with their pay and job security.
9. Workers needs and expectations.
10. Pressure on the supervisor from above.
11. Workers' economic motivation.
12. Workers' age, experience, education, social background and machine adjustment.[19]

In this study we have not attempted to compare the level of productivity of different units in the same industry. One reason for this was the variation in the level of productivity due to factors like location of the individual units, the age and the quality of maintenance of the plant and equipment, the level of investment and the philosophy of management of the top people. We intended to limit our investigation to the variation in the level of productivity within a particular plant. Here again we did not try to compare the productivity

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19. Details of methods of data collection are described in Chapter IV.

level of different departments since they did not have identical equipment, raw material or technical skill. Our focus of attention was on the productivity of the various supervisory units of a particular production process, namely, weaving or spinning which have identical equipment, technology, material input, and finished output. We also made no attempt to compare the productivity level of the jute industry on an international basis. This is because the capacity and motivation of the work force differ from country to country depending on the climate of the country, the health condition of its people, and their desire for higher living standard. Besides, the different countries having jute mills are at different stages of their economic development, have different ages of their jute mills and use different varieties of raw jute. In view of these considerations, the productivity levels of jute industry in different countries was not comparable.

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The experience at Hawthorne as interpreted by management writers is that a worker is a social organism and will perform to the degree he is personally and socially involved in his work; whether the employee group will improve or restrict productivity depends to a great extent on the workers' relationship with management. In the Bank wiring room workers were organised in opposition to management while in the Relay Assembly room they were organised in co-operation with management. It became apparent that a worker wants to feel free to express his own opinions concerning his work; he wants recognition, and opportunity for advancement; he likes to be in the know of the company plans and programmesand he would like to participate in decisions affecting his work. In brief, he wants to feel that he is playing a needed, important and significant role in his organisation.[5] The conclusion drawn from the Hawthorne experiments is that workers not only feel better but also work more effectively if they feel that their boss does not act officious, does not interfere too much with social relationships built up on the job, and does not demand production in an impersonal and callous way.[6]

The discovery at Hawthorne has led to a re-definition of business enterprise. Industrial psychologists and sociologists have come to emphasise that "the factory is a social life"[7] and that "business organisations are essentially human organisations".[8] In the words of Roethlisberger, "the manager is neither managing men nor managing work; he is administering a social system".[9] Mayo has

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5. Staley, J.D. and I.A. Delloff, Improving Individual Productivity, American Management Association, New York, 1963, Page 48.
6. Schein, Edgar H., Organisational Psychology, op. cit. Page 37.
7. Whyte, F. William, Money and Motivation, Harper and Brothers, New York, 1955, Page 218.
8. Knox, John B., The Sociology of Industrial Relations, Random House, New York, 1955, Page, 15.
9. Roethlisberger, F.J., "Human Relations: Rare, Medium or Well done?" Harvard Business Review. January 1948.

come out with his concept of "social man" built on the following assumptions.

(a) Man is basically motivated by social needs and obtain his basic sense of identity through relationships with others.

(b) As a result of the industrial revolution and rationalization of work, meaning has gone out of work itself and must therefore be sought in social relationships on the job.

(c) Man is more responsive to the social forces of the peer group than to the incentives and control of management.

(d) Man is responsive to management to the extent that a supervisor can meet a subordinates' social needs and needs for acceptance.[10] The concept of "Social man" is in sharp contrast to the conventional concept of man idealised by classical economists and founders of scientific management. For instance, the concept of division of labour developed by Adam Smith took for granted that with division of labour the job becomes repetitive, the worker stupid, ignorant and incapable of conceiving any generous, noble or tender sentiments.[11] The classical economists also assumed that "Work is distasteful to most men and women".

The classical theory was based on the concept of an "economic man". Frederick W. Taylor built up his philosophy of scientific management on this concept of economic man. He is reported to have described his "hero" Schmidt in simplistic terms as "A penny looks about the size of a cartwheel to him".[12]

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10. Mayo, Elton, The Social Problems of an Industrial Civilisation. Division of Research, Harvard Business School, 1945, Pages 34-56. See also Mayo's Human Problems of an Industrial Civilization, Harvard Business School 1946, Page 185.

11. Smith, Adam, The Wealth of Nations, Random House, New York, 1937, Pages 734-5.

12. Copley, F.P., Frederick W.Taylor, Father of Scientific Management, New Tork, Harper & Row, 1923, Page 237.

The above view is still shared by top business executives. For instance, according to Greenwalt, "of all the motivations to which human organisation responds none has proved so powerful as that of financial gain".[13] A survey of 50 top executives in USA in 1947 found that 44 percent theorized that "money alone is the answer to employee motivation", while another 28 percent accepted the view that "money is by far the chief thing". Psychologists feel that this sort of attitude corresponds closely to the view of Karl Marx that human behaviour is determined entirely or in major outline by economic considerations.[14]

Social Psychologists claim that the concept of economic man has lost much of its weight in the developed countries of the West. For instance, any body in the U.S.A. who has got a job is assumed to have fairly satisfied his physiological needs.[15] According to Leavitt, the American society has reached a stage in which social or egoistic needs are more operational for most of the people than physical or safety needs.[16] Since the struggle for satisfying existence has been won, traditional reward of management is considered to provide little motivation. A number of research studies have shown that employees emphasise social and egoistic needs as tools of motivation.[17,18] For instance, in one study of what people want

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13. Greenwalt, Crawford, The Uncommon Man. Mcgraw-Hill Paperback, 1959, Pages 37-38.
14. Stagner, Ross and Hjalmar Rosen, Psychology of Union-Management Relations. Wadsworth Publishing Co. Inc. California, 1965, Page 34.
15. Sutermeister, Robert A., People and Productivity. Mcgraw Hill Book Co. Inc. New York, 1963, Page 13.
16. Leavitt, Harold J. Managerial Psychology, University of Chicago Press, Chicago, 1964, Page 27.
17. Zaleznik, A et al, Motivation, Productivity and satisfaction of Workers: A prediction study, Division of Research, Harvard Business School, 1958, P.354.
18. One psychologist has pointed out that certain needs take operational precedence over others if both are unsatisfied at the same time. He has categorised man's needs in terms of heirchical level in the following order :
    (a) Physiological needs (needs for food, clothing, shelter, sex),
    (b) safety needs (need for protection against danger and threat of deprivation),
    (c) Social needs (needs for belonging, association, acceptance by one's fellows, receiving and giving love etc.)

from jobs it was found that money ranked first in the rating of management while it was rated 5th in the scale of the workers; appreciation, feeling "in on things, sympathetic help on personal matters and steady job ranked first, second, third and fourth respectively.[19] Worthy cites a study of 12000 employees of Sears and Roebuck, that rates of pay as evaluated by the employees ranked 14th among elements relating to employee morale.[20] A series of studies by Whyte attempted to test the assumption that "money is indeed a prime motivator of productivity in the industrial settings." It was found that among the production workers, the proportion of the men who are primarily motivated by money was very low. The researchers felt that some 10 percent might respond to an individual incentive plan and ignore group pressure to restrict output.[21] Herzberg et al have compiled data from a large number of studies covering over 28000 employees which point to the importance of social satisfactions from jobs. The most frequently mentioned sources of satisfaction were social aspects of the job, a term which the authors used to mean "on the job contact with other workers".[22]

Foot Note continued from page 17.

(d) Egoistic needs (for self-respect and self confidence, autonomy, achievement, status, recognition and appreciation).

(e) Self-actualization needs (needs for self-fulfillment).

See, A.H. Maslow: Motivation and Personality, New York, Harper and Brothers, 1954.

Another scholar has spoken of higher level human needs in terms of "loves". He has identified 4 types of loves, namely, (1) love of self, (2) love of belonging - or affiliation, (3) love of creation and accomplishment, and (4) love of service-love of others-vide Frederic Hooper, Management Survey, A Pelican Book, 1962, Page 125.

19. Herzberg, et al, The Motivation to work. Wiley & sons, New York, 1959, P.48.

20. Worthy, J.C. Factors Influencing Morale, Harvard Business Review, January, 1950, Page 68.

21. Whyte F.William. Money and Motivation, op. cit.

22. Herzberg et al, Job Attitudes: Research and Opinions, op. cit.

In view of the above findings we may perhaps conclude that Mayo was justified when he rejected the "economic" concept as "rabble hypothesis"[23]. Mayo differed fundamentally in this respect from Taylor. While Taylor preferred to work with the individual worker and offered him higher wages to induce the worker to use the methods of work, Mayo concluded that membership in a group must be provided for the worker permitting him the chance to communicate with his peers. Taylor wanted to overcome informal contacts at work while Mayo attempted to control informal contacts so that they could be channelled to increase production. Taylor sought to devise an improved formal organisation for management while Mayo recommended the use of informal organisation of workers to facilitate the achievement of their social satisfaction as an aid to increased production. While Taylor idealised workers as stupid as ox needing direction and control by men more intelligent than themselves[24], Mayo considered employees as intelligent and resourceful to contribute something of value to the organisation of their work and to the methods to be used. While Taylor wanted to educate the worker to do "just what he is told to do, and no back talk", Mayo sought to involve the workers in decision making process, giving them a chance for self-expression.

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23. Mayo's rabble hypothesis rejection was, of course, tied to his dislike of unions.

    Main postulates of rabble hypothesis were described by Mayo as follows :

    (1) Natural society consists of a horde of unorganized individuals.

    (2) Every individual acts in a manner calculated to secure his self-preservation or self-interest.

    (3) Every individual thinks logically to the best of his ability, in the service of this aim. See Mayo. op. cit.

24. Taylor, Frederick W., Principles of Scientific Management. Harper and Brothers, New York, 1916, Page 59.

    The criticism of Taylor is not meant for downgrading his contribution. The benefits of Scientific Management evolved by Taylor goes undisputed. Although Taylor gave more emphasis on money and believed some of the working men as having little intelligence and sensitivity, he was ready to admit that some of the operatives he met in the shop were more intelligent though less educated than he was.

    (Ernest Dale Management: Theory and Practice Mcgraw-Hill, New York, 1965, Page 177).

Apparently the concept of 'Social man' is quite different from conventional thinking which presumed that the employee, like a mechanical contrivance, can be wholly programmed and pre-determined by some one else. This "mechanistic" assumption about how an organisation should be run and administered is now considered obsolete.[25] It worked in the early stages of the industrial revolution when workers and their families were close to starvation level and the needs for food, clothing and shelter were paramount. Advocates of modern organisation theory argue that the conventional belief is founded on an erroneous conception of human behaviour.[26] Research findings indicate that managers who were committed to Epstean's law[27] or Theory X[28] have become surprised at the counterforces produced among the subordinates as a result of too much reliance on mechanistic assumptions. In this connection we may refer to the Michigan studies which are regarded as more sophisticated than Mayo's and which are viewed to be considerably more significant for to day's management.[29]

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25. Katz, R.L., "Toward a More Effective Enterprise", Harvard Business Review, September - October, 1960.

26. Argyris, Chris, Personality and Organisation, Harper & Brothers, New York, 1957, Page 50.

27. Albert J. Nock has used the term Epstean's law to mean the assumption that "Man tends always to satisfy his needs and desires with the least possible exertion". See, The Memories of a superfluous Man. New York, Harper and Brothers, quoted by Fred Dearmond in his "The Executive At Work", Pages 70-71.

28. Douglas Mcgregor defined theory X as the belief of management that

    (a) Average human being has an inherent dislike for work and will avoid it if he can,

    (b) because of this human characteristic of dislikes of work, most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organisational objectives.

    (c) the average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all. See. The Human side of the Enterprise Mcgraw-Hill Book Co., New York, 1960, Page 33-45.

29. Gellerman, Saul W., Motivation and Productivity. American Management Association, New York, 1963, Page 28-34.

The Michigan Studies aimed "to discover the underlying principles applicable to the problems of organising and managing human activity" and "to discover how to train persons to understand and skillfully use these principles.[30] The focus of the Michigan studies was on the attitudes and behaviour of first-level supervisors and how these affect productivity of their subordinates. The technique was generally to identify high and low producing groups of workers and then to determine the attitudes of these groups toward various aspects of their work. The general finding was that supervisor's style of operation and his ideas about his job have a fairly consistent relationship to the productivity of his group. The study at the Prudential Insurance Company involved 24 first-level supervisors and 419 non-supervisory employees, comparison of high and low section heads showed striking similarities in the amount of formal education and length of service with the company. There were no significant differences between high and low section heads in other demographic characteristics, such as age, sex, and marital status. However, supervisors of high productivity sections differed from those of low productivity sections in certain woll-defined characteristics, attitudes, and behaviour. 'Employee-centered' supervisors proved to be higher producers in terms of productivity of their groups than the "production-centered" supervisors.[31] A supervisor was given an "employee-centered" rating if he considered supervision of his people, rather than expediting production, to be his main job. (It was simply a matter of emphasis, rather than forgetting production). A supervisor was rated as 'production-centered' if he considered his main job to be getting work done and seemed to consider people primarily as instruments for doing this rather than as human beings with needs and emotions very similar to his own.[32]

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30. Katz, Daniel, et al, Productivity, supervision and Morale in an office situation. Survey Research Center, University of Michigan, 1950, Page 2.

31. Katz et al, op. cit.

32. Gellerman, op. cit. Pages 34-36.

The study was showing that an emphasis on productivity at the cost of the worker' s dignity was self-defeating. The following were found common among high-production section heads :

1. They gave general rather than close supervision.
2. They liked the amount of authority and responsibility they had.
3. They spent more time in supervision.
4. They received general rather than close supervision from their own supervisors.
5. They were employee-centered rather than production-centered.

The Michigan group applied the same technique to the study of Ohio railway Company involving interview of 72 foreman and 298 workers. Analysis of demographic characteristics showed a significant difference between foremen of high and low sections in only one aspect, namely, more foremen of low sections had some previous job in another field while more foremen of high sections had worked only on the rail road.[33]

The study showed that more of the foremen of the high sections spent more time in supervision while more of the foremen of the low sections spent more time in straight production work. It appeared that foremen of high producing section stressed the effectiveness of supervision in helping their sections do a better job, while foremen of low sections regarded supervision as routine function.

An important difference in the findings of the two studies was apparent in the area of close supervision versus general supervision. In the clerical

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33. Katz, Daniel, Nathan Maccoby, General Gurin and Lucretia G. Floor, Productivity, supervision and Morale Among Rail road Workers. Survey Research Center, University of Michigan, 1951. Page 10.

situation of the Insurance Company, there was considerable evidence that the heads of high sections exercised more general, less detailed supervision over their employees than did the heads of the low sections. Such differences were not found in the railway situation. The researchers attributed this to the structural differences of the situation. In the Insurance Company work methods were standardised to such an extent that employees got little help of a technical nature from close supervision. In work of the maintenance of-way-section gangs, working procedures were less 'routinised' and sections were small enough to allow foremen to give each worker the benefit of his superior technical knowledge. However, the fact that there was no positive relationship between productivity and closeness of supervision, the researchers concluded, that the rail road foremans' technical contribution was not sufficient to outweigh possible detrimental effects of close supervision on worker motivation.[34] Some management writers accepted the contention that the difference in the two findings was due to the difference in the nature of the work involved.[35] However, it was possibly more due to the differences in the educational and intellectual level of clerical workers and manual workers.

The two studies were followed by an extensive investigation conducted in the plant of a company manufacturing heavy equipment. Analysis of the data indicated that the findings of the earlier investigations concerning the relationship between quality of supervision and productivity had been confirmed. The conclusion that may be drawn from the three studies of productivity, is that supervisors with the better production records are persons who show in a variety of ways that the individual is important to them, that they understand and

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34. Ibid. Page 34.

35. Whyte, William F., Men At Work. Richard D. Irwin, Inc. Homewood, 1961.

appreciate him. In brief, the high producing supervisors offer an ego-enhancing relationship. One of the big problems with both these studies was that they did not measure the power variable. In a later study by Donald Pelz it was found that worker satisfaction with their supervisor was geared to the demonstrated power of the supervisor to get things done for his employees.[36]

In yet another study the Michigan group selected four approximately "matched" clerical divisions of a large corporation all of which were doing the same general types of work.[37] Two of the divisions were placed under tightly controlled production-centered supervisors with strict instructions to push hard for maximum efficiency while the other two were placed under a more democratic system in which workers actually participated in much of their own supervision. After one year the production-centered divisions recorded a 25 percent increase in productivity compared to 20 percent achieved by the employee-centered divisions. This led to a contention that under certain conditions a hard-hearted approach is at least as effective as the more sophisticated democratic approach. The Michigan researchers conceded this point for short-range productivity. Assessment of attitudes before and after the experiments showed that in production-centered groups loyalty, interest and involvement decreased while in the employee-centered groups there was actually an increase. The research group believed that the employee-centered groups had come out of the experiment in a healthier condition and better-equipped for long-term maintenance of productivity gains.

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36. Pelz, Donald C. "Influence: A Key to Effective Leadership in the First-Line supervisor". Personnel, (American Management Association) 1952, Volume 29, Pages 209-217.

37. Likert, Rensis, Measuring organisational Performance, Harvard Business Review, March-April, 1958, Pages 41-50.

In the recent experimental study of the Michigan group at Banner plant, attempt was made to test the hypothesis that an organisation is likely to achieve its purposes better :

(a) If there is an emphasis on the work group, rather than exclusively on the individual.

(b) If there is a high rate of interaction and mutual influence among the work group members.

(c) If there is a high degree of participation in decision-making and control of activities in the lower echelons of the organisation and workers.

(d) If supervisors provide to subordinates a high degree of supportiveness.[38] It was found that productivity as reflected in machine efficiency records improved more in the experimental departments than in the control departments although it was not proven that this differential was caused by changes in the experimental variables. Absence rates increased during the period, but the increase was greater in the control than in the experimental departments.

Support for the findings of the Michigan Studies has come from several other sources as well. The study of the garment making workers in Harwood manufacturing plant is a case on point.[39] An experiment was devised to examine the effect of group participation in setting production goals upon overcoming resistance to change and arousing attitudes and motivations conducive to meeting production standards. Four groups were selected for study similar in terms of

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38. Seashore, S.E.and D.G. Bowers, changing the structure and Functioning of an organisation, Survey Research Center, University of Michigan, 1963.

39. Coch, Lester and J.R.P. French Jr. "Resistance to Change". See Human Relations (Tavistock Publication), 1948 Vol. 1, No.4, Pages 512-532.

efficiency ratings prior to change. One group constituted control group, the usual factory routine was followed in making job changes, the production department modified the job and a new piece rate was set. A group meeting was held in which the control group was told that the change was necessary because of competitive conditions, and that a new piece rate had been set. The new rate was explained by the time study men.

Democratic participation methods were introduced in making changes in the three experimental groups. Provisions were made for the groups to participate in planning the details of the changes.

The result of the experiment was that production of the control group dropped immediately after the job changes were made and training completed. This group showed practically no efficiency by the end of the experimental period. There was marked aggression against management, quits increased and grievance rates filed up. As compared to this, the experimental groups achieved marked improvement of efficiency. There was no quit, no grievance and no aggression.

The investigation conducted by the Life Insurance Agency Management Association also furnished evidence to substantiate the positive relationship between employee-centered orientation of supervisors and productivity of their units. It was found that quality of supervision was related to the productivity of an insurance agent and that productivity and success of an agency was related to some of the employee-oriented practices of the supervisor.[40]

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40. LIAMA, A study of Agent Performance in the Life and Casualty co of Tennessee. Unpublished report 1954, reported by Herzberg et al in Job Attitudes: Research and opinion. op. cit. Page 178-9.

Yet another study to support the Michigan studies is furnished by Nagle. He investigated the inter-relationships among employee attitudes and opinions. He found that the more favourable the employee's attitudes toward his supervisor, the greater was his productivity. Nagle also found that the more sensitive the supervisor was to the employees' opinions, the more favourable was the employees' attitude toward the supervisor and the greater was the employees' effectiveness.[41]

Another study showing positive relation between supervisory behaviour and employee effectiveness in a socio-economic environment quite different from that in the U.S.A. is reported by Rice. The Ahmedabad experiments conducted under the auspices of the Tavistock research group in an Indian textile mill involved broad cultural, technological and organisational changes. Work was redesigned through extensive discussion and consultation among the managers, consultants and workers. The re-designing was done in such a way as to facilitate team work and social interaction. This led to increase in morale and productivity.[42]

Rensis Likert, the foremost interpreter of Michigan studies and the head of the Institute of Social Research, University of Michigan has offered a new theory of organization on the basis of the findings on employee-oriented supervision and productivity. The central concept of the modified theory is that management will make full use of the potential capabilities of its human resources only when each person in an organisation is a member of a well-knit and effectively functioning working group with high interaction skills and performance goals and the manager is dealing with the group in a supportive rather than in a threatening manner.[43] In his theory the individual is viewed as having fundamental purposes,

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41. Nagle, B.F., Productivity, Employee attitude and supervisor sensitivity. Personnel Psychology, 1954, 7, 219-233.

42. Rice, A.K. Productivity and Social organisation: The Ahmedabad Experiment, London. Tavistock Publications, 1958. Pages 5-47 and 157-160

43. Likert, Rensis, "Measuring Organisational Performance", Harvard Business Review, Vol. 36, 1958, P. 41-50.

resources and the like and the task of management is viewed as one of finding ways and means to maximise the valid congruence between individual motivations and organisational requirements. This congruence allows the individual to give voluntarily his best energies to accomplishing the organisational goals. In a similar vein Argyris[44] and Mcgregor have argued for the integration of the personal and the organisational goals. In order to achieve this integration and hence to raise organisational effectiveness, Mcgregor suggested that management should develop practices built on a more valid set of assumptions about man.[45] This is necessary to build up a "reservoir of confidence" in management which is viewed as a condition precedent for long-range growth of productivity and organisational effectiveness. It is maintained that installation of incentive plan or any other production change will be effective to the extent of worker's confidence in management.[46] This was clearly demonstrated in the Hawthorne experiments. For instance, the response of the employees in the Relay Assembly room was attributed in part to changed attitude toward management. The changed attitude was due to (a) encouragement given to the workers to express their attitude toward the changes to be introduced and (b) to the fact that supervisors took those expressions of attitudes into account.[47] Reduction of apprehension of the employees about management was viewed as a significant factor

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44. Argyris, C. Integrating the Individual and the Organisation, New York, Wiley & Sons, 1964. Pages 298-314.

45. These valid assumptions have been described by Mcgregor in terms of Theory 'Y'. Theory Y assumes that (a) average human being does not dislike work, (b) average man exercises self-direction and self-control in the service of objectives to which he is committed, (c) average human being learns, under proper conditions, not only to accept but to seek responsibility. See Douglas Mcgregore, The Human side of the Enterprise. op. cit. Page 46-57.

46. Smith, E.D., Technology and Labor, New Haven, Yale University Press, 1939, Pages 137-39.

47. Roethlisberger and Dickson. op. cit. Pages 48-49.

in output increase in the Relay Assembly room while the non-increase in output in the Bank Wiring room was attributed to the apprehension of rate decrease or lay off if production went up very high.[48]

The importance of confidence in the management was also shown in the study of group cohesiveness by Seashore. He found that high cohesiveness was associated with high productivity if the group members had high confidence in the management and with low productivity if the group members had low confidence in the management.[49] Apparently, employee-centered supervision places greater emphasis on the on-the-job rewards compared to off-the-job rewards such as pay and fringe benefits which yield satisfaction to the employees only when they leave the job.[50]

The new concept of employee-oriented supervision has worked well in the U.S.A. Likert feels that the theory of employee-centered approach will prove to be applicable in other countries and cultures including the underdeveloped countries of Asia. In support of his contention Likert has drawn on certain research findings on leadership and management carried out in Japan[51] and India.[52,53]

However, a few studies in the U.S.A. did not show significant relationship between employee-orientation of a supervisor and the productivity of his group and some management writers have argued that the production-centered methods can

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48. Ibid. Page 412, 532.

49. Seashore, S.F., Group Cohesiveness in the Industrial Work Group. Institute of Social Research, University of Michigan, 1954, Pages 97-102.

50. Mcgregor, Douglas. The Human side of Enterprise, Pages 39-42.

51. Abegglen, J.C. The Japanese Factory system. Glencoe, Illinois Free Press, 1958.

52. Bose, S.K., A. Psychological approach to Productivity improvement quoted in New Patterns of Management by Likert. Pages 246-247.

53. Chowdhury, Kamala and A.K. Pal. Production Planning and organization morale: a case from India quoted by Likert. op. cit.

yield short-run productivity records that are at least as good as those produced by employee-centered methods.[54] Tannenbaum et al, in a study of supervisors in a Naval research laboratory report results similar to those of the Prudential study. They classified supervisors into 'permissive' and 'restrictive' groups. It was found that employees under permissive supervisors had high satisfaction and high morale compared to those under restrictive supervisors. But the study did not find any substantial difference between the two groups in productivity.[55] However, Herberg et-al, cautioned against drawing any conclusion to favour permissive or restrictive supervision from the finding of this study as no actual productivity data was calculated for comparison and since the task that the permissive group was performing was not considered of primary importance by management to the company's programme.[56] Bass reports high correlations between productivity, and favourable feelings for supervisors, but the relation was not considered significant. Bass concluded that while the more capable employee may do better under a more permissive type of supervision, the marginal employee may produce more under a restrictive type of supervision.[57] The premise that we get better results through well-liked supervisors has been questioned in another recent research work by Mullen.[58] Mullens' study covered three divisions of an American insurance company headed by three divisional managers whose managerial styles were characterised by Mullen as authoritarian, permissive and recessive.

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54. Gellerman. op. cit. Page 38.

55. Tannenbaum, Robert and Fred Massarik, Leadership and Organisation. Mcgraw-Hill Book Co. Inc., New York, 1961. Pages 334-345.

56. Hersberg et al : Job Attitudes, op. cit. Page 180.

57. Bass, Bernard M., Leadership, Psychology and organisational Behavior. Harper & Brothers, New York, 1960.

58. Mullen, James H. Personality and Productivity in Management. Columbia University Press, 1966.

The three managers used markedly different approaches to the leadership function but produced similar results. Mullen explained his finding by saying that 'employees are quite capable of accommodating themselves to radically different types of personalities.' In Mullen's opinion "within certain reasonable ranges of behavioral variability and under certain expectations we all regularly accommodate ourselves to individual differences of others."

However, certain limitations of Mullen's study must be noted. First, Mullen's measurement of productivity was not conclusive, being based on subjective judgement. Second, the man-boss relationship related to middle management rather than first-line supervision. Third, the situation in division C headed by 'authoritarian manager called for drastic action.

Pfiffner and his co-workers at the University of Southern California have conducted six studies in which they related organisational competence of the supervisors to measures of productivity and turnover. There was considerable evidence in the first two studies to support the Michigan groups' findings about employee-orientation of supervisors and productivity[59] but the relationship in the next four studies was not as significant as in the first two. The research team did not deny the importance of employee-orientation but asserted that such orientation is not enough to produce a work group that functions maximally.[60] Victor Vroom has criticised all studies which tried to show that democratic employee-centered styles of supervision are answers to the problems of morale and productivity. According to Vroom, what these studies reveal is simply the average effects of participation on a large group; over-all productivity improvements

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59. Comrey, A.L., et al, Factors Influencing Organisational Effectiveness. Personnel Psychology, 1952, 5, 307-328 and 1953, 6, 65-79.

60. Pfiffner, J.M., The Effective Supervisor: an organisation Research Study, Personnel, 1955, 31, 530-540.

being largely due to the favourable response of a part or some of the group.[61] Vroom had evidence that the effects of supervision may depend to a considerable extent on the personality of the individual worker. Vrooms' premise is that if a man has strong qualities of independence and is not particularly awed by people who hold positions of authority, he prefers to have a say in the decisions effecting his work. Such a man will be more productive under a participative system than if he were simply told what to do. On the other hand, Vroom doubted that this could be true of men who are more comfortable in carrying out orders of a leader than in deciding what to do.

In the study of a trucking company Vroom and Mann found that the nature of the job being done influenced the workers' preference for the type of supervision. Package handlers whose work was highly inter-dependent showed a preference for employee-centered supervision; truck drivers and dispatchers whose work was highly individual and independent preferred a more production-centered, authoritarian approach by dispatchers which maximised efficiency of communication.[62]

The view of Vroom seems to be widely shared. For instance, Haiman holds that democratic leadership can frustrate and make an automatically-oriented group unhappy as readily as autocracy can demoralise a democracy-oriented group.[63] According to Leavitt, both modern participative theory and the classical theory suffer from an implicit assumption that supervision ought to be a uniform rather than a differential process. Leavitt feels that a more differential view of

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61. Vroom, Victor H., Some Personality Determinants of the Effects of Participation, Prentice-Hall, 1960.

62. Vroom, Victor H. and F.C. Mann, Leader, authoritarianism and Employee attitudes, Personnel Psychology, 1960, 13, 125-140.

63. Haiman, F.S., Group Leadership and Democratic Action, Houghton Miffin C. Boston, 1951, Page 55.

management is necessary and useful. This view is shared by Alexander Mikalachki, who has very recently studied four work groups under the supervision of the same one man in the London (Canada) plant of Northern Electric Company. Mikalachki concluded that the effective supervision on the part of a work group supervisor demands an awareness of the social organisation or disorganisation of his work groups, augmented by a flexible supervisory style which allows him to respond to the group differences once he is aware of them.[64] In effect what Mikalachki is saying is that there is no one way of stimulating all men to work and use their talents to the best advantage.

In a similar vein, Schein has argued that a successful manager must be a good diagnostician. If the motives and abilities of his people are variable, he must have the sensitivity and diagnostic ability to sense and appreciate the differences and treat the subordinates differently.[65]

Basic requirements of Employee-oriented supervision.

A review of literature on employee-centered supervision seems to indicate that the following conditions are required for the success of employee-oriented philosophy of management.

1. Employee-orientation must permeate the entire organisation from top to bottom. One cannot expect employee orientation to be successfully practised by front-line supervisors alone. People at the middle and upper layers of management must also accept such orientation in dealing with their subordinates. According

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64. Mikalachki, A., Group Cohesiveness Reconsidered: A study of Blue Collar Work group unpublished Doctoral Dissertation. U.W.O. 1964, Page 208.

65. Schein, Organisational Psychology. op. cit. Page 61.

to McMurry, people at the top of business corporations are autocratically structured and this is a major impediment to the practice of employee-orientation at lower level.[66] Fleshman's study indicates that foremans' supervisory style is largely the result of the supervision he received from his own boss. The foreman who operated under a superior who was "considerate" toward him tended to express more 'considerate' attitudes toward his own subordinates. His work group also described him as behaving more "considerately." [67]

2. The second requirement of employee-oriented supervision is intellectual and emotional maturity of the work group. According to Haiman, there is no real democracy, nor can there be any democratic leadership when there are members of the group who cannot read or write, who cannot think for themselves, or who having thought cannot give adequate expression to their ideas.[68] In cases of difference of ability of an extreme nature, attempts to operate democratically are likely to degenerate into a sham and mockery of the democratic process. For these situations, Haiman suggests the authoritarian type of leadership. This means the subordinates must be capable of becoming psychologically involved in participational activities.

3. The third requirement of employee-centered supervision is the social conditioning of the people in a favourable climate. Such a climate prevails in societies where people are born, raised and schooled in a democratic atmosphere and thereby pass through a long process of conditioning to democratic process and so they expect to have something to say about actions and plans that affect

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66. McMurry, Robert N. "The Case for benevolent autocracy" Harvard Business Review, 1958, 36, 82-90.

67. Fleishman, Edwin, A., Leadership climate, Human Relations Training and Supervisory Behavior. Personnel Psychology. Vol. 6, 1955, Pages 205-22.

68. Haiman, op. cit. Page 60.

their way of life in industry. This is happening in societies like the U.S.A. where the democratic system instills in the majority a desire to go ahead and to improve their way of life.[69] There are fewer direct, unexplained orders in schools and homes.

4. The fourth requirement of employee-centered supervision is the abundance of job opportunities and absence of mass unemployment. Knicker-bocker feels that a supervisor is in a position to use directive methods to force people to produce more in situations when jobless persons are plentiful, jobs are scarce and jobs are the only means of survival.[70] In such a situation people want job security and stable employment to meet basic physical needs rather than the satisfaction of social and egoistic needs. Such a situation prevailed in the U.S.A. during the thirties[71] and is prevailing in India and Pakistan now.[72,73]

5. The fifth requirement of employee-centered supervision is a higher living standard and people looking for social and egoistic need satisfaction along with economic ones. It is argued that talk of psychological need satisfaction or promotion of mutual understanding between the workers and their supervisor becomes fruitless if the income of the people does not provide for physiological

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69. Heckman, I.L. and S.G. Huneryager. Human Relations in Management, South-Western Publishing Co., Cincinnati, Ohio, 1962, Page 13.

70. Knickerbocker, Irving. "Leadership: A conception and some Implications" in Human Relations in Management (eds) Heckman and Huneryager, op. cit. Page 77.

71. Hersay, R.B., Psychology of Workers. Personnel Journal. Vol.XIV, 1936, Pages 291-296.

72. Singh, Paras and Robert J. Wherry (sr) Ranking of Job Factors by Factory Workers in India. Personnel Psychology Vol. 16, No.1, 1963.

73. Habibullah, M., Pattern of Agricultural Unemployment: A case study of an East Pakistan Village, Bureau of Economic Research, Dacca University, 1962 Vide the Pie chart after the index.

needs of the worker and his family.[74] This is the situation in Pakistan today.[75,76]

6. The sixth requirement of employee-oriented supervision is strong unionism. American workers can demand higher need satisfaction because of a tight labour market and strong unionism.[77] Workers can resist authoritarian treatment only when they are organised.[78] None of these conditions hold good for underdeveloped countries like Pakistan in view of mass unemployment, both overt and disguised and the lack of adequate unionisation on the part of the workers.[79,80]

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74. Cleton, Glen M., "The Human Factor in Industry" in Human Relations in Management (eds) Heckman and Huneryager. op. cit. Page 23.

75. Habibullah, M., Pattern of Urban Savings, Bureau of Economic Research, Dacca University, 1964. Pages 54-55.

76. Husain, A.F.A. and A. Farouk, Social Integration of Industrial Workers in Khulna, Bureau of Economic Research, Dacca University, 1964. Pages 81-82.

77. Haire, Mason, Psychology in Management, Mcgraw Hill, 1964 edition, Page 5.

78. Straus, George and Leonard R. Sayles: Personnel: The Human Problem of Management, Prentice-Hall, 1960, P. 107.
This requirement may or may not be realistic in an underdeveloped economy since strong unionism may be occasioned by a worker-oriented socialism. My research guide Professor Sproule of the Business School, University of Western Ontario feels this way.

79. Habibullah, Pattern of Agricultural Unemployment, op. cit.

80. Government of East Pakistan, East Pakistan Labour Journal, appendix of all issues gives the information about extent of unionisation.

CHAPTER - IV

ORGANISATION AND METHODOLOGY

It has already been mentioned that the scope of the present study was limited to the jute industry of Pakistan. Initially it was recognised that conditions determining supervisory behaviour and managerial skills differ widely from industry to industry depending on the technology of the particular industry, the nature of its products and the character of its competition. Therefore, any study of supervisory and managerial practices in a given country should cover at least the major industries to be fully representative of its economy. However, in taking a sample for investigation covering all the major industries one would be faced with numerous organisational problems especially in a country like Pakistan with two far-flung wings. Quite naturally we wanted to take an industry sufficiently large in which one could reasonably expect to find the practice of supervisory and managerial patterns typical for modern industrial plants. The following criteria were used in selecting the industry for investigation :

1. The industry should be able to give us a picture of a good segment of the modern section of the country's economy.

2. The industry should be one that fits into modern science and technology which an underdeveloped country like Pakistan adopts as a means of quickening the pace of industrialisation and social change.

3. The industry should be one using modern technology requiring high level supervisory skills.

4. The industry should be one which is vitally important in the nation's economy and in whose growth and expansion the Government and the people are vitally interested.

5. The industry should be one which is exposed to competitive forces in the export market (rather than one catering to sheltered home market) and therefore, feels the necessity of harnessing men and materials in the most efficient manner in terms of productivity.

6. The industry should be one that is largely concentrated in one wing of Pakistan such that there is sufficient homogeneity of the manpower resources employed in terms of language, cultural background etc.

The jute industry satisfied all these criteria. It is the most important industry of Pakistan. It processes raw jute, the "golden fibre" of Pakistan, which is regarded as the pivot around which the economy revolves. Jute is the major foreign exchange earner for Pakistan. More than half of Pakistan's foreign exchange earnings from exports of manufactures is contributed by jute products.[1] During 1949-50 to 1964-65 total export earning of Pakistan was Rs.1454.73 crores of which jute and jute goods contributed 53.25 percent.

Jute is altogether a new industry in Pakistan. All the 105 jute mills of undivided India fell to the share of India.[2] The growth of jute industry in Pakistan is, therefore, a post-partition phenomenon. The first jute mill in Pakistan was started in 1951. However, Pakistani Jute mills are equipped with the latest designed plant and equipment. The size of individual jute mills in Pakistan is relatively large. Pakistan is credited with the biggest jute mill of the world.

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1. Government of Pakistan, The Second Five Year Plan, 1960-65, Page 239.

2. World distribution of jute industry (1955) (in percentage): India 53.0, U.K. 8.2, France 6.4, Germany (East & West) 3.7, Brazil 2.7, Belgium 3.7, Italy 3.7, U.S.A. 3.0, Czechoslovakia 1.4, Poland 1.2, U.S.S.R. 1.0, Pakistan 4.9, Japan 0.7, Spain 3.0, China 1.0, others 2.4. See Ahmed, Rakibuddin, The Progress of the Jute Industry And Trade (1855-1966). Pakistan Central Jute Committee, Dacca, 1966. P. 150.

The jute industry is essentially an export industry; the major proportion of the industry's annual output is exported to overseas markets. In these markets Pakistan has to compete with India and several European countries. The Indian jute industry is very well-organised and better-managed.[3] In terms of organisational efficiency, jute is India's number one industry. Inspite of the most modern plant and equipment, the best quality domestic source of raw material and abundant cheap labour supply, the Pakistani jute industry suffers from high cost of production and low productivity.[4] Output per man per hour is low. Labour productivity in the jute industry is, in fact, the lowest among the major industries in the country.[5]

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3. The Indian Jute industry owes its superior managerial practices to European participation. Till World War I, the Indian Jute Industry was wholly managed by the Europeans.

   Vide, Report of the Indian Industrial Commission 1916-1918. Government of India, New Delhi, Page 15. See also Tulsi Ram Sharma, Location of Industries in India, Hind Kitabs Ltd., Bombay 1946.

   "In initial growth, the jute mills of Calcutta were dependent on Dundee for Labour. The early assistants from Europe who came to Calcutta from Dundee were required not only to undertake the modern white-collar job of directing or supervising but had also to do a great deal of manual work as tinsmiths, blacksmiths, carpenters and turners. These hardy pioneers also taught the Indian workers and artisans spinning and weaving and the fitting and repairing of the machinery. (Page 75).

   It is, therefore, no wonder that the jute industry in India is extremely well organised. See Vera Anstey, Economic Development of India, Longman's Green & Co., London, 1955. Page 280.

4. Government of Pakistan, Report of the Jute Commission, 1960, Page 143.

5. A survey of Cotton Textile Industry of Pakistan. Industrial Development Bank of Pakistan Publication, 1965, Page 29. Labour Productivity per production worker (in Rs.) Cotton 7142, Sugar 18615, Jute 5720, Paper and Board 20,209, Fertiliser 11035, Cement 26,817.

The jute industry of the world is faced with a buyers' market. Besides, it is confronted with threats of substitutes and the challenge of substitutes in viewed as real.[6]

The Government of Pakistan is vitally interested in the planned growth of the jute industry in Pakistan.

In view of these considerations, any micro-economic study of the supervisory practices in the jute industry was considered very useful.

Size of sample and method of selection:

In the initial stage a list of all the jute mills in Pakistan was prepared. It appeared that there were a total of 22 jute mills in operation as of December 1964. Of these 22 jute mills, 5 went into trial production during 1964 and another 3 in 1963 while the remaining 14 jute mills were completed in between 1951 and 1959. It was felt that the mills which have just gone into production were passing through initial "teething" troubles typical of any industrial plant and might not have developed any definite supervisory pattern. Some previous studies in the less developed countries indicated the evidence of a long gestation period in generating supervisory and managerial resources in the developing economies.[7]

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6. Jute products are widely used throughout the world predominantly in the form of bags and sacks for packaging and also as bailing and wrapping materials. The extent to which a country uses different types of jute products is mainly conditioned by such factors as volume and nature of its agricultural output. During the last few decades a displacement of jute bags and sacks by modern methods of bulk handling and consumer packing is being noticed.

7. Kerr, Clark, et al, Industrialism and Industrial Man. Oxford University Press, New York, 1963, Page 138.

We, therefore, decided to limit our population of jute mills to the 14 mills which had a minimum of 5 years production experience. However, the 8 jute mills that we excluded from our list were relatively small in size and constituted only 18 percent of the total installed capacity in the country. Apparently, we had 14 mills in our population which represented 82 percent of the total. In view of the limited resources and time at our disposal, we could not investigate all the 14 jute mills of our population. We decided to select a few on a random basis for our enquiry. With that end in view, we arranged these 14 jute mills in the order of dates by which they started production and selected three mills at random.

This gave us a fairly good coverage from the standpoint of geographical distribution of the jute mills as well as ownership pattern and mill size. One of the jute mills is connected with the biggest firm which owns and operates three jute mills and one which started production first of all, while the second mill was managed by East Pakistan Industrial Development Corporation, a semi-governmental agency. This mill was under the management of a British firm for 5 years since its inception. The third mill was managed by a family belonging to the Marwari Community which is one of the leading business communities of the Indo-Pak sub-continent. These three mills that comprised our samples had a capacity of 2200 looms representing 24 percent of the total loomage included in our population.

Getting the study underway:

Conceptual framework for the study was developed in the early part of 1965 by the author with the help of his professors at the School of Business Administration, University of Western Ontario, London (Canada). The questionnaires were also framed there. On his return to Pakistan in May 1966, the questionnaires were subjected to test for reliability through a pilot study in a separate jute mill not included in the sample. The reliability was tested by using the technique

employed in the study of "Authoritarian Personality" as demonstrated in Hymans' book.[8] The pilot study involved interview of 6 supervisors and 12 production workers.

After the revision of the questionnaires on the basis of the findings of the pilot study, the author approached the East Pakistan Industrial Development Corporation for a letter of introduction to the management of the jute mills, stating that the study was an academic exercise but was likely to be helpful for growing managerial and supervisory knowledge and hence requesting the mill management to extend co-operation to the researcher.

Besides, the study was sponsored under the auspices of the Department of Commerce, Dacca University, which has already earned some reputation with the business Community in view of several previous projects undertaken by its faculty members. The Head of the Department asked the management of the jute mills to co-operate with the author who was mentioned as project director of this study. This was considered useful for rapport building. Some previous studies in which the author participated showed that such rapport building steps pay off handsomely in overcoming the resistance offered by industrialists and businessmen to research investigations.[9,10,11]

In the next stage, the author contacted the management of the selected jute mills. He saw the General Manager, Mill Manager, Personnel Officer and

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8. Hyman, Herbert, Survey Design and Analysis. Free Press. Publishers, Glenco III. Page 183-190. Out of a total of 49 questions as many as 13 were dropped.

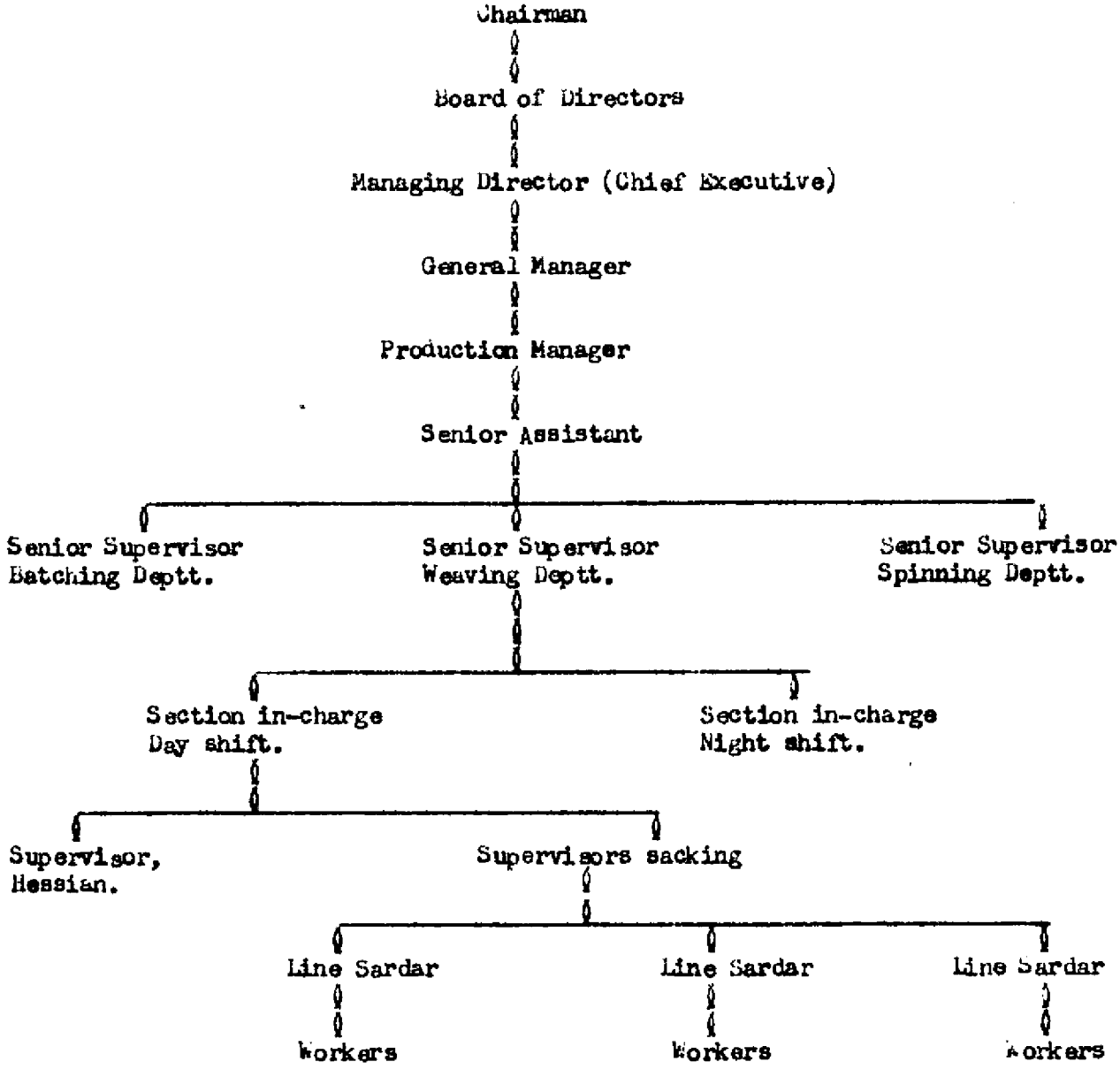
9. Papanek, Gustav F. "Government and Private Enterprise in Pakistan". This was a Harvard University sponsored project. (The book is yet to be published) for summary see American Economic Review. May 1962, Pages 46-58.

10. Habibullah, M. The Tea Industry of Pakistan. Bureau of Economic Research, Dacca University, 1964.

11. For details see M. Habibullah, "Problems of Socio-Economic Research" in Sociology and Social Research in Pakistan, (ed) Md. Afsaruddin, Pakistan Sociological Association, 1964. Pages 41-49.

departmental heads of each jute mill and explained the purpose of the study. Thereafter he met the "Supervisors" who were to be interviewed. A supervisor for the purpose of this study was taken to be one who acted as full-time supervisor of the work group.

THE FIRST-LINE SUPERVISOR : The position of a supervisor in the organisational hierarchy will be clear if one looks into the organisation chart of a typical jute mill in East Pakistan. This is indicated below (part only).



It will appear from the chart that the head of the department of each production process in a jute mill is called "Senior Supervisor". In some mills he may be called "Overseer" as well. This man is assisted directly by two section in-charges. In some cases, the day shift-in-charge works as overseer charged with the responsibility for the department. The senior supervisor and the shift-in-charges do not have any office as such except a chair and a table in the open space inside the factory building. They are really walking supervisors in that they are almost always on their feet. The same is true for the supervisors. The supervisors are in the lowest end of the managerial ladder. They represent management to the workers.

In the jute industry there is another category of supervisory people standing in between the "Supervisors" and the workers. They are known as "line sardars." The looms or frames in jute manufacturing are arranged in parallel lines. Workers are grouped on the basis of such lines for supervision purposes. The best one among the work group is placed in charge of each such line. Such a worker is called "Line Sardar". A sardar is a "Worker" but he does not have any weaving loom or spinning frame to attend to for himself. His job is to move in the line helping other workers and supervising their activities. The functions of a line sardar are in fact varied. In some departments he is partly a supervisor and partly a technical expert. For instance, in the weaving department of the jute mills, a line sardar is to tune the looms, adjust the machines and get production from the workers. In some mills, he may devote more time to supervisory work, while maintenance people attend to mechanical troubles of machines.

It is the considered opinion of management people in different levels that the line sardar's ability for adjusting looms and for handling people is a vital factor in the smooth and continued operations of the looms. This is also the feeling of the majority of the workers interviewed by us. This is because the

supervisors and assistant supervisors, as will be indicated subsequently, are men of higher education and higher social background than the worker's and line sardars under their control. These people, particularly those who did not undergo regular apprentice system, do not have adequate practical knowledge about the working of weaving looms or frames for spinning. Their practical insight into the technicalities of loom tuning is not significant. Hence they rely on line sardars for these technical functions in which the line sardars are considered more knowledgeable than the supervisors. These supervisors have all along been white collar people while loom tuning and machine handling is considered the job of blue collar people. As a result supervisors confine their supervisory function to giving instructions or orders to the line sardars to do the job of tuning the looms or adjusting the machines. They do not talk much directly to the workers regarding output. They often do not check the work of individual workers. The task of checking the quantity and quality of individual worker's production is left largely to the line sardars.

It seems that the role of the supervisory people, of the white collar class, is largely in the form of control or 'policing' while the role of the blue collar "formally unrecognised supervisor", the line sardar, is in the form of actual "help" to the workers, whether such help is in the form of advice about handling of machines, reducing breakage of yarn and correcting machine stoppage. It is also the line sardars who are to make physical check of output.

This is what one might expect under the arrangement of incentives. The supervisory people are paid monthly salaries. Management appraises these people on the basis of their attendance and "application to duty", i.e. how hard they appear to move in the lines. This is a "notional" subjective judgement.

There is no objective measurement of each individual supervisors' contributions or results achieved by them. Possibly a system of appraising supervisors by their performance and rewarding according to their results determined in an objective manner would have made them more enthusiastic about active interest in loom tuning and the quality and the quantity of actual output in their lines. At the moment their enthusiasm reflects in the form of pressure on the line sardars when they themselves are pressed by the production manager and general manager who become worried when production volume falls unduly low.

The picture is, however, different in the case of sardars. This is because the sardars have a direct interest in the quantity and quality of production. Workers in weaving are paid on the basis of piece rates. These piece rates have been determined by a technical sub-committee of the Pakistan Jute Mills Association considering the time taken to produce each variety of cloth, hessian or sacking.* The rates have been so fixed that a worker's output volume may be different from that of another worker in terms of units produced but he will receive the same amount of wages if he works with the same degree of effort and efficiency.

The workers understand the implication of piece rate as against the time rate i.e. the more they work, the greater will be their wage bill. Each line sardar who has a certain number of workers under him is paid 1.5 times the average earning of the workers under him. He knows that his earning is directly linked with the production volume of his particular line. Therefore, he has direct interest in greater output from his line.

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* Two major varieties of jute manufactures. Sacking is used to make gunny bags used for packing rice, wheat, oil seeds etc. in war-times it was used as sand bags. Hessian is used to make gunny cloth used for baling cotton, wool, and other fibres. Other jute products include carpets and rugs cordage, substitute for hemp in the manufacture of tent cloth, tarpaulins, wagon covers, ground sheets and water buckets.

The case of direct interest on the part of the line sardar is also true for departments like spinning where time rate system of wage payment is in practice. The line sardar gets twice the average wage of all the workers in his line. Some companies also offer "Efficiency Bonus". In addition to the financial incentive, a line sardar has the negative incentive of losing his "headship" if he fails to get production from his people. Apparently there is no distinctly identifiable person to be called first-line supervisor as in the west particularly in the U.S.A. In view of these considerations, it was decided to take both the categories of supervisory people, namely, "supervisors" and "line sardars" for investigation purposes in this study. A particular worker is under constant vigilance of each one of them. Although supervisors do not prefer to talk direct to the workers, their constant presence on the shop floor has influence on the activity and attention of the workers.

Evidently the line sardar is the intermediary between the workers and the junior most supervisors. Management writers recognise him (the line sardar) as the first line supervisor.[12] The sardar used to be called 'jobber'. He stands on the same footing as the "maistry" of the maintenance department. As mentioned in the note in the appendix, originally sardars were recruiters of labour for the mills with considerable power to hire and fire and many opportunities for petty graft and favouritism.[13]

The practice of recruitment through sardars resulted in abuses. In 1931 the Royal Commission in India stressed these abuses. The commission referred particularly to the job security of the workers which depended on the sardars

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12. Myers, Charles A., Industrial Relations in India. Asia Publishing House, Bombay, 1960, Page 181.

13. Ibid.

and also to the sardar's use of power to profit financially.[14] By 1946 when labour Investigation Committee reported, the situation had changed materially.[15] Apparently, to day's line sardar is different from the old sardar or the jobber. Today his powers have been curtailed due to growth of labour officers for recruitment purposes and the development of new intermediate levels of supervision. According to Myers, the position of a sardar is now anomalous.[16] He cannot advance to the next higher level of management. Line sardars interviewed by us never heard of any sardar having been promoted to supervisory positions. Management experts feel that the sardar (or the jobber) is the weakest link in the textile industries of India, both cotton and jute.[17,18] This is also true for Pakistan as we shall see subsequently.

Some workers consider the sardar as a stooge of management. His position is vulnerable since he lives among workers and goes to and from work along with them. He is paralysed by divided loyalties and ~~was~~ fake sympathy for the workers. He is now powerless - a mere spectator standing uncomfortably in the "no man's land" of the industrial struggle. Workers treat him as belonging to the camp of the employer whereas his acceptance in the opposite camp is limited and of a low order. One Pakistani industrialist has called him a rubber ball being squeezed from both sides and bulging at the sides.[19]

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14. Report, Government of India, New Delhi, 1933, Page 24.

15. Main Report, Government of India, New Delhi, 1946, Page 80.

16. Myers, Charles A. op. cit. Page 182.

17. Mehta, S.D. The Indian Cotton Textile Industry: An Economic Analysis, Bombay, 1954, Pages 70-71.

18. Myers, op. cit. Page 182.

19. Saigol, Mian Rafique, "Men in Industry". Saigol Chemical Complex Supplement. Pakistan Observer, Dacca, February 18, 1967, Page 11.

Management people treat sardars just as they treat workers. For example, in all the jute mills, sardars were found to use the workers canteen and not the staff canteen. Managements' treatment of them makes them identify themselves with the workers rather than with the supervisory staff. This, in addition to other handicaps they have, has made it difficult for them to become efficient supervisors and integrate them into the management team. Their lack of belonging has weakened the faith of management and added to the feelings of defiance in the workers. Anyway, a line sardars' own identification is with his workers. This is equivalent to the position of the shop boss in the Japanese industry who has almost complete identification with workers.[20]

Evidently, our acceptance of line sardars as first-line supervisors for this study was reasonable although the line sardar is equivalent to European walking foremen - no more than charge hands with little real managerial responsibility.[21] Of course, all first-line supervisors are not integrated as supervisory staff even in a fully matured economy like the one in the U.S.A.[22] The line sardar, to use Peter Drucker's language, is a non-commissioned officer in a service where commissioned officers are college and High School graduates.[23]

The insecure and vulnerable position of the line sardar described in the foregoing lines made our problem of establishing rapport with him somewhat difficult. But such a position is not unique for the line sardar alone. The supervisory and lower level managerial people are also worried about security.[24]

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20. Levine, Soloman B., Industrial Relations in Post-war, Japan, Urbana, University of ILLINOIS Press 1958, Pages 36-56.

21. OEC : A Study of Post-War Growth in Management, 1956, Page 25.

22. Hepner, Harry W., Perspective Management and Supervision, Prentice-Hall, 1961, Page 227.

23. Drucker Peter. P. The Concept of the Corporation, John Day Company, New York, 1946, Page 163.

24. Report of the I.L.O. Productivity Mission. op. cit.

AREA OF INVESTIGATION : It is necessary to mention here that this study is about production supervisors and production workers only. This is because definite and accurate productivity measures are available for these people only. This is not true for areas like accounting, maintenance etc. Again all areas of the production functions could not be covered. It is well to remember that a jute goods manufacturing firm has two distinct units: Mill and Factory. The Mill division covers processes like jute "Selecting", "Batching", "Preparing" , and "Spinning"; while Factory division covers operations like "Winding", "Beaming", "Weaving", and "Finishing". Through all these operations, raw jute fibre is processed into yarn and then yarn is used to make cloth of different varieties. Note B in the appendix is a description of these processes:

The pilot study revealed that all jute mills do not keep a separate record of production for each work group. Discussion with the Pakistan Jute Mills Association revealed that weaving in all the jute mills of East Pakistan is done on the basis of a piece-rate fixed by its technical sub-committee while spinning work is done on the basis of time-rate. The pilot study tended to show piece-workers think that constant supervision is not needed for them as any kind of slackening or feather-bedding means lower production and hence lower income for them.* We, therefore, decided that our investigation should cover workers under both piece-rate and time-rate system of wage-payment.

We thought that we should cover the most problematic area in each division of the jute mill. In the Factory division, weaving is considered most problematic. The importance of weaving is unique in the jute industry. Most jute executives feel that weaving is the heart of the jute manufacturing processes. Therefore, in mill No. 1 and 3 weaving was taken as the area of investigation. The companies had records of output for weaving. Spinning, the major problematic

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* The observation of Alfred Brown seems significant in this connection. According to Brown, under the wage incentive systems the worker becomes a sub-contractor and the foreman abdicates the full managerial role. See Pugh et al, Writers on Organizations, Hatchinson Co., London, 1964, Page 33.

area in the mill side, could not be taken since the companies had no record for output on the basis of workers or work groups. However, spinning was the area of investigation in mill No. '2'. This company had a record of output for each line in the spinning department although in a crude form.

SIZE OF THE SAMPLE : In view of large-scale operation by jute mills, it was decided that in each of our sample mills, only six supervisory lines would be taken up for investigation so that we would have 18 work groups for our analysis. It was also decided that in each supervisory line one-third of the individual workers, subject to a minimum of six would be interviewed. We had accordingly 119 workers, 18 line sardars, 18 supervisors, and 6 section in-charges covering the three jute mills. The reason for keeping the sample size relatively small lay in the nature of the data collected. It was felt that workers and supervisors should be interviewed in their work environment. It was feared that interviews in their residence or factory dormitories would not generate the true feelings in hours of relaxation or in a family environment. Besides, tracing a few workers in a colony of several thousands would be a very time-consuming affair and complex too, but interviewing workers in the factory environment has its own problems. First, fullest co-operation of management is needed in the form of unrestricted entry into work places to contact the workers. Second, management must agree to allow interview work at its own time for time workers. Withdrawal of workers from the work of tending machines means stoppage of machine and that amounts to production loss to management directly. Third, fullest co-operation of workers and union leaders is called for in interviewing workers at their own time which is invariably the case for piece-rate workers. Stoppage of machine for an hour means direct wage loss to a piece-rate worker, in addition to its being a production loss to management. Evidently the cost of taking them off the line would be too high.

In view of these factors, it was decided to cause minimum dislocation of normal functioning of the factory. Since interview of each individual worker involved an amount of time of 45 to 60 minutes, it was felt that withdrawal of a very large number of workers from the machines, whether paid under time rate or piece rate, would lead to resistance. Hence the sample size for each supervisory line was limited to one-third of the workgroup size, subject to a minimum of six.* The actual selection of workers was done by the author himself using the random table.

Means of obtaining the data: The information collected in this study fell into two categories: (a) factual data, (b) attitudinal data. The former included figures relating to output of the units under investigation for the period covered by the study. Factual data also included workers' age, sex, wages, years of education, years of job experience, etc. The attitudinal information related to feelings and beliefs of the supervisors and their subordinates. For the collection of factual data the mill authorities were expected to co-operate by making available their records but no such records were forthcoming dealing with attitudinal information. To get this part of the data, the author considered the feasibility of using the following techniques :

(1) Questionnaire mailing

(2) Direct observation

(3) Direct face to face interview

(4) Questionnaire-cum-interview.

The technique of observation was felt to be impracticable in this particular case. There were neither funds nor facilities for long-range observation. It appeared that through observation only a small sample could be covered. Besides,

* Besides, the author intended to supplement the study with the information he collected about six jute mills in connection with another study sponsored by the Bureau of Economic Research, Dacca University.

it was apprehended that a long period of presence and contact of observers might exert a significant degree of "Hawthorne effect".[25]

The author then considered the use of patterned interview as used by the Michigan researchers in the study of the Prudential Insurance Company. It was felt that such a technique would be time-consuming as well as difficult for workers to conceptualise their thinking for the appropriate answers. This feeling was particularly due to the educational level of the workers under investigation. Many of them cannot read and write.

It seemed that the Likert-type 5-point scale would be more useful in this case. The simplicity of this scale was observed in the Banner study by Bower and Seashore.[26]

The author, therefore, decided to use the Likert scale, supplemented by observation. The decision was based on the following considerations:

(a) Such a scale permitted the use of items not manifestly related to attitudes being tested,

(b) It was easier to construct and use, for particular types of samples

(c) It permitted the expression of 5 degrees of agreement-disagreement and was considered more reliable than a patterned interview.

(d) The range of responses permitted to an item provided more precise information about the individuals' opinions on the issue referred to by the given item.

(e) It permitted easy, precise and less costly coding.

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25. "No manipulation of working conditions or incentives affected productivity as much as sheer exposure of the workgroup to observation". See, Herzberg et al, The Motivation To Work. op. cit. Page 19. This is a different interpretation of "Hawthorne effect". We have already mentioned the other interpretation of "Hawthorne effect" as given by Schien. See Page 14.

26. Bowers, D.C. and S.F. Seashore, Changing the Structure and Functioning of an Organisation, Survey Research Center, University of Michigan, 1963. The Banner study was of great help to the author in the construction of his indexes. He acknowledges his indebtedness to the authors of the study.

Framing questionnaires : In framing the questionnaires for this study, the author consulted most of the studies on employee-centered supervision and related areas. The relevant literature were available in the library of the Business School, University of Western Ontario. A few micro-filmed doctoral dissertations were also available from the Michigan Center through the help of the authors' "Research Course" supervisor at Western. The author gave particular emphasis on the Michigan studies in building his conceptual framework and questionnaires. The main items used in the construction of indexes for employee-orientation, production-orientation, supervisory philosophy, worker satisfaction etc. (after revision on reliability testing) were as follows :

1. Supervisors' Managerial Perception Index:

This index aimed to measure the perception of a supervisor about his role in the organisation and about his inner attitude toward his people. This was done by taking the value of the supervisors' answers to the following items on a 5-point scale.

(a) Workers are inherently lazy and try to avoid work if they can.

(b) As a supervisor, my only concern is to get the work done, not to bother about workers' feelings and sentiments.

(c) If workers work more and talk less, everybody would be better off.

(d) All workers want is bread and butter.

(e) Workers only do what they have to do, hence a supervisor should keep his people busy and give more work than they can usually do.

(f) The level of intelligence and sense of responsibility of workers here are so low that they cannot be relied upon to work on their own.

(g) One sure way to get high production from workers here is to watch these people closely and check everything in detail.

(h) The old proverb "spare the rod, spoil the child" is applicable to working people. One cannot get work done by them without strong discipline and iron rule.

There were 8 items in the measurement of "supervisors' managerial perception" index.[27] If the score for a supervisor was in the range of 24 to 40 he was rated to have an authoritarian supervisory style, but he was rated to have a non-authoritarian supervisory style (that is democratic) if his score was in the range of 0 to 16.

2. Supervisors' Employee-Orientation Index (as perceived by subordinates).

This index was constructed to measure the employee-centeredness of a supervisor as seen by the people working under him. The index was constructed by determining the mean value of the workers' answers to the following items on the 5-point scale.

(a) Our supervisor goes to bat for us.

(b) Our supervisor shows friendly and sincere interest in our welfare.

(c) Our supervisor hears our complaints and grievances sympathetically and tries to redress them as far as he can.

(d) We feel free to discuss our personal problems with our supervisor.

There were 4 items and a supervisor was rated to have high employee-centeredness if the score for his group was in the range of 12 to 20. He was rated to have low-employee-centeredness (not necessarily high production-centeredness) when the score for him was in the range of 0 to 8.

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27. Each item had 5-point agreement-disagreement scale.

3. Supervisors' Production-Orientation Index:

This index was constructed to measure the concern of a supervisor for production as it was perceived by the workers. This was done by taking the mean value of the workers' responses to the following items on the 5-point scale.

(a) Our supervisor always encourages us to produce more.

(b) Our supervisor is always ready to help us in our production problems.

(c) Our supervisor plans production and material flow so that there is no stoppage of work.

(d) Our supervisor spares no one if he slackens and neglects to do his quota.

(e) Our supervisor is very particular about bad quality.

A supervisor was rated as high production-oriented if the average score for him ranged between 15 to 25 and low production-oriented if the score for him was in the range of 0 to 10.

4. Supervisors' Influence Index:

This index was made to measure the influence of a particular supervisor in the organisation i.e. with his own boss and higher up. The construction was done by determining the mean value of workers' replies to the following questions on the 5-point scale.

(a) Our supervisor has considerable influence in the company.

(b) Our supervisor can help a worker if he likes because management seldom turns down his recommendations.

A supervisor was rated to have "high influence" if the score for him was in the range of 6 to 10 and "low influence" if his score was between 0 and 4.

5. Supervisors' Pressure Index:

This index was constructed to measure the degree of pressure exerted on the front-level supervisors from above. This construction was based on the value of a supervisors' response to the following items on the 5-point scale.

(a) Management of this company knows one thing, namely, higher production. Whenever I happen to meet my boss, he will invariably ask to know how production is going on.

(b) My boss wants me to supervise the workers closely to get more production.

(c) My boss thinks that I should go strictly according to his instructions, rather than applying my own way.

(d) My boss feels that people are inherently lazy and will avoid work if they can.

(e) I am always under pressure-all press me, my boss, Production Manager, General Manager, all.

There were five items and a Supervisor was rated to be under "high pressure" if his score was between 15 and 25 and under "low pressure" if his score was between 0 and 10.

6. Workgroups' Social Cohesiveness Index:

This index of worker's social cohesiveness was prepared to measure the degree of social interaction among the work group members on the job and off the job. This was done by taking the mean value of worker's responses to the following 4 items on the 5-point scale.

(a) People in our section are very friendly with each other.

(b) People in our section often meet socially outside the job.

(c) There is very little griping and backbiting in our section.

(d) People in our section often come forward to help if any one is in difficulty, financially or otherwise.

A group was rated to have high social cohesiveness if its score was between 12 and 20 and to have low social cohesiveness if its score was in the range of 0 and 8.

7. Work Groups' Task Cohesiveness Index:

This index was constructed to measure the degree of worker's involvement in turning out production. This was done by determining the mean value of worker's responses to the below mentioned 4 items on the 5-point scale.

(a) People in our section always compliment each other whenever one does a good job.

(b) There is a lot of mutual help in our section whenever one has a difficulty in his job (i.e. job related problems).

(c) Whenever a new worker comes in our section, old members try to help him in getting started.

(d) People in our section often encourage each other to think of better ways of getting the job done.

A group was rated to have high task cohesiveness if its average score was in the range of 12 to 20 and to have low task cohesiveness if its score was between 0 and 8.

8. Workers' Company Satisfaction Index:

This index was prepared with a view to measuring the degree of satisfaction the workers have with their company. This was determined by taking the mean value of workers' responses to the following item on a 5-point scale.

i. All in all, I feel that this jute mill is a very good place to work.

"A work group was rated to have high Company satisfaction" if its average score was between 3 and 5 and to have "low Company satisfaction" if its score was in the range of 0 and 2.

9. Company Pride Index:

This index was constructed for the purpose of measuring the degree of pride the workers have in their Company. This was done by taking the mean value of the workers' responses to the following item :

"I am really proud that I am working for a jute mill like this".

A workgroup whose average score ranged between 3 and 5 was rated to have high company pride while the workgroup obtaining average score between 0 and 2 was rated to have low company pride.

10. Workers' Pay Satisfaction Index:

This index aimed at measuring the satisfaction of the employees with their pay. The construction of the pay satisfaction index was done by finding the mean value of worker's answers to the following item on a 5-point scale.

Considering my skill and efforts, I am satisfied with my pay.

A workgroup was rated to have high pay satisfaction if its average score was between 3 and 5 and to have low pay satisfaction index if its score was in the range of 0 and 2.

11. Workers' Job Security Index:

The job security index was constructed for the purpose of measuring the feeling of security of the workers. This was done by finding the mean value of the workers' answers to the following 2 items in the 5 point scale:

(a) There are not too many dismissals or discharges in this section.

(b) I feel I can remain in my job as long as I like.

A group was considered to have high job security if its average score was 6 to 10 but low security in case its score ranged between 0 and 4.

12. Supervision Closeness Index:

The object of constructing this index was to measure the degree of closeness of supervision received by a work group from its supervisor. This was done by finding the mean value of workers' answers to the following 2 items on the 5-point scale.

(a) Our supervisor always keeps a watchful eye on the workers for fear that they might slacken or stop working.

(b) Our supervisor checks our work thoroughly to see if we have done work properly and carefully.

A group was rated to have received close supervision if its average score was between 6 and 10 and to have received general supervision if its score was in the range of 0 and 4.

13. Workers' Supervisory Style Expectation Index:

This index was constructed to determine the supervisory style preferred by the workers. This was constructed by taking the mean value of workers' responses to the following 2 items on the 5-point scale :

(a) In my opinion, a supervisor should be strong in disciplining people and enforcing company rules.

(b) A kind-hearted, friendly supervisor who mixes with his people often fails to make the quota.

A work group was rated to have preferred authoritarian directive supervision if its average score for questions c to e was between 6 and 10 and democratic supervision if its score was in the range of 0 and 4.

14. Workers' Supervisory Closeness Expectation Index:

This index was prepared for the purpose of measuring the attitude of the workers on general versus close supervision. This was done by taking the mean value of the workers responses to the following items:

(a) Many people in our section slacken or loiter when the supervisor is absent.

(b) In my view a supervisor should keep a watchful eye as to what is going on.

(c) Many people here are likely to commit mistakes if they are given freedom to work in their own way.

A group was rated to have preferred "close supervision" if its average score was between 9 and 15 and "general supervision" if its score was in the range of 0 and 6.

15. Workers' General Expectations Index:

This index was constructed to measure the over all picture of what a worker wants to get from his job. This was done by taking mean ranking of the responses of the workers to the following items which they were asked to rank in order of their preferences.

(1) High pay

(2) Steady Work (Job security)

(3) Good and sympathetic boss

16. Supervisors' Expectations Index:

This index was expected to measure what a supervisor wants from his job. This was done by finding the mean ranking of the responses of the supervisors to the following items which they were asked to rank in order of their preferences:

(1) Adequate income

(2) Job security

(3) Chances for promotion

(4) Freedom and authority to deal with people in own way

(5) Sympathetic treatment from boss

(6) Information about Company Policies.

17. Workers' Economic Motivation Index:

This index was constructed to ascertain to what extent workers are economically motivated and are willing to work hard to increase their economic gain. There were two items in this index. These items were :

(a) I like to do overtime work.

(b) I like piece-rate more than time rate.

Any group whose average score was 6 to 10 was rated to have been highly motivated and any group whose score was between 0 and 4 was considered to have low economic motivation.

18. Machine Adjustment Index:

This was constructed to study the extent to which the workers were adjusted to machine operations. This was a one-item index. The item was :

(a) I can handle the machine I work with without any difficulty. I have no fear.

Any group whose average score was between 3 and 5 was treated as well adjusted and any group whose score was between 0 and 2 was assumed to have been maladjusted.

19. Productivity Index:

This was the last item to be done in the investigation process. After all the supervisors and workers covered by the study were interviewed, the author approached production departments for figures relating to output of the selected units and the man hours used to produce the said output as well as the standards of output expected from them. The collection of productivity figure was deferred to prevent contaminating effects on the part of the investigator as well as workers and supervisors involved.

Administering the questionnaires:

The author himself interviewed the respondents, with the help of the questionnaires as shown in appendix E_1 and E_2 . He put the questions to the samples and noted down their responses in the appropriate space provided in the questionnaires. There were several reasons for this :

(a) maintaining uniformity in putting the questions and explaining, if necessary.

(b) Preventing interviewers' bias

(c) Minimising costs

(d) Ensuring completeness of data

However, every effort was made to build proper rapport with the respondents. They were told that the study was an academic exercise and had nothing to do with their company management or any other external agency. They were assured of the confidential nature of their reports to the researcher. The author introduced himself as a teacher of the university and showed them copies of his four previous research publications as a means of convincing them that the study was an academic pursuit.

Tho pilot study revealed that workers view the role of the supervisors and line sardars as task-oriented who put management goals first and the employee needs second. Therefore, the co-operation of managerial and supervisory people was not considered adequate for "selling" the objective of the study to the workers. We, therefore, contacted the workers' informal leaders and union representatives for rapport building and co-operation.

Organisation of Field Work:

Investigation procedure in Mill No. I : The weaving department in mill No. I in which investigation was started first is under the control of a manager called Senior Supervisor. He is assisted by two shift-in-charges, one for the first shift and another for the second shift. The first shift is termed as "day shift" and the second as "night shift". The shift-in-charge for the first shift attends work continuously for 10 hours, namely, from 6 A.M. to 4 P.M. The shift-in-charge for the second shift also attends work continuously for 10 hours but in different hours of the day, namely, from 4 P.M. to 2 A.M. The working hours of the Supervisors and assistant supervisors are also the same, namely 10 hours continuously.[28] However, the duty of the shift-in-charges, supervisors and assistant supervisors is changed between the first shift and the second shift every two weeks. The duty schedules of workers and line sardars are different from those of supervisory people. Their duty is changed between shifts every four weeks. They also work for 10 hours a day or 60 hours a week, against the normal of 48 hours as provided in the Factories Act. They, of course, get double the rate for overtime. The interesting feature of 10 hour-days for workers and line sardars is that the 10 hours is not a continuous period. It is broken into

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28. Assistant supervisors are not under supervisors. They report direct to shift-in-charge. They are in-charge of definite lines in the same way as supervisors of each shift.

two periods of 5 hours each, with a break of 5 hours in between these two periods. Thus, the workers of the first shift work five hours between 6 A.M. and 11 A.M. and another five hours in the afternoon between 4 P.M. and 9 P.M. Workers in the second shift, in the same way, render 10 hours duty, 5 hours between 11 A.M. and 4 P.M. and another 5 hours between 9 P.M. and 2 A.M.

The result of this sort of arrangement is that every worker becomes subject to the control of each one of the shift-in-charges and two of the supervisors or assistant supervisors. Therefore, the production efforts of each worker and line sardar is influenced by the supervisory style of four people. Neither in hessian nor in sacking which are the two major operations in the weaving department, is the output of the individual worker measured at the end of his 5 hour period. A particular worker of the second shift starts with the unmeasured output of the particular worker of the first shift. The measurement is done for both the workers covering the two shifts. The total output at the end of 20 hour period of each day is, therefore, the combined efforts of two workers at the particular loom. Each one is credited with half of the total output. The reason for doing this sort of averaging is that the end product has to meet the specification of 90 or 100 yard's' cut as dictated by market preferences. A particular worker cannot reach that specific output within his shift-time.

Since each worker is subject to the influence of 4 members of the supervisory group and since there is no record of output for each shift period, it is not possible to isolate the influence of each one of the supervisors on the workers' productive efficiency. Therefore, we decided to obtain the data on production on the basis of work groups under each line sardar and the opinion of the workers about the style of supervision they received in a general way with reference to the persons involved in each case.

In this particular jute mill there are 550 hessian looms with 28 sardars for each shift and 325 sacking looms with 16 line sardars for each shift. We selected six of them at random after arranging them according to their number as recorded in Company books. Productivity levels of these six lines were then calculated. These lines employed a total of 67 workers, five lines having 11 each and one line having 12. As per our earlier decision to interview one-third of the workers under each supervisor subject to a minimum of 6 workers, we selected 6 workers from line sardars' area at random after listing these workers on the basis of their numbers. We had, therefore 36 workers in our sample.

Productivity measurement: Originally we thought of determining productivity by dividing the output by the labour input. In mill No.I we faced difficulty in applying this principle. This is because each line is used to produce a number of varieties of cloth of different quality and of different sizes. The yarn which is the material input is also of different varieties. Although the looms under investigation in this mill were installed at the same time and are of the same origin, their capacity is different. There are two types of looms, namely, broad looms and single looms. The labour requirements of these two types of looms are also different since different quality and different size of cloth require different time for production. Therefore, productivity in terms of output per unit of labour input was not considered comparable.

In the face of this difficulty we attempted to use the standard output estimates prepared by management. On the basis of experience, management has made estimates of what should be normal output for each type of cloth. These estimates were made by adjusting the International Standards according to the conditions of their own mill. The conditions which management considered in arriving at their expected efficiency levels included normal breakage of yarn, humidity, stoppage of machines due to mechanical troubles, experience of the workers and supervisory people in this new industry in Pakistan.

We obtained the standard and the actual output for eight weeks of May and June 1966. Eight week period was taken to cover the four week changes of worker's duty schedules between the first and the second shifts. We adjusted the actual output against contaminating factors which are considered to influence output. The major contaminating factors, according to management and workers, include inferior quality of yarn supplied, interruption in power supply, mechanical trouble of machines, etc. On enquiry it was found that there was no interruption in power supply during the months of May and June. However, even when there is an interruption in power supply, it affects all worker's alike. The same is roughly true for quality of raw material supplied. If the entire supply of yarn is of inferior quality due to low quality of jute purchased by the company, every weaver is affected almost alike. Inferior quality yarn due to manufacturing defect in spinning may affect a particular individual more than others but such supply is for a short while only, the maximum being for 2 to 3 days. Since we have taken a sample of 8 weeks, management felt that the disparity of effect on different workers would be negligible. The quality control department takes random samples of idle looms every day due to all possible causes. These causes include warp breakage, warm beam out, weft breakage, empty magazine, shuttle smash, selvedge breakage, mechanical trouble, tying on, bad born picking, torn check stral, camb leaf tying, quality changing, waiting shuttle, bad picker etc. Besides, the weaving department itself keeps records of loom stoppage exceeding one hour for which mechanics from the mechanical engineering department have to be called in. Removal or correction of all troubles except mechanical troubles is a responsibility of the line sardars.

We adjusted the standing idleness of machines for periods exceeding one hour. Therefore, the difference in the productivity level in different lines of the sardars after the above adjustment is assumed to reflect the experience,

ability, and willingness of workers, and the ability of the line sardars to adjust the machines and their capacity to handle their subordinate workers.

Therefore, the difference between the actual production and standard estimates as adjusted by us is a function of the efficiency and effort of a line sardar and his subordinates. This is the considered view of management.

Difference in loom tuning capacity among line sardars is possibly natural in the prevailing system. Line sardars are selected from among the badli (relieving) sardars. A badli sardar (also called daily sardar) is one who is put in charge of the line when the regular sardar is on leave. The badli sardar is usually the best among the workers of the particular line. But while selecting the line sardar the basis of consideration is the whole weaving department. Hence whenever a vacancy arises, normally the senior most among the badli sardars gets the chance for promotion.

The selection of line sardars is made through a Committee composed of the labour officer, senior Assistant to the mill and the section-in-charge. The selection decision is, however, subject to the formal approval of the Production manager. The committee considers the following factors in selecting line sardars:

(a) Seniority and length of service

(b) Efficiency

(c) Conduct i.e. behaviour with other workers, line sardars and supervisory people.

(d) Leadership quality i.e. capacity to handle a group of 10-12 weavers.

There is no arrangement for post-selection training of the sardars. Management assumes that he has already got the necessary training through work

as weaver and badli sardar. The interest of a sardar and his workers in greater output is, however, subject to the following disquieting factor. The productivity level for each worker in a line, as we mentioned elsewhere in this report, is in effect the average of two workers' efforts. In this mill, as stated already, a worker works ten hours in two breaks of five hour's' each, with a gap of five hours in between. When a worker under one line sardar leaves his loom after five hours, his output is not measured immediately. Another worker under another line sardar comes and starts production in the same loom with the unmeasured work during the next five hours. The process is repeated for the next ten hours for the same pair of workers. The output is measured at the end of the second shift covering the total of 20 hours. The output is averaged and each worker is credited with half of the combined output. The sardars of the first and the second shifts try to pair their workers according to their capacity so that a more efficient worker of one shift does not lose by being paired with a less efficient worker of the other shift. Inspite of this effort, some discrepancy reportedly occurs in the relative efficiency levels of the two workers. Our discussion with the line sardars selected by us left the impression that the difference is not usually more than five percent.

Accuracy of productivity figures: The actual production of each work group was converted into percentages of the standards fixed for them and this was taken as their productivity level. The six groups were then ranked on the basis of their productivity. However, we did not have the resource to examine the accuracy of the standards fixed by management. We, therefore, resorted to an indirect method of checking. We obtained the weekly wage bills paid to the six work groups under the piece rate of wage payment, and ranked them again. Since work schedules for workgroups are changed between shifts every four weeks, we took the

productivity level and wage level for a period of 8 weeks covering 4 weeks of day shifts and 4 weeks of night shifts. However, the relative position of the six groups ranked according to productivity did not change when ranked on the basis of wage bills. We, therefore, accepted the productivity level as accurate for the purpose of our study.

Investigation in mill No.2: There are 167 frames with 16000 spindles in the spinning department of mill No.2 in which investigation was started after mill No. 1. These frames are worked on the basis of one worker for one frame. Production is carried on in two shifts of 10 hours each. The shifts are known as A shift and B shift. A shift starts at 6 in the morning and continues for 6 hours till 12 A.M. With a break of 5 hours it starts again at 5 P.M. to finish at 9 P.M. B shift in the same way has two parts, the first part is between 12 A.M. and 5 P.M. and second part between 9 P.M. and 2 A.M. Work schedule for both workers and supervisors are changed between shifts every 4 weeks. As per our initial decision to study one department in the mill side of jute manufacturing, we selected spinning for our study in this mill No.2 as against weaving in mill No.1 & No.3. This department satisfied another criterion of ours originally laid down, namely, a department paying its workers on the basis of time rate. In this mill spinners get time wages. The time wages are guided by the minimum wages as laid down by the Minimum Wage Board. Management, of course, has set up a minimum output level which a worker must produce in order to prevent his discharge.

In the spinning department the output is yarn. The output is regularly weighed for individual workers. Management decides what a spinner should produce on the basis of the quality he is producing. Relevant factors considered in calculating the standard are: T.P.M. (Twist per minute) and R.P.M. (Round per minute).

There is an attempt to stimulate greater effort on the part of the spinners even under the time rate. Average output of a particular workgroup is taken for the payment of time wages. If the average of a workgroup exceeds the standard fixed for it, extra remuneration called "Efficiency Bonus" is given to it, each worker getting his share, if any, according to his own output.

In the spinning department there are 16 line sardars for both the shifts. We arranged the names of these people according to their numbers and selected 6 out of them at random. Work of each shift is supervised by two supervisors. Since the duty time of workers and supervisors are changed every 4 weeks, each work group is under the same supervisors for both parts of its 10-hour work day. Above the supervisors there is the shift-in-charge. The shift-in-charge for A shift is called overseer.

The efficiency rate fixed for each quality of yarn is subject to contaminating errors like bad quality of raw material, machine stoppages due to mechanical troubles etc. It is admitted by both workers and supervisors that in case of bad raw material supply it affects all spinners alike. Since the equipment in this new industry in Pakistan is quite new, mechanical disorders are not too many and are of minor significance only. Besides, maintenance people are always ready for maintenance work. We made a check with the maintenance department about idleness of machines handled by spinners under our study and made adjustment of the expected production level accordingly. We obtained the actual output of the six work groups in units (weight in pounds). But the level of output of different work groups is not comparable. Some groups work with F.L.C.B. variety of machines, while others work with Mackie variety. Again within the Mackie variety, some work with Mackie 5¼ and some with Mackie 4¼. The length of threads, and efficiency level expected of weft yarn and warp yarn are also different. Therefore, the

standard output expected was used. This standard was set to determine the amount of efficiency bonus. The rate was fixed with reference to type of yarn produced and the type of machine used. Since output of different workers or workgroups was not comparable, the efficiency bonus paid was taken as a measure of productivity. As in other mills productivity figure was taken for a period of 8 weeks. It appeared that one group was just at the standard and received no bonus while the other five groups received bonus of varying amounts.

As to the contaminating factors affecting productivity of workers, it is the feeling of both workers and management that bad supply of raw material or interruption in power supply, affect all spinners alike. According to workers, sardars and supervisors, the only significant major contaminating factor is the machine itself. Although the machines are of the same age and have the same origin, their present capacity is not the same due to differences in the degree of care and attention given to them by different spinners.

We personally inspected each machine and asked the line sardars and the supervisors to grade the machines on the basis of their capacity. There were four grades i.e. A, B, C and D with numerical values of 4 to 1. Average grade of the six groups did not show any significant difference among the six work groups.

Investigation in Mill No.3: The investigation in Mill No.3 was conducted after the completion of investigation in Mill Nos. 1 and 2. Mill No.3 was relatively a small mill with capacity of 351 looms in the weaving department which

formed the area of investigation in mill No. 3. This mill went into production in 1956 and hence had experience for 10 years. This mill is situated in the outskirt of Dacca, the provincial metropol of East Pakistan. This mill was pioneered by a family group belonging to the Marwari Community which is one of the leading business communities of the Indo-Pakistan sub-continent. As is true for other privately owned and privately managed jute mills of East Pakistan, the Pakistan Industrial Development Corporation (PIDC) was one of the sponsors of this jute mill. However, management of the mill was entrusted to a Board of Directors consisting of 5 members, four representing the private industrialists and one representing the PIDC. Of the four members representing private capital two were Marwaris of which one having the predominant proportion of the shares acted as Managing Director or Chief Executive. He had full control about policy matters and internal management of the company. In 1965 it was revealed that the Managing Director neglected his duty as the chief Executive and got mixed up in anti-social activities. This prompted the other major stockholder, namely, the EPIDC to take over the administration of the mill in pursuant of the resolution passed in the meeting of the ordinary shareholders. Obviously this jute mill is an EPIDC concern now for the purpose of general administration. EPIDC has provided the key people to man the mill.

According to the present manager, this is an unbalanced jute mill. The earlier management started the mill with a capacity of 250 looms. This was later on expanded to 351 looms but without corresponding expansion in the supporting processes like batching, beaming, spinning etc. As a result, the weaving department now works two shifts whereas spinning, beaming, etc. work three shifts in order to feed the weaving department.

This mill used to work 7 days a week. The workers are entitled to one day off as weekly holiday under the terms of the Factories Act. The mill management used to employ them on Sunday at double the normal rate treating it as overtime work. However, recently there has been severe shortage of electricity in the province and Governmental authorities imposed 'rationing' over the use of electricity. Hence there is no overtime now and the factory works only six days a week. However, the 8 hour normal shift time is broken down into two periods. As a result shift A starts at 6 A.M. in the morning to continue till 11-30 A.M. when the B shift starts. The B shift continues upto 2 P.M. when A shift starts again and finishes at 4-30 P.M. B shift works its Second part from 4-30 P.M. to 10 P.M. The shift time for workers changes every two weeks. The shift time for supervisors also changes every two weeks but they work 8 hours at a stretch, namely 6 A.M. to 2 P.M. for A shift supervisors and 2 P.M. to 10 P.M. for B shift supervisors. Obviously every day a particular worker comes under the influence of two supervisors. The situation is the same as we have observed in mill No.1.

The weaving department is run by two shift-in-charges, one for A shift and one for B shift. They report directly to the mill manager who is the present top administrative head of the mill. Each of the shift-in-charges is assisted by two supervisors. As in other jute mills, the supervisors run their shows with the help of line sardars. In the weaving department there was a total of 24 line sardars. Each having the charge of one line of the looms. We selected at random six out of these 24 lines for the purpose of interview. We had, therefore, six supervisors and six line sardars in our sample of supervisory people. In the six line that we selected for investigation there were 123 weavers and we selected at random 43 weavers on the basis of our original criterion, namely, one-third of the workers of a particular group subjected to a minimum of six from each group. Therefore, we interviewed a total of 57 people in mill No.3 as

compared to 54 in mill No. 1 and 50 in mill No. 2. Unlike other mills, the productivity level of the six lines was determined by taking the actual production of the weavers for a period of eight weeks preceding the date of investigation.

General findings: Age structure : An effort was made to determine the relative age level of workers, line sardars and supervisors. This is shown below :

Category of people	Mill No. 1	Mill No. 2	Mill No. 3
Workers	30.9	26.5	30.18
Line sardars	35.3	37.8	44.50
Supervisors	27.7	33.2	35.83

It appears that in mill No. 2 and mill No. 3 workers are youngest in age compared to their line sardars and supervisors, but in mill No. 1 it is the supervisors who are junior in age. The line sardars are, however, oldest in age in all the three jute mills. The higher age of line sardars over the workers is understandable since the line sardars are selected from among the workers on the basis of their seniority and experience.

The supervisors who control the activities of the line sardars are junior in age to them in all the three jute mills. One possible explanation for this is the lack of upward mobility on the part of the line sardars to the position of supervisors through promotion and the appointment of High School and College graduates direct in the supervisory positions. The relatively younger age of supervisors in mill No. 1 compared to the other two is due to the supervisory training programmes of the mill, in which younger graduates are attracted.

In all the mills the line sardars have greater work experience than the workers below and the supervisors above. One explanation for greater work experience of line sardars compared to workers under their supervision is the upward mobility of experienced workers to the position of line sardars through promotion. The relatively lesser experience of the supervisors as compared to that of the line sardars is due to the direct recruitment of High School and College graduates to supervisory positions rather than promoting line sardars as supervisors.

Social background: An attempt was made to determine the social background of workers, line sardars, and supervisors. This was done by taking the occupation of the father of these people. Mother's occupation was not considered since almost all the mothers, in general, in East Pakistan are housewives having no other gainful occupation. The table below shows the dependence of the fathers of these people on cultivation :

Category of people.	Mill No. 1	Mill No. 2	Mill No. 3
Workers	77%	75%	76%
Line sardars	50%	50%	33%
Supervisors	12%	16%	16%

It seems that the largest majority of workers come from agricultural families. The proportion of line sardars coming from agricultural families is not that big. The other occupations practised by the fathers of the line sardars include petty retail business, village handicrafts, and primary school teaching. Possibly such social background has provided the line sardars with leadership qualities and economic stimulation that have helped them to rise above the level of workers to become line sardars.

It seems that only a small proportion of the supervisors come from agricultural families. Their fathers are either the former renteers (small landlord) or petty businessmen or school teachers or office clerks. Apparently the supervisors are from a socio-economic background quite distinct from that of the line sardars and the workers under their control. *

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* Our analysis of supervisors' thoughts, feelings and impression really does little deep psychological probing into their personality but concerns with their normal contact with people and events. We thought that this would provide us with a reasonable reflection of their personality.
Cf. Smith, Bruner, White et al (Harvard Psychological Clinic).

"Opinions and Personality". John Wiley and Sons, New York, 1956.

"One gains rich insight into the functioning of personality by considering not only the deep dynamics, but also the level that is closely in contact with events in the world" (Page 80).

CHAPTER - V

TABULATION AND ANALYSIS

DETERMINANTS OF PRODUCTIVITY: As already stated, this study covered eighteen workgroups in three jute mills, six in each. The method of computing productivity has already been described. After the ascertainment of productivity of each group, the six work groups in each of the jute mills were arranged in order of their productivity. The top three groups of the ranking were taken as high-producing workgroups and the bottom three were taken as low-producing groups. The average productivity level of the high-producing groups were deducted from the average productivity level of low-producing groups. The difference in average productivity of high-producing groups and that of low-producing groups was subjected to t-test separately for each jute mill. The value of t was found significant at 5 percent level of confidence for mill No.1 and mill No.2 and at 2 percent level for mill No.3.[1] Our analysis of supervision and productivity now starts with the classification of workgroups into high-producing and low-producing as explained above.[2]

It is believed that we can not designate objectively the acts of a supervisor as democratic or authoritarian, considerate or inconsiderate without knowing the motives of the subordinates. It is argued that it is the subordinates' view of the supportiveness from the supervisor that is important.[3,4,5] We have already seen

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1. t worked at 2.9 for mill No.1, 3.3 for mill No.2 and 3.9 for mill No.3.

2. We used t test to find the significance, if any, of the difference between the high producing groups and the low-producing groups on any variable, and correlation between productivity of each workgroup and its score on any variable. The degrees of freedom for t test was 34 for mill No.1, 38 for mill No.2 and 41 for mill No.3 for individual workers while the degrees of freedom for correlation and also for t for group productivity was 4 for all the jute mills. The theoretical values of t at 5 percent level of significance for 34, 38 and 41 degrees of freedom respectively range between 2.042 to 2.021. The theoretical value of r for 4 d.f. at 5 percent level is 0.8114.

3. Vroom, Victor H., Work and Motivation. Wiley & Sons, Inc. 1964, Page 109.

4. Likert, Rensis. New Pattern of Management. op. cit.

5. Stern, G.G. and M.S. Bloom, "Methods in Personality Assessment." Free Press, Glencoe, Illinois, 1956. - "Behavior is a resultant of transaction between persons and situation; both must be taken into account in attempting to predict a potential transaction". (Page 53).

how our respondent supervisors feel about their supervisory style. Now we will show how the acts of these supervisors are viewed by the people working under them and what style of supervision they prefer.

STYLE OF SUPERVISION EXPECTED BY WORKERS : In any study on supervision and productivity it is first of all necessary to determine what style of supervision the workers really want instead of trying to examine democratic supervision. An effort was made to study what type of supervision the workers really prefer. The response of the workers on democratic versus authoritarian supervision was recorded on a 2-item index on the 5-point scale. The first item in the index was :

"In my opinion, a supervisor should be strong in disciplining people and enforcing company rules."

The second item in the index was :

"A kind-hearted supervisor who mixes with his people in a friendly manner often fails to get the work done".

The average score obtained on the above two items was as follows :

Category of Workgroups	Mill No.1	Mill No.2	Mill No.3
High-producing	6.94	6.72	7.31
Low-producing	6.56	6.45	7.27

In the 2-item index it was assumed that average score exceeding 6 would be an indication of preference for authoritarian supervision. Apparently workers of all the three jute mills seem to have agreed to the proposition that a supervisor should be a strong disciplinarian and that a kind-hearted supervisor fails

to get the results. But the difference in the score between the high-producing and the low-producing groups was not statistically significant.[6]

The attitude of workers on close supervision versus general supervision was obtained with a three-item index on the 5-point scale.

The items were :

1. "Many employees in our section slacken or loiter when the supervisor is absent".
2. "In my opinion, a supervisor should keep a watchful eye on what is going on in his section."
3. "Many people are likely to commit mistakes if they are given freedom to work in their own way."

The average score of different categories of workers is shown below:

Category	Mill No.1	Mill No.2	Mill No.3
High-producing	10.78	11.00	12.33
Low-producing	11.78	12.55	13.23

In this 3-item index it was assumed that an average score of above 9 would be an indication of preference for close supervision. Judged from that point of view, all the work groups in all the three jute mills seem to prefer close supervision although the degree of preference by workers in the low-producing groups is higher than that of the high-producing groups. The difference was tested for significance. It appears that there is no statistical significance for mill No.1 and mill No.2, although the direction of relationship seems to be negative.

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6. Value of t worked out at 0.54 for mill No.1, 0.45 for mill No.2 and 0.80 for mill No. 3.

But in mill No. 3 the difference was significant at 10% level and the relationship was negative.[7]

TYPE OF SUPERVISION RECEIVED BY THE WORKERS: It has already been indicated that workers in all the jute mills have preferred close supervision. An attempt was made to determine how the workers actually perceived the type of supervision they actually received from their supervisors. This was done with a two-item index. The items were as follows:

1. "Our supervisor always keeps a watchful eye on the workers for fear that they might slacken or stop working".
2. "Our supervisor checks our work thoroughly to see if we have done our work properly and carefully".

The score obtained by the workers of the various groups is shown below:

Category of workgroups	Mill No.1	Mill No.2	Mill No.3
High producing	8.17	9.18	8.43
Low producing	6.67	9.14	8.78

In the two-item index it was assumed that any work group whose average score would exceed six would be treated to have received close supervision rather than general supervision. Apparently workers in both high-producing the the low producing groups have perceived the supervisory style they have received as close supervision. But the difference in the score of the high-producing groups and low-producing groups did not indicate any statistical significance when put to the t test.[8]

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7. Value of t worked out at - 1.20 for mill No.1, - 0.28 for mill No. 2, and - 1.68 for mill No.3. Correlation between productivity of each individual workgroup and its attitude toward the style of supervision was calculated. The value of r worked out at - 0.19 for mill No.1, - 0.17 for mill No.2, and - 0.52 for mill No.3.

8. Correlation between productivity of each workgroup and its perception of the supervisory style it received was calculated for the six groups. The value of r came to + 0.04 for mill No.1, + 0.11 for mill No.2 and - 0.51 for mill No.3.

PAY SATISFACTION: An effort was made to find out the degree of satisfaction of the workers about their pay. This was done with the help of an one-item index, namely,

"Considering my skill and efforts, I am satisfied with my pay".

The score obtained by the workers is shown below :

Category	Mill No.1	Mill No.2	Mill No.3
High producing	3.22	3.17	1.62
Low producing	2.56	1.73	1.32

Apparently in Mill No. 1 there is some difference between the high producing groups and the low producing groups about pay satisfaction, and the value of t was significant at 10 percent level in mill No.1. But in mill No.2 and mill No.3 the value of t was significant at 1 percent level showing that the low producing workers were less satisfied about their pay. Apparently workers who are more satisfied with their pay produce more.[9]

JOB SECURITY: An effort was made to determine the job security felt by the workers. This was done with a two-item index as noted below :

1. "There are not too many dismissals or discharges in this section."
2. "I feel I can remain in my job as long as I like."

The score obtained by the workers is as follows :

Category	Mill No.1	Mill No.2	Mill No.3
High producing	5.55	6.50	5.90
Low producing	4.06	4.68	4.50

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9. Correlation between productivity of each workgroup and its satisfaction with pay was calculated for the six groups. The value of r came to + .81 for mill No.1, + .93 for mill No.2 and + .74 for mill No.3 that is significant at 4 df at 5 percent, 1 percent and 10 percent respectively.

   The value of t came to + 1.69 for mill No.1, + 5.03 for mill No.2 and + 5.30 for mill No.3.

The value of t was found to be significant for all the three jute mills. Apparently workers who feel more secure in their job produce more.[10]

SUPERVISORS' INFLUENCE: An effort was made to ascertain the relation between the influence a supervisor has in the organisation and the productivity of his group. This was done with the help of a two-item index. The two items were as follows :

1. "Our supervisor has considerable influence in this organisation."
2. "Our supervisor can help a worker if he likes because management seldom turns down his recommendations".

The score was as follows :

Category.	Mill No.1	Mill No.2	Mill No.3
High producing	4.16	4.44	4.21
Low producing	3.55	4.54	4.32

It appears that workers in none of the jute mills perceive their supervisors as influential persons. However, there is no significant difference in the degree of influence of supervisors as perceived by the workers in the high producing and low producing groups.*

WORKERS' COMPANY SATISFACTION : An effort was made to study the relation between worker's' company satisfaction and productivity. There were two questions on this. The first question was :

"All in all, I feel that this jute mill is a very good place to work".

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10. Correlation between productivity of each workgroup and its perceived job security was calculated for the six groups. The value of r worked at + 0.72 for mill No.1, + 0.75 for mill No.2 and + 0.86 for mill No.3, that is, significant at 4 d.f. at 10% for mill No.1 and at 5% for the other two.

* By "influence" here we have meant "reward power", not "coercive power". The reward power of the supervisors is limited. One possible explanation is the centralisation of powers in upper management.

The proportion of workers agreeing to this proposition were 50 percent for high-producing groups and 55 percent for low-producing groups in mill No.1. The respective proportions for mill No.2 were 61 percent and 68 percent and that for mill No.3 were 29 percent and 19 percent respectively.

The average score for all the workers were as follows :

Category	Mill No.1	Mill No.2	Mill No.3
High-producing	3.11	3.61	2.52
Low-producing	3.05	3.50	2.54

Apparently the proportion of those agreeing as well as the average score is greatest in mill No.2 but the difference in between the high-producing and low producing groups within the same is not statistically significant.

The reason for this assertion on the part of the workers that a jute mill is a good place to work in spite of its being hot, dusty and noisy is their almost unanimous feeling that they cannot have a better place to work elsewhere. Another possible explanation is the feeling of gratitude for being given the employment in the firm in a labour-affluent economy.

The second question on workers' company satisfaction related to the pride of the worker, if any, for being employed on their respective jute mills. The question was :

"I am really proud that I am working in a jute mill like this".

In mill No.1, 77 percent of those in high-producing groups and 50 percent of those in low-producing groups agreed to this. As compared to this, the respective proportions were 66 percent and 55 percent for mill No.2 and 29% and 10% for mill No.3.

Average score for all category of workers was :

Category.	Mill No.1	Mill No.2	Mill No.3
High producing	3.89	3.44	2.52
Low producing	3.17	3.09	2.18

Apparently in all the three jute mills workers in high-producing groups seem to have higher degree of pride in their company. The difference between high-producing groups and low-producing groups, however, was not significant. Correlation between productivity of each workgroup and its pride was also not significant.[11]

WORK GROUPS' SOCIAL COHESIVENESS: The relation between work group's social cohesiveness and their productivity was studied with the help of a four-item index. The items were as follows :

1. "People in our section are very friendly with each other".
2. "People in our section often meet socially outside the job (mixing in common)".
3. "There is very little griping and backbiting in our section."
4. "People in our section often come forward to help if any one is in difficulty, financially or otherwise."

The average score on these four items was as follows :

Category.	Mill No.1	Mill No.2	Mill No.3
High producing	7.31	7.92	8.00
Low producing	6.11	8.25	8.27

11. Value of r came to + 0.43 for mill No.1, + 0.17 for mill No.2 and + 0.63 for mill No.3. The value of t came to + 1.63 for mill No.1, + .79 for mill No.2 and + 1.64 for mill No.3.

It seems that the extent of social cohesiveness is highest in mill No.3. The difference in the score of the high-producing groups and the low-producing groups was not found to be statistically significant when subjected to t test. Correlation between productivity of each work group and its social cohesiveness was found to be positive in mill No.1 but negative in mill No.2 and 3.[12] Social cohesiveness was checked through another question on the number of friends a worker had within his work group and within the company. It was assumed that more friends within the group rather than outside it was an indication of a cohesive workgroup.[13] It was found that of the total friends a worker had in his jute mill only a small proportion was in his own workgroup.

WORK GROUP TASK COHESIVENESS: An effort was made to find out whether the high-producing work groups have relatively high task cohesiveness. This was done with a four-item index of task cohesiveness. These four items were as follows:

1. "People in our section always compliment each other whenever one does a good job."
2. "There is a lot of mutual help in our section whenever one has a difficulty in his job."
3. "Whenever a new worker comes in our section, old members try to help him in getting started."
4. "People in our section often encourage each other to think of better ways of getting the job done."

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12. Value of r came to + 0.57 for mill No.1, - 0.60 for mill No.2 and - 0.16 for mill No.3. The value of t came to + 1.60 for mill No.1, - .69 for mill No.2 and - .29 for mill No.3.

13. Likert, New patterns of Management. op. cit. Page 36.

The average score obtained by different groups of workers was as follows:

Category	Mill No.1	Mill No.2	Mill No.3
High producing	7.89	7.36	6.32
Low producing	7.05	6.57	6.02

It seems in all the three jute mills, low-producing groups have low task cohesiveness. The difference between the groups was not significant.[14]

PRODUCTION-ORIENTATION: The production-centeredness of supervisory people was studied through a 5-item scale. The first item was :

"Our supervisor always encourages us to produce more."

In Mill No.1, 61.1% of those in high producing groups and 72.2% of those in the low-producing groups agreed to this proposition compared to 77.7% percent and 90.9% percent by those in the high-producing and low-producing groups respectively in mill No.2. The proportions in mill No.3 were 90.5 percent and 95.5 percent respectively.

The second item in our scale was :

"Our supervisor is always ready to help us in our production problems."

In mill No.1, 22.2% of those in high producing groups and 38.8% of those in low producing groups agreed to this proposition. As against this, in mill No.2, 55.5% of those in high producing groups and 27.2% of those in low producing groups agreed that their supervisors showed willingness to help in their job related problems. The figures for mill No.3 were 28.6 percent and 40.9 percent respectively.

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14. The value of t came to + 1.42 for mill No.1, + 1.17 for mill No.2 and + .44 in mill No.3. The correlation between productivity and the score on task cohesiveness for the six workgroups was calculated. The correlation was found to be insignificant for mill No.1 (r = + 0.235), mill No.2(r = + 0.126) and mill No.3 (r = + 0.014).

The third item in the scale was :

"Our supervisor plans production and material flow so that there is no stoppage of work".

In mill No.1, 38.8% percent of those in high producing groups and 50% percent of those in low producing groups agreed to this. In mill No.2, 94.4% percent of those in high-producing groups and 63.6% of those in low producing groups agreed that their supervisor makes advance planning for raw materials. The respective proportions for mill No.3 were 52.4 percent and 40.9 percent.

The fourth item in the index was :

"Our supervisor spares no one if he slackens and neglects to do his job".

In mill No.1, 83.3% of this in high producing group and 94.4% of those in low producing groups agreed to this as against 50% and 100% respectively in mill No.2. The proportions for mill No.3 were 80.9 percent for high producing groups and 63.6 percent for low-producing groups.

The fifth item in the scale was :

"Our supervisor is very particular about the quality of the output."

In mill No.1, 100% of those in high producing groups and 83.3% of those in low producing groups agreed to the proposition, while in mill No.2, 94.4% of those in high-producing groups and 100% of those in low producing groups. The proportion for mill No.3 were 85.7 percent and 77.3 percent respectively.

However, the average score for all the workers was worked out as follows:

Category	Mill No.1	Mill No.2	Mill No.3
High producing group	16.67	19.59	18.05
Low producing group	16.94	20.00	17.04

Apparently workers of all the high-producing groups and the low-producing groups feel that their supervisors are production centered. However, the degree of production-centeredness on the part of the supervisors in mill No.2 is higher than that in mill No.1 and 3. However, the difference in the score on production centeredness in all the jute mills, between the high-producing groups and the low-producing groups was not statistically significant. The correlation between productivity of each workgroup and the perceived production-centeredness of its supervisor was also not statistically significant.[15]

SUPERVISORS' EMPLOYEE-ORIENTATION : An attempt was made to determine if there is any relation between the employee orientation of a supervisor as perceived by the people under his supervision and their productivity. There were four questions in the employee-orientation index. These were as follows:

1. "Our supervisor goes to bat for us"
2. "Our supervisor shows friendly and sincere interest in our welfare".
3. "Our supervisor hears our complaints and grievances sympathetically and tries to redress them as far as he can"
4. "We feel free to discuss our personal problems with our supervisor"

As to question No.1, namely, Supervisors' going to bat for the workers, only three out of 36 workers in mill No.1 agreed to this proposition, compared to two workers out of 40 in mill No.2 and four out of 43 in mill No.3.

As to question No.2, namely, friendly and sincere interest in workers' welfare, it appears that in mill No.1, 33 percent of the total workers interviewed agreed to this proposition, the percentage for mill No.2 being 45 and for mill No.3 being 23.

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15. Value of r came to - 0.41 for mill No.1, - 0.16 for mill No.2, and + 0.34 in mill No.3. The value of t came to - .21 for mill No.1, - .57 for mill No.2 and + .88 for mill No.3.

As to question No.3, namely, patient and sympathetic hearing of workers' complaints, 30 percent of the workers in mill No.1 compared to 40 percent in mill No.2 and 23 percent in mill No.3 agreed to this proposition.

As to question No.4, namely, discussion of personal problems with the supervisor, it appears that only 2 out of 36 workers in mill No.1, 2 out of 40 workers in mill No.2 and 5 out of 43 in mill No.3 agreed to it.

However, the average score of the workers grouped into high-producing and low-producing is indicated below :

Category	Mill No.1	Mill No.2	Mill No.3
High producing	8.78	7.89	7.67
Low producing	7.39	8.27	8.45

It was assumed that an average score not exceeding 8 would indicate a low degree of employee orientation and an average score exceeding 12 would be an indication of high degree of employee-orientation. Apparently workers in all the jute mills perceive their supervisors as people having very low concern for them. One interesting aspect of employee-centeredness is that the score is higher for the high-producing groups in mill No.1 but it is the reverse in mill No.2 and 3. However, the difference in score of the high-producing groups and that of the low-producing groups was not statistically significant.[16]

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16. The correlation between productivity of individual workgroup and its perceived employee-orientation on the part of its supervisors did not indicate statistical significance. The value of r came to + 0.18 for mill No.1, - 0.42 for mill No.2 and - 0.45 in mill No.3. The value of t was + .77 for mill No.1, - .37 for mill No.2 and - .82 for mill No.3.

WORKERS' AGE AS DETERMINANT OF PRODUCTIVITY : An effort was made to ascertain whether the age of the workers in the different work groups has any influence on their productivity. The table below shows the age level of the high-producing and low-producing groups:

Category of groups	Mill No.	Mill No.2	Mill No.3
High-producing	31.44	26.78	32.95
Low-producing	30.55	26.09	27.41

The difference was subjected to tetest but no significance was found.[17]

EXPERIENCE AS A DETERMINANT OF PRODUCTIVITY : An attempt was made in this study to examine the common observation that capacity to produce more increases with accumulation of experience. One of the major causes of high productivity of the Indian jute mills is the accumulated experience.[18] Jute industry in Pakistan is now 15 years old and we expected to find higher productivity among the more experienced workers. The level of experience of the workers investigated by us is as follows :

Category of groups	Mill No.1	Mill No.2	Mill No.3
High-producing	8.27	8.42	9.95
Low-producing	7.46	8.52	8.93

t-test did not indicate any significance of the difference between high-producing groups and low-producing groups in the matter of experience of jute mill work. Correlation between productivity of each workgroup and its experience also was not statistically significant.[19]

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17. Value of t was + .378 for mill No.1, + .267 for mill No.2 & + .202 for mill No.3. Value of r came to + .25 for mill No.1, - .43 for mill No.2 and + .15 for mill No.3.

18. The first jute mill in India went into production in 1855 while the first jute mill in Pakistan started production in 1951.

19. Value of r came to + .61 for mill No.1, + .32 for mill No.2 and +.23 for mill No.3.

PERCEPTION OF SUPERVISORS AND LINE SARDARS ABOUT THEIR SUPERVISORY ROLE :

An effort was made to study how supervisors and line sardars feel about their role in the organisation. This was done with the help of an 8-item index on the 5-point scale. It was assumed that any supervisory personnel scoring 24 to 40 points would have high authoritarian personality. Table below shows the overall score of supervisors on the authoritarian personality index.

Score	Mill No.1	Mill No.2	Mill No.3
Average	35.5	35.1	36.7

It appears that supervisory people in all the jute mills possess authoritarian personality. The item-wise break-down of the supervisor's perception index is indicated below :

Items	Mill No.1	Mill No.2	Mill No.3
1. Workers are enherently lazy and try to avoid work if they can.	4.50	4.00	4.16
2. As a supervisor, my only concern is to get the work done, not to bother about worker's feelings and sentiments.	3.37	4.16	4.33
3. If workers work more and talk less every body would be better off.	4.50	4.83	4.33
4. All workers want is bread and butter	4.62	4.16	5.00
5. Workers only do what they have to do; hence a supervisor should keep his people busy and give more work than they can usually do.	4.37	4.66	4.33
6. The level of intelligence and sense of responsibility of workers here are so low that a supervisor cannot rely on them to work of their own.	4.75	4.50	4.83
7. One sure way to get production is to watch workers closely and check in details.	4.87	5.00	4.83
8. The old proverb "spare the rod, spoil the child" is applicable to working class.	4.50	3.83	5.00

Obviously the sardars have indicated authoritarian attitude on all the eight items except in item No.1 in mill No.1.

PRESSURE FOR PRODUCTION : The high authoritarian attitude indicated by supervisory people may be a function of their general social conditioning or the result of pressure exerted on them from above for greater production. An effort was made to study the pressure on the supervisors. This was done by observing the movement of production managers of both the mills. It was found that the production managers invariably moved on the shop floor at least once during each shift of operations. This is a part of their normal work schedule. The general managers also come down to the shop floor occasionally, particularly when production goes down. Production managers indicated that their visits to the production areas make the supervisors and workers alert. A significant proportion of the workers interviewed by us, observed that pressure for greater production on them comes mainly when supervisors are worried about instructions from production managers and general managers.

In addition to our observation, we obtained a five-item index of pressure on the supervisors. Any one obtaining a score of 15 to 25 was assumed to have been subjected to high pressure. Table below shows the average score obtained by supervisors.

Score	Mill No.1	Mill No.2	Mill No.3
Average	20.16	20.50	22.16

It appears that supervisors in all the three mills are under pressure from above for higher production. Item-wise break down is shown below :

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Score	Mill No.1	Mill No.2	Mill No.3
Average	20.16	20.50	22.16

It appears that supervisors in all the three mills are under pressure from above for higher production. Item-wise break down is shown below :

Items	Mill No.1	Mill No.2	Mill No.3
1. Management of this company know only one thing, namely, production.	4.16	4.12	4.66
2. My boss wants me to supervise the workers closely to get more production.	4.50	4.12	4.83
3. My boss thinks that I should go strictly according to his instructions, rather applying my own way.	3.66	3.25	4.16
4. My boss feels that people are inherently lazy and will avoid work if they can.	4.33	4.12	4.33
5. I am always under pressure-production manager, general manager etc. all press me for production.	3.63	4.50	4.16

Scores of supervisors on pressure may be compared with the pressure on the line sardars obtained on the same six items. This is shown below :

Score	Mill No.1	Mill No.2	Mill No.3
Average	20.66	22.16	22.00

Apparently pressure exerted on line sardars is slightly greater than pressure exerted on the supervisors in mill No.1 and mill No.2. Evidently pressure exerted on supervisors from above gets transmitted below as a matter of course.

WHAT PEOPLE EXPECT TO GET OUT OF THEIR JOBS: Any study on supervisory behaviour should consider what people really want to get out of their jobs. An effort was made in this study to determine the expectation of workers, line sardars and supervisors. This was done with the help of an Expectation Index. The Index consisted of six items for the supervisors, four items for the line sardars and three items for the workers. Initially the six item Index as used for the supervisors was designed for all categories of people. However, this

was changed by dropping a few items for the line sardars since during pre-testing it was found that all the six items were not fully relevant for line sardars. Besides, line sardars were observed to experience difficulty in comprehending a six-item Index of ranking. Table below shows the expectation of supervisors.

Items	Mean ranking		
	Mill No.1.	Mill No.2.	Mill No.3
1. Higher income	5.25	3.83	4.50
2. Job security	2.50	3.00	3.16
3. Chances for promotion	2.87	2.66	4.16
4. Power and authority to deal with subordinate people.	2.25	3.16	1.66
5. Good behaviour from boss.	3.50	3.33	3.16
6. Information about company policies	4.75	5.00	4.33

It appears that in mill No.1 the preferences of supervisory people in order of preference are: (1) Power and authority to deal with people (2) Job security (3) Chances for promotion (4) Good behaviour from boss (5) Information about company policies (6) High incomes. As compared to this, the supervisory people in mill No.2 indicated a different order of preferences. These people preferred most chances for promotion. In mill No.3 the most preferred thing was power and authority to deal with people. However, all the groups of supervisors have shown almost same order of preference for job security and good behaviour from the boss. Power and authority to deal with people have been ranked first by supervisors of mill No.1 and mill No.3 and third by the supervisors of mill No.2.

The expectation of line sardars is shown below :

Items	Mean ranking		
	Mill No.1.	Mill No.2.	Mill No.3
High income	2.66	2.00	2.00
Job security	2.33	3.00	3.00
Power and authority to deal with people.	2.33	1.66	2.00
Good behaviour from boss	2.50	3.33	3.00

It appears that in mill No.2, line sardars give top priority to power and authority. The same is true for the line sardars in mill No.1 and mill No.3 except that line sardars in mill No.1 have indicated equal preference for power and job security while the line sardars in mill No.3 have shown the same order of preference for power and high income.

The explanation for relatively high preference for power and authority on the part of line sardars and supervisors is that it is considered as primary in that the other items will follow from power and authority. Discussions with these people left the impression that they seek power not for the sake of power but as a tool of getting work done. If they get production, they get income, job security etc. else the threat of discharge or demotion is always there.

We may now turn to the expectation of the workers. This is indicated below:

Items	Mean ranking		
	Mill No.1	Mill No.2	Mill No.3
High pay	2.25	1.82	1.93
Job security	1.97	2.25	2.02
Good behaviour from boss	1.77	1.92	2.05

It appears that workers in mill No.1 have assigned top preference to good behaviour from the boss while those in mill No.2 and mill No.3 have assigned top priority to high pay. Job security has been assigned second preference in mill No.1 and mill No.3 but third preference in mill No.2. Further analysis of the data revealed one important explanation for relatively lower ranking for security. It was found that workers who were confirmed in their job thought less about security than those who were working as temporary hands.

CHAPTER - VI

FINDINGS AND CONCLUSIONS

WHETHER DEMOGRAPHIC CHARACTERISTICS OF THE WORKGROUP MEMBERS AFFECT PRODUCTIVITY : There are several demographic factors which are considered in any study of industrial work force. These factors include origin, mother tongue, sex, religion, marital status, educational attainment, parental occupation etc.[1] In this study only three demographic characteristics, namely, age, education, and marital status were investigated.

As to age of the workers covered by this study, we did not find any statistical significance of the difference between the average age of the high-producing groups and that of the low-producing groups. The correlation between productivity and age was, however, positive for mill No.1 and 3 ($r = +.25$ and $+.15$ respectively) but it was negative for mill No.2 ($r = -.43$) which was possibly due to the use of time-rate in mill No.2. As to the sex of the workers, all of our respondents were males and, therefore, the question of sex was not considered in testing productive efficiency of different work groups. The same is true about religion. All the respondents were muslims.

However, the study found no support for one oft-quoted observation about educational attainment of the workforce. It is believed that education improves productivity of labour. According to Russian experience, the economic value of one years' schooling is on the average 2.6 times greater than one years' apprenticeship.[2] Schultz and others have estimated the rate of return for elementary education in 1958 in U.S.A. at 35 percent.[3]

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1. Husain and Farouk, Social Integration of Industrial Workers in Khulna, op.cit.
2. Strumilin, Stanislav, The Economics of Education in the U.S.S.R. International Social Science Journal, Vol. XIV, No.4, 1962.
3. Schultz, Theodore W., The Economic value of education, Columbia University Press, New York 1963, P. 62.

The Sharif report has highlighted the close connection between education and economic growth.[4] Commenting on Pakistans' experience some western scholars also expressed the view that it will be relatively easier to stimulate educated people into increased economic activity.[5]

In this study we expected a positive correlation between productivity of individual workgroups and its educational attainment.

In mill No.2 we did not find any significance ($r = + 0.076$). However, surprisingly we found a negative correlation in mill No.1 ($r = - 0.80$) significant at 10 per cent. The correlation in mill No.3 was also negative but not significant ($r = - 0.51$).*

In order to explain this situation, we examined the nature of schooling received by our respondents. It seemed that the type of schooling they got was unrelated to their jobs or their life situations or of a type which did not sharpen their intelligence. Besides, most of the workers felt that they have forgotten what they had learnt in their childhood. A few workers who joined factory work after their failure in the Matriculation Examination appeared to be frustrated. That education may sometimes lead to dissatisfaction on the part of the workers has been reported in other studies also.[a]

It is felt that education has to be 'real' for stimulating and strengthening the right type of instinct which may make a worker more resourceful. It should broaden outlook and sharpen intelligence in order to enable them to grasp their job easily. The existing system of education, however, fails to achieve this objective. In mill No.3 which had relatively a less favourable employment

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4. Government of Pakistan: Report of the Commission on National Education, 1962.

5. Snyder, J. Herbert, "Problems and Possibilities in Planning for Agricultural Development" in Economic Development and cultural change. The University of Chicago Press, Vol. XII, No.2, 1962, Page 133.

* This finding was supported in the back up study in which educational attainment of 243 individual workers and their productivity were put to X^2 test. The value of X^2 came to 45.43 as against 55.76 required for being significant at 5 percent level.

a) See Tannenbaum, arnold S. Social Psychology of the Work Organization. Wadsworth Publishing Co. Inc. California, 1966, Page 44.

environment education and experience was found to be negatively correlated at 10 percent level of significance. Correlation between education and age was also negative at 5 percent level. People with education were also found to have relatively low degree of security. That means workers with education are relatively younger in age and have fewer years of job experience.

WHETHER WORK EXPERIENCE ADDS TO HIGHER PRODUCTIVITY : We have already mentioned the popular notion among the businessmen of Pakistan and public officials that one major cause for low productivity of labour in this country is the lack of experience of its workforce. For instance, about the jute industry, the efficiency of Indian jute workers is attributed to their long experience compared to the lack of experience of Pakistani jute mill workers.[6] However, the jute industry in Pakistan is about 15 years old now. The jute mills investigated by us have had experience of more than a decade and, therefore, we expected to find a positive correlation between productivity and job experience of the workers. In all the three jute mills we found a positive correlation but it was not significant. (The value of r came to + 0.61 for mill No.1, + 0.32 for mill No.2 and + 0.23 in mill No.3). The lack of significant correlation between workers' experience and productivity was observed in some previous studies also. For instance, referring to the industrial workers of Khulna, Husain and Farouk have cast doubt on the hypothesis that an experienced worker would automatically earn more.[7]

We could surmise four possible explanations for the lack of significant correlation between work experience and productivity. First, it may be that workers are not using their accumulated skills to produce more. This is more likely since workers do not get any raise of pay semi-annually or annually. Pay is a function of periodical contracts. A worker with 10 years of service gets

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6. Government of Pakistan: Report of the Jute Enquiry Commission, 1960, P.146.
7. Husain and Farouk, op. cit. Page 36.

the same rate as a raw hand. The non-recognition of seniority in the fixation of wage rates possibly violates the principle of what George Homan Calls "Theory of Distributive Justice".[8] To put in another way, the piece-rate system of wage payment involves violation of an important cultural value. Our commonly held value is that older and more experienced workers should enjoy greater earnings than their younger and less experienced colleagues. But in piece-rate, earnings are directly related to output and hence this cultural value is violated in the absence of output restrictions. Jobs like weaving in jute mills calls for considerable physical efforts and vigour but older people often slow down physically and can be out paced by their younger and more vigorous colleagues. In fact, under straight piece-rate it is impossible to reward employees for seniority or merit.[9] In view of these considerations, task cohesiveness on the part of the more experienced workers may be low. In fact, this was found in mill No.3 in which task-orientation and experience was found to be negative and statistically significant at 10 percent. Second, experience in terms of years of service put in by a worker is no indication of actual skills. It may mean repetition of the same operation in a routine manner over the years rather than exposure to a wide variety of operations. Third, workers who learn the job by doing it unaided by any skilled worker or supervisor may learn wrong things in the wrong way such that passage of years does not sharpen ones' capacity to do the job in the most efficient manner. The relatively higher correlation in mill No.1 than in mill No.2 and mill No.3

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8. According to Theory of Distributive Justice, there are certain elements that a worker brings to his job, e.g. age, seniority, education, sex, ethnicity etc. Homan called these "investments". In return for this investment the worker expects to get status factors like pay, prestige, etc. Homan Called them 'returns'. According to Homan, returns should be equal to investment else there will be trouble on the job. See Zaleznik et al. Motivation, Productivity and satisfaction of Workers: A Prediction study, Division of Research, Harvard Business School, 1958, Page 53.

9. Richard, Max D. and Paul S. Greenlaw. Management Decision Making. Richard D. Irwin Inc. Homewood, Illinois, 1966, Page 176. See also.
Belcher, David W., Wage and Salary Administration, Prentice-Hall Inc. Cliff. 1962, P. 391.

(though not significant) tends to support this view. This mill had at one time a worker training programme while mill No.2 and mill No.3 never had any thing of that kind. In the circumstances, we may possibly conclude that experience becomes productive only when workers are properly trained and have incentives necessary to induce hard and intelligent work. In the absence of training, he does what the others do without interest and without understanding or enthusiasm. He does not understand the effect of what he does. Often he learns from others; short-cuts and inefficient working methods. Consequently his performance is poor, his method of working defective and it takes a long-time before he becomes a reasonably good worker. Even then his standards leave much to be desired. Another explanation for lack of significant relationship between experience and productivity may be found in the broken nature of the working period due to absenteeism which does not permit accumulation of skills.[10]

WHETHER MACHINE ADJUSTMENT AFFECTS PRODUCTIVITY: It is believed that the worker who is better adjusted to handling of his machines and work tools has a higher level of productivity than one who is afraid of handling the machines.[11] We found support for this hypothesis in mill No.1 only. The correlation between productivity of individual workgroup and its adjustment to machines was found to be positive and statistically significant ($r = + .81$) at 5%. In mill No.2, the correlation was positive but statistically insignificant. In mill No.3 correlation was statistically significant but it was negative. Adjustment to machines is partly a function of skills imparted to a worker as the correct method of handling the machines and partly a function of the workers' accident-proneness. Machine adjustment is also culturally conditioned. For instance, in the mature economy of North America people are "used" to machines almost from birth. Apparently machine adjustment of workers may be improved through careful testing and selection and adequate post-selection training. It is also apparent that machine adjustment does not itself guarantee high productivity.

10. Kerr, Clark, Labor and Management in Industrial Society. Anchor Book. Double-day and Company, Inc. New York, 1964, Page 335.
11. UNESCO : Social and Cultural Factors Affecting Productivity of Industrial Workers in India, University Enclave, New Delhi, 1961.

WHETHER JOB SECURITY AFFECTS PRODUCTIVITY : Job security is one of the most important items of human needs, for many people it is more important than pay. In Maslow's need heirarchy security need occupies second layer immediately after physiological need. According to Strauss and Sayles, the major impetus for unionisation, the most serious problems of superior - subordinate relations - all revolve around the need for security.[12] It is not enough for a man to have his physical needs satisfied from day to day; he wants to make sure that they will continue in the future. As we have seen, our average daily worker has no dream of advancement. The pressure of population increase and the uncertainty of farm income have made him more anxious to hold on to his job. In the circumstances Pakistani economists consider feeling of security in one's employment as a very significant factor in his adjustment to his work.[13] The data supported this hypothesis. The difference in the score on job security by the workers in the high producing groups and by those in the low-producing groups was found to be statistically significant (t significant at 5 percent). Some previous studies also indicated that productivity is positively related to security. For instance, Lindahl found security more important than wages as builder of morale and efficiency.[14] Several explanations may be offered for relative lack of job security felt by some workers in the same mill. First, these people may be marginal workers with low production records. Second, these people might have got the wrong idea of production processes such that they cause greater material wastage or they were less adjusted to machine handling or they might have poor health and hence basic insecurity or they may not have any other resource to fall back on or they might have been under demanding bosses. Whatever be the cause, the plain fact

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12. Strauss and Sayles, op. cit. P. 18.

13. Husain and Farouk, op. cit. Page 37.

14. Lindahl, L.G., what makes a good job? Personnel, New York, 1949, P. 25.

remains that feeling of insecurity reduces workers' proprietorship of their jobs which is perhaps essential in order to make a worker productivity - motivated. It is well to remember that so far we have been speaking of economic security. We have not touched upon emotional security of the worker which is no less important than economic security. A business firm has to foster both types of security. The worker needs to have a sense of purpose, feeling that through his job he is making a contribution to the society and that he is part of an organisation which is serving the nation. According to our observation this emotional security is lacking in our jute mills. Instead we have noticed the feeling of gratitude in the worker for his being given the job out of so many applicants and the feeling of distribution of favour by the management. In actuality we found security to be positively correlated to experience in mill No.3 at 10 percent level, to age in mill No.1 and / mill No.3 at 5 percent level, and to social cohesiveness in mill No.1 at 10 percent level.

WHETHER SATISFACTION WITH ONE'S PAY AFFECTS PRODUCTIVITY : A view is at times advanced that a worker who is satisfied with his pay bill produces more. Taylor's experiment with Schmidt is an example of this oft-quoted view. The idea is that what electricity does to a machine, money does to a man.[15] Two workers may receive the same pay; yet the degree of their satisfaction may be different. This may be due to different level of needs for money, and their perception about their pay. It is believed that when an individual perceives that his pay is directly related to the quality of his job performance, it will result in improved performance.[16] In other words, the more an individual sees

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15. Chatterjee, Pareshnath, Some Reflections on the External Factors in Labour Productivity in India. The Asian Economic Review, Hyderabad (India) Vol. III, No.4, 1961, Page 377.

16. Haire, Mason, Psychology in Management, Mcgraw Hill, New York, 1956, Pages 147-175.

his job performance is determining his pay, the stronger is his motivation to perform an effective job. This hypothesis follows from the path-goal theory which predicts that seeing a positive relationship between pay and job performance tends to increase job performance.** Jaques believes that an individual functions best when working at a level which corresponds to his capacity at his normal pace and intensity of application, and when he obtains equitable payment for that work.[17]

In view of these considerations, we decided to find the correlation between productivity and pay satisfaction. We found a positive correlation, significant at 5 per cent for mill No.1, at 1 per cent for mill No.2 and 10 percent for mill No.3. Apparently workers who are more satisfied with their pay produce more than those who are not satisfied with their pay. We could offer three possible explanations for this, namely, difference in needs, difference in the understanding of wage determination mechanics and difference in the feelings about under compensation or inequities of pay. The last explanation is possibly obvious in view of no consideration for experience in wage fixation by the jute mills under review. However, pay satisfaction may be affected by other variable also. In fact, we found pay satisfaction to be positively correlated to social cohesiveness in mill No.1 at 10 percent level and to line sardars' employee-orientation and production-orientation in mill No. 2 and mill No.3 at 5 percent and 10 per cent respectively for both the latter variables.

WHETHER ECONOMIC MOTIVATION AFFECTS PRODUCTIVITY : It is often alleged that workers in our country do not have high economic motivation. They are content with whatever they get. They lack interest in work and prefer idleness since

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17. Jaques. Equitable Payment, Heiman. London. 1961, Page 66.

they have little desire to raise their living standard by earning more through greater efforts. Some employers feel that workers' income from land holding at home makes them less earnest at mill work.[18] Lack of economic motivation or "achievement motivation"[19] as Professor Mclelland calls it is a general allegation against work people in the Asian countries. For instance, jute mill managers complain in common with managers in most Indian factory industries, of the unwillingness of their workers to respond to the stimulus of high wages.[20] The managers of the three jute mills covered by our study also expressed the same opinion. In support of their argument they have referred to the higher rate of absenteeism on Saturday and Monday than other days of the week. They felt that after getting pay on Saturday, workers slacken and relax and do not report to work.

In this study we checked the rate of absenteeism on week days for 8 weeks and found that Saturday evening shift and Monday morning shift have higher absentee rate. However, we could not attribute all this to lack of interest in mill work on the part of the workers. We felt there are several reasons for this, first, a worker might get exhausted after six days of work, 10 hours each, in an enervating environment. Second, absence on Saturday afternoon may be due to the requirement of shopping to buy food and other things after receipt of weekly pay bill, Sunday being a holiday and most of the shops remaining closed on that day. Similarly, the higher rate of absence on Monday morning shift may be due to the delay in coming back by those workers who go home on week end to meet their wives and children in their far off villages unconnected with any quick means of transport.

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18. Hussain and Farouk, op. cit. Page 45.
19. Mclelland, D.C. The Achieving Society, Princeton, N.J. Van Nostrand, 1961.
20. Anstey, Vera, op. cit. Page 281.

It was felt that economic motivation should be considered in terms of the incentive and the reward which work brings for the workers. In pursuance of an UNESCO study in India, we thought that the attitude of workers toward overtime work and piece rate system of wage payment would be better tools of focus on the economic motivation of the workers under investigation.[21] By economic motivation we have meant the willingness of a worker to use his abilities to the greatest possible extent, given his inherent abilities and the training needed to develop those abilities. We assumed that economically motivated workers will prefer piece rate of wage payment and over-time work while those not so motivated but ease-loving will like time rate system of wage payment and dislike overtime work.[22] Accordingly we expected to find positive correlation between productivity of a workgroup and its score on over-time and rate of wage payment. And this is what we actually found in our survey. It appears that workers in the high-producing groups like over-time and piece-rate more than those in the low-producing groups. This was true for all the jute mills under review. The difference in the score on over-time and piece rate between the high producing groups and low-producing groups was statistically significant. (For rate t was significant at 5% for mill No.1, at 2% for mill No.2, and at 10% in mill No.3 while for over-time t was significant at 2% for mill No.1, at 5% for mill No.2 and at 10% in mill No.3).

In the face of this finding one might possibly conclude that at least a part of the workers covered by this study was economically motivated. Workers in the weaving department are being paid by piece-rate and so they realise its

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21. UNESCO, Social and Cultural Factors Affecting Productivity of Industrial workers in India. op. cit.

22. Economic motivation by providing more money does not satisfy physiological needs alone; money in fact satisfies other higher level needs also. Wages have become status symbols. They are one basis for prestige and social acceptance. See Dale Yoder. Personnel Management and Industrial Relations, Prentice Hall 1959, Page 478.

implication, namely, the more they produce, the more they get. They also know that over-time means more earnings for them since they are paid for over-time at double the usual rate. As compared to this, workers in the spinning department get the increased earning involved in overtime. But they are paid by time rate which does not recognise extra efforts. However, they feel that piece-rate would have been more gainful for them.

One important instance of economic motivation on the part of jute mill workers in East Pakistan was revealed during our investigation. The jute industry was passing through a period of dull market for jute goods at the time of our study. In a bid to meet the depressing condition of the jute goods market, management intended to eliminate overtime work. The workers reacted to the proposal with the threat of strike. In fact, workers in mill No.3 in which investigation was conducted last were not working overtime and this was one of their major complaints against management.

The above finding had its support in our back up study also. In the back up the workers were asked to accept or reject an offer of similar job in another jute mill at a remuneration of Rs.5/- higher than what they were getting but under a demanding and bad tempered supervisor. The data on the 243 individual workers' productivity and their reply on the offer were put to X^2 test. It seemed that productivity tended to be dependant on they workers' desire for money.

Apparently we may conclude that workers produce more if they are economically motivated. The introduction of a piece-rate system to reward efficiency is not perhaps enough; a more important task is to generate a desire in the workers to earn more to raise their living standard and to create a feeling that compensation for labour is equitable. However, the fact remains that the scope of what management can do is perhaps limited. We can stimulate a man, charge him,

but he has to have his own generator. This is all the more so since the emergence of new needs after the satisfaction of the prepotent need is not a sudden or saltory phenomenon, but rather a gradual emergence by slow degrees from nothingness. If the fellow does not have the generator, society itself rather than management possibly should be held responsible to provide that. However, our study was confined to positive incentives only. We could not explore the possibility of increasing productivity through what Barnard calls negative incentive e.g. making work more attractive by shortening hours, making working conditions less onerous.[23] We must, of course, remember that whatever steps we take positive or negative, it must be relevant to the workers own need satisfaction. For instance, introduction of piece-rate to invoke competition may fail if workers view increased productivity as threat to their stable employment. This was demonstrated in the Mica splitting room in the famous Hawthorne studies.[24]

WHETHER PRIDE IN THE ORGANISATION ONE WORKS FOR AFFECTS PRODUCTIVITY :

One of the hypotheses in this study was that workers who are satisfied with the overall situation in a company and, therefore, have a sense of pride for being employed in a firm like their own, produce more. In other words, we expected to find a positive correlation between productivity and company pride. In fact, the data indicated the presence of such a positive correlation but it was not statistically significant ($r = + .42$ for mill No.1, $+ .09$ for mill No.2 and $+ 0.63$ for mill No.3). We also did not find any significant relation between productivity and over-all company satisfaction. This finding of ours lends support to Likert's contention that there is no relation between productivity and employees' attitude toward the company.[25]

23. Barnard Chestev. The Functions of the Executive, Harvard University Press, 1948. Page 140.
24. For other studies which found workers under the same management and same first line supervision responding quite differently to a piece-rate system see W.F. Whyte (ed) Money and Motivation, Harper & Brothers, New York, 1955.
25. Likert, R., Motivation: The Core of Management, AMA Personnel series No.155, New York, 1953, Pages 3-21.

One of the jute mills covered by the study was the biggest in the world and the first jute mill to be started in Pakistan and it is owned and managed by one of the leading business families of the country. The second jute mill is at present owned and managed by East Pakistan Industrial Development Corporation. According to our information, these two jute mills have made provision for housing, medical, recreational, educational, and other facilities for the comforts and benefits of workers to a degree not observed in other mills of the country. The third mill is owned and managed by a family belonging to the famous Marwari business community. Therefore, we expected to find positive correlation between productivity and workers' pride in their organisation. However, our data did not indicate anything of that sort. We found a positive correlation between productivity and company pride in all the three jute mills but the correlation was not significant. We could surmise two possible explanations for this. First, in Pakistan, the job is of primary importance to the workers in view of the presence of unemployed surplus labour and the earning from factory employment provides for mere subsistence, thus a genuine feeling of pride is often lost sight of.[26] Second, pride in the organisation one works for is a function of the workers' sense of belongingness as well as the efforts of management toward the harmonious integration of the interest of the employers and that of the employees. Since these two elements are largely missing and since workers are frustrated about the reward they are getting for their contribution, lack of correlation between pride and productivity is perhaps obvious. In our view, in a situation

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26. Average monthly earnings of a factory worker in East Pakistan is Rs.74.00 while East Pakistan Minimum Wages Board considers Rs.127.00 adequate for a modest standard of living. See M. Ali Raza, The Industrial Relations System of Pakistan, Bureau of Labour Publications, Karachi, 1963, Page 3. Apparently Pakistani workers are at different need level than western workers. For instance, in U.S.A. workers who have jobs are assumed to have satisfied their physiological needs pretty well. See Mcgregor, The Human Side of the Enterprise. op. cit. Page 36.

like this, "psychic income" like pride is of little significance for workers. Such psychic income is of significance to people who are inspired and people become inspired only when they have company involvement and a sense of belongingness to it. This can be achieved only when management finds ways and means to maximise the valid congruence between individual motivations and organisational requirements. This valid congruence seems to be lacking. Discussion with managerial people left the impression that people should be docile in return for the fringe benefits given to workers. They referred to Provident fund contribution, housing accommodation, canteen, recreational and educational facilities etc. These off-the-job rewards do not seem to have won worker's' heart, because workers' have a feeling that management considers them as "favours distributed" while they themselves take them as matter of right after hard fight.[27] Apparently the problem of Pakistani jute mills is one of integrating the interests between the organisations own objectives and an individual's personal objectives and this integration is very vital in our free market economy in creating positive incentives to bridge the possible diverging interests.[28] However, this faith seems to be lacking in Pakistani enterprises. There is no assurance that employees will prosper if the company prospers. Workers and even supervisory people are not informed of company plans and policies. What the workers think, question and plan hardly goes up the line for management's consideration and action. In short, management "sharing"[29] which is considered as a vital stimulation to employee belonging and pride goes unrecognised. This will be apparent from the expectations of supervisors from their jobs discussed in this study elsewhere.

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27. Raza, op. cit. Page 3.
28. Davis, R.C., The Fundamentals of Top Management. Harper and Row Publishers, New York 1951, Page 609-624.
29. Hodges, Henry G, Management. Principles, Practices and Problems, Houghton Mifflin Company, Boston 1956, Page 412.

There was evidence that pride is influenced by other factors. For instance, we found positive correlation between pride and line sardars' employee-centeredness significant at 5 percent level in mill No.3. In this mill productivity was also positively related to workers' social cohesiveness significant at 5 percent level. In mill No.1 pride was positively correlated to task cohesiveness significant at 10 percent level.

WHETHER CLOSENESS OF SUPERVISION AFFECTS PRODUCTIVITY : General rather than close supervision is more often associated with a high rather than low level of productivity.[30] An important hypothesis of this study was that workers under general supervision produce more than workers under close supervision. We found that our respondents themselves preferred close supervision and they perceived that they got what they wanted. In other words, all the six work groups studied by us were under close supervision.* Quite naturally we did not find significant correlation between productivity and closeness of supervision.

Both the workers and the supervisors seem to believe the traditional management view point that work got done because the supervisor saw to it that it was done and that lax or permissive supervision was an invitation to carelessness or evasion of work.

It is well to remember here that one important element of employee-centered supervision is the personality of the workers.[31] It is the independent type of

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30. Likert, Motivation: The Core of Management. op. cit.
See also Likert, New Pattern of Management, op. cit. P. 9.

* The prevalence of close supervision was observed in the back up study also. In this respect the supervisors were more emphatic than the line sardars. According to the supervisors, tight supervision was next to wages as measures for obtaining higher productivity. The line sardars' gave much lower preference for light supervision.

31. Gellerman, Saul W., The Management of Human Relations, Holt, Rinehart and Winston, New York, 1966, Page 34.

persons who seem to work best under employee-centered supervision. For dependent type of persons, the production-centered type of supervision possibly works best. The score on the supervisory style preferred by the workers covered by this study seems to indicate that most of the workers are of the dependent type.

Another criterion about close versus general supervision is the nature of the work itself. If the work is of a technical nature, close supervision rather than general supervision leads to higher productivity. This also depends on the educational and intellectual level of the subordinates. This was demonstrated in the study of the Ohio Railway conducted by the Michigan research group. In the railway study, the researchers found that close supervision rather than general supervision gave higher productivity. This is something reverse to the findings at the Prudential and it is attributed to the different nature of the work involved in both the studies and the differential educational and intellectual level of railway and insurance workers.[32] In our view, the nature of weaving and spinning in a jute mill are such that constant presence of the supervisor is perhaps essential.

Therefore, we might say that general supervision or worker autonomy as one of the important requisites for high output is not relevant for all organisations. Our finding has support from the study of the British industry by Argyle, Gardner, and Ciofi and the Indian study by Ganguli et al. The Indian study was conducted in a government workshop and it was found that closeness of supervision was not directly related to productivity.[33] The British study did not demonstrate worker autonomy as a central variable in productivity.[34] The British study covered

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32. Strother. Individual Performance and Corporate Purpose, Wisconsin Commerce.

33. Ganguli, The Motivation and Productivity, Asia Publishing House, London, 1961, Page 54.

34. Argyle, Michael, Goldfrey Gardner and Frank Ciofi, "The Measurement of Supervisory Methods", Human Relations 10; 295-313, (1957).

factories making electric motors and switchgear and these were classed as large-batch or quasi-mass production units quite distinct from the clerical workers of Prudential studied by Michigan group. It is well to remember that selling life insurance is a classical unit production process, a one-customer-one-sale situation. Each sale is a unit by itself, typically removed from the point of supervision. Therefore, in selling life insurance, autonomy of sales agents is an important conditions of success. Jute manufacturing is a machine-induced continuous-process technology and, therefore, worker autonomy is not relevant to that extent.[35] Other factors which may frustrate general supervision include poor union-management relations, internal conflicts within the workgroup and poor personnel practices on other levels of management.[36]

WHETHER WORKGROUP COHESIVENESS AFFECTS PRODUCTIVITY: The findings of past research studies on cohesiveness and productivity are conflicting. Some studies tended to indicate that a more cohesive workgroup produces more than a less cohesive workgroup. Some studies, however, indicated that cohesiveness may be associated with low productivity. The advocates of cohesive workgroups refer to Hawthorne experiments. Both the Relay Assembly room and the Bank Wiring room were under incentive rate and workgroups in both were cohesive. But the Relay Assembly room gave higher productivity. This was attributed to satisfaction of workers' needs to a large extent and the cohesiveness was task oriented. In short, the Hawthorne studies showed that "the values and the customs of the group were more important to the individuals composing it than any cash benefits. Another oft-quoted study is that of Zaleznik, Christensen, and Roethlisberger.

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35. Cf. Dubin, Robert "Supervision and Productivity: Empirical Findings and Theoretical considerations" in "Leadership and Productivity" by Dubin et al. Chandler Publishing Company, 1965, Page 30.

36. Strauss and Sayles, op. cit., Page 126.

These researchers concluded that group membership or reward by the group, was a major determinant of worker productivity and satisfaction, while reward by management had no noticeable motivational effect.[37]

Katz et al[38] Studying groups of rail road maintenance workers and Seashore[39] investigating industrial workgroups reported no significant relationship between group cohesion and the level of productivity. Van Zelst[40] dealing with groups of bricklayers and carpenters, Katz et al[41] studying clerical office workers, Mayo and Lombard[42] in their aircraft study reported significant positive relationship between group cohesion and the level of productivity. The studies of Dubin[43] and Mikalachki[44] are also illustrative.

Therefore, one very important hypothesis of this study was that a high cohesive workgroup produces more than a low cohesive workgroup provided the basis of cohesiveness is for successful implementation of management's productivity goal rather than sabotaging it. Because of the diverse nature of findings about the relationship between group cohesiveness and productivity, we considered group cohesiveness separately as social cohesiveness and task cohesiveness. We expected to find positive correlation between productivity and task cohesiveness.

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37. Motivation, Productivity and satisfaction of workers, op. cit. Page 383.
38. Productivity, supervision and Morale Among Rail road workers. op. cit.
39. Seashore, Stanley E., Group cohesiveness in the Industrial Workgroup. Ann Arbor, Institute of Social Research, University of Michigan, 1954.
40. Van Zelst, R.H., "Sociometrically Selected Work Teams Increase Productivity". Personnel Psychology. Vol. V. No.2. 1952.
41. Productivity, Supervision and Morale in an office situation. op. cit.
42. Mayo, Elton and G.F.F. Lombard, Teamwork and Labor Turnover in the Aircraft Industry of Southern California. Harvard Business School, Boston, 1944.
43. Dubin, Robert, The World of Work, Englewood Cliffs, N.J., Prentice Hall, 1958, Chapter 12.
44. Mikalachki,op. cit.

We did not find high degree of social cohesiveness in the jute mills although the level of cohesiveness slightly varied between the mills studied. In mill No.1 correlation between productivity and the social cohesiveness of the workers was positive but in mill No.2 and mill No.3 the correlation was negative, but not statistically significant. (r = + 0.57 for mill No.1, - 0.60 for mill No.2 and - 0.29 for mill No.3).

We also did not find any correlation between productivity and task-cohesiveness. (r = + .236 for mill No.1, + .126 for mill No.2 and + .013 for mill No.3).

Correlation between social cohesiveness and task cohesiveness was also not statistically significant. (r = + 0.64 for mill No.1, + 0.37 for mill No.2 and - 0.35 for mill No.3). It is, perhaps, apparent that the position about work-group cohesiveness is much greater in mill No.1 than in mill No.2 and mill No.3. In this mill, the value of r fell short by a small margin for being significant at 10 percent. In our view the higher degree of correlation for mill No.1 is due to piece-rate system of payment which encourages workers towards greater production. One works better and gets better and hence scope for antagonistic feeling is not that prominent as in a time-rate. In this mill we found workers who are socially more cohesive also have more task cohesiveness. The negative relation between social cohesiveness and productivity in Mill No.2 is, perhaps, an indication of workers' effort to sabotage managements' effort for greater productivity. It may also indicate a sense of heart-burning on the part of more efficient workers to see that slackers also get the same remuneration as they do. In our view the lack of significance of the correlation between productivity and cohesiveness, social and task, also lies in the nature of the job. The job must require team work for cohesiveness to be more productive. When work is so

organised that the workers are highly interdependent and production depends on their ability to mesh their efforts smoothly, cohesiveness pays off. In the spinning and weaving operations of a jute mill the task of individual workers is not interdependent. The heat and noisy environment does not encourage interaction with co-workers. Difficulty to communicate seems to be a very significant factor. This has been proved in noisy steel mills and along assembly lines.[45] Another cause for low cohesiveness is possibly the lack of sharp line of division between one group and another. The plant lay out is such that it encourages a chain of interactions but not group solidarity. This is supported from Zaleznik's study.[46] The work in a jute mill is machine-paced. The line sardar is constantly present on the shop floor to look into mechanical troubles and render other help of the technical nature. Besides, there are extra workers to help the spinners. It is the responsibility of the line sardar to train new entrants into the section. Apparently the scope for mutual help among the workgroup members on job-related problems is limited. Since the work involves a continuous-process production technology requiring high structure for adequate performance, the scope for self-organisation of work and getting a measure of pride on the part of the workers for being part of a harmonious and effective workgroup is not as substantial as is possible for workers in clerical operations. One possible explanation for low degree of cohesiveness is the difficulty in thinking of themselves as members of a workgroup. Our definition of a work group referred to all the people who report to the same immediate supervisor. It seemed that the workers of Pakistani jute mills form groups on

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45. Walker, Charles R., Robert Guest and Arthur N. Turner, Foreman on the Assembly Line, Harvard University Press, 1956, Page 131.

46. Zaleznik, A., Worker Satisfaction and Development, Research Division, Harvard Business School, 1956, Pages 120-121.

a different basis. Workgroup cohesiveness is rather on the basis of customs, language or district of origin. One group is culturally isolated from the other. Riots and brawls occur among groups of workers both inside and outside the factory.[47] From this we can not possibly conclude that workers in Pakistani jute mills do not have affiliation need. We had evidence of such need - the need to have friends and to be in communication with others. This is apparent from existing groupings which we have observed and which Husain and Farouk highlighted in their study on social integration. The significant groups observed were Bengali and non-bengali, Biharl, Noakhali, Barisali, Faridpuri etc.[48] These groupings have developed animosity among them and, therefore, members of individual workgroups do not have high degree of concern for each other - a very important factor that facilitates group cohesion.[49]

Another important factor for low cohesiveness is the size of the line under each sardar and the distance involved. The average number of weavers or spinners under each sardar is over 20. This is too big a group to develop cohesiveness. Besides, worker at one end of the line is beyond the hearing distance of the other end. They are also not visible from each other being obstructed by the tall frames of the spinning department.

Evidently spinners and weavers of jute mills are so organised that it is hard to speak of them as groups. This situation lends support to Whyte's observation that well integrated workgroups are not ubiquitious in industrial

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47. Husain and Farouk. op. cit. Pages 81-82.

48. Management asked us not probe into these groupings in view of tensions among these groups.

49. Nikalachki, op. cit. Page 200.

organisations.[50] Large workgroups may find their social and egoistic needs satisfied off-the-job and may work only to be paid and satisfy physiological needs.

Lack of association between group cohesiveness and productivity may also be explained in terms of group member's confidence in management. Seashore found that high group cohesiveness was associated with high productivity if the group members had high confidence in management and with low productivity if the workgroup members had low confidence in management.[51] It is possibly because of this reason that we found negative correlation in mill No.3. This mill is considered to be one which had maximum labour troubles over the years. There has been change of management in this mill. Besides this mill does not have the elaborate facilities for workers as we observed in mill No.1. This mill is located in the outskirt of the provincial capital city and, therefore, its workers have been exposed to urban contact more than the workers in other jute mills and hence possibly more "class-conscious" resulting in dissatisfaction.[52] However, workers as a class do not seem to have developed confidence in management. One possible cause for this wide spread dissatisfaction of industrial workers is the ferment of the "rising tide of expectations" generated in the wake of independence after long period of colonial rule.[53]

Yet another explanation for the absence of job-centered informal workgroups is the stage of economic development through which Pakistan is passing Mayo and his associates assumed atomization of the society as a result of

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50. Whyte, W.F., "human Relations Reconsidered", W.L.Warner and N.H. Martin, Industrial Man: Business and Business Organisations. Harper and Brothers, New York 1959, Page 315.

51. Seashore. op. cit.

52. Kerr. op. cit. Page 251.

53. Dale, Earnest. Management: Theory and Practice. Mcgraw-Hill, New York, 1965. Page 600.

industrialisation. We are far away from that stage. We have still the traditional social groups. We do not have the social and geographical mobility of the west which reduces social ties of a person to his parental family, initial residential community and friends and, therefore, our workers do not go to the factory starved for affection and affiliation and hence the factory is not expected to provide a new social unit, a new home, a place of emotional security for the atomized individual as idealised by Mayo.[54] In consideration of the above facts, we may, perhaps, conclude that for the blue collar workers social rewards are not so effective in our setting. Workers in Pakistan can be more effectively controlled by such rewards as are appreciated by their wives, friends and neighbours.

WHETHER EMPLOYEE-CENTERED SUPERVISION LEADS TO HIGHER PRODUCTIVITY: One of the major hypotheses of this study was that supervisors in Pakistani industrial firms are production-minded with little concern for their subordinate workers. The data seemed to lend support to this hypothesis. We found that, workers in both the jute mills had perceived their supervisors as highly production-centered. Average score on the five-point scale was 3.36 for production-orientation index in mill No.1 and 3.96 in mill No.2 and 3.51 for mill No.3. Apparently under both the system of wage payment, namely, time rate and piece-rate, supervisors exert pressure for higher production although the degree of pressure needed for time-workers seems to be higher. This is, perhaps, understandable since the tendency for slackening or goofing is greater under time rate compared to piece-rate in which workers quite realise that their earnings are directly related to their efforts and hence checks are needed only for quality. Since supervisors are carrying out the directives of higher management for higher

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54. Etzioni, Amitai, Modern Organizations. Prentice-Hall, Inglewood. N.J. 1964, Page 47.

output, they have to concern themselves for production on which depends the security of their service and hence they goad the workers to produce more. They, therefore, assume the role of straw boss who demands complete obedience from the workers and cannot afford to be human-relations-oriented or to be a lax disciplinarian with a ready smile and poor production record.

Therefore, poor work draws reprimands and threats while good work is taken for granted and the paymasters' envelope is deemed enough reward for the contribution the workers make to the organisation. In a situation like this, poor score on an employee-orientation index is, perhaps, obvious. Workers in the three jute mills under review perceived their supervisors as people having very little concern for them. The average score for employee-orientation on the five point scale was only 2.01 for mill No.1, 2.02 for mill No.2 and 1.61 for mill No. 3. The supervisors do not feel that it is their responsibility to go to bat for the workers or to take friendly interest in their welfare. In the matter of complaint and grievances, supervisors seemed to have a tendency to ask them to see higher management on the plea of their inability and helplessness to do anything. In the circumstances, workers prefer to present their grievances through union leaders. It is, of course, true that under the system of centralisation of decision-making power, supervisors are left with very little power to consider workers' grievances. However, the fact remains that as direct immediate bosses of the workers and as representatives of management, supervisors could have had interaction with the workers on the job and off-the-job problems and thereby develop a sense of belonging and a feeling of closer personal relationship with the workers. It is apparent that this has not happened. They have not tried to integrate the workers with the organisation. Workers seem to believe that the company's sole aim is making money and supervisors are tools to that end.

Closer integration of the workers with the organisation demands closer interpersonal relationship between workers and their supervisors but this can hardly be achieved under the prevailing social and heirarchical arrangement. The supervisors who are at least High School Graduates and who come from higher-socio-economic background cannot think of closer interpersonal contact with their blue collar subordinates who are inferior to them in education, family background and economic backing. The old-fashioned landlord-tenant relationship seems to have been transferred to the industrial scene though in a refined manner. In the circumstances, the supervisors feel that the main responsibility for getting the department's work done rests on their shoulders and that the function of their subordinates is to do their bidding so that work could get done. In other words, they take their function as issuing instructions and following up continuously to ensure that these are carried out.

Since all of our supervisors were production-centered, it is not possible to make any general statement whether employee-centered supervision would have given better production performance. However, there were differences in the level of production mindedness of the supervisors and we tried to find the correlation, if any, between productivity and production-centeredness. The correlation was positive in mill No.2 and mill No.3 but negative in mill No.1 but it was not statistically significant ($r = -0.34$ for mill No.1, $+0.16$ for mill No.2 and $+0.34$ for mill No.3). Although the correlation is not significant, the indication is that for workers under time-rate, production-centeredness on the part of the supervisors may lead to higher output performance. The negative relation for mill No.1 is possibly a pointer that under piece-rate system of wage payment, too much emphasis on production may promote resistance to increased output. This has been demonstrated in the score on employee-centeredness of the

supervisors. The correlation between productivity of the six workgroups and their supervisors' employee-orientation was found to be positive for mill No.1 and mill No.3, and negative for mill No.2 but the correlation was statistically significant in neither of the two cases (r = + 0.18 for mill No.1, - 0.42 for mill No.2 and - 0.45 for mill No.3). Apparently although the evidence is not strong, in a system of rewarding people by the time put in rather than output turned out, employee-orientation on the part of the supervisors may encourage happy family atmosphere and laxity towards production. However, one interesting feature of the finding of the study is that we did not find any evidence of the mixed style which the Michigan researchers have come to regard as optimum.[55] The mixed style blends the elements of both employee-centered and production-centered methods. Such a style adapts itself continuously to the demands of the job and the needs of the people being supervised. To use Likert's words, "if a high level of performance is to be achieved, it appears to be necessary for a supervisor to be employee-centered and at the same time to have high performance goals ....."[56]. In two mills covered by this study we found that supervisors who had exhibited more of employee orientation than others possessed less production orientation than others. In other words, in these mills supervisors who showed relatively higher concern for production showed relatively lower concern for people. This is how one can possibly explain the negative correlation between supervisors' production-orientation and employee-orientation (r = - .34 for mill No.1 and - .16 for mill No.2). But the finding in mill No.3 was quite reverse. In this mill we found a positive correlation, though not statistically significant (r = + 0.62) between supervisors' concern for people and concern for production.

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55. Gellerman. The Management of Human Relations, op. cit. Page 35.
56. Likert, New Patterns of Management. op. cit. Page 8.

What conclusions can we draw from the above analysis of production-centered and employee-centered supervision ? How do we explain the lack of significant correlation between supervisory style and productivity ? We have seen that the difference in productivity level between high producing groups and the low-producing groups was statistically significant. From the lack of significance in the difference in the level of production-centeredness and employee-centeredness of the supervisors, can we say that productivity is independent of supervisory style? It is well to keep in mind the supervisory people whose style of supervision we have been discussing so far.

These are the people who are "recognised" supervisors. They represent the lower end of the managerial heirarchy. As we have mentioned earlier, they are not the first-line supervisors in the real sense. The true first line supervisors are the line sardars who are skilled top workers in the eye of management. But they are not workers in the sense of actual attendance to machines of their own and hence they are not working supervisors in the American sense. They supervise work of the actual workers. They are integrated with the workers since they live and interact with workers. They do not have superior education or class feeling like the supervisors and hence they can see the workers' problems better. And surprisingly enough the concept of supervisory styles, production-centered or employee-oriented supervision seems to fit the line sardars quite well. For instance, we found that the correlation between line sardars' employee-centeredness as perceived by the workers and their productivity was positive in all the three jute mills. It was statistically significant at one per cent for mill No.1 and at 5 percent for mill No.2 and mill No.3 ($r = + 0.97$ for mill No.1, + 0.84 for mill No.2 and 0.91 for mill No.3). Similarly the correlation between line sardars' production-orientation and his groups' productivity was found to be significant for all the jute mills, at 10 percent for

mill No.1 and 5 percent for mill No.2 and mill No.3 (r = + 0.71 for mill No.1, + 0.85 for mill No.2, + 0.93 for mill No.3). We also found that the line sardar, who had high concern for production also had fair degree of concern for the people under them. The correlation between sardars' production-mindedness and their concern for people supervised by them was statistically significant (r = + 0.84 for mill No.1, + 0.72 for mill No.2 and + 0.91 for mill No.3). In the face of these findings, we can possibly say that the higher productivity of the high-producing work groups was due to a blending of production-orientation and employee-orientation on the part of the line sardars. This finding of ours lends support to Likert who feels that supervisors who have a supportive attitude toward their men and endeavour to build them into well-knit teams obtain higher productivity than those who have a threatening attitude.[57] If this finding is taken as accurate, it will be evident that like western workers, Pakistani workers also do not consider traditional reward of more pay or security enough to provide motivation to lead to increased productivity.[58] Evidently we can also say that in getting higher production from the workers in the Pakistani jute mills, the role of the line sardars is more significant than that of the so-called white collar supervisors. Apparently, the line sardar is truly the man-in-the-middle as the American foreman is purported to be. The data on supervisors' and line sardars' production-orientation and employee-orientation were fitted into the Blacke and Mouton Managerial grid.[59] This is shown in the attached graph. It appears that of the 18 supervisors, none is below 5 in

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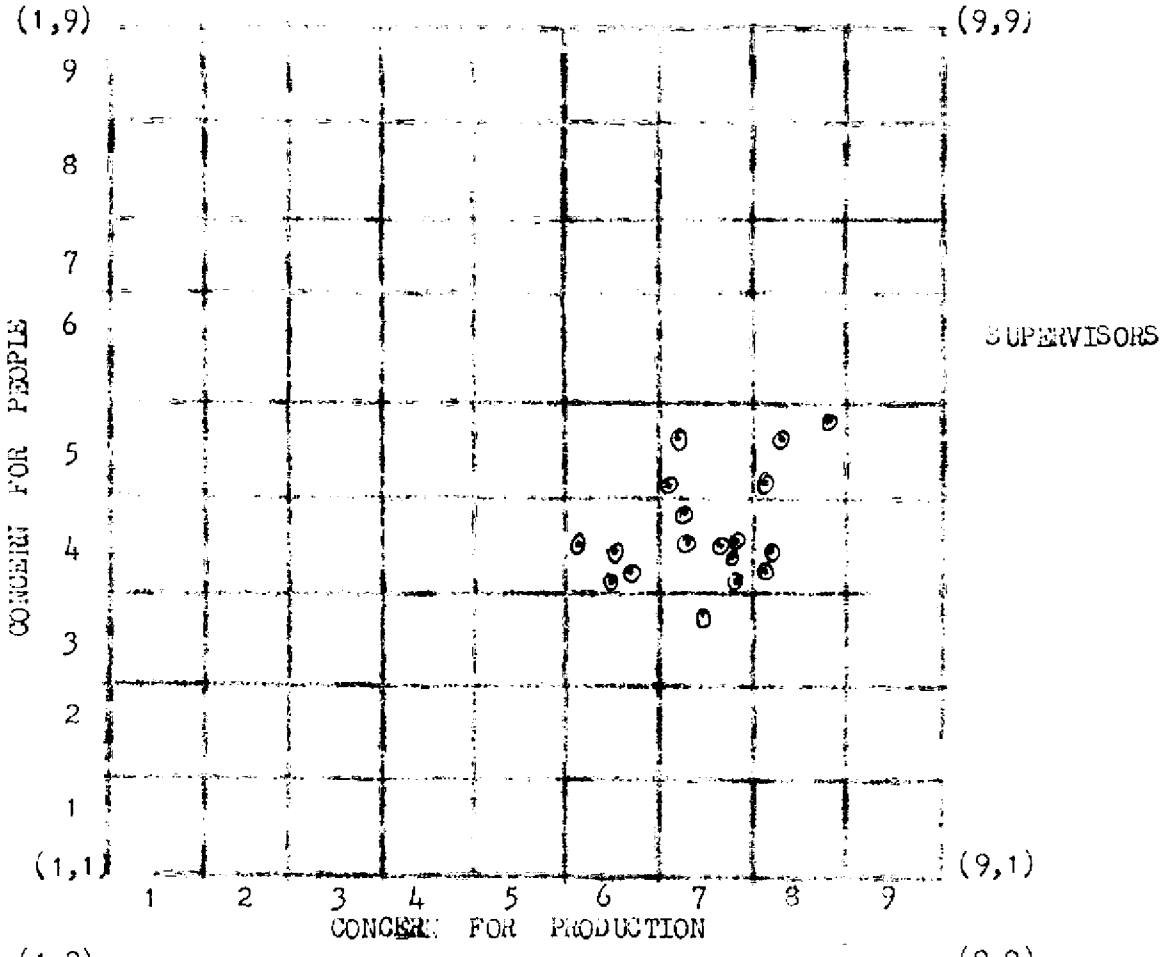
57. Likert, R., Measuring Motivational Performance. Harvard Business Review, Vol. 36, No.2, March-April, 1958, Pages 41-52.

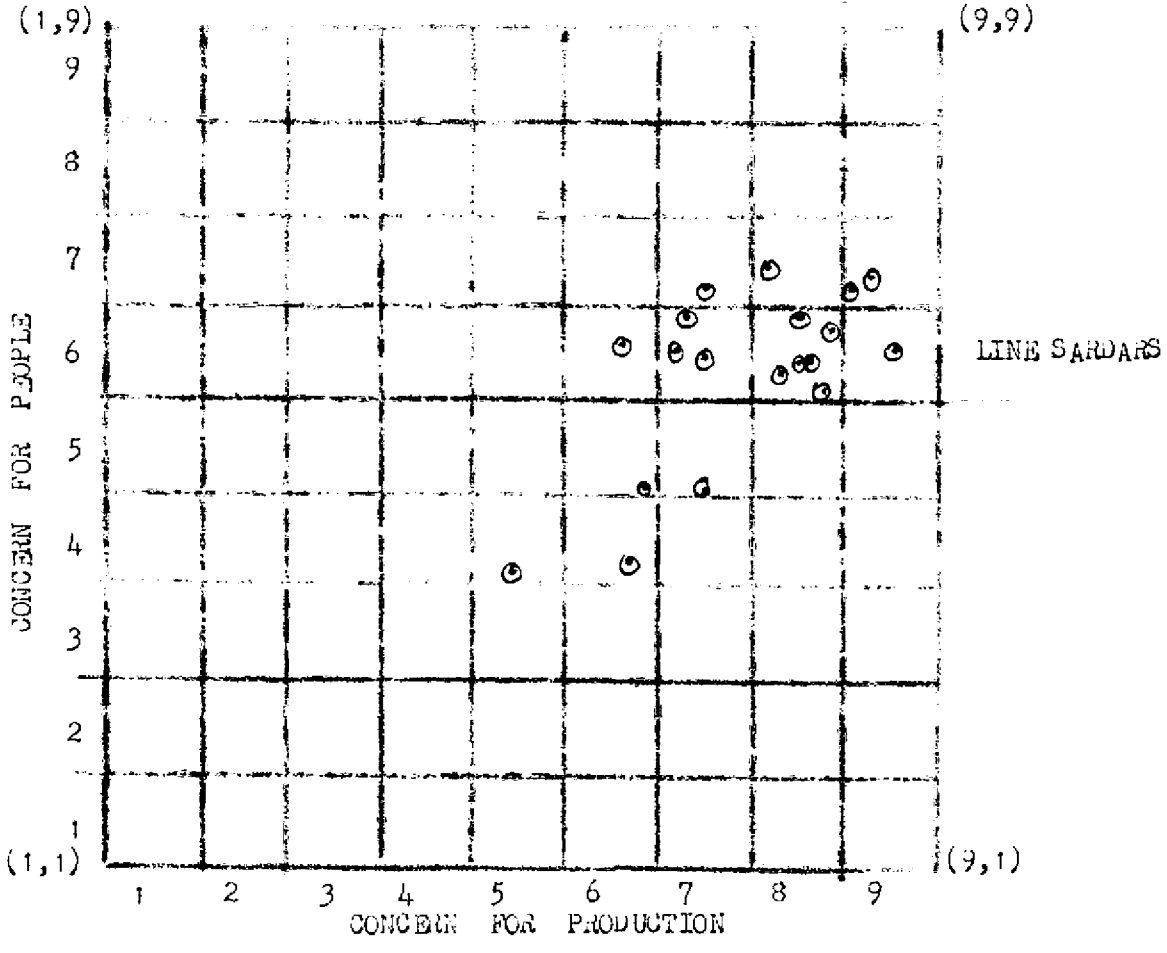
58. Maleznik, Christenson and Roethlisberger, op. cit. Page 354.

59. Blake, R.R., and J.S. Mouton. The Managerial Grid. Houston, Texas, Gulf Publishing Company, 1964.

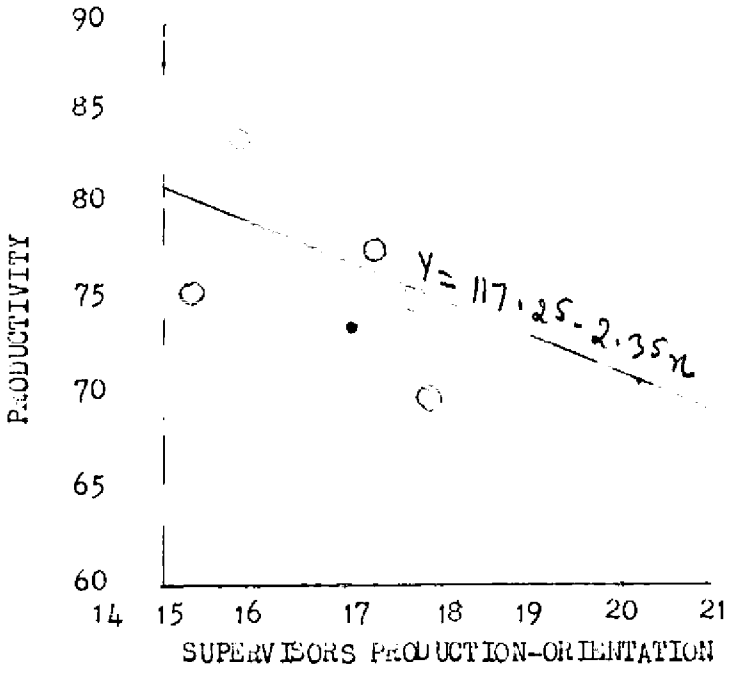
emphasis for production but only 5 are above 4 in concern for people. As compared to this, of the 18 line sardars, one is below 5 in emphasis for production but 16 out of 18 were above 4 in concern for people. Evidently supervisors are more concerned for production but less concerned for people while the line sardars have high concern both for production and for people. (See managerial grid in graph next page). Regression lines were also drawn for productivity on these four variables separately as shown below :-

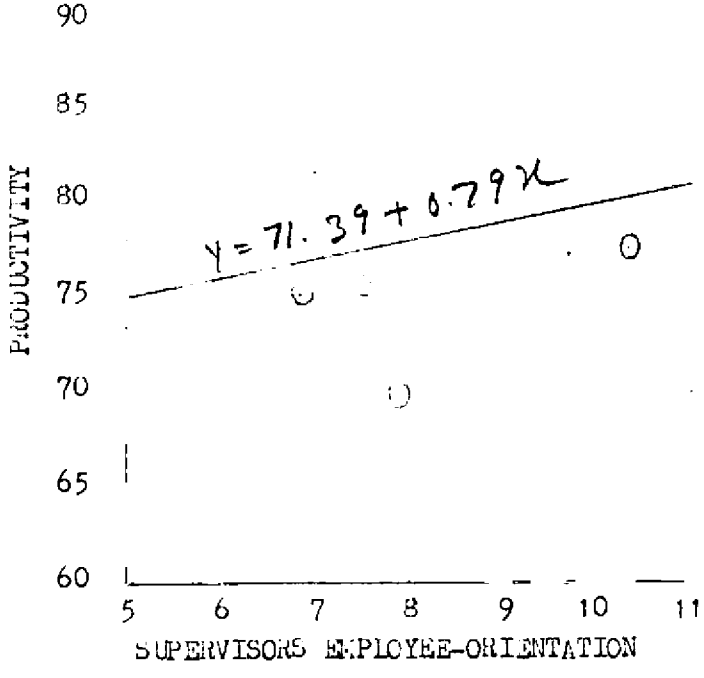
SUPERVISORY STYLE FITTED INTO BLAKE AND MOUTON MANAGERIAL GRID

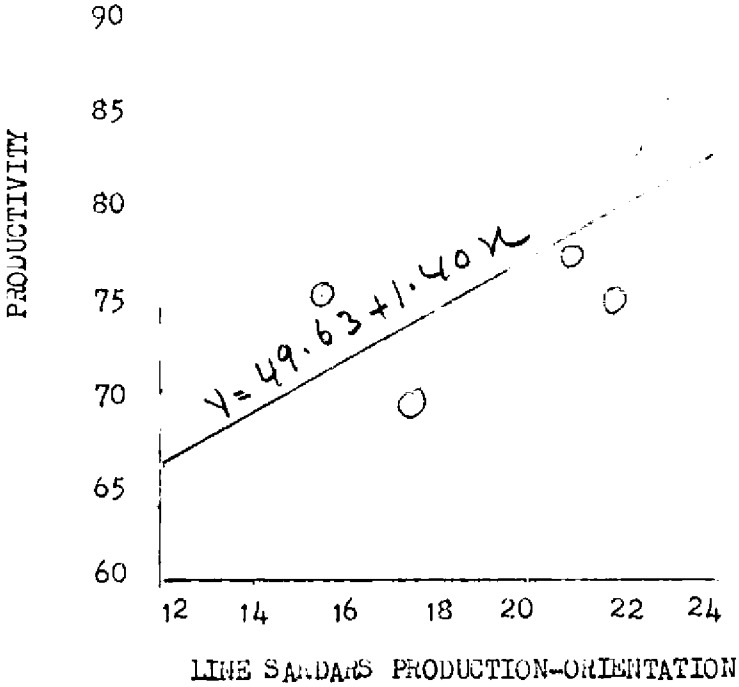


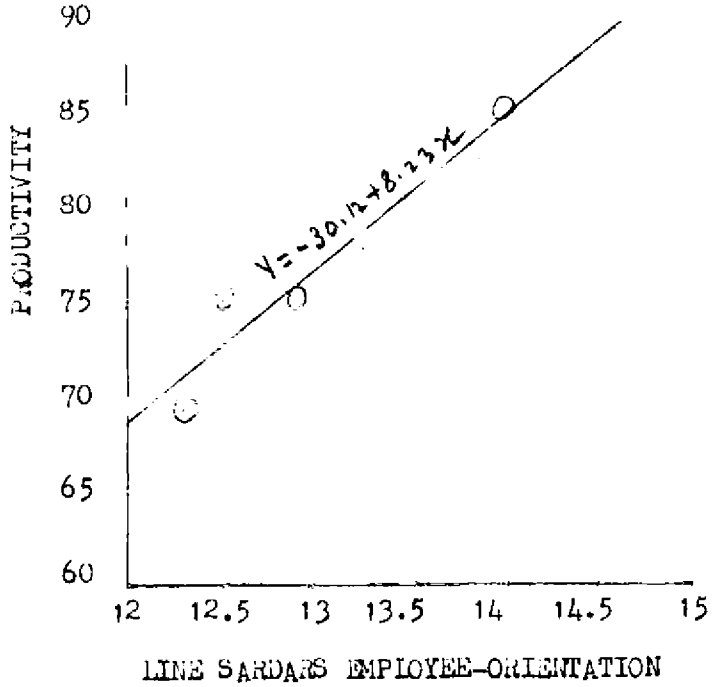


REGRESSION LINE - MILL NO. I

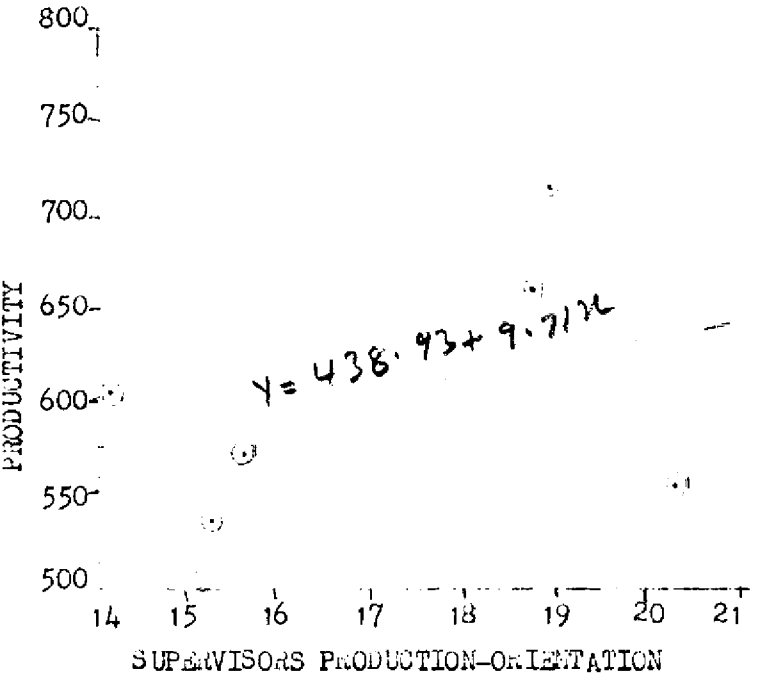


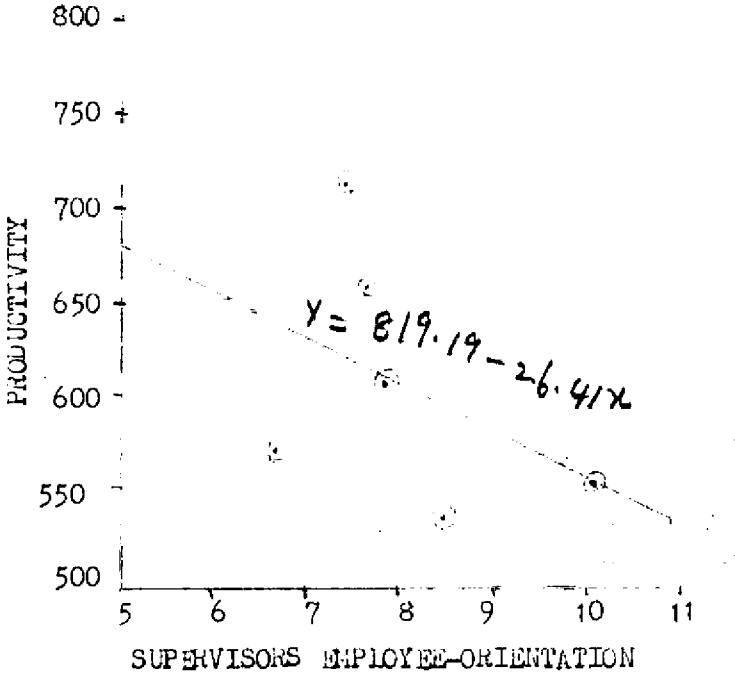


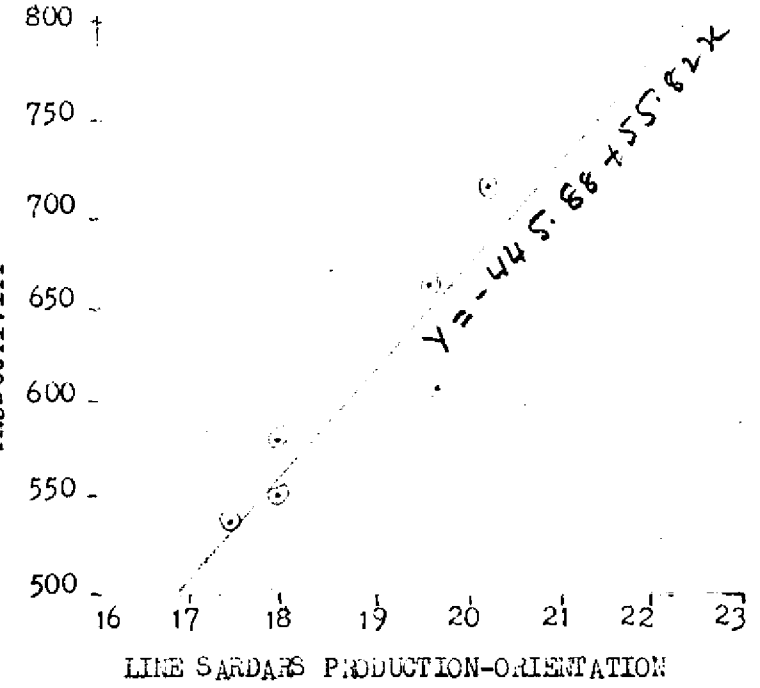


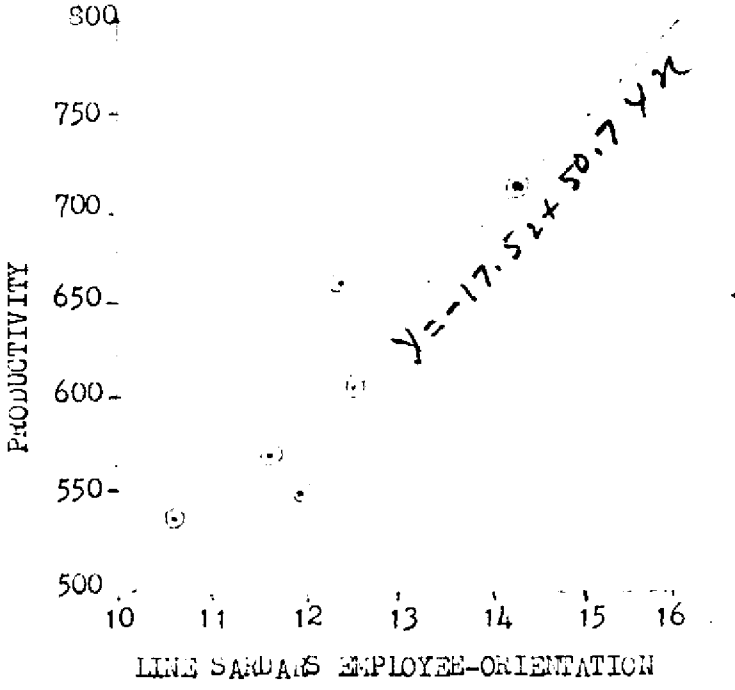


REGRESSION LINE - MILL NO.3









WHETHER INTERPERSONAL SATISFACTION BETWEEN WORKERS AND SUPERVISOR AFFECTS PRODUCTIVITY : The above finding was considered very much meaningful in view of the fact that it supported the hypothesis relating to the main focus of the study, namely, employee-centered supervision renders high productivity. We, therefore, decided to study the issue in further depth. Accordingly, we broadened the scope of the analysis to individual workers. This was done in view of the criticism of Victor Vroom that analysis of supervisory orientation and productivity on group basis reveals simply the average effects whereas over-all productivity improvements are largely due to the favourable response of a part of the group.[60] We interviewed 226 weavers* working on piece-rate in six jute mills randomly selected. In order to get an idea about man-boss relationship between the workers and supervisors we asked the workers to mention three reasons for which they disliked their line sardars and supervisors. We assumed that if a worker perceived his line sardar and supervisor as employee-centered, he would have a likening for these people and he would refute our question saying that he did not dislike his line sardar and supervisor. It appeared that 19 percent of the workers liked their line sardars and 2 percent liked their supervisors. They stated that they did not have any reason for disliking them. About 72 percent of the workers disliked their line sardars and 90 percent disliked their supervisors and mentioned the reasons for their dislikes. The reasons mentioned were as follows:

Reasons for dislike	Percentage disliking line sardars.	Percentage disliking supervisors.
1. Rude behaviour	17	35
2. Lack of sympathetic attitude towards workers' grievances	7	29
3. Apathy towards quick repair of machines	10	24
4. Rebuking for going out	10	9
5. Lack of skill	28	11
6. Favouritism or injustice	16	5

60. Vroom, Victor H. Some Personality Determinants of the Effects of Participation. op. cit.

* This back up study was undertaken under the auspices of the Bureau of Economic Research, Dacca University.

Reasons for dislike	Percentage disliking line sardars.	Percentage disliking supervisors
7. Roaming outside and not helping workers in job-related problems	50	-
8. Taking bribe and other illegal gratification	5	3
9. Refusal to record production accurately	-	10
10. Rebuking workers for low production without trying to know the reasons	-	9
11. Rebuking for bad weaving without considering the reasons for the same	-	14

It will appear from the above data that supervisors are more disliked for rude behaviour, lack of sympathy and unfair rebuking. The line sardars are more disliked for favouritism, bribery and reluctance to help in job-related problems. The practices are not compatiable with the practices listed for an employee-centered supervisor. The views of the workers on the above supervisory practices appeared to be valid. We interviewed 31 supervisors and 36 line sardars about the faults on the part of the workers for which they take disciplinary action against them. The reply was as follows :

Faults on the part of the workers	Percentage of line sardars taking action	Percentage of supervisors taking action.
Going out and loitering	54	65
Bad weaving	35	61
Misbehaviour	20	52
Wasting yarn	20	10
Persistently low production	35	39
Fighting inside the mill	15	13
Irregularity in attendance and departure	11	36
Indifference to work	22	35
Intentional damage to machine & machine parts	13	32
Absenteeism	4	48
Agitation against management	2	19

It appears that the line sardars and supervisors are equally active in disciplining for offences like persistently low production and fighting inside the mill. The line sardars are more concerned about wastage of yarn but supervisors are worried about going out, product quality, punctuality in attendance and departure, absenteeism and agitation against management. The supervisors also seem to be more sensitive about workers' behaviour.

The data on individual worker's productivity and his liking or disliking for the line sardar and the supervisor were put to X^2 test. The value of X^2 for the supervisors came to 12.74 at 6 d.f. i.e. significant at 5 percent. The value of X^2 for the line sardars came to 18.42 at 7 d.f. i.e. significant at 1 percent. The average productivity of those who liked their supervisors was 35.06 compared to 33.55 for those who disliked their supervisors. Those who liked their line sardars had an average productivity of 35.93 as against 33.40 for those who disliked their line sardars.

Apparently individual worker's productivity is dependent on his liking his supervisory people. The worker who does not have any reason for disliking his line sardar or the supervisor produces more. In other words, workers who dislike their boss for various reasons do not work as hard and as sincerely as those who like their boss. Apparently supervisors being liked by the subordinates leads to higher productivity of the workgroup.

WHETHER PAKISTANI WORKERS WORK FOR MONEY ONLY: It is common knowledge that Scientific Management placed an important emphasis on pay as a motivating factor for good job performance and thus popularised the concept of "Economic Man". This assumption about workers which Mayo termed as "rabble hypothesis" is still with many management people in the West. For instance, Haire et. al., put it this way. "Pay is the most important single motivator in our organised society".[61] In the opinion of many management people, Western Electric studies marked the beginning of the end for the concept of Economic Man. For instance, Brown felt that wage systems are not, in themselves, an important determinant of pace of work, application to work or output.[62] Herzberg et. al., reviewing 20 studies concluded that only moderate importance is attached to pay as a job factor. There is a trend toward the new concept of "Social Man" or "Social Self-actualising Man."

61. Haire, M. E.E. Chiselli and L.W. Porter, Psychological Research on Pay: an overview. Industrial Relations, 1963. 3(1), 3-8.

62. Brown, W., Piece-work Abandoned. London. Heiman 1962, P. 15.

According to the advocates of the new concept, Maslows' hierarchy of needs neatly explains this. Why pay is unimportant ? Megregor and Likert built up their motivational schemes for organisation that have downgraded pay as incentive. While discussing social, egoistic and self-actualization needs Western Scholars particularly those in the U.S.A. make a tacit assumption that these are especially relevant for American Society where a strong egalitarian tradition teaches one to cherish independence and to assume that no one is really entitled to tell one what to do.[63] Likert holds a different view. In Likert's' opinion the employee-centered approach has universal applicability.

One of the objectives of the present study was to examine the validity of Likert's assumption. We asked our respondent workers to rank in order of preference 3 things which they wanted to get out of their jobs. These 3 things were : High Pay, Job security and good supervisory behaviour. We found that pay was ranked third in mill No.1, and first in mill No.2 and mill No.3 Apparently workers are not unanimous in giving first preference to "High Pay" - which is a pre-requisite for the satisfaction of their physiological needs. Taking workers of all the three jute mills together we found the mean ranking as follows :

High Pay	:	2.00
Job security	:	2.08
Good boss	:	1.91

Evidently top preference is for good boss who will hear their complaints sympathetically and who will treat them as human beings rather than tools of production. It is interesting to note here how workers relate higher income to good supervisory behaviour. They seem to think that if the supervisor is sympathetic they can work with an open and unworried mind and show better job performance and that ensures their job security as well as earning. Our

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63. Gellerman. The Management of Human Relations, op. cit. P. 8-9.

discussion with the workers left the impression that if the supervisors whom they treat as more knowledgeable and superior like their elders, take an interest in their welfare, talk to them with a smile and explain their instructions in a calm manner, they feel like working hard. If the feelings expressed by our respondents are true, they are probably an indication of the validity of Likerts' observation that the high return of human-relations-oriented approach is not limited to the United States. This finding of ours is different from that of Ganguli who studied a Calcutta engineering factory. In an 8-item index Ganguli found the top priority for adequate income, sympathetic boss ranking fifth. However, even in Ganguli's[2] investigation elderly people (40 or more years of age) were found to give greater emphasis on good supervisory behaviour than pay.[64] It will be apparent from our findings that material incentives alone are not enough even for Pakistani subsistence workers. Even negative incentives like the threat of loss of job is not enough to spur higher productivity. A supportive approach is also needed. In the face of this evidence it is, perhaps, hazardous to conclude that all of our workers have deadened their aspirations or even that they will continue to be satisfied for the rest of their lives if only they can get enough food. Management desirous of getting optimum productivity from its workforce should, therefore, keep in mind that most behaviour is multi-motivated. Any behaviour tends to be determined by several or all of the basic needs simultaneously rather than by only one of them, namely, pay.

WHETHER SUPERVISORS IN THE INDUSTRIAL ENTERPRISES OF PAKISTAN ARE AUTHORITARIAN: One of the objectives of this study was to examine the validity of the views expressed by a few western scholars about the supervisory style of front-line people in Pakistan. We found these observations supported by our data.

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64. Ganguli, H.C., Industrial Productivity and Motivation, Asia Publishing House, London, 1961, P. 32.

For instance, in the 8-item authoritarianism index, the score lent support to the observations of Weatherford that supervisory people in Pakistan are authoritarian in their attitude. We found a significant degree of feeling in the supervisory people that workers are inherently lazy and try to avoid work and therefore, they should be kept under watchful eye and constantly goaded. In other words, supervisory people involved in this study appeared to resemble the typical supervisor designated as theory 'X' type by Mcgregor. Of the 18 supervisors, only one exhibited a slight indication of theory 'Y' type.

The 18 line sardars also exhibited authoritarian attitude. As the real front-line supervisors, line sardars, as we have already indicated, are more important in getting production. We found that the score on the authoritarian index for line sardars was higher in mill No.2 than in mill No.1 and mill No.3. It is necessary to remember that our samples in mill No.1 and mill No.3 are paid by piece-rate while those in mill No.2 are paid time rate. Evidently line sardars had to exert more to get production from time workers.

The authoritarian attitude is a function of several factors. First, it may result from the social conditioning of the supervisors. Second, it may be a general belief that authoritarian rule is the best alternative of getting things done. This notion is not confined to Pakistanis alone. Even some American scholars have prescribed authoritarian measures for higher production performance in Pakistan. For instance, Snyder has suggested constant weighing of the merits of encouragement and incentive, the carot versus penalty-the stick-as the means to reach desired target achievement. He felt that penalty may be more productive than incentives in encouraging productivity.[65] Another American Scholar, namely, Clark Kerr feels that the stage of industrialisation through which developing

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65. Snyder, Herbert J. op. cit. P. 135.

countries (like Pakistan) are passing is a stage suitable for raising productivity rapidly through authoritarian approach.

Third, supervisors may not be authoritarian in themselves. Their attitude may reflect the authoritarian pressure exerted on them from above. We found support for this hypothesis. All the supervisors maintained that they were under pressure from higher management for production. All the line sardars in the same way reported of high pressure from supervisors for production.

WHETHER AUTHORITARIAN SUPERVISION IS UNDESIRABLE : We have seen that both the supervisors and the line sardars have authoritarian attitude toward the people under their control. It is now for consideration whether such authoritarian approach can be termed as undesirable or harmful. In our view the style of supervision is situational. Neither democratic supervision nor authoritarian control is ideal for all situations. The ideal style is that one which fits into the personality type of the subordinates. For people with dependent personality, the authoritarian approach seems to work better. Since our objective is to stress appropriate supervision rather than making a blanket prescription for any particular style, we wanted to see to what extent the present style of supervision received by the workers in our jute mills fulfills their expectations and needs. In fact, a sophisticated interpretation of employee-centered supervision stresses its adaptibility and its adherence to a consistent appreciation of what the employees want and need rather than a doctrinaire insistence on being permissive.[66] The English researcher Woodward aptly remarked there can be no one best way of organising a business.[67] In the words of Likert, supervision is always an adaptive process. A leader, to be effective must always adapt

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66. Gellerman. Management of Human Relations. op. cit. P. 39.

67. Woodward, Joan, Management and Technology - HMSO, London, 1965 edition, P. 10.

his behaviour to fit the expectations, values and interpersonal skills of those with whom he is interacting.[68]

We found that workers involved in our study expected rather authoritarian supervision; they felt that a supervisor should be a strong disciplinarian in enforcing company rules and production targets. They also seemed to believe that a supervisor who mixes with his people in a friendly way fails to exact production. They felt that the extent of goofing and slackening would increase in the absence of the supervisor from the section. They hail from a society which has been authoritarian in attitude and hierarchical in structure. They have become accustomed with their timid passivity to the intellectual arrogance of the privileged. They have been subjected to rewards and sanctions, praise and punishment, not only by parents and teachers but by a number of people such as aunts and uncles, elder brothers and sisters, cousins and grand parents. In a situation like this, development of initiative has been retarded; instead they have developed an innate ability to get around people and problems. They have learnt to respect age, education and seniority.[69] Therefore, if the workers accept the authoritarian approach willingly and if they do not question the bonafides of their supervisors in giving orders, the authoritarian approach or production-centered supervision may be successful. It seemed that workers investigated by us did not dislike authoritarian treatment. What they disliked was the manner in which the orders were issued and punishment was administered. They wanted a living wage, job

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68. Likert, R., "Effective supervision: An adaptive and Relative Process, Personnel Psychology, 1958, 11, 327.

69. This situation prevailed in USA at the turn of the present century. Students were tought, both at home and at school, to show strict obedience to their elders. And so the child-grown-man-found little difficulty in adjusting to stern discipline in the office or the factory. See Strause and Sayles. op. cit. P. 107.

security and sympathetic hearing of their complaints and grievances. They also seemed to desire that their supervisors be sensitive to their needs and treat them with empathy. They admitted that a supervisor who can combine production-orientation with some concern for the people get relatively higher production. Our data lent support to this so far as line sardars were concerned. We found that line sardars who blended employee-orientation and production orientation got higher production than those who could not do that.

Apparently supervisors in Pakistani jute mills find authority as the easiest way to force people to work. The philosophy behind such tactics is this: "Be strong, Be tough, Get the job done by breaking resistance and antagonism". This approach pays them since most of the workers and their families are so close to starvation that material, off-the-job needs for food, clothing and shelter are paramount. Under their poverty-stricken conditions and in the absence of strong unions, workers' social and egoistic needs are sacrificed for economic ones. Workers know that there is a reserve of workers (usually about 10 percent of the employed workforce) ready to take up the work if any one quits, or is discharged. They quite understand that management is in a privileged position to fire them since it experiences no difficulty in obtaining alternative hands. In fact, the presence of dozens of workers everyday in the factory gate makes management to some extent indifferent to the needs and sentiments of the workers. Management finds little visible cost in recruiting people. There is no cost for training either since no training is given. The knowledge that the new entrants have picked up by working as badliwala (substitute) in leave vacancies is considered enough.

It is, therefore, no wonder that supervisory people will show authoritarian attitude towards their subordinates. However, we cannot categorically state that these Theory X type supervisors are getting optimum efforts from their

workers. The relatively higher productivity obtained by those line sardars who blend production emphasis with some concern for people leaves an impression that theory X is not the only way to get things done. We have observed quite a big number of workers dislike officiousness although they like strong-willed supervisors. They prefer to be asked "please do it" rather than "S.O.B. you will do it". This is akin to what Mary Parker Follett calls 'depersonalising' in giving orders. However, this is different from what Drucker Calls "Treating workers as "Glorified machine tools"[70]. Such supportive and considerate attitude may result if our supervisors feel and recognise that workers have brains and ingenuity as well as muscles. The Scanlon plan in U.S.A. based on this recognition has proved successful.[71] However, that was in what Drucker Calls "industrial civilisation"[72]. In the course of our interview we felt that no blanket prescription of theory X or theory Y is possible. We noticed a difference in the manners in which the workers liked to be treated. We could probably say "theory Z" based on differential need level will work better. We deduce theory Z from Maslows' contribution to motivation process. We may perhaps conclude that authoritarianism may give way as union movement gets solid foundation and as more workers become urban bred. The Japanese experience is a pointer to this direction.[73]

WHETHER FIRST-LINE SUPERVISION IS ADEQUATE : It is the opinion of practical management people that first-line supervision is one of the most demanding jobs in all of industry.[74] A first line supervisor is charged with getting a job done

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70. Drucker, Peter F., Practice of Management. P. 280.

71. Lesieur, F. The Scanlon Plan. Wiley & Sons, 1958.

72. Drucker Peter, F., The New Society, Harper & Brothers, New York, 1949, P.151.

73. Odaka, Kuno, Industrial Relations, University of California, Vol. 3 No. 1, 1963, P. 101.

74. Gellerman, Management of Human Relations, op. cit. P. 8.

through men who are adults like himself. He is in the midst of a conflict in which his workers attempt to defend their ego against his domination and he attempts to defend his ego against their unwillingness to accept his leadership. Therefore, establishment of an effective working relationship in these circumstances calls for uncommon patience, wisdom and fairness. In our view, the line sardars in our jute mills are not adequately equipped to perform this job. They are charged with the responsibility for getting production, but they are skilled workers, clothed with little latitude in decision-making authority. They live poised between the two worlds of management and labour. To use Roethlisberger's words, the line sardars are "masters and victims of double talk."[75] In the opinion of managerial people, he is a worker pure and simple, and from that point of view, the line sardar is not even what Donald Wray calls "marginal man of industry".[76] In fact, the line sardar, our first-line supervisor, finds himself caught in "no man's land" between the recognised lower end of management and the workers at the operating level. If we do not recognise the line sardars as first-line supervisors representing the lower end of managerial hierarchy, as our jute mill managers do not, the span of supervision of the white collar management recognised 'supervisors' extend over a workforce exceeding one hundred in each of the jute mills. Providing information, material, organisation and guidance to this vast workforce most of whom are illiterate, untrained and unaccustomed to factory life, is possibly an impossible task and therefore rational use of man and materials is affected thereby. This aspect of factory management in Pakistan was, therefore, adversely commented on by western scholars.[77] The

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75. Roethlisberger, Fritz J., "The Foreman; Master and victim of Double Talk". Harvard Business Review, Spring 1945.

76. Wray, Donald E., "Marginal Men of Industry"; The Foremen, American Journal of Sociology. 298-301 (Jan. 1949).

77. Weatherford. op. cit.

adequacy or inadequacy of supervision may be guessed from the fact that the formally recognised supervisors are less knowledgeable than their subordinates, the line saruars, who have learnt the job by doing unaided by any training programme. This situation seems to violate the principle enunciated by John D. Rockefeller, Sr. the first man to make a billion dollars in the petroleum business that, "good management consists in showing average people how to do the work of superior people". It is rather difficult to say to what extent the less knowledgeable people can arouse enthusiasm in the more technically knowledgeable people, although capacity to arouse enthusiam among his men has been recognised as the most precious personal asset of a supervisor.

CHAPTER - VII

CONCLUSIONS AND IMPORTANCE OF THE FINDINGS:

1. The first hypothesis in this study was that front-line supervisory personnel in Pakistan are authoritarian in their attitude toward their subordinates. The data supported this hypothesis. Both the supervisors and the line sardars were mostly theory x type and believed that workers are lazy and, therefore, have to be goaded with strong hand for "getting things done" by them. They did not believe that workers are so intelligent and responsible that they might be allowed to work their own without detailed instruction and constant check. (vide Pages 93-95).

2. The second hypothesis, namely, the supervisory people at the front-line assume authoritarian and production-centered approach partly because of the pressure exerted on them from above also found support from the data collected in this study. Both the supervisors and the line sardars stated that they were under constant pressure from the production manager, and the general manager. The supervisors transmitted below the pressure exerted on them from above and this made them worry about production. (vide Pages 95-96).

3. The third hypothesis in this study was: "the greater the employee-orientation of the supervisor of a production section, the higher the section productivity". The data did not show any significant indication to support this hypothesis so far as the supervisors were concerned. The reverse was also not true. The supervisor who subjected his group to greater degree of pressure did not appear to get higher production either. However, individual workers who liked their supervisors were found to produce more.

But the data supported the hypothesis so far as line sardars were concerned. There was significant correlation between the line sardars' employee.orientation

and the productivity of his workgroup. The reverse was also true, namely, the line sardar who showed more concern for production actually obtained higher production. The association between the line sardars' production-orientation and the productivity of his workgroup was positive and statistically significant. (vide pages 121-127)

4. The above findings lent support to our fourth hypothesis, namely, employee-orientation renders high productivity only when it is integrated with production-orientation. Our data indicated that a successful line sardar is one who has high concern for production and also high concern for his people (vide graph in page No. 127). There was positive significant correlation between a line sardar's production-orientation and employee-orientation. So far as supervisors are concerned, we found slight positive association in one mill between a supervisor's concern for production and his concern for people. In the other two mills the supervisors did not seem to have blended their concern for production and their concern for people. (vide pages 125-129)

It was however, found that individual worker's productivity was dependent on his like/dislike of his supervisory people. That is to say, a worker who liked his supervisor produced more than one who disliked his supervisors for some reason. The same was true about the line sardars, namely, those who liked their line sardar produced more than those who disliked their line sardar.

5. The fifth hypothesis in this study was : "satisfactory inter-personal relationship between a supervisor and the people under him is positively related to their productivity". There was support for this hypothesis. There was definite relation between interpersonal satisfaction of a worker with his boss and his level of productivity. A worker who likes his supervisor or line sardar produces more (Pages 129-130).

6. Our next hypothesis was: "the greater the influence of a supervisor in the organization, the higher the productivity of his group". There was no indication in support of this hypothesis. In none of the jute mills under investigation the supervisors were perceived to have influence in their organizations. There was no association between the influence a supervisor had in the organization and the productivity of his group. (vide Page 84)

7. Our seventh hypothesis was: "The closer the supervision, the lower the group productivity". The data did not indicate any definite association. The evidence of the relation between closeness of supervision and productivity was not conclusive. Both the high-producing and the low-producing groups perceived that they were under close supervision and there was no significant difference between the high-producing and the low-reducing groups in this respect. But there was some indication that those who thought that close supervision was good actually produced more. In all the three mills it seemed that the greater the degree of close supervision desired by the workgroup the higher was the group productivity. (vide page 82)

8. The eighth hypothesis in the study was: "the greater the degree of cohesiveness among the group members, the higher the group productivity". Our data did not indicate any conclusive support for this. In all of the jute mills under study the degree of cohesiveness among the workgroup members both social cohesiveness and task cohesiveness was very low. Correlation between productivity of a workgroup and its social cohesiveness was positive in one mill and negative in the two other mills but the relation was not statistically significant. Correlation between group productivity and its task cohesiveness was also not significant. (vide Pages 86-88)

9. Our nineth hypothesis was that productivity is positively related to employees' satisfaction with their pay. There was evidence to support this hypothesis. It was found that workers who were more satisfied with their pay produced more. Correlation between group productivity and group members' satisfaction with their pay was positive and statistically significant. (vide Page 83)

10. Our tenth hypothesis was that group productivity is positively related to group members' feeling of job security. The data supported this hypothesis. It was found that workers who were more secure about their employment produced more. (vide Pages 83-84)

11. The eleventh hypothesis was that workgroups' productivity was related to the group members' satisfaction with the company. There was no evidence to support this hypothesis. The level of company satisfaction was the same for both high-producing groups and low-producing groups. (vide pages 84-85)

12. Our next hypothesis was that the higher the employees' pride in their company, the greater was their productivity. The data did not support this. There was no evidence that workers who had more pride in the company they worked for, produced more. (vide Pages 85-86)

13. The thirteenth hypothesis in this study was that productivity was positively related to the age of the employees. There was no evidence to support this hypothesis. (vide Page 92)

14. Our fourteenth hypothesis was that productivity of the workgroup is positively related to its job experience. The data did not support this hypothesis. There was no significant relation between the productivity of a workgroup and its experience. (vide Page 92-95)

15. The fifteenth hypothesis in this study was that the productivity of a workgroup is positively related to its educational attainment. The data seemed to contradict this hypothesis. In two of the three jute mills under study, the correlation was negative and in one of them the correlation was statistically significant. (vide Pages 99 - 101)

16. Our sixteenth hypothesis was that a worker who is more adjusted to the handling of his machines and work tools produces more. Our data indicated evidence of support for this hypothesis. In two of the three jute mills investigated, the correlation between productivity of individual workgroup and its adjustment to machines was statistically significant. It was positive in one mill but negative in another. (vide Page 103)

17. The seventeenth hypothesis in this study was that there is a positive correlation between productivity of a workgroup and its economic motivation. The data supported this hypothesis. It was found in all the jute mills that workers who were more economically motivated produced more. (vide Pages 109-112)

18. Our hypothesis no. 18 was that Pakistani workers respond favourably to supportive supervisor-worker relationship inspite of their being born and brought up in an authoritarian environment. The data indicated support for this hypothesis. There was no evidence that workers, in general, give topmost priority to economic benefits. It appeared that once employed, workers show preference for a good boss who will hear their grievances sympathetically and who will treat them in a supportive manner. (vide Page 130)

The above 18 hypotheses are not separate elements; they rather form part of the humanside of the enterprise. In the growth sectors of the economy, we must develop those human qualities, traits and capacities that contribute to the income-generating process of the enterprise. In other words, we must stress

qualities like productive efficiency, skill, adaptibility, economic motivation, commitment to a new system of rules and discipline and forward-looking attitude to work. Industrial workers will not develop as effective growth agent if there is high rate of absenteeism, labour turnover and general preference for leisure over income. It is, therefore, necessary to explore how far the above findings of ours are relevant to management in its effort towards effective utilisation of its scarce resources. Management has its own limitations. One can hardly expect management to jump on everything that an empirical study might suggest. In the circumstances, it is necessary to limit our focus on those points which management can handle easily. As Professor Roethlisberger puts it, production-orientation and employee-orientation should not be taken to extremes. In a sense both are right. The issue is to find out when, where and how these two orientations can be combined in order to meet the requirements of the situation and the personality dispositions of the individuals. Let us now examine the relevance of our findings from the standpoint of their practical application.

Relevance of the findings for increased productivity:

Industrialists in Pakistan, at least the progressive ones, believe that the supervisor is placed in a pivotal position in an industrial organization. The supervisor is concerned with operational policy at the top and its implementation at the base. But the white collar High School graduate is not this supervisor who converts company policy into action although in the eye of management he is the "supervisor". The mechanic, the mistri and the line sardar who are charged with the responsibility for "getting things done" are not recognised as part of the organisational hierarchy. To management these first level supervisory people are mere skilled workers without formal education and therefore little opportunity to rise in the organization through promotion. However, in the jute industry it

is the line sardars, rather than the formally recognised supervisors who seem to contribute more to the productivity efforts of the jute mills. The white collar supervisors who are not adequately equipped with the practical aspect of the work done by the blue collar people under them confine their work to mere 'policing'. They are not helpful to people in guiding and coaching which is expected from supervisory personnel. As a result, the influence of supervisors on the level of productivity in their area does not seem to be very significant. Our study revealed that these supervisors can influence production of their group neither by employee-centered approach nor by the production-centered methods. In other words, their concern for their people or their pressure exerted on their subordinates has no effect on their productive efforts. In this respect, the line sardars are more productive to the success of the industrial enterprises. The study makes it clear that the supervisors who show either employee-orientation or production-orientation alone cannot get higher production. It is the line sardars who combine and integrate employee-orientation and production-orientation are able to render high productivity to the organization. Therefore, management is likely to obtain greater results by endeavouring to develop in its line sardars the integrated approach of concern for production and concern for people. Management may also endeavour to instil this in its white collar supervisory force. The supervisors who now keep themselves socially aloof from the people under them and are goaded by production consideration alone may be encouraged to take a positive view of their people and develop a sense of belongingness and acceptance in them. It is assumed that owners of the industrial firms are interested in getting the maximum out of their investment and the nation is also interested in getting the full benefit out of its scarce foreign exchange resource devoted to imported machinery and equipment. Our finding may act as useful guide to the business firms. The significance of our finding is that for a particular enterprise

the plant and equipment, the raw material, the labour cost, the overheads, all are there; yet within the particular process or within the particular department of a particular enterprise some units or sections are producing more while some are producing less. The low-producing sections adversely affect the productive efficiency of the firm. This is true not only under time rate of wage payment but also under the piece-rate. Therefore, management may aim at high production from all of its sections and thereby obtain optimum use of its scarce resources. Our finding does not suggest any additional investment. It tells how to obtain higher productivity from its existing investment without any increased cost to the firm. This is to be achieved just through a change in outlook which was suggested long age by the father of Scientific Management in the form of "Mental Revolution." It is the recognition of the employees as resourceful human beings with emotions and sentiments rather than treating them as economic entities. Top Management can meet employee's economic needs through higher wages and welfare facilities but treatment of the employees as self-respecting human beings and showing genuine concern for their welfare is a function which can be discharged only by the first level supervisors who are responsible for converting top management policies into the action at the operational level and who represent management to the employees at the floor level. If extending democratic treatment or a pattern of behaviour which is considered as fair and socially desirable in our own culture renders more production, there is every reason for management to take the advantage. It is a question, as one of our industrialists, namely, Mian Rafique Saigol puts it, of satisfying the social and psychological needs of the employees. Our study does not give evidence that workers, in general, give all priority to economic benefits. It appears that once employed, workers prefer a boss who will hear their grievances sympathetically and who will treat them in a supportive manner. The workers appeared to feel that payment of higher

wages is a matter of company policy over which individual supervisor has little say. But supportive and sympathetic behaviour is something which he can extend without any cost to him or to the company. There was clear indication that workers produced more if they liked their line sardars and supervisors and they produced less if they had valid reasons to dislike their line sardars and supervisors. Apparently being liked by the subordinates would give supervisory people a way of raising productivity.

It is now, perhaps, evident that it is the line sardars rather than the white-collar, educated, class-conscious and formally recognised supervisors who have greater influence in obtaining higher productivity from the workers. Hence issue for management is to devise ways and means to stimulate these technically competent line sardars in order to get fuller utilization of their expertise. It came out in course of our investigation that management has given at least some attention to the training of the supervisors, but the case of the line sardars has so far seems to have gone by default. They are yet to be recognised as effective intermediate tools of supervision. Here is a human growth agent. It has the intelligence, technical competence, and the support of the workforce. It is only through some careful training in leadership and human relations that management can develop it as an effective tool of higher productivity. In addition to the fuller utilization of the technical skills already possessed by the line sardars, it is, perhaps, essential to devise ways and means for raising the technical competence of the formal supervisory group. It is felt that a supervisor cannot command the respect and co-operation of his people unless he is technically more qualified and can render job-related assistance whenever his people are faced with problems in their work. In the railroad study by Katz, Maccoby, Gurin and Floor it was found that the foreman who had greater technical competence, his

group had superior productivity. In our back up investigation, it became clear that one of the major complaints of the workers against their supervisors was their lack of technical competence in that they did not/could not supply technical direction as required by the workers. And this supply of technical direction is one of the fundamental responsibility of a supervisor.[1] Management of the jute mills may consider this seriously. Management may also examine the feasibility of extending the employee-centered approach by the supervisors. The backup study has shown that the supervisors are in favour of using reprimand rather than praise and appreciation while the line sardars practise more praise and appreciation and less reprimanding and are, therefore, more effective in getting workers' co-operation.

The second finding of ours which is likely to be significant for management relates to employees' satisfaction with their pay. There is no doubt that wages are of knotty problems which account for majority of the industrial disputes in this country. Workers are almost unanimous that their wages are not enough for their maintenance. The capacity of the industry to pay its workers is, however, limited by its level of productivity. Our finding is not about the level of wages paid to the workers, nor is it about the industry's capacity to pay. Our finding rather relates to the manner in which wages are administered by the management. Management is likely to benefit by examining way some workers are satisfied with their wages while others are not although all are paid at the same rate, for example, the time rate, of the spinners in a jute mill. It is not the amount that a worker is given in terms of rupees that is significant. What is more significant is the feeling that an employee is getting remuneration according to his relative contribution to the organization. This is partly a matter of distributive justice and equities in wage payment and partly a matter

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1. Katz, David and Robert L. Kahn, Wiley & Sons, Inc. New York, 1966, P. 328.

of communication that is telling the employees about the wage-fixation policy and mechanic of the firm and taking the workers into confidence in such matter. At present spinners of one jute mill have vague and often conflicting knowledge about the wage-rate paid to spinners in another mill situated within the same community. Some feel that wage-rate for spinners in the other mill is higher, some feel it to be lower while other believe it to be the same. In fact, the rate is the same for all jute mills having been fixed by the Jute Mill [illegible] Association. Evidently there is a problem of communication. Our finding is important to management because it tells that workers in a particular productive process in a jute mill doing the same work and getting the same rate of remuneration have different levels of satisfaction about their pay and that those who are more satisfied with their pay produce more. The level of satisfaction may be raised almost uniformly for all the workers if management disseminates information about problems related to wage fixation. If this is done, those who are now ignorant about wage payment system or have unfounded ideas about it, will tend to be more satisfied with their pay and this will spur them to higher production.

Our next finding which is likely to have some significance to industrial enterprises whose management is interested in getting high level productivity, related to job security of the workers. We found that workers who feel more secure about their jobs produce more. Management is likely to benefit by examining why some workers feel more secure about their employment than others. Management may centralise all personnel functions like selection, promotion, lay off or discharge of employees and provide that no one should be discharged even for a proper cause except through proper scrutinity and with the approval of a responsible executive. We have observed that some jute mills have adopted this practice and the level of job security in such firms is higher than in these in which the supervisory people and departmental heads are given wider latitude in hiring and firing.

Yet another finding of ours which may have significance for management is the mechanical adjustment of the workers. We found that among piece-rate workers those who are more adjusted to their machines and worktools actually produce more under certain circumstances. This is, of course, not true for time-rate workers presumably because of the lack of incentives to work hard. Machine adjustment is partly a function of the workers' psychological set up and partly a function of the training they get on the job. Management may overcome the former through tests at the time of hiring and thereby screen those who are more accident-prone. The latter may be overcome by carefully designed training programmes which are largely absent in our industrial enterprises. Since most of our industrial workers of today are farmers of yesterday, such improved practices of personnel management are possibly a good area which deserves attention of our management people. There is, however, no guarantee that machine adjustment itself will raise productivity.

The next finding of the study which may have significance for management is the economic motivation of our industrial workers. Management people in this country have the notion that Pakistani industrial workers do not respond to economic incentives. This notion has arisen from the fact that they introduced piece-rate system of wage payment for operations like weaving but failed to get the desired results. Our study suggests that motivation is a multi-facet phenomenon and economic incentives do not activate workers unless the higher level needs like safety need, social need, egoistic need etc. are met. Management people in Pakistan are yet to provide for the satisfaction of the workers' social and psychological needs. Business executives in Pakistan have assumed that provision for economic incentives like overtime allowance and piece-rate payment would spontaneously spur the workers to greater efforts. Our study shows that those who like piece-rate and over-time work produce more than those who do not. Management may increase workers' preference for piece-rate and over-time by

"educating" their work force. Film shows and lectures might be arranged to demonstrate what increased income means to a worker, for instance, how their increased earnings help build a more durable house, finance the education of school-going children or accumulate saving to tide over unforeseen contingencies. These are constructive measures to instil the desire for a better standard of living and are, therefore, good aids to increase the effectiveness of economic incentives.

Another finding of our study which might be interesting to management is the educational attainment of our industrial workers. Our finding is in sharp contrast to popular notion that illiteracy is one of the major causes of the low productivity of industrial workers in Pakistan. We found a negative correlation between level of education and productivity of the employees. Management is not likely to gain by trying to take in matriculates as weavers or shop level workers because we observed such people tend to suffer from a sense of frustration being averse to manual labour. Such efforts of attracting matriculates as some of the Pakistani jute mills have tried are likely to be fruitful only if management take them with a view to grooming them as potential supervisors in the same way as some of our commercial banks are recruiting college graduates in their Junior Executive Training Programmes. It is felt that a worker with grade six or eight education is no better than another with no education in the absence of worker training programme. The importance of education is that it facilitates induction and training as well as the mental and psychological adjustment of the workers to the industrial environment.

The last finding of our study which may be of some help to management relates to experience of workpeople. Management of jute mills in Pakistan have been saying so long that lack of experience of the jute mill workers is

one of the major causes for the low productivity of our jute industry. Our finding is in sharp contrast to this popular belief. We did not find any correlation between years of jute mill work by the workers and their productivity. Our finding suggests that experience contributes to workers resourcefulness and hence productivity only when such experience exposes them to the varied aspects of their jobs rather than repetition of the same routine job year after year without training and coaching by supervisory people with a view to developing their skills and showing them the best method of doing the work. Management may re-examine its present policy of requiring new job-seekers to obtain a learners' pass for learning their jobs at their own cost without any help from management or any guidance from supervisory people.

The above analysis makes it evident that management can increase the productivity of the jute industry without any big additional investment. Careful selection and training of supervisory personnel in the science and art of leadership and the skill of handling people may be taken up which will enable supervisory personnel to combine employee-centered approach with production-centeredness. This will also help meet the employees' social and psychological need satisfaction and get them involved in their work in an atmosphere of participation. There are evidences to show that employees prefer to be "whole persons", not mere tools or "hands". In Maslow's language, they want to "participate" to use all their capacities in the same way as the women want to "participate" in sex play rather than be only sexual objects.[2] Long experience, developed skills and low labour turnover contribute to the greater labour productivity of

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2. Maslow, Att. Eupsychian Management. Richard D. Irwin and Dorsey Press, Homewood, Ill. 1965, P. 28.

the Indian jute industry. With superior quality raw material locally available in abundance and with most modern plant and equipment, Pakistani jute industry has to content itself with lower productivity level and hence considered unattractive as investment opportunity. Until the introduction of the Export Bonus Scheme in 1959, the manufacture of jute products in Pakistan was widely considered as unprofitable and more important as a source of employment and foreign exchange than of profit.[3] Currently the jute industry has been showing profit largely because of the direct and indirect subsidies. Measures like the Export Bonus Scheme is a temporary thing; an export industry like jute can hardly rely on such short-term subsidy. In view of this consideration, the long-range goal of the jute industry must be the highest possible level of productivity. It is, therefore, evident that employee-centered supervision and employee-involvement can help the jute industry in its long-range productivity goal-achievement. This calls for harmonious development of technology and the social system of the factory. As Tavistock researches have found out, technology is not the enemy of the workers if we can develop a 'socio-technical' system that permits man and technology together to produce the best performance. To use Likert's language, we must make a move with the patient "education" of the people at the top, followed by development of the needed skills in internal communication, group leadership and other requirements of the new system of participative management. There may be difficulties and mistakes initially but given time, this will produce better employee attitudes and harness personal motivation to corporate goals, still later, there will be improved productivity, less waste, lower labour turnover and absence rates, fewer grievances and slow downs, improved product-quality and better customer relations. And all that will mean higher productivity for the industry.

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3. Harvard University Pakistan-Iran Advisory Groups. Industrial Survey of East Pakistan 1961, Pages 316-339.

APPENDIX - A

A Note On

Background Information about Pakistan

Any meaningful discussion about supervisory practices and productivity in Pakistan must be preceded by at least a brief look at the country's economy and her social background. In this note we, therefore, present a historical picture of Pakistan's evolution as a nation and its efforts toward industrial growth as a prelude to our examination of the supervisory methods and practices followed by industrial organisations in Pakistan.

Pakistan is a new country created in 1947 through the division of British India. It is a unique nation with two far-flung wings geographically isolated by a distance of 1200 air-miles and 3000 sea-miles. It has a population of over one hundred million in an area of 364 thousand square miles. The eastern wing where the jute industry is localised is one of the most densely populated zones of the world with a density of over 1000 persons per square mile increasing at the rate of about 2.5 percent per annum. The country has two state languages Bengali and Urdu, with English as means of common communication and current official language.

In the years preceding Pakistan's emergence as an independent state, the economic life of the area was almost wholly controlled by British and Hindu elements. A combination of these interests controlled Pakistans' trade, internal and external, banking, insurance, while the Hindus were dominant in most of the skilled trades and professions. The muslims who now comprise about 85 per cent of population were content for the most part as agriculturists or were engaged as petty traders and handi-craftsmen.[1]

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1. U.S. Department of Commerce: Investment in Pakistan, Washington, D.C., 1954, Pages 41-42.

Pakistan started its life in the face of a number of "seemingly insurmountable obstacles to its continued growth and existence". More than 7.5 million refugees crossed the new frontiers from India as destitute farmers and craftsmen while a similarly large number of Hindus migrated to India. Many of these Hindus were working as merchants, businessmen, money lenders, office workers, professors, teachers, doctors, managers and book-keepers.

The departure of these managerial and professional skills paralysed schools, colleges, research institutes, business firms, insurance companies, hospitals and banks in varying degrees. According to Waterston, few countries that gained their independence after World War II started with greater handicaps than Pakistan.[2]

Economically the regions that now constitute India and Pakistan were complimentary. Pakistani regions produced raw materials while processing and manufacturing plants grew up in Indian areas. Modern manufacturing in the subcontinent started from about 1860 with the establishment of cotton mills around Bombay and jute mills around Calcutta. These two areas in time developed as the most important industrial complexes with cotton and jute produced in their hinterlands largely now in Pakistan. The rise of modern industry in India was largely due to European capital although an indigenous group of industrialists emerged based on religious, functional caste and ethnic lines.[3]

The most predominant among these ethnic groups were the Parsis, the Gujratis, and the Marwaris. Apparently the muslims comprising one-fourth of India's four hundred million population had no mentionable role in the country's

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2. Waterston, Albert, Planning in Pakistan. (A Study by the World Bank). The John Hopkins' Press. Baltimore, 1963. Page 8-9.

3. Myers, Charles A., Labor Problems in the Industrialisation of India. op. cit. Page 22 and 98.

industrial growth. At the time of partition of India in 1947, the major industries were cotton, jute, sugar, iron and steel, cement, paper and glass. These industries had 921 factories with a total employment of 1,137,150 persons, of which only 34 factories with 26,400 employees fell to Pakistan's share.[4]

The Government of Pakistan gave highest priority to the industrialisation of the country with free play to private enterprise and individual initiative. Since 1950 industrial production has increased by about five times but Pakistan is still one of the poorest countries of the world with a gross national product of 34 billion and a per-capita income of 67 in terms of U.S. dollar.[5] The contribution of industry to national income is only 10 per cent in East Pakistan and 15 per cent in West Pakistan.[6] The proportion of labour force unemployed is 8 per cent in West Pakistan and 33 per cent in East Pakistan. Disguised unemployment and under-employment particularly in East Pakistan is very high.[7] Floods, cyclones and other natural calamities are almost a regular phenomenon vitally affecting saving and capital formation.[8]

Starting with the domination of most business and financial operations by non-muslims before partition, the Pakistanis had to fill the vacuum and turn overnight into traders and factory managers. Almost every one was a pioneer and through trials and errors there emerged a new business community. The recent study of the Harvard University indicates that the development of muslim

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4. Akhtar, S.M. op. cit. Page 4.

5. Waterston. op. cit. page 6.

6. Hoq, Mahbubul, The strategy of Economic Planning: A case study of Pakistan. Oxford University Press, Lahore, 1963, Page 105.

7. Habibullah, M. : The Pattern of Agricultural Unemployment: A case study of an East Pakistan Village, Bureau of Economic Research, Dacca University, 1963.

8. Habibullah, M. Some Aspects of Rural Capital formation in East Pakistan. Bureau of Economic Research, Dacca University, 1964.

entrepreneurs in Pakistan has proceeded at a phenomenal rate. Compared to the situation in 1947, industrial assets increased over nin-fold in the course of just about a decade and private firms owned by Pakistani muslims controlled two-thirds of these assets.[9] Half of the industrial assets owned by Pakistani muslim enterprises is again controlled by five small communities of traditional traders, although these communities comprise just one-half percent of the total population. These five families are Halai memon, Chinioti, DaWoodi Bohra, Khoja Ismaili, Khoja Isnashari. Of these the Halai memons are most important.[10]

In East Pakistan where the jute industry is localised the Memons, khojas and Bohras are much important. They are entirely new communities in the area who have engaged extensively in trade and industry. The main reasons for the phenomenal success of these special communities as compared to local people are that they are closely Knit groups possessing qualities of thrift and a strong tradition of mutual help. They mostly retain the joint or extended family system (not necessarily the residential type) and use it to pool their resources for business. Another feature of these special communities is that they are more or less socially isolated forming some sort of ethnic groups which have little relationship with local people.[11]

Apparently the bulk of the muslims did not take advantage of the new vistas of opportunities created by independence and the migration of the non-muslims from Pakistan. It was limited to a few trading communites. This is in part due to the greater lure of the educated young talents for civil service.

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9. Papanek, Gustav F.
American Economic Review, May 1962. The writer was a participant in this study and interviewed business leaders for Professor Papanek.

10. Ibid.

11. Husain, A.F.A., 'Pakistan' in "The Role of savings and Wealth in Southern Asia and the West" (ed) Richard D. Lambert and Bert F. Hoselitz. UNESCO. The author was a participant in the investigation part of this study with Professor Husain.

What Harbison and Ibrahim speak of Egypt is equally true for Pakistan, namely, people with education prefer to improve their social status as civil servants and professionals.[12] With the establishment of new departments and organisations by the government to cater to the needs of its expanding developmental activities the requirements of qualified manpower increased tremendously. Each year the Central Government and the Provincial Governments held competitive examinations to recruit young men to man the different administrative services. Besides, large-scale recruitments were made by public corporations and autonomous bodies. Meritorious young men were recruited to these organisations and therefore private business firms were left with the remnants to tap. This often times prompted the business communities to look more to "ascriptive" community membership for manpower requirements in the process of change over from trade to industry. The preference for ascriptive community membership, as we were told during our investigation of the Harvard University research project, is due to their greater trust worthiness of these people compared to outsiders.[13] The relative disinclination of young talents for jobs in private firms is due to the poor status of the business community in the social hierarchy which is partly attributed to the psychology of traders. The same is true for service in private firms in India.[14] The key segments of the population do not have sympathy for a system whose main motive is acquisition of wealth. The business community has not developed that sense of social responsibility - responsibility toward the employees, consumers, and the society at large which one observes among U.S. enterprises. Therefore, the typical small business man has lower social status

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12. Harbison, Frederick H. and Ibrahim. A Ibrahim: Human Resources for Egyptian Enterprise. op. cit.

13. Papanek. op. cit.

14. Myers, Charles A. "India" in "Labor and Economic Development" (ed) Walter Galenson. op. cit. Page 25.

than a civil servant, a lawyer or a teacher. According to Mason, a strong antibusiness feeling permeates the civil service.[15] This feeling toward the business community as such is attributed to relative lack of nationalistic feelings on the part of the business leaders. According to the Harvard University study less than 10 per cent of the business people suggested any non-pecuniary motives for entering industry. Pakistan came into existence through a very strong nationalistic feeling and the business people are making money in a sheltered market which naturally wounds the feelings of many patriotic elements. In some cases, annual returns of 100 per cent on investment are said to be usual. According to Papanek, the new Pakistani entrepreneurs have an outlook somewhat similar to that of the United States so called "robber barons".[16]

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15. Mason, Edward S., Economic Planning in Underdeveloped Areas. Fordham University Press, 1958, Page 74.

16. Papanek. op. cit. Pages 46-58.

APPENDIX - B

A Note On

Growth of the Jute Industry and its administrative Setup.

The rise of the jute industry in the Indo-Pak sub-continent was the direct result of Scottish initiative starting around 1854 when the first jute factory was established.[1] India furnished land and labour, Scotland supplied the brains and careful oversight.[2] The growth of the industry was rapid; the number of mills rose from 36 in 1900 to 107 in 1939 while the number of looms rose from 15,340 to 67,930 during the same period and the number of employees increased from 111,272 to 298,520.[3] The industry remained largely in European hands as late as 1915 in which year there were 72 mills, all under European Control.[4]

The jute industry was almost wholly localised in Bengal but drew the larger proportion of its labour supply from other provinces. The muslims of Bengal found employment in the spinning and machine sewing departments[5] and furnace areas. There was some sort of rigid demarcation of certain jobs in the jute mills. For instance, in every jute mill, the furnace man was invariably a muslim.[6]

The management of the Indian Jute industry being left largely in the hands of the European managing agents did not suffer much from the influence of nepotism and family oriented recruitment to managerial posts as was true for typical Indian

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1. Myers, Charles A : Labor Problems in the Industrialisation of India. op. cit. Page 15.
2. Buchanon, Daniel H. The Development of Capitalistic Enterprise in India. Page 269.
3. Anstey, Vera: The Economic Development of India. Longmans, Green and Co. 1952, Page 622.
4. Myers. op. cit. Page 20.
5. Kumar, C.B. : Development of Industrial Relations in India. Orient Longman Ltd., Bombay, 1961, Page 28.
6. Indian Institute of Personnel Management: Personnel Management in India. Page 14.

enterprises.[7] Indian economists feel that the jute industry in India is extremely well organised and in point of efficient organisation it is second to none.[8]

Jute Industry in Pakistan : Out of the 107 jute mills in India in 1947 not a single one fell to Pakistan's share although Pakistani areas of Bengal accounted for 75 percent of the world's raw jute production and had a virtual monopoly in the finer varieties of the fibre. After 1947, the task of developing jute industry in Pakistan was entrusted to Pakistan Industrial Development Corporation (PIDC). Starting from scratch in 1950, the PIDC was able to establish 20 jute mills in the course of 14 years in co-operation with private enterprise.

Administrative set up of a jute mill : All the jute mills included in our sample are limited companies incorporated under the Indian companies Act 1913 as adopted in Pakistan. The management of a limited company is in the hands of the Board of Directors subject to certain controls exercised by the shareholders through votes in the annual general meeting. Limited companies in Pakistan in general resembles the "Closely held" companies in the U.S.A. in that the actual power to select the Board members or the majority of them is in the hands of one family or one family group. The Board usually frames policies and sets goals. The execution of the policy is normally entrusted to one or two members of the Board with the designation of 'Managing Director' (or Directors). But the predominant form of organisation in the large enterprises is the managing agency system. A managing agent is a person or a firm or a private company which enters into an agreement with an incorporated enterprise for its day to day administration. Since traditionally almost all large scale industrial enterprises in Pakistan (also in India) are controlled by managing agency firms, a brief review of the working of the system would be useful.

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7. Lewis, John P. Quiet Crisis in India. The Brookings Institution, Washington D.C. 1962. Page 204.

8. Pillai, P.P. : Economic Conditions in India. George Routelege and Sons, London, 1925, Page 280.

This system was introduced by British trading enterprises to make most productive use of scarce managerial resources in India.[9] Business houses incorporated in England found it difficult to manage their industrial enterprises in India due to inefficient transportation and communication systems of the 19th century, and so they appointed local British firms as their agents to manage their undertakings on a commission basis. These agents soon extended their sphere of influence to cover three vital functions of promoting, financing and managing business enterprises. The facilities which these institutions offered for scarce enterpreneiul ability and risk led to its adoption by the Indian houses and are now being copied by emerging business captains of Pakistan.

As in India, the system has led to concentration of management of many companies in a few hands. According to Mehta, in 1951 a group of 25 managing agents controlled more than 600 firms.[10] In the jute industry of India about 75 per cent of the mills numbering 100 are under the control of one dozen managing agency houses of which four controlled 45 per cent of the total loomage in 1954.[11]

In Pakistan one observes significant concentration too. The new class of muslim managing agency houses include the Adamjees, the Dawoods, the Dadas, the Amins, the Nishats, the Haroons, the Saigols, the Kohinoors etc. These firms are now acting as medium of integrating managerial and financial controls. A few Pakistani economists feel that the managing agency houses have enabled the most productive use of the country's limited financial, managerial and entrepreneurial resources and thereby provided in the process a medium of vertical and horizontal integration in terms of management and control.[12]

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9. Anstey, vera. op. cit. Page 113.

10. Mehta, M.M. : Structure of Indian Industries. Bombay. Popular Book Depot. 1955.

11. Jain, P.C., Problems in Indian Economics. Pages 216-220.

12. Islam, Nurul : "The Economy of Pakistan" in "The Economic System of the Commonwealth" (ed) Hover B. Calvin. Page 413.

but the greatest alleged drawback of the system from the management point of view is that too much concentration of control in a few business houses welded to a system of hereditary character and averse to the infusion of new blood by admitting competent outsiders to positions of responsibility. The typical centralised and highly personal nature of the industrial organisation has its root in the system.[13]

In operating aspects, these managing agency houses resemble the central office of a multiplant U.S. corporation or a holding company. Delegation of authority is much disliked since the firms are merely an extended form of the joint family system. In a few cases, of course, they have accepted out side elements but on the basis of wealth or connection. They are said to be more financial than industrial in nature; the outsiders are taken primarily because of money, not technical competence or special experience that these outsiders might have.[14]

Top executive positions are mostly confined to members of the in-group, often at fat salary-an opportunity utilised to show low volume of profit and thereby reduce tax burden or other obligations, a practice noticed in the case of closely held firms in U.S.A.[15]

The concentration of control in a few houses has its root in the way industrial units are organised. The usual method of organising an industrial enterprise is for a limited company to be formed in which the major proportion of the shares are held by the persons who have promoted the company. Reading of

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13. Lokanathan, P.S. : The Economy of India in "The Economic System of the Commonwealth". op. cit. Page 291.

14. Ghose, Bimal C. Industrial Organisation, Oxford University Press, Calcutta, 1959, Page 105.

15. Pearson, Hunt., Williams, Charles M., and Donaldson, Gordon: Basic Finance, Text and Cases. Richard D. Irwin Inc. Homewood., 1961, Page 53.

APPENDIX - C

A Note On

the different manufacturing processes involved in a Jute Mill

Batching: In the jute industry, the mixing of various qualities and colours of the same materials or of different materials, is called "Batching" and embraces all processes preparatory to carding.

Jute is a hard, smooth-surfaced, somewhat woody fibre and has not much spinning quality. It would make a rather hairy yarn at the cost of a very large heavy waste, if sent forward in its natural state. It is, therefore, processed to adapt it for spinning. In order to process it successfully, oil and water are added to the fibre at some stage prior to carding to fulfil the functions of an internal and external lubricant.

Carding: The reduction of jute from strict form to a sliver of suitable weight per unit length and sufficiently broken down for subsequent process of drawing and doubling is called "Carding".

Drawing: The regular and uniform elongation of a sliver to make it ligher is called "Drawing".

Doubling: The running of two or more slivers together to form one sliver at delivery is called "Doubling".

Spinning: Spinning is making of yarn out of the processed fibre.

Reeling: It consists mainly of winding the yarn on the circumference of a reel of definite size into "Skeins" or "Hanks" of a definite continuous length.

Twisting: Single yarns are twisted, doubled, folded or plied together to make a thread or twine of strong and compact form.

Winding: There are two distinct types of yarns, one for warp and the other for weft and there are several qualities and sizes of each type. Warp and weft yarns are spun on to similar spinning bobbins, but completely different machines are employed for winding them. Warp yarns invariably require harder twist than weft yarns and are also of superior quality, because they are subjected to greater tension than weft yarns during the weaving process.

Dressing: Dressing is the term used to explain coating of the warp yarns with some adhesive substance while beaming.

Weaving: Weaving is the inter-lacing of threads at right-angles to form a firm texture. Woven cloth consists of length-wise threads termed warp and cross-wise threads called weft shots or picks.

In the loom, the warp threads are passed through the splits of the reed which determines the Pitch of the threads on the cloth, keeps the threads in the same relative position to each other during weaving, feats up the shots of the weft, and affords support to the shuttle.

Finishing: The term relates to all the processes to which the fabric is subjected after being woven and before making up. Thus, under the influence of the routine process employed, three main factors may intervene to modify the surface of a fabric, namely, the quality of the materials, the character of the yarn and the structure of the fabric.[1]

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1. For details see, "Comprehensive study in modern Jute technology", Santosh Kumar Paul. Das Gupta and Co. (P) Ltd., Calcutta, 1961, P. 467.

APPENDIX - D

Table No. I

Showing group productivity in the three jute mills.

Mill No. \ Group No.	1	2	3	4	5	6
1 (In terms of p/c of standards)	85.56	83.39	77.47	75.16	75.27	69.78
2 (In terms of points above the standard at which group 5 falls)	1.62	1.23	.78	.62	.00	.04
3 (In terms of actuals)	712.5	662.5	60.75	570.0	535.5	550.0

Table No. II

Showing experience of the individual work groups.

Mill No. \ Work groups	1	2	3	4	5	6	Average
1	8.83	7.83	8.17	7.33	7.17	7.83	7.86
2	7.66	9.83	7.66	12.66	6.75	5.87	8.40
3	9.71	5.50	16.67	9.14	4.56	6.21	8.63

Table No. III

Showing supervisors' production orientation score as perceived by workgroups..

Mill No. \ Workgroups	1	2	3	4	5	6	Average
1	16.83	15.83	17.33	17.67	15.33	17.83	16.08
2	19.83	18.33	21.83	18.83	19.87	19.87	19.76
3	19.00	18.83	14.25	15.71	15.38	20.29	17.24

Table No. IV

Showing supervisor's Employee-Orientation score as perceived by workgroups.

Mill No. \ Work groups	1	2	3	4	5	6	Average
1	9.00	7.00	10.33	6.83	7.50	7.83	8.08
2	7.00	6.00	10.66	7.83	7.37	9.50	8.06
3	7.50	7.67	7.86	6.71	8.50	10.14	8.06

Table No. V

Showing workgroups' company Pride score.

Mill No. \ Work groups.	1	2	3	4	5	6	Average
1	3.16	4.50	4.00	3.16	3.16	3.16	3.52
2	3.00	3.66	3.66	3.00	2.62	3.62	3.26
3	3.38	2.00	2.00	2.29	1.88	2.47	2.33

Table No. VI

Showing workgroups' social cohesiveness score.

Mill No. \ Work groups	1	2	3	4	5	6	Average
1	6.92	7.09	8.09	6.25	7.08	5.00	6.74
2	6.17	8.42	9.17	7.50	8.43	8.63	8.04
3	9.63	6.67	7.29	8.71	7.00	9.29	8.10

Table No. VII

Showing Workgroups' Task Cohesiveness score.

Work groups / Mill No.	1	2	3	4	5	6	Average
1	7.09	7.92	8.67	7.42	6.75	7.00	7.48
2	6.75	6.67	8.67	8.67	7.13	5.94	7.30
3	6.44	6.58	6.64	6.07	6.56	6.64	6.49

Table No. VIII

Showing Workgroups' education attainment.

Work groups / Mill No.	1	2	3	4	5	6	Average
1	1.50	3.17	4.00	5.33	4.00	4.33	3.72
2	2.33	4.00	0.66	2.17	2.87	2.50	2.42
3	3.14	2.17	0.71	3.86	4.50	4.71	3.18

Table No. IX

Showing Workgroups' machine adjustment score.

Workgroups. / Mill No.	1	2	3	4	5	6	Average
1	4.17	3.33	3.50	3.33	3.50	2.17	3.33
2	4.50	4.33	4.83	2.50	3.37	3.50	3.84
3	2.75	3.67	3.57	3.43	4.00	3.86	3.55

Table No. X

Showing score of the type of supervision received by workgroups.

Workgroups / Mill No.	1	2	3	4	5	6	Average
1	7.67	8.00	8.83	8.17	7.00	7.83	7.92
2	9.83	8.50	9.16	9.00	9.00	9.50	9.16
3	9.13	8.50	7.57	6.25	10.83	9.29	8.59

Table No. XI

Showing workgroups' job security score.

Workgroups. / Mill No.	1	2	3	4	5	6	Average
1	6.50	3.83	6.17	3.50	5.33	3.33	4.78
2	8.83	4.67	6.00	3.67	4.75	5.00	5.49
3	4.63	6.00	7.29	3.43	4.50	5.55	5.23

Table No. XII

Showing workgroups' pay satisfaction score.

Workgroups / Mill No.	1	2	3	4	5	6	Average
1	3.33	3.17	3.33	3.40	2.50	2.17	2.92
2	3.00	3.00	2.50	2.00	2.01	1.87	2.40
3	1.75	1.50	1.57	1.29	1.13	1.57	1.47

Table No. XIII

Showing line sardars' employee-orientation score.

Workgroups Mill No.	1	2	3	4	5	6	Average
1	14.00	13.80	13.20	12.90	12.50	12.30	13.12
2	11.33	13.50	12.33	9.00	6.72	7.14	10.00
3	14.37	12.50	12.57	11.71	10.62	12.00	12.30

Table No. XIV

Showing line sardars' production orientation score.

Workgroups Mill No.	1	2	3	4	5	6	Average
1	22.83	22.16	20.83	21.83	15.50	17.33	20.08
2	22.00	20.83	23.33	18.16	12.30	13.32	18.32
3	20.25	19.16	19.71	18.00	17.50	18.00	18.77

Table No. XV

Showing the data on the employee-orientation score and production-orientation score converted in terms of 9 to fit managerial grid.

(Based on tables III, IV, XIII and XIV)

Workgroups	Employee-orientation		Production-orientation	
	Line sardar	Supervisor	Line sardar	Supervisor
1	6.3	4.1	8.2	6.1
2	6.2	3.2	8.0	5.7
3	5.9	4.6	7.5	6.2
4	5.8	3.1	7.8	6.8
5	5.6	3.4	5.6	5.5
6	5.5	3.5	6.2	6.3
7	5.1	3.2	7.9	7.1
8	5.4	2.7	7.5	6.6
9	5.5	4.8	8.5	7.8
10	4.0	3.5	6.5	6.8
11	3.02	3.3	4.43	7.1
12	3.21	4.2	4.75	7.1
13	6.3	3.4	7.3	6.8
14	6.3	3.5	7.3	6.8
15	7.4	3.5	7.1	5.1
16	6.5	3.0	6.5	5.7
17	5.9	3.8	6.3	5.5
18	6.2	4.6	6.5	7.3

Table No. XVI

Showing Productivity and workers' like/dislike for their supervisors obtained in the back up investigation.

Productivity.	Dislikes.	Likes.	No response.	Total
20 - 27	33	11	4	48
28 - 31	35	2	1	38
32 - 35	44	5	3	52
36 - 39	34	3	2	39
40 - 43	15	5	1	21
44 - 47	10	3	2	15
48 - 55	6	3	4	13
Total	177	32	17	226
Average productivity	33.55	35.05	-	Value of X^2 = 12.74

Table No. XVII

Showing productivity and workers' like/dislike for their line sardars obtained in the backup investigation.

Productivity.	Dislikes.	Likes.	No response.	Total
20 - 23	12	3	2	17
24 - 27	19	9	3	31
28 - 31	34	2	2	38
32 - 35	37	8	7	52
36 - 39	33	5	1	39
40 - 43	16	4	1	21
44 - 47	8	6	1	15
48 - 55	5	5	3	13
Total	164	42	20	226
Average Productivity	33.49	35.93	-	Value of X^2 = 18.42

Confidential

APPENDIX - E

Questionnaire B

Used for line sardars and supervisors.

Commerce Department, Dacca University.

Sample No. . . . . Age . . . . . .

Place of birth . . . . . Years of education . . . . . .

Job experience in Jute Mills . . . . . .

Father's exact occupation . . . . . .

Training, if any . . . . . .

	Strongly agree	Agree	Undecided Won't say Don't know	Disagree	Strongly disagree
Workers are inherently lazy and try to avoid work if they can.					
As a supervisor, my only concern is to get the work done, not to bother about worker's feelings and sentiments.					
If workers work more and talk less, everybody would be better off.					
All workers want is bread and butter.					
Workers only do what they have to do, hence a supervisor should keep his people busy and give more work than they can usually do.					
The level of intelligence and sense of responsibility of workers here are so low that they cannot be relied upon to work of their own.					
One sure way to get high production from workers here is to watch these people closely and check everything in details.					
The old proverb 'Spare the rod, spoil the child" is applicable to working people. One cannot get work done by them without strong discipline and iron rule.					

	Strongly agree	Agree	Undecided Won't say Don't know	Dis-agree	Strongly disagree
Management of this company knows one thing higher production. (Whenever I happen to meet my boss, he will invariably ask to know how production is going on)					
My boss wants me to supervise the workers closely to get more production					
My boss things that I should go strictly according to his instructions, rather than applying my own way.					
My boss feels that people are inherently lazy and will avoid work if they can.					
I am always under pressure: All press me my boss, accounting dept engineering dept, all.					

Please rank the following in order of your preference asto what you want from your job.

Adequate income	
Job security	
Chances for promotion	
Freedom and authority to deal with people in own way	
Sympathetic treatment from boss	
Information about company policies	

Confidential

APPENDIX - E [2]

Questionnaire A

used for workers

Commerce Department, Dacca University.

No. of Sample . . . . . Age . . . . . Place of birth . . . . . .

Years of education . . . . . Years of jute mill work . . . . . .

Father's exact occupation . . . . . .

No. of most intimate friends in the mill . . . . . .

With whom you can confide your secrets . . . . . .

No. of such friends in your own section . . . . . .

	Strongly agree	Agree	Undecided Won't say Don't know	Dis-agree	Strongly disagree
Our supervisor goes to bat for us					
Our supervisor shows friendly and sincere interest in our welfare					
Our supervisor hears our complaints and grievances sympathetically and tries to redress them as far as he can.					
We feel free to discuss our personal problems with our supervisor.					
Our supervisor always encourages us to produce more.					
Our supervisor is always ready to help us in our production problems (Willingness).					
Our supervisor plans production and material flow so that there is no stoppage of work.					
Our supervisor spares none if he slackens and neglects to do his job.					
Our supervisor is very particular about quality of output.					
Our supervisor has considerable influence (with management) of this company.					

	Strongly agree	Agree	Undecided Won't say Don't know	Dis-agree	Strongly disagree
Our supervisor can help a worker if he likes because management seldom turns down his recommendations.					
People in our section are very friendly with each other.					
People in our section often meet socially outside the job (mixing in common)					
There is very little griping and backbiting in our section					
People in our section often come forward to help if any one is in difficulty, financially or otherwise.					
People in our section always compliment each other whenever one does a good job.					
There is a lot of mutual help in our section whenever one has a difficulty in his job.					
Whenever a new worker comes in our section, old members try to help him in getting started.					
People in our section often encourage each other to think of better ways of getting the job done.					
All in all, I feel that this jute mill is a very good place to work.					
I am really proud that I am working in a jute mill like this.					
Considering my skill and efforts, I am satisfied with my pay. (I can't earn more by going elsewhere)					
There are not too many dismissals or discharges in this section.					
I feel I can remain in my job as long as I like.					
Our supervisor always keeps watchful eye on the workers for fear that they might slacken or stop working.					

	Strongly agree	Agree	Undecided Won't say Don't know	Dis-agree	Strongly disagree
Our supervisor checks our work thoroughly to see if we have done work properly and carefully.					
Many people in our section look to the supervisor in the same way as they look to their parents and guardians for support and guidance.					
Many employees in our section slacken or loiter when the supervisor is absent.					
There are many people in our section who cannot do their work properly without detailed instruction from the supervisor.					
In my view a supervisor should keep watchful eye as to what is going on in his section.					
Many people here are likely to commit mistakes if they are given freedom to work in their own way.					
Many people in our section are not so intelligent to offer good suggestions about work improvement.					
In my opinion, a supervisor should be strong in disciplining people and enforcing company rules.					
A kind hearted supervisor who mixes with his people friendly often fails to get good work.					
I can handle the machine I work with without any difficulty. I have no fear.					
I like to do overtime work					
I like piece rate more than time rate.					

Please rank the following in order of your preference:

High pay	
Steady job	
Good and sympathetic boss	

APPENDIX - F

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APPENDIX - G

V I T A

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Distinctions and Awards	:	Placed in Dean's Honour List in the Graduating M.B.A.Class. President's Award of Rs.5,000/- for the book "Business Organisation" published by Bengali Development Board, Government of Pakistan.
Research Publications	:	Pattern of Agricultural Unemployment, 1962 Rural Capital Formation in East Pakistan, 1963 Pattern of Urban Saving - a case study of Dacca City, 1964 The Tea Industry of Pakistan. All the four works were published by the Bureau of Economic Research, Dacca University. Business Organisation, Central Board for Development of Bengali.
Experience	:	Teaching Business Organisation and Management in the Dacca University since 1955. Teaching Management in the Institute of Business Administration, Dacca University since 1966. Teaching in various management training programmes since 1957.