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CHAPTER-I

INTRODUCTION

1.1 INTRODUCTION TO ORGANISATIONS

1.1.1 INTRODUCTION

In the present day context, organization demands utmost attention from all those who are engaged in the tasks of decision making at the top management level. Organisation is the last rather than the first problem which a company must solve. It first has the problem of goals, the determination of a product to be produced for the satisfaction of human needs. Every organisation must have a structure and a purpose. Organisations may be classified in many ways, for example, there are social organisations, political organisations, military organisations, commercial organisations and religious organisations etc. It then assembles employees, equipment and money to achieve its goal. It formulates policies, statements of how it plans to use these resources to achieve its goals. For these policies to be translated into action, functions must be performed: producing, advertising, selling, purchasing, personnel activities etc. Finally these functions must be related to each other. These relationships are the company's organisation who does what, how he does it and the way his part is related to the job of others are the problems of organisation. Organisation has become more

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critical as industry has become more specialised.

Initially, science and technology has been developed for sheer survival of human beings which of-course in time, developed further and further to utilise the consolidated gains for better living. Today, man with the help of science and technology has created numerous sophisticated devices as extension of himself. For example he has extended his eyes with radar, his tongue and ear through telecommunications, his muscles and body through mechanisation, his own energies by generation and transmission of power and his nervous system, thinking and decision making faculties through automation.

Among such gifts of science and technologies to humanity fertilizers industry, chemical industry, electronic industry and heavy machinery industry are the most vital and indispensable - those which within a very short span of time, have developed at a remarkable pace and invaded almost all walks of life.

Thus Fertilizers, Chemicals, Electronics and Heavy machinery industries have started playing very important role for the development of the Nation.

The details of each of the above industries are presented in the following paras.

1.1.2 FERTILIZER INDUSTRY (INTRODUCTION TO GUJARAT STATE FERTILIZERS COMPANY LIMITED.) (GSFC)

With the formation of Gujarat State in 1960, the dawn of an epoch-making era was born and the first seeds of building the "State of Prosperity" were sown. Endowed with abundant natural resources, rich agricultural soil and, a healthy industrial climate, Gujarat looked forward to an era of Peace, Progress and Prosperity. One of the priority objectives set by the newly born State was to achieve self-sufficiency in food production.

Sharing the expectations and aspirations of the people of Gujarat, there emerged on India's industrial horizon, a joint-sector enterprise-Gujarat State Fertilizers Company Ltd. (GSFC) which was later to grow into one of the largest and best managed fertilizer and petrochemical complexes of our country.

GSFC Blazing A New Trail :

The establishment of GSFC near Vadodara (Baroda) in Gujarat State in the early sixties blazed a new trail in petrochemical industry in India. Fertilizers, a vital input for increasing agricultural production, was then mostly imported. For conserving the valuable foreign exchange and meeting the challenge posed by the shortage in food production, the Government of Gujarat decided to set up a fertilizer complex in the State. Vadodara, a

centrally located city with traditions of culture and heritage offered ideal conditions for the ready supply of raw materials, facilities for logistics and marketing and scope for further expansion and diversification. What was once a vast agricultural track spanning over more than 800 acres of land inhabiting the lush green fields is now occupied by a fully integrated giant industrial complex with different groups of towering plants and a sprawling 1256-house modern township embedded in the thickly grown mango groves and fully equipped with all modern amenities for its employees.

Joint-Sector Venture A Novel Experiment :
GSFC has the distinction of being the first joint-sector industrial enterprise in the core sector in India. It imbibes in its structure the best ingredients of public as well as private sector organisations, lending it a unique personality.

The GSFC Board of Directors has been represented by leading champions of industries, able and experienced senior civil servants, dynamic and visionary technocrats, leaders in the cooperative and agricultural fields and veterans from finance and banking. The state Government's equity share holding is limited to 49% and the remaining 51% is held by financial institutions, co-operative societies, farmers and the people in general.

Farmers As Owners Solid Foundation Laid :

But for the active cooperation of the farmers and their trust in this novel venture, GSFC would not have got off to a successful start. The initial investment of Rs. 40 crores for the first phase programme was raised in spite of difficulties on the foreign exchange front. However the difficulties were overcome through fruitful negotiations and the entire requirement of foreign exchange amounting to rupees twelve crores was available by way of supplier's credit.

GSFC is the country's first fertilizer unit to be assisted by IDBI's Development Assistance Fund. GSFC was required to raise rupees one crore through private subscription for being eligible to receive the financial help from IDBI. GSFC took up the challenge and through an all-out massive drive for public contributions, collected more than rupees one crore from the farmers thereby setting a unique example of enlisting the active involvement and participation of rural community in the industrial project. Appreciating the overwhelming public response, IDBI extended assistance to the tune of rupees eighteen crores, the largest single loan granted to any industrial project at that time.

GSFC has witnessed a spectacular all-round growth within a short span of time. The first phase plants were completed in 1966-67, much ahead of schedule and within

the project cost. During the construction of the first
phase plants, the Company decided to expand and launched
construction of the second phase plants, which were
completed in 1969, again ahead of schedule and well
within the project cost-then a rare achievement in the
history of project completion in India. Well begun is
half done GSFC has lived up to this adage.

Investment and Ploughback :

The judicious use of the IDBI assistance and the
excellent performance of the first phase plants laid a
sound financial base for the Company.

The total investment for GSFC's first phase and second
phase programmes was around Rs. 63 crores. GSFC has
always endeavoured to generate and ploughback adequate
funds for its expansion and diversification programmes.
Most of the investment of Rs. 35 crores for the
Caprolactam plant and another about Rs.50 crores for
Nylon-6 Melamine and PGR plants has come through the
Company's self-generated resources. GSFC's gross assets
have grown to a sizeable magnitude over the period.

GSFC has maintained a reasonable rate of dividend on
equity all these years. It has also declared bonus
shares on more than one occasion and the GSFC share is
considered to be a blue chip in the market.

Sound Management Nurtures Healthy Growth :

With a dynamic Board of Directors at the helm and backed by a forward looking and progressive management, GSFC has been nursed through various stages of growth to a position of pride and eminence in the agricultural and industrial world. The cooperation of the State Government has also contributed to this achievement. Over the years, GSFC has evolved its own management culture, appropriate to the successful operation of a joint sector industry.

This unique management culture flows from GSFC's endeavours for building up a base for adoption of a march-forward thrust, integration of technologies, modern approach ᵢn human resource development, judicious application of self-generated resources, a sound customer-oriented marketing philosophy and a concern for higher values in business and profession all of which have contributed to GSFC's vigorous growth.

Growing from Strength to Strength :

Along with continuously expanding and strengthening its base of fertilizers, GSFC also diversified into other core areas which are considered to be basic to India's progress.

From fertilizers to petrochemicals, industrial gases and plastics, GSFC has moved from one milestone to another

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and has continuously strengthened its already well-laid
foundation. In journeying through this growth, GSFC has
achieved new landmarks in diversified production,
consumer service, indigenous development, research,
manpower training, employee welfare, industrial
relations, farmers' education and abatement of
pollution. What is more noteworthy is the fact that
there has been substantial saving in foreign exchange
and a positive contribution to achieving self-
sufficiency in certain basic raw materials.

Human Resource Development :
Realising the fact that development and up-dating of
technological skills are the backbone of a successful
industrial complex, GSFC has given utmost importance to
training and personnel development. The Company has set
up as far back as in 1965, a Training Centre equipped
with modern equipment like the Carmody Process Simulator
and other supplementary aids like sectional machine
models, plant models and a full-fledged audio-visual
system. The trainees recruited are given both
theoretical as well as practical training. A large
number of operators, technicians and other service
personnel have been trained by GSFC to man the plants,
work in the fields as well as at the office desks. GSFC
encourages interaction of its employees with those of
other organisations and provides them adequate
opportunities for keeping themselves abreast of the

latest developments in their respective fields to enable them to render the best service to the organisation. Over the years, GSFC has trained about 2500 engineers, operators and technicians out of whom about 80% have already been absorbed in the Company.

Besides, GSFC has trained hundreds of technicians and engineers of some major chemical and fertilizer plants and personnel of public sector undertakings in India. It has also provided on-the-job training to six engineers from Bulgaria in the phospho gypsum process of the Ammonium Sulphate plant and seventeen engineers from Poland in the Caprolactam plant operations. It has also extended consultancy services for setting up a fertilizer plant in Sri Lanka.

Employees of various levels are exposed to new trends in their disciplines through participation in seminars, conferences and workshops. The in-house programmes help to keep their job knowledge constantly updated. The central library stacked with books, journals and reports of national and international importance satisfies the thirst for knowledge of the employees and supplements the process of enriching their minds

Techno-Economic Integration- A Unique Feature :
The first move for technical integration at GSFC was made when both the first and second phase Ammonia plants

were inter-connected to provide flexibility in operation and consequent increase in production. The synthesis gas produced at both the Ammonia plants is routed back through the Heavy Water plant again to the Ammonia plants for further conversion into the end product Ammonia. The production of Ammonium Sulphate through gypsum, a by-product of the Phosphoric Acid Plant, is a new technical innovation at GSFC. Chalk 45% of which is presently used for manufacturing cement, is also a by-product of Ammonium Sulphate. Moreover, the Caprolactam plant is integrated with the other plants for its various raw materials-ammonia, carbon dioxide and utilities.

The Purge Gas Recovery plant not only recovers Argon gas but also produces Synthesis gas and Methane. The new Melamine plant consumes urea and in turn produces Ammonia and Carbon Dioxide which again are used for the production of both fertilizers and caprolactam.

Thus all the plants at GSFC are inter-knit and integrated. The technical integration of this large complex, consisting of 15 product plants and utilities plants, achieved progressively over a decade, is indeed a unique achievement in the world.

GSFC Workshop :

GSFC has a well equipped technical workshop manned by experienced and competent personnel. The workshop undertakes various important technical jobs during construction of new projects as well as maintenance and repairs. Most of the fabrication work for various plants is done here. The workshop has meaningfully contributed to import substitution in respect of many items and thus helped in saving of foreign exchange. At times even jobs of a challenging nature calling for rare technical skills and time-bound completion have been successfully implemented by the workshop.

The workshop has developed the technique for repairing alloy equipments and machineries. It has also acquired skills and expertise for fabrication of Heat Exchangers, Air Blower Casing, Converter Shell, Ammonia Preheater, Pressure Vessels and other critical equipment at low cost.

The workshop has a facility for testing, calibration and repairs of different types of valves and it looks after the operation and maintenance of material handling equipment also. The average workload handled by the workshop is around 2700 jobs which includes capital and import substitution jobs of the value of about rupees one crore every year.

1.1.3 CHEMICAL INDUSTRY (INTRODUCTION TO GUJARAT ALKALIES AND CHEMICALS LIMITED.) (GACL).

Gujarat Alkalies And Chemicals Limited (GACl) is the largest manufacturer of Caustic Soda in the country. Promoted by the Govt. of Gujarat through Gujarat industrial investment Corporation Ltd. (GIIC) on 29th March, 1973. Its plants are located near Ranoli, about 15 kms north of Baroda.

Among other basic chemicals it manufactures are Sodium Cyanide, Chloromethanes, Hydrochloric Acid and Hydrogen, while Chlorine is a by-product of Caustic Soda.

GACL's has been a saga of a remarkable growth. During the decade 1979-89, the capital employed has gone up by 475 percent from Rs. 16.93 crores to Rs. 97.36 crores. Net worth has risen by 723, percent from Rs. 5.94 crores to Rs. 48.87 crores. Share Capital has expanded by 80 percent from 17.91 crores to 88 crores. Despite a steady increase in the cost of power, production of Caustic Soda Lye went up from 41765 metric tonnes in 1978 to 1,07,800 metric tonnes in 1989. Sales turnover in 1989 stood at Rs. 102,33 crores against Rs. 20.87 crores in 1978-79 Gross profits in 1989 were Rs. 20.86 crores against a marginal profit of Rs. 1.00 crore in 1979-79.

Its capacity utilisation of 104 percent in 1989 was the highest in the country, while its consumption of mercury and power per tonne of caustic soda manufactured are the lowest.

Track Record of GACL

Event	Year
Inception of the company promoted by Govt. of Gujarat through GIIC.	29th March, 1973
Foundation stone laying of Caustic - Chlorine plant	29th, November, 1974
Commissioning of 37425 MT per annum Caustic Chlorine plant	19th October, 1976
Expansion of Caustic Chlorine plant to 70425 MT per annum	22nd October, 1981
Commissioning of Effluent Treatment plant to remove Mercury	29th August, 1982
Commissioning of 2000 MT per annum Sodium Cyanide plant	31st December, 1982
Commissioning of second stage expansion of Caustic Chlorine	23rd October, 1983

plant to 1,03,425 MT per annum

Commissioning of 10560 MTA   12th March, 1986
Chloromethanes Plant

Commissioning of 26400 MT   31st March, 1987
per annum Caustic Soda
Flaker unit

Commissioning of Salt Washery   11th April, 1989

Commissioning of Membrane Cell   20th July, 1989 [a]

Commissioning of Sodium   29th November, 1990
Hypochlorite

Commissioning of Soda Ash   12th December, 1990
21780 MTA

Commissioning of   4th December, 1991
Chloromethanes-II 10560 MTA

Commissioning of Sodium   17th January, 1992
Ferrocyanide 100 MTA

Product Range :
Beginning with Caustic Soda Lye in 1976, GACL today is a
multi-plant and a multi-product company. Its product

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range includes such basic chemicals as :

* Caustic Soda Lye and Flakes

* Chlorine : gas and liquid

* Mercury-free Hydrogen Gas

* Sodium Cyanide

* Methyl Chloride

* Methylene Chloride

* Chloroform

* Carbon Tetrachloride

Energy Conservation :

Power being the costliest input in the manufacture of Caustic Soda, the latest technologies are put to use to minimise its consumption. Some of these have been : - Conversion of Graphite Anodes to metal Anodes in the electrolytic cells.

- Establishment of Capacitor Banks to improve the Power Factor
- Preventive maintenance of all electrical equipment
- Modifications in the manufacturing process
- USe of Solar Hot Water System in the canteen
  GACL is the first in India to introduce the latest membrane cell technology at a cost of Rs. 45 crores, resulting in a sizeable of power per MT of Caustic Soda manufactured.

Reaching Beyond The Seven Seas :

Not content to rest with the laurels it has achieved

within India, GACL has made its presence felt even in various foreign markets, fighting stiff competition offered by multinational companies. It has been exporting :

- Sodium Cyanide to Australia
- Methylene Chloride to Dubai, Belgium, Phillipines, Malaysia, USSR, Australia, New Zealand and to many African countries.
- Chloroform to Taiwan, South Korea and Hong Kong.
- Caustic Soda Flakes to Singapore.

Technical Excellence :

A major factor in GACL's unprecedented growth has been the latest technology it has obtained from various world leaders. Not stopping at that, GACL has also been upgrading the technologies from time to time to keep pace with the latest development. This has resulted in a higher and more economical means of production and greater safety.

- The technology for its Caustic Soda plant and its subsequent expansions was obtained from the West German giants, M/s Uhde GmbH, a division of the world renowned Hoechst group.
- Its Sodium Cyanide plant is based on technology obtained from M/s Petro Chemics Kombinat Schwedt, of the earstwhile German Democratic Republic.
- Its Chloromethanes plant was set up in technical collaboration with the internationally renowned

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Japanese firm, M/s Shin-Etsu Chemical Co. Ltd.

- It has converted graphite anodes in the electrolytic cells into titanium anodes and created capacitor banks to conserve energy.

- It has gone in for the latest Membrane Cell technology, again to reduce power consumption and eliminate mercury pollution. The technology has been obtained from M/s Uhde GmbH.

Pollution Control :

GACL is wedded to the concept of maintaining a clean environment in and around its plants. The major steps it has taken in this direction are :

- Chlorine utilisation to the tune of nearly 99.9 percent a record unsurpassed in the country.

- Plant designs based on closed systems to prevent unwarranted emission of gases and chemicals.

- Installation of highly sensitive electronic gas sensors, imported from the USA, to detect pollution in the range of 1 ppm.

- Lowest consumption of mercury in India in the manufacture of caustic soda.

- Installation of India's first Demercurisation plant to reduce mercury content in effluent to less than 0.005ppm.

- Adoption of the Membrane Cell technology which eliminates, the use of mercury.

- Setting up of a Salt Upgradation Unit to reduce

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sludge formation and its mercury content.

- Achievement of zero pollution in Chloromethanes Plant through various means.

- Publishing specially designed ads to create public awareness towards a clean environment.

R & D Centre :

GACL has the best R & D Centre among the caustic soda industries in the country. Created with a capital investment of Rs. 1 crore, the R & D Centre is manned by some of the country's best scientists and technologists.

Its laboratories are equipped with sophisticated equipments and instruments. It also has pilot plant facilities of its own. Its library has an excellent collection of books and subscribes to a large number of scientific journals from all over the world.

The R & D Centre is engaged in developing several value added products, based on the company's primary products. Among its major achievements are :

- Development of technology to manufacture Mercury-free Hydrogen Gas and Hydrochloric Acid.

- Development of Sodium Ferrocyanide from the effluents of the company's Sodium Cyanide Plant.

- Development of certain resins which were imported earlier.

Social Obligations :

GACL's strong social commitment to the community at large is manifested in the support it has been extending to a large number of social, voluntary, educational, cultural and professional organisations and to the small scale industries.

- Donation of Rs. 10 lacs to the Ranoli High School to create facilities for teaching science subjects at higher secondary level

- Donation of Rs. 3 lacs in June 1988 to the Gujarat Chief Minister's Drought Relief Fund.

- Donation of Rs. 1 lac in June 1988 to the Pashupati Cattle Camp at Ranoli.

- Donation of Rs. 4 lacs to the Gujarat Heart Relief Society to establish an open heart surgery unit at Shri Sayajirao General Hospital (S.S.G. Hospital), Baroda.

- Donation of Rs. 1 lac towards encouragement of the Family Welfare activities of the Baroda District Panchayat.

- Funding of the activities of the Baroda Citizen's Council, Kashiben Patel Children Hospital, the Heritage Club, the Lions Club, the M.S. University of Baroda and a large number of other organisations in Gujarat and outside.

- Providing technical and marketing assistance to some small scale units in the Nandesari industrial Estate, manufacturing chlorinated Paraffin wax. - Providing

technical assistance to small fabricators to manufacture high precision equipment for the company.

- Generation of indirect employment to the tune of nearly 1500 people.

- Contribution to the National Exchequer by way of taxes and duties during 1976-89 stood at Rs.7169.97 lacs.

- Payment of Rs. 466.97 lacs as dividend to GIIC, its promoter, during 1979-89.

Working Towards a Brighter Future :

Its futuristic outlook is reflected in the several ongoing projects and the ones to be taken up shortly. These are :

- Conversion of Mercury cells into Membrane cells at a cost of Rs. 45 crores.

- 21,780 MTA electronic grade super dense Soda Ash at a cost of Rs. 7.4 crores.

- Establishment of the Cold Box facility for the recovery of Methane gas from natural gas for its Chloromethanes plant at a cost of Rs. 6.1 crores.

- Salt Upgradation unit to reduce mercury pollution at a cost of Rs. 2.5 crores.

- Sodium Hypochlorite unit at a cost of Rs. 0.86 crore.

- Expansion of the Caustic Soda Flaking unit capacity from 16,500 MTA to 26,400 MTA at a cost of Rs. 1.10 crores.

- Expansion of the Chloromethanes plant capacity from 10,560 MTA to 23,100 MTA at a cost of Rs 27.2 crores

- Energy conservation scheme at a cost of Rs. 1.20 crores.

- On completion of all these projects by early 1990, the assets of the company will reach Rs. 18227 crores.

- Participation in the 135 MW power plant of the Gujarat Industries Power Co. Ltd. by investing Rs. 8 crores.

GACL has achieved the following distinctions :

- Among top ten inflation beaters - 1981.

- Highest production/sales in the country during the last 5 years.

- Highest effective utilization of Chlorine (99%) without any captive consumption.

- National recognition in the field of marketing - won the Silver Award for Marketing Man of the year, in 1981.

- Commissioned the first Sodium Cyanide Plant in India -1982.

- First dividend in 1979-80 i.e. only after working for 2 full years.

- Highest sales of Commercial Hydrochloric Acid in 1984.

- Production of Mercury Free Hydrogen and Hydrochloric Acid.

- R & D achievements.

- First Waste Water Demercurisation plant in the Country.

- First Chloromethane Plant in India from Methane route-1986.

- GACL has prepared an ambitious Corporate Plan for diversification and also for new products. GACL is determined to move along the path of progress for the Prosperity of our Nation.

1.1.4 ELECTRONIC INDUSTRY (INTRODUCTION TO GUJARAT COMMUNICATIONS AND ELECTRONICS LIMITED.) (GCEL)

Conceived as a nucleus and a focal point for the growth of the electronics industry in the State of Gujarat, Gujarat Communications & Electronics Limited (GCEL) was launched in 1975 as a public sector undertaking.

With the help and guidance provided by the Department of Electronics, Government of India, and the Gujarat Government, GCEL has acquired, in a short time span, national stature and has come to be recognised as a reliable source of highly sophisticated professional grade communication and electronic equipments for utilisation by Posts & Telegraphs, Railways, Indian Television, Defence Services, Civil Aviation authorities and the like. Besides the manufacturing activities, GCEL has developed strong Systems Engineering Group capable of undertaking turnkey projects involving System Designs, procurement, integration, installation, user training, and postcommissioning service for maintenance of the system.

Philosophy and Objectives :

From the beginning GCEL's activities have been characterised by a dynamic approach to the employment of technology in the manufacture of equipments, and accent on the high quality of its products. In achieving its objectives, the company has, all along, recognised that the growth potential of the industry would be much higher if the capabilities of smaller and ancillary industrial units in the vicinity of the main industrial activities are fully harnessed in the manufacturing activity of the main industrial unit. Accordingly, the company has nurtured available industrial potential in and around Baroda so as to make them capable of meeting the Company's needs of mechanical parts, sheet metal and fibre glass assemblies, printed circuit boards, fasteners, extrusions and a host of such other items required for its production. GCEL has been helping the ancillary units in the formulation of engineering designs, training of their personnel, besides providing them with tools, necessary for ensuring a high quality in the products. This has also enabled the company to accelerate the manufacturing activity and keep down the costs of equipments, as a result of the low overheads of the ancillaries, and also ensure spread of employment and skills, as a result of the main industrial activity.

Adaptation of the basic design and development of suitable engineering models to meet specific customer

requirements have been the forte of GCEL's expertise in the manufacture of professional grade equipments. Because of this expertise, the company has been in a position to meet the requirements of a variety of clientele such as Railways, Posts & Telegraphs, Indian Television, Defence Services and Civil Aviation authorities.

Multi Dimensional Approach To Technology :

The approach to acquisition of technology has been pragmatic and has been based on either in-house effort, or engineering of technology developed in National laboratories into production worthy prototypes or purchase of technology from foreign sources. Briefly, the various sources of technology have operated in the following manner.

In-House Effort :

The company has, from its very commencement, fostered a strong development and engineering capability. The specific feature of company's expertise has been its ability to develop an equipment and to engineer it so as to make it capable of repetitive production using standard engineering methods. Products such as VHF radio relay Communication Equipments have accordingly been manufactured to international standards for the Railways, Posts & Telegraphs, Civil Aviation, State Electricity Boards, River Valley Projects and Oil &

Natural Gas Commission. In order to meet the requirements of the country's TV Special Plan for expansion of coverage from a mere 19 percent to 70 percent of the population of the country, the company launched a development project for manufacture of low power TV Transmitters for the TV Authority of India (Doordarshan). These were developed in a record time, to international standards, and after user trials, and acceptance, production was launched and supplies executed in record time.

National R & D Agencies :

There is a vast reservoir of technical knowhow, generated by the research and development work undertaken in various National Laboratories. Most of the research work is specific to certain research projects and once these projects have been completed the development potential is not exploited. Realising this, GCEL has been successful in tapping this source and using its own engineering infrastructure and has been able convert the very sophisticated development at the laboratory level to commercially viable products through normal industrial engineering methods. In this way, Digital Time Base Correctors, Video Processing equipments, Data Collection Platforms for computerised weather forecasting, etc., have been developed from the knowhow, obtained from the Space Applications Centre, which was initially developed for SITE programme. The

company has now an on-going arrangement with Defence Laboratories to obtain microwave component knowhow for its communication programme.

Foreign Technology :

Depending on the cost effectiveness both in terms of investment and gestation period, wherever economically viable, GCEL has obtained knowhow from abroad and adapted it to the Indian environment. This has been possible with indigenous inputs such as substitution of locally available materials and components for the equivalent foreign items, re-designing the hardware, revamping tooling and machining procedures, updating original blueprints and producing equipments to international specifications capable of meeting some of the toughest environmental specifications as per the military standards. Examples of the successful use of such techniques are manufacture of Instrument Landing System (ILS), Extended Range VHF Equipment, Multi Access Radio Telephone Equipment (MART), 1" Video Tape Recorder and the 3/4 " U-matic Video Cassette Recorder.

Product Mix :

As the name of company emphasises one of the main product lines of the company is communication equipments. It would be interesting to note that its programme has been geared to cater to the needs of Oil & Natural Gas Commission, P & T, Railways, with narrow-band

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short-haul radio relay equipment, i.e , the 120 channel UHF Radio Relay Communication Equipment (380-470 MHz; 740-960 MHz) with performance matching the most stringent international standards. Based on its product line, the Systems Division has accepted a turnkey project of engineering, designing, development, production, installation and commissioning system required by the Indian Oil Corporation for their Mathura-Delhi-Jullundhar pipeline project.

Communication Systems :
UHF Radio Relay Equipment :
The company has already successfully engineered and is presently manufacturing UHF Radio Relay Communication Equipment in the 380-470 MHz and 740-960 MHz bands. These equipments can provide upto 120 channels and their specifications are equivalent to the most stringent technical characteristics of equipments available in world market.

Telephone Instruments :
GCEL is the only company other than Indian Telephone Industries which has been licensed for the manufacture of rotary dial type telephone instruments. The company has already started production of these instruments and are now being made to international standards. Each instrument is guaranteed for over one million operations and the sensitivity of the instruments makes it a

pleasure to use these instruments for telephone conversation.

100 Watt Low Power TV Transmitter :

In order to meet the requirements of Government of India's Special Plan for expansion of TV network to cover 70 percent of the population, the company has undertaken manufacture and supply of Low Power TV Transmitters in record time.

PCM Mux :

GCEL has developed 30 channel Pulse Code Modulation Multiplex (PCM Mux) equipment using a single codec chip with knowhow provided by Telecommunication Research Centre (TRC) of Posts & Telegraphs Department. This task was completed, in record time, meeting the most stringent electrical and environmental criteria .

In order to live upto the aims set out by its founders, GCEL has contracted to provide technology to other state sector units and Memoranda of Understanding have already been signed for transfer of technology for manufacture of its equipment, in order to be able to meet the requirements of Post & Telegraphs Department for such equipments, in the time frames stipulated.

Multi Access Radio Telephone Equipment (MART) :

The company has a collaboration with M/s. Italtel of

Italy for manufacture of Multi Access Radio Telephone (MART) system and the system uses six VHF channels and can be run on mains/battery or solar power.

Navigational Aids :

Instrument Landing System (ILS) :

For use at airports to provide accurate guidance to an aircraft enabling it to land safely with the help of the cockpit instruments in zero visibility conditions. This has been developed under licence agreement from M/s, Plessey Radar Limited of U.K.

Extended Range VHF Equipment :

This equipment is manufactured under collaboration with M/s. Genelcom of Canada. Ten systems have been supplied to Directorate General of Civil Aviation.

Skopograph, Ceilograph & R V R Equipment :

This system is useful for determining the height of the cloud base and runway visual range which are affected by the scattering effect of the dust particles against background luminance and intensity of the runway lights.

Commutated Aerial Direction Finder :

This system renders enormous assistance to an Air Traffic Controller set with the task of guiding several aircraft in combat/civilian aircraft to their destination post accurately. It is a very highly

reliable system, developed by Defence Research & Development Organisation (DRDO). The first two B models are ready and they are under inspection by Ministry OF Defence.

Video Systems :

GCEL's development work has given birth to a range of monitors, cameras and CCTV systems for educational and industrial applications which have already been selected by the Indian Space Research Organisation for its Sriharikota Missile Range. GCEL has also developed video displays for use as computer systems peripherals and is manufacturing professional grade video tape recorders for Doordarshan under a licence from M/s. Robert Bosch GmBH, West Germany, and M/s. Sony Corporation of Japan. GCEL video equipments were used by Doordarshan to telecast programmes during Asian Games and NAM. Innovatively adopting the Space Applications Centre's knowhow for SITE, GCEL manufactures low cost video equipment for telecasting without heavy initial investment GCEL Digital Time Base Correctors, Sync Generators, Video Distribution Amplifiers, Pulse Distribution Amplifiers, Vertical Interval Switches, Video Processing Amplifiers, Video Line Receiving Terminals, etc. faithfully meet international CCIR (B) specifications.

Video Editing Studio .

To meet the immediate need for making high quality professional TV programmes and with a view to provide a back-up to the private producers, GCEL has set up a post programme production centre at New Delhi.

This centre is equipped with sophisticated video systems and editing facilities. These facilities are leased at a very reasonable cost.

GCEL is planning to set up such studios in other major cities in India.

Turnkey Projects :

Two noteworthy GCEL assignments in this area are the Data Collection Storage and Transmission Sub Systems (DCSTS) to collect weather data in remote, inaccessible areas and transmit them via INSAT (Indian National Satellite) to a central Computer for weather forecasting, also a sophisticated flood forecasting system developed by GCEL's systems group, using unattended sensors hooked up to radio stations, microprocessors, and computer based control elements. The task of installation by GCEL team of engineer has been completed and has been commissioned in the Yamuna River basin.

The company has been assigned a turnkey contract by the Indian Oil Corporation for design, supply, installation and commissioning of UHF Radio Relay System for their Mathura-Delhi-Ambala-Jullundhar Pipeline Communication System.

In The Service Of Society :

In the fulfillment of its social objectives of acting as a focal point for the growth of the electronics industry in the State, GCEL has been playing a crucial role in the development of small scale component manufacturers. Training and guidance rendered by GCEL has acted as a catalyst in the growth of electronic component manufacturers in the area. The company has put in extra effort in the development of hand-picked ancillary industries through transfer of technology.

As part of its aim to foster the growth of industry, the company runs an Electronic Test & Development Centre with grants from the Department of Electronics, and the State Government. This Centre provides expertise and facilities to local industries to test and evaluate the quality of their product at highly subsidised rates. It also offers professional grade repairs to expensive imported instruments and the Development Group offers advise and consultation to other industries to upgrade their products for better quality and economic viability.

Helping The Handicapped :

During the year of the handicapped, the company launched a scheme, in co-operation with a social body, called V-one Society, for continuously training physically handicapped persons to a stage, where they would be able to handle the company's sub contract work under their own efforts, thus enabling a large number of handicapped people to be gainfully employed and be self-reliant.

Training :

Apart from training its own mechanics, GCEL also imparts intensive in-house, 'on-the job' training to fresh engineering graduates, diploma-holders and SSC passed boys and girls, who are selected periodically through an entrance test. The progress of the trainees, who are paid a stipend during training is scrupulously monitored through reports and practical tests. Once the training is completed, they are absorbed in the Company's cadre, whenever suitable vacancies arise. For promoting employment of women, GCEL is also running a programme for training women from low income groups with rural background, under the Norwagian Agency for International Development (NORAD) project. The company has also taken up training youth under the state Govt.'s scheme of induction Training for industrial employment.

Quality Standards :

To ensure this, various methods are adopted, such as

Design review, Engineering evaluation, Failure analysis, Vendor rating, Sample checking of tested items from the floor for conformity to all specifications. These products undergo environmental and durability tests, for which facilities are available at the factory.

The quality Assurance Department is adequately equipped with test instruments and measuring tools, which are calibrated periodically against working standards in calibration lab.

Factory Complex :

With the growth in the business of the company, the old sheds were modified to suit the needs of accelerated sophistication of the products manufactured. In addition, a new factory complex has been set up costing Rs. 20 Million on a 5.5 hectare plot.

This new complex has, apart from standard facilities, (such as power, compressed air, deionised water, scientific lighting etc.) special feature. These have a bearing on the manufacture of professional quality electronic equipments which require total protection from dust and pollutants. Special attention has been paid to the ecological aspects of effluent discharge. A fully equipped air conditioned auditorium for customer training, technical presentations, seminars and advanced in-house training of engineering personnel is also a

part of the production complex. A similar complex will be set up for their proposed factory at Gandhinagar.

Looking Ahead :

GCEL has already acquired a wide technical base and varied product range has found ready acceptance among discriminating clients at the national level. It is envisaged that future advances in the three main areas of production, viz Navigational Aids, Communication Equipment and Video Systems will lead to the establishment of more GCEL units in different parts of Gujarat, which will act as foci of growth for electronic industries of the State.

1.1.5   HEAVY   MACHINERY   INDUSTRY   (INTRODUCTION   TO   GUJARAT TRACTOR CORPORATION LIMITED.) (GTCL).

Gujarat Tractor Corporation Ltd. was incorporated as a Public Sector Enterprise of the State Govt. of Gujarat in the year 1978. The undertakings of Hindustan Tractors Ltd., nationalised by Govt. of India have been vested in GTCL. Hindustan Tractors are being produced in this unit for more than two decades. This unit is one of the pioneers in establishing tractor production in the country since 1961-62. There are more than 25,000 satisfied customers spread all over India who have been utilizing Hindustan Tractors for their requirement of mobile power at remote places for agricultural operations.

Hindustan Tractor plant is located at Vishwamitri on the outskirts of the city of Baroda which is a major industrial growth centre in Western India. The tractor plant is well equipped with all the sophisticated production facilities under its own roof. The range extends from modern foundry producing high grades of intricate casting to induction hardening and sealed quench heat treatment furnace as well as special purpose plano-milling machines to gear hobbing, grinding, broaching and copy turning machines.

At the time of take-over by Government, tractors were being produced in the Unit in accordance with the technical expertise received from Czechoslovakian Collaborators in the decade of '60s,. During the past two decades a number of innovations have taken place based on the technological developments in designing production technologies, value engineering studies in material specifications as well as in customer needs and their preferences. After nationalisation of the Unit a policy decision was taken by GTCL to undertake a massive programme of updating & upgrading the tractors being produced at the plant and developing and producing second generation of Hindustan Tractors incorporating modernistic designs and latest features such as substantial saving in fuel consumption, improving performance characteristics, increasing operating speeds for better output, streamlining the styling and improving driving comforts. With the efforts put in by

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Corporation's own R & D Cell and the assistance of Czech Collaborators first member of the Second Generation of Hindustan Tractors viz. Model G-453 has already been developed and introduced in the market. Around two thousand Hindustan G-453 tractors have already been supplied to the farmers who have warmly responded to its introduction and have been highly satisfied with the performance of this model. GTCL has also developed, with its own R&D efforts a 61 horse power fuel efficient model Hindustan Super G-614. Commercial production of this second number of the new 'G' series has already commenced and is being stepped-up.

Hindustan Tractors being produced by GTCL are not only used for agricultural applications but also for transportation and haulage by hitching trailers, tankers, etc. Hindustan Tractors are also being used for a variety of earthmoving and industrial applications by equipping these tractors with appliances like front-end-dozers, loaders, levelling blades, centrifugal pumps, compressors and drilling equipment etc. GTCL has also developed and is marketing Diesel Generating Sets. Commercial production of 45 KVA Diesel Generating sets has already commenced.

In India a high priority is being laid for the development of irrigation, improved high yielding seeds, fertilizers etc. The critical problem is, however, the

necessity of getting all these biological inputs together into the ground in a properly prepared seed bed in the shortest possible time available in each season. The optimum sowing time in each season is only of two to three weeks and productivity sharply declines with lapse of each day from the optimum sowing time. Although apparently. India may appear to have a large resource of draught animals, this resource is woefully inadequate to meet peak demands during the periods of sowing and harvesting. Increases in farm power availability have a close co-relation with increased yields and we are required to increase our farm power by three times for achieving the yields necessary for the population needs of this decade. Farm mechanisation has and in future will have to substantially contribute towards increased yields and higher agricultural production. Farm mechanisation has enabled larger areas of crops to be grown. Use of power operating equipments have higher potential for increasing rural employment. Tractors have not only benefited big farmers but studies conducted by reputed organisations like National Council of Applied Economic Research (NCAER) have revealed that 68.73 percent of the tractors are being utilised by small farmers through custom hiring from the tractor owners. In context of the above, Hindustan Tractor plant of GTCL, where more than 1200 persons are directly employed and more than 5000 employed in over 300 ancillary units, is reckoned to be of National

importance.

PRODUCTS

(A)   TRACTORS OF DIFFERENT HORSE POWER & CYLINDER.

1. Model G-453,

2.   "   G-312,

3.   "   HWD-50,

4.   "   G-614-HP,

5.   "   G-75-HP   (Occasionally   manufactured   as   per   order)

6.   "   G-252   (Under development).

(B)   DIESEL GENERATING SETS OF DIFFERENT CAPACITY

1. 15-KV   4. 40-KV

2. 25-KV   5. 62.5 KV.

3. 35-KV   6. 100 KV.

The   unit   accomplished   remarkable   progress   in   all   the spheres of its activities and the net operating losses were   brought down substantially from a level   of   Rs.80 lakhs   for   the year 1973 at the time   of   take-over   of management   and   the unit could turn the corner   in   the fifth   year   when   marginal   net   profit   was   made.   A carefully   prepared   plan tractor plant was evolved   which has   resulted   in a four-fold growth of such   small   and medium   scale units in Gujarat State from 80 to 342.   Out of 1200 tractor components not more than 1/10th. are now produced   in the tractor plant.   Excluding some   of   the

highly sophisticated components like Crankshaft, Fuel and Tubes etc. most of the components are being procured from small and medium scale ancillary units. The revival of this unit has given much needed fillip to the young entrepreneurs who have set up their units with the technical expertise provided by the Company. Gujarat Tractor Corporation Limited is the only unit of automotive industry in production in Gujarat State. The Corporation has ambitious plans for expanding its activities and diversifying the production range.

1.2. INTRODUCTION TO CONCEPTS

1.2.1 INTRODUCTION

In the light of the review of literature on various organisational set-ups like fertilizers, chemicals, electronics and heavy machineries and its latest ramifications and the impact on Managers and Supervisors (Officers) in the form of increasing constraints, stresses and rate of turn-over, three broad groups of variables were considered relevant for the study of managers and supervisors (officers) of different Organisational set-ups.

These variables are organisational role stress, job satisfaction (dissatisfaction) and organisational climate (Motivational).

In the present study, on the basis of literature survey and research model (depicted in Chapter-II), organisational role stress is considerd as independent variable, job satisfaction as dependent variable and organisational climates as moderator for the relationship between role stress and job satisfaction.

In the present Chapter, an attempt has been made to review the literature on key constructs, constituting the present research. Each construct is briefly reviewed in terms of (i) Development and definition of construct, (ii) Its components, and (iii) Its relation to other relevant constructs.

Empirical studies in relation to organisational climate, satisfaction (dissatisfaction) and role stress are numerous. Therefore an attempt is made to discuss some representative samples from such researches to provide a comprehensive view about the constructs, instead of an exhaustive review of literature.

1.2.2 CONCEPT OF ROLE STRESS

1.2.2.1 INTRODUCTION OF CONCEPT

The concept of role stress is psychological in nature because it involves perception, thinking, reasoning, personality etc. The credit for systematic conceptualization of organisational stress in general

and role stress in particular goes to Kahn et al. Since then interest in organisational stress and role stress has increased considerably. Many eminent researchers like Kahn et al (1964), Katz & Kahn (1966), Pareek (1981), Pestonjee (1982), Gyanendra Pratapsingh (1987),etc. have made an attempt to understand role-stress within the framework of role theory.

It is through role concepts that proper linkage between man and organisation could be established. An organisation is a social system. It is within this system that an individual operates, while working in the organisation, the individual is obliged to fulfill the demands made by the organisation. The quality of relation between the individual and organisation depends to a great extent on how and in what manner the organisational demands also known as role expectations are met adequately by the person.

The individual tries to comprehend the situation and assesses the available resources in order to respond to the demands. If the individual is not able to meet the demands either due to lack of proper skills and competencies or due to non-availability of researches as per requirements, he will have to face the adverse consequences like anxiety, frustration, tension and mental as well as physical disturbances.

The consistency and stability of an individual's behaviour depends upon consistency and stability in his or her interpersonal environment. The organisational social structure in an organisational context is one source of such consistency and stability. When a person occupies some position in a social system he or she is seen by others in terms of roles that he or she is required to perform.

According to classical organisation theory every position in a formal organisation should have a set of specified tasks and responsibilities. The principle of delegation requires the assignment of duties, the delegation of sufficient authority to accomplish such duties and the holding of the subordinate responsible for accomplishing duties and utilizing authority appropriately.

Unless employees know what they must accomplish, what authority they can exercise and how they will be evaluated, performance will suffer. Such a position is known as role ambiguity. High ambiguity will naturally lead to poor performance and dissatisfaction.

Thus ideally a role is a standardised set of behaviour that is expected of every one in a particular position. Sanctions are employed to enforce compliance with the role. There are several 'significant others' that also

exercise some influence on the job or role that an individual fills. The formal organization through job design, job description and sanctions provides significant inputs for the role or job behaviour.

It seems quite logical to conclude that origin of concept of stress predate antiquity. Even prehistoric man must have recognised a common element in the loss of vigour and a sense of exhaustion that overcame him after hard labour, intense fear, lengthy exposure to cold or heat, starvation, loss of blood and any kind of strenuous exertion. However, the scientific use of phenomenon of stress is rather recent in origin.

According to Marshall and Cooper (1979) term 'stress' was used popularly in the seventeenth century to mean 'hardship, strains, adversity or affiliation'. During 18th and 19th centuries it was used to denote 'force, pressure, strain or strong effort', with reference to object as well as to a person's 'organs or mental powers' Hinkle (1973). Boyle (who investigated the properties of gases) and Hooke (who theorized law of elasticity of matter) in seventeenth century, this term 'stress' was used to mean any 'external pressure being applied and resisted by the object which it sought to distort and disrupt'. In seventeenth century, this term 'stress' was used to mean any 'external pressure being applied and resisted by the object which if sought to

distort and disrupt'. In biology and medicine, it was for the first time used by Austrian-born Psychologist Professor Hans Selye in 1936. And it was only after mid-1940s that this term 'stress' came into use in behavioural studies Agarwala, Mahan & Singh, (1979). During the past fifteen years, the term 'stress' has come into wide use in relation to work organisation. Like Physiologists and Clinical psychologists, behaviour psychologists too focused on extreme environmental conditions and work situations, Pestonjee, (1987).

Stress, as McGrath (1976) contended, 'is a complex, important and widely studied but imprecise concept'. Confusion over use of this term has arisen from the fact that scientists like Selye, Cofer and Appley, Lazarus, McGrath used such terms as 'systematic stress' 'Biological stress' 'Psychological stress', 'Physiological, psychological and sociological' level of stress respectively to order it. Another reason of confusion over definition of stress may be attributed to 'disciplinary or conceptual bias of the' invisible colleagues, Agrawala, Malhan and Singh, (1979).

Stress, therefore as Agrawala et al (1979) opined, a potential for stress. However use of limiting adjectives with 'stress' seems necessary as it helps in identifying the context in which the term is used.

Experiments in 1936 on various species of experimental animals showed Selye, (1936), that the organism responds in a stereotyped manner to a variety of widely different agents, such as infections, intoxications, trauma, nervous strain, heat, cold, muscular fatigue, and X-ray irradiation. The specific actions of all these agents are quite different. Their only common feature is that they place the body in a state of stress.

But what is non-specific stress ? The term had long been used in physics to refer to the interaction between a force and the resistance opposed to it. For instance pressure and tension cause stress in inanimate matter.

We regard as specific actions those which can be elicited only by one or few agents (e.g. the effect of thyrotrophic hormone on the thyroid), while conversely, non-specific actions are those which can be elicited by many agents(e.g. shock, loss of body weight, inflammation, tissue nervosis. Stress is the sum of non-specific biologic phenomena (including damage and defense), and consequently, a stress or agent is, by definition, non-specific since it produces stress.

1.2.2.2   DEFINITION OF STRESS :

Stress is defined in many ways and often imprecisely. Because stress is studied in the field of psychology, ergonomics, psychiatry, internal medicine, physiology,

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pharmacology, sociology and anthropology, the differences in these various disciplines may contribute to the variations in the use and understanding of the term, Cox (1978).

Ivancerich & Matteson (1980) defined stress in terms of stimulus, response and the interaction between the two activities. From a stimulus perspective, stress is defined 'as some characteristic event or situation in the environment that in some way results in a potentially disruptive consequence'. The force that acts on the individual causes the response of anxiety, pressure, strain or tension based on the particular response tendencies of the individual.

Treating stress as an intervening variable, Cox (1978) described it as part of complex and dynamic system of transactions between an individual and the environment. Appley and Trumbull (1986) supported Cox' interactional definition of stress and indicated that the importance of the 'situational context' of an event is not found in the situation, nor in the individual, but in the interactions between the person and the event.

Notwithstanding the sources of stress or its potential for good or harm, the individual's system need to be prepared for it. Selye (1976) delineated stress as the 'non-specific response of the body to any demand' and

expanded this notion to include 'efforts to cope with the wear and tear in the body caused by life at any one time'. Essentially, stress is 'usually the outcome of struggle for the self-preservation (the homeostasis) of parts within a whole'. Executive Health Examiner (1983) gave a similar definition - 'Stress can be looked upon as any disturbance which causes the body to make adjustments.

The National Study draws on Selye's (1976) definition to examine job-related stress among high school principals, thus stress was defined as Principal's feeling regarding the degree (from very little to very much) to which they were 'bothered by' activities related to their job responsibilities and which were likely to be associated with anxiety, frustration and tension.

Mason (1975) in his review observed that stress researchers have used and defined the term 'stress' variously to refer to :

(i) Stimulus (external force acting on the organism),

(ii) response (change in psychological functions),

(iii) interaction (interaction between an external force and the resistance opposed to it), and

(iv) more comprehensive combinations of the above factors.

1.2.2.2.1 STIMULUS - ORIENTED DEFINITION :

Stimulus oriented approach regards stress as an external force which is perceived as threatening. Some researchers consider 'threat' itself as stress whereas others consider stress to be a stimulus which triggers a chronic state of anxiety. Asthana, (1983), Selye (1946) considers any external event or any internal drive which threatens to up-set the organismic equilibrium as stress. Cannon (1935) defined stress in terms of some temporary distortion due to external forces and the organism's efforts to return to its natural state.

Attempts are made to clarify different types of most stressful stimuli. Weitz (1970), for example observed following stimuli as most stressful : speeded information processing, noxious environmental stimuli, perceived disrupted psychological function, isolation and confinement, blocking, group pressure and frustration. Several difficulties, are reported associated with stimulus definition of stress.

It seems difficult to identify the standard stress stimuli. Second, how to define a situation as stressful if it appears to be stressful because of its stimulus characteristics and evokes stress response from most but not all people. One cannot demonstrate the existence of stress objectively. Lastly, it is not possible to specify the psychological meaning of stress stimulus.

1.2.2.2.2. RESPONSE - ORIENTED DEFINITION :

According to response definition of stress, it is claimed that 'Nature of stress can be understood best in terms of the way, people perceive and derive meaning to stress producing situation, and the way they interact with events'; Asthana (1983).
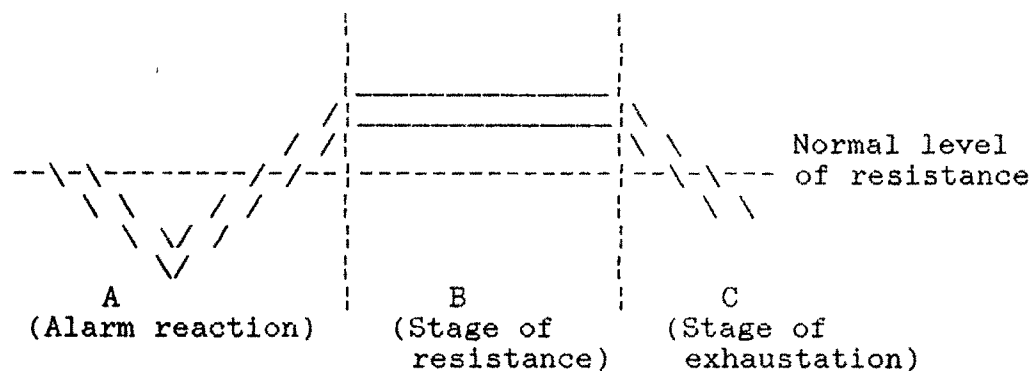
Many scholars have attempted to define stress from this point of view. Selye (1956), for example defined stress as 'a state manifested by a syndrome' and later-on, in his book 'Stress without distress', he had postulated that 'stress is the non-specific response of the body', he postulated his famous 'General Adaptation Syndrome' (GAS) consisting of three stages.

(a) Harm reaction : The body shows the changes, characteristic of the first exposure to a stressor. At the same time, its resistance is diminished and, if the stress is sufficiently strong, death may result.

(b) Stage of Resistance : Resistance ensues if continued exposure to the stressor is compatible with adaptation. The bodily signs i.e. characteristic of alarm reaction have virtually disappeared, the resistance rises above normal.

(c) **Stage of exhaustion** : Following long continued
exposure to the same stressor, to which the body
had become adjusted, eventually adaptation energy
is exhausted, the sign of alarm reaction reappears,
but now they are irreversible and the individual
dies.

1.2.2.2.2.1   THE THREE PHASES OF THE GENERAL ADAPTATION SYNDROME
(GAS).

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                    / /!———————————————!\ \        Normal level
 --\-\--------/-/--!---------------!--\-\---  of resistance
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    \ \/ /     !                 !     \ \
     \/        !                 !
      A        !        B        !        C
 (Alarm reaction)   (Stage of        (Stage of
                     resistance)      exhaustation)
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The Three Phases of General Adaptation Syndrome

A number of inherent shortcomings have been observed in
GAS. First, GAS has evolved out of the researches
pertaining to physical or environmental stressors on
intra-human subjects but the human-being is not always
afflicted by such stressors. Second, Mason (1971) found
that some noxious physical conditions such as exercise,
heat, fasting do not produce 'non-specific physiological
response'. Finally intra-psychic and social (inter-
personal) factors which are major stressors for human-
beings have not been given due place in GAS model.

Gradually, it was realized that much of the physiological responses are not directly determined by the actual presence of stressors but by its psychological impact on the person. Finamen (1979), for example, suggests that stress is a psychological response state of negative affect, characterized by a persistent and high level of experienced anxiety or tension. Further, stress is a condition of organismic damage resulting from strain.

The response oriented definition to stress was severely criticised. First, any stimulus which produces the particular stress-response under consideration, must be viewed as a stressor. Hence, various excitements, emotions, physical exercises, fastings etc., must be treated as stress; McGrath, (1970). Second, the same response may be evoked by several different situations, some of which may not be accepted as stressful. Third, such definitions do not tell the way people experience stress. The way it is presumably experienced is inferred from the response made to it (Asthana, 1983). It seems, response-oriented interpretation of stress tends to be objective and therefore, it overlooks the suffering characteristics of stress. Moreover, this definition completely disregards the person-variable in causation of stress.

1.2.2.2.3 INTERACTION-ORIENTED DEFINITION:

According to Interactional definition, stress arises out of imbalance or misfit between the person and his environment. Wolf (1953) was the first to conceive that stress is a dynamic and inevitable state of human organism. Cox and Mackay (1976) suggested that stress can be most adequately described as part of a complex and dynamic system of transaction between the person and the environment. This description of stress is edectic in sense that it draws from both, response and stimulus based definition and in doing so, it emphasizes the ecological and transactional nature of the phenomenon.

Basowitz et al (1955) however, cautioned that " we should not consider stress as imposed upon the organism, but as its response to internal or external processes which reach those threshold levels that strain its physical and psychological capacities close to or beyond their limits". Lazarus (1966) pointed the importance of the individual's perception in causing stress for himself. He emphasized that it is the nature of relationship between the two which is crucial : "Stress refers to a very broad class of problems differentiated from other problem areas because it deals with any demand which tax the system, whether it is a physiological, a sociological or a psychological system, and the response of that system " Lazarus, (1971). Lazarus goes on to say that the "reaction (to the

stress) depends on how the person interprets or appraises the significance of a harmful, threatening or challenging event". The appraisal of threat is not a simple perception of the elements of the situation, but a judgement, an inference in which the data are assembled to a constellation of ideas and expectations"; Lazarus, (1966). Appley (1962) agrees that this cognitive element i.e. "threat perception" is the vital link between the individual's environment and his experience of stress.

1.2.2.2.4 MORE COMPREHENSIVE DEFINITION OF STRESS :

Attempts were made to further extend and refine the interactional approach to stress. Cooper and Marshall (1976), for example, maintained that sources of work-stress could only be adequately investigated by taking multi-disciplinary approach. They emphasised the need to investigate whole area of problems such as psychological, sociological and physiological by which individual in work environment is taxed by stimulus demands made on him. Davidson and Cooper (1981) emphasized that besides work/organizational area, there are three more extra-organizational areas which should be given proper place while defining the concept. These are, (a) The home environment : e.g. Marital satisfaction, Financial concerns, (b) The Social environment : e.g. Social activities and relationship, urban versus rural livings, and (c) The individual

differences and determinants : e.g. Personality, Life history and events, Type-A Coronary-prone behaviour pattern. They suggested that these major settings for behaviour form an integrated whole of forces which infringe upon and interact with the individual. Thus, the stressors from one arena effect the individual which in turn, may effect changes in stressors in other arenas. When an individual is stressed to a sufficient extent in one or more of the precursor arenas, the stress appears in one of the manifestation arenas.

1.2.2.3 ORGANIZATIONAL ROLE STRESS

Origin of role stress is in the concept of psychological stress which is the interactional outcome of both, stimulus and response dimensions. Kahn et al (1964) were earliest to draw attention to organizational stress in general, and role stress in particular. After the 'National Survey' reported by them, study of role-stress has assumed importance in recent period which can be verified from increasing number of reviews of literature and books, and rush of public seminars promoting different approaches to stress control. Levi, (1971); Cooper and Marshall, (1976); Rizzo et al (1970); Pestonjee, (1982; 1983; 1984; 1987); Pareek, (1976); Bhatnagar and Bose, (1985).

Organizational behaviour psychologists Kahn et al, (1964); Katz and Kahn, (1966); Pareek, (1981);

Pestonjee, (1982) attempt to identify role-stress in the conceptual framework of role theory. Katz and Kahn (1966) suggested that role-concepts are "the major means for linking the individual and the organization. It is at once the building block of social systems and the summation of the requirements with which such systems confront their members as individuals"). Behaviour of role-occupants, is conceived as a 'Special subset of behaviour', occurring within a context whose parameters (e.g. size, structure, rule and regulation, etc.) denote those social arrangements, we normally label 'organization'.

The focal-person behaves in the socio-technical environment of such organization and the organizational environment places demand on individual. Individuals' linkage with organization demands on meeting these demands/role expectations as effectively as possible. In the process of doing so, the individual cognises the demands and resources available to him in terms of consequences of failure to succeed vis-a-vis the demands. If the individual is incapable or not-resourceful to meet the role-expectations, he may have to suffer the consequences in terms of experience of different kinds of problems such as, anxieties and job-related tensions, physical and mental illness etc.

The understanding of role-stresses, therefore, require the understanding of roles, individual plays in the organization. Role, as Pareek (1976) defined, is "a position occupied by a person, as defined by the expectations of significant persons including the role occupant himself". This concept of role includes several variables like the self, the other roles as well as the expectations held from the self. The concept of 'role' is inextricably linked with 'expectation' and such expectations are numerous. It is therefore extremely difficult to imagine a situation in which, there is no conflict among these roles and related variables. As a matter of fact, the very nature of role has built-in potential for conflict or stress.

The area of role-stress has been systematically explored. In their initial attempt, Kahn et al (1964) identified four basic types of role-strains or job-related tensions such as : (1) person-role conflict; (2) Intra-sender conflict; (3) Inter-sender conflict; and (4) Inter-role conflict, Rizzo et al(1980) identified two basic constructs of role-stress, namely, role-conflict and role-ambiguity and related these constructs to threat and anxiety, discomfort, pleasantness, work-satisfaction, turnover and decision-delay. Kahn and Quinn (1970) have classified role-stress under three main headings : (i) expectation generated stress in which they include role ambiguity and role conflict;

(ii) expectation resource discrepancies, in which they include role-overload, responsibility - authority dilemma and inadequate technical information; (iii) role and personality.

Pareek (1976) on the basis of - theoretical speculation and statistical analysis (e.g. factor analysis) identified two role-systems, namely, role-space and role-set, each responsible for various types of role-stresses.

1.2.2.3.1. ROLE SPACE CONFLICTS AND STRESSES:

Role space is the system of various roles the individual carries and performs. In the centre of role space is the self and various roles, the person plays around the self. Pareek (1976) defined role space as "a dynamic interrelationship both, between the self and various roles the individual occupies, and amongst these roles". Role space has three main variables, namely, self, the role under question and other roles he occupies, Conflict among these variables are called 'role space conflicts and stresses' which are of following types :

(A) Self-Role Distance (SRD) - is the conflict between the self-concept and the expectations from the role as perceived by the role-occupant. If a person occupies a role which he may subsequently find conflicting with his self-concept, he feels stress. For example, a usually

introvert person who is fond of studying and writing, may have self-role distance if he accepts the role of a salesman in an organization and comes to realism that the expectations from the role would include his meeting people and being social.

(B) <u>Role-Expectation Conflict (REC)</u> - arises out of conflicting demands originating from role senders such as, supervisors, subordinates and others in the organization. Since the individual learns to develop expectations as a result of his socialisation and identification with significant others. It is quite likely that he sees some incompatibility between the two expectations from his own role. For example, an EPP manager may face conflict between the demands of his organizational roles and the family roles. These inherently may not be conflicting but the individual may perceive them as incompatible.

(C) <u>Role Stagnation (RS)</u> - type of stress occurs when individual perceives that there is no opportunity for him to grow. As the individual grows, he also grows in the role he occupies in the organization. When the change in role is not satisfied with growth in individual, then he experiences this type of stress. It is evident specially when an individual has occupied a role for a longer time and he enters in another role where he may feel less secure.

Role stagnation also includes stress related to career progression. Marshall and Cooper (1978) opined that career progression is a problem by its nature. Sofer (1970) observed that employees believe that 'luck' and 'being in the right place at the right time' play a major role in this regard. Levinson (1973) and Constandse (1972) observed that at middle age, and particularly in case of middle-management levels, career becomes more problematic and more executives find their progress slowed. It results into fears and disappointments in silent isolation from their family and work colleagues.

(D) Inter-role Distance (IRD) - implies to the conflict, arising between two or more roles which an individual occupies. For example, an executive often faces the conflicts between his organizational role as executive and his family role as the husband and the father. The demand from his family members to share his time may be incompatible with the organizational demands on him to spend time on organizational problems.

Cooper and Marshall (1978) observed that 'time' and 'spillover of stress' from one to another were two problems regarding manager's relationship with his family. Barber (1976) and Pahl (1971) found that wives saw their role in relation to their husband's job as a supportive and domestic one. They were found to derive

security from their husbands. Gowler and Legge (1975) called it 'the hidden contract' in which wife agrees to act as a 'supportive team' for her husband.

1.2.2.3.2 ROLE SET CONFLICTS AND STRESSES:

Merton (1957) defined role-set as the "complement of role relationships which persons have by virtue of occupying a particular social status ". Role-set, therefore is the pattern of relationship between the role being considered and other roles. The conflicts arising out of incompatibility amongst the expectations of significant other roles and by the individual himself are termed as role set conflicts. This type of role-conflicts/stresses may be classified as follows :

(a) Role-Ambiguity (RA) - type of stress is evident when the individual is not clear about the various expectations, significant others have from his role. It may be due to lack of information available to the role-occupant, or due to the lack of understanding of the cases available to him. According to Kahn and Quinn (1970), (a) the expectations the role sender holds for the role occupant; (b) the expectations set by the role-sender to the role-occupant; and (c) the expectations the role-occupant receives and interprets in the light of prior information and experience may cause role-ambiguity.

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(b) <u>Role-Overload</u> <u>(RO)</u> - type of stress occurs when the role occupant feels that the demands and expectations from significant other roles in his role-set are more than enough to meet effectively. French and Caplan (1973) have differentiated overload in terms of 'quantitative' and 'qualitative' overload. The former refers to have 'too much to do' while in case of latter, one feels that the work is 'too difficult'. It was found that role overload is likely to occur more : (a) in the absence of mechanisms of role integration; (b) in the absence of power of the role occupants; (c) in the large variance of expected output; and (d) when delegation or assistance cannot procure more time; Kahn and Quinn, (1970).

(c) <u>Role-Isolation</u> <u>(RI)</u> - is characterized by the feeling of role occupant that in the role set, certain roles are psychologically nearer to him while some other roles are at distance. The main criterion of role isolation type of stress is the frequency and case of interaction in sense that when the linkages are strong, the stress will be low and, in absence of strong linkages, stress (RI) may be high. So, the gap between the desired and the existing linkages indicate the amount of role isolation; Pareek, (1976). One of the main source,

according to Marshall and Cooper (1979) is
'relationships at work'. Low trust, low
supportiveness and low interest in listening to and
trying to deal with problems that confront the
organizational members are responsible for poor
relations; French and Caplan, (1973) and hence, for
high role-isolation. Further, this stress is also
related to participation which provide a wide
linkage to the role with other roles.

(d) Role-Erosion (RE) - arises when the role-occupant
feels that his role has become less important than
it used to be, or when somebody else gets the
credit for doing what needs to be done in one's own
role. In other words, role erosion is the
subjective feeling of an individual that some
important role expectations he has from his role do
not match with the expectations other roles have
for him. Role-erosion is more likely to be
experienced in the organizations which are
redefining its roles and creating new roles.

(e) Personal Inadequacy (PI) - type of stress is
depicted by the absence of adequate skills,
competence, abilities and training in role-
occupant to meet the demands of the role.
According to Pestonjee and Singh (1983), in case of
personal inadequacy, individual may become hostile

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towards himself for having failed to live up to the expectations due to his own weaknesses.

(f) **Resource Inadequacy (RI)** - when a role-occupant feels that he lacks adequate physical resources to perform his role effectively, he experiences resource inadequacy. For example, a dynamic professional could feel constrained in his role due to a severe shortage of relevant equipments.

Pestonjee and Singh (1981) observed that incompetence of any sort whether in terms of resource available to perform the job effectively or personal incompetence to handle the job, is bound to lower down job satisfaction and morale.

It is evident from above description that Pareek's conceptualization and categorization of role stress dimensions is more comprehensive in sense that for the first time such aspects as role erosion, role isolation, resource inadequacy and personal inadequacy have been taken into account. In fact, in the factorial analysis, resource inadequacy and personal inadequacy emerged as two distinct dimensions of role stress from the earlier conceptualized 'role-inadequacy' type of role stress.

1.2.2.4   SOURCES OF STRESS*

Recent researchers have highlighted varieties of factors responsible for stress in relation to work-life of all

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categories of organizational role-occupants. Marshall
and Cooper (1979) have identified several sources of
stress for managers as follows :

(a) Factors Intrinsic to the Job : Factors intrinsic
     to the job were vital focus of study for early
     researchers. Some of the stress producing factors
     were found to be too much or too little work, time-
     pressure and deadline, having to make so may
     decisions; Sofer, (1970), excessive travel, long
     hours, having to cope with changes in work and the
     expenses of making mistakes; Kearns, (1973) etc.
     Researchers on this issue, have concentrated
     mainly, on two subfactors, namely, working
     conditions; Kornhauseve, (1965); Marcson, (1970);
     Shepard, (1971); Kritsikis, Heinemann and Eithruev,
     (1968) and overload as major source of stress.
     Researches related to role overload have concluded
     that both, qualitative and quantitative overload;
     Caplan, (1971); Miller, (1969); French and Caplan,
     (1970); Breslow and Buell, (1960); Margolis, Kores
     and Quinn,(1974) are causal factors of stress at
     work.

(b) Role in the Organization : Another major source of
     stress is person's role at work. The seminal work
     of the survey research centre of the University of
     Michigan; Kahn et al (1964) stimulated great deal

of research in this area. Researchers mainly concentrated on role ambiguity; Kahn et al (1964); French and Caplan, (1973); Kahn, (1973), role-conflict; Kahn et al, (1964); French and Caplan, (1973); Mettlin and Woelfel, (1974), responsibility; Wardwell et al, (1964); Pincharle, (1972); Eaton, (1969) and others. In India, Pareek (1976) identified ten types of role-stresses which have been widely studied by Indian researchers; Pestonjee and Singh, (1982), (1983), (1987), Surty, (1982), Sen, (1981); Sayeed, (1985).

(c) Relationships at Work : There are three widely studied facets of relationship at work which cause stress, namely, relationship with superior; Buck, (1972), relationship with subordinates; Donaldson and Gowler, (1975) and relationship with colleagues; Lazarus, (1966); Morris, (1975); Minzberg, (1973). One of the repeated conclusions of studies in this field is that mistrust of persons, one worked with was positively related to high role-ambiguity, inadequate communication, low satisfaction and job-related threats; Kahn et al, (1964); French and Caplan, (1973). Theorists therefore, emphasize the need for relationships built on trust, openness and concern for others.

(d)   Career Development was found to be another major
      stressor.   Studies on this issue of career
      development concentrated mainly on (a) Lack of job
      security which includes fear of redundancy,
      obsolescence or early retirement due to competition
      from better skilled fresh recruits, and (b) Stress
      incongruence which includes under or over-promotion
      and frustrations of having reached one's career
      ceiling.   Researchers like Sofer (1970), Levinson
      (1973), Constandse (1972), Goftman (1952), Sleeper
      (1975) worked on this issue very intensively.

(e)   Organizational Structure and Climate is another
      major stressor because simply 'being in the
      organization' poses threat to one's freedom,
      autonomy and individual identity.   Researchers like
      Coch and French (1948), French et al, (1960),
      French and Caplan (1970), for example, worked on
      participation and tried to find out its effect on
      production and attitude of workers.   Findings of
      such studies suggest that traditional hierarchical
      kind of organizations do more harm to the
      individual's mental health.   Lack of participation
      at both, managerial and workers' level cause stress
      and result in a conventional organization being
      caught into a vicious circle of keeping employees
      immature and tightening its controls.

(f) Extra Organizational Factors such as marriage patterns; Pahl and Pahl, (1971); Barber, (1976); Gowler and Legge, (1975); Handy, (1975) and mobility; Pierson, (1972); Seidenberg, (1973); Packard, (1975); Guest and Williams, (1973) were found to be major stressors in earlier researches. It also includes other variables like family problems; Pahl & Phal, (1971), life crises; Dohernwend & Dohrewend, (1974); financial difficulties etc.

(g) Characteristics of Individual was reported to be another source of stress which varies from person to person. Researchers searched for characteristics of stress-prone individual and then, attempted to find out relationship between various psychometric measures of individual's characteristics and stress-related diseases. It was found that people who show abnormality on MMPI measure were more stress prone than normals; Bakker and Levenson, (1967); Ostfeld et al, (1964); Mordkoff and Rand, (1968). In the studies of stress-prone behaviour and incidence of disease; Friedman, (1969); Rosenman, Friedman and Stauss, (1964); (1966) strong support was found to the hypothesis that the speed of a person's action (Type-A pattern of behaviour) has relationship with his susceptibility to CHD. Individual

characteristics such as locus of control, high order needs, state-trait anger were also reported as stressors; Pestonjee, (1987); Pestonjee and Singh, (1981); Shrivastava, (1982).

1.2.2.5 PERSON-ENVIRONMENT (P-E) FIT THEORY

This theory assumes that a fit between a person and the environment implies harmonious conditions. In such situation, there would be low level of stress and high satisfaction; Van Harrison, (1975). Stress, according to this theory can be viewed as the consequence of a lack of person-environment fit. In other words, greater the incongruence of fit, the more significant the level of experienced stress; Loftquist and Dawis, (1969).

Researchers tested P-E fit theory, empirically. Marshall and Cooper (1979), for example, gathered data from executives and their wives and factor analysed the responses. Analysis revealed two sets of prominent factors : (1) Person related factors which were found to be anxiety-pronenes and ambition; (2) Job/environment related factors which were reported to be (a) Work overload, (b) lack of autonomy, and (c) concern about career development. In the Marshall and Cooper's study, the analysis of variance did not reveal any generally applicable causes of stress, but the interaction effects were significant; regression analysis provided meaningful results only in relatively small sub-groups.

This finding supported the theory that stress is not solely determined by either individual characteristics or the quantum of external pressure.

The 'P-E fit' theory found strong support in another recent study as well. French, Caplan and Harrison (1982) noted that 'fit-measures account for about twice as much variance in strain as did the additive effects of their component measures of the environment and of the person.' Further, they also reported that participation is an important source of P-E fit. Social support from others at work influences primarily the general affects such as irritation, anxiety and depression. Quantitative overload affected dissatisfaction though it has secondary effects on anxiety, depression and irritation. In general therefore, researches supported P-E fit theory which implies that individual counselling is major tool for helping to cope with stresses.

1.2.2.6   Effective ways to manage stress.

Researchers in the area of stress management have many techniques to offer.

More and Fddy (1980) suggest the following :

-    Understanding stress.

-    Diagnoise what causes stress.

-    One's style of responding to the stress signals.

-    Modifying the work environment to reduce stress.

-    Changing one's style of responding to stress.

- Improving stress-resistance physically (Nutrition, rest exercise and recreation).

- Re-thinking and replanning work life (Recognition).

1.3 CONCEPT OF JOB SATISFACTION

1.3.1 INTRODUCTION OF CONCEPT

As Phillip Applewhite (1965) put it, 'Morale,' 'job-satisfaction,' ' contentment' and worker happiness' mean all things to all people. In an industrial environment these words are seldom defined and dealt with consistency. Ronan (1970) experiencing the same difficulty in defining the term job-satisfaction comments 'The terms satisfaction, morale and attitude, attitudes and opinions have been so used that they have become almost meaningless. Researchers have made a confusion in the use of the terms 'morale', 'job-satisfaction' and 'job-attitude'. These terms are used interchangeably. Even the textbooks in the area of industrial psychology and organizational behaviour do not define these terms precisely and use any of these terms to mean 'reactions of people toward either total job situations or toward different aspects of job'. A few examples may illustrate the point, Lawshe (1953) writes, 'studies have been undertaken for a variety of purposes' but, generally an over-all indication of the employee's satisfaction with his work situation is obtained from the results. This encompassing attitude

may be defined as 'Morale', 'job-satisfaction or merely that totality which is measured by particular survey device. However, without defining the terms morale or job-satisfaction he proceeds to discuss some of the studies.

Harrell (1964) introduces the topic 'job-satisfaction' as follows. 'This chapter is concerned with motivation. It is focused on job or work satisfaction and on the measurement of attitudes in relation to job-satisfaction'. He immediately starts the discussion of the factors related with job satisfaction without making distinctions among the terms motivation, job satisfaction and attitudes.

Tiffin and McCormick (1965) point at the causal factors and state that 'the satisfaction which people experience in their jobs is in large part the consequence of the extent to which the various aspects of their work situation tend to be relevant to their job-related value systems'. Without attempting at conceptual and operational definitions of the term discussion of the general level of job satisfaction and causal factors ensures/follows.

Blum and Naylor (1968), however, attempt to distinguish the terms job satisfaction, job attitude and morale and define the term in a very broad sense. They state,

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'Reviewing the many studies in the area almost leads to the conclusion that job satisfaction is anything that an author measures, when he thinks he is measuring job satisfaction '.

They further observe ' Although in many instances they (the terms job satisfaction, job attitude and morale) are used interchangeably, they are not synonymous. An attitude is not job satisfaction, although it may contribute to job satisfaction , since the latter is comprised of a number of attitudes. Similarly, job satisfaction is not the same as industrial morale. Although it may contribute to morale'.

They define job satisfaction as a result of 'various attitudes the employee holds toward his job, toward related factors and toward life in general'.

This definition indicates the complex nature of the causal factors of job satisfaction but fails to make the concept of job satisfaction clear.

Definitions of 'Morale' are, in many cases, comparable to job satisfaction. For example, Guion (1953) after examining many definitions of morale defines it as 'the extent to which an individual's needs are satisfied and the extent to which the individual perceives that satisfaction stemming from his total job situation.

Similarly, Gellerman (1970) observes, 'Morale is subjective consisting in feeling that people have about their work'. However, factor analytical studies by Roach (1958) and Baehr and Ranck (1958) reveal job satisfaction as one of the components of morale and thus indicating that job satisfaction and industrial morale should not be confused as synonymous.

Whatever be the difference in the definitions, objectives and methods used in different studies, most of the studies have attempted to derive a measure of over-all affective orientation of job occupants toward their job. Referring to this aspect, Herzberg et al (1957) state that many attempts at a precise definition have failed to provide a meaning to job satisfaction with any scientific rigour. However, the approaches used to measure job satisfaction have enough in common so that, for the purposes of a first approximation of the prevalence of job-satisfaction, the various terms used in the literature can be compared regardless of whether any explicit formulation of concepts was made.

Since most of the studies in the area of job satisfaction, job attitudes and morale (when used to denote individuals' reactions to different aspects of the job) attempt to assess job occupants' feelings toward different aspects (and majority of the aspects are common in these studies) of work situation or

toward work situation as a whole, it is reasonable to view job satisfaction as 'valence' of an individual toward his job varying between positive and negative ends of a continuum.

From this point of view, Vroom's (1964) conceptual definition of the term job satisfaction should be agreeable to most researchers. He states, ... the term job satisfaction and job attitudes are typically used interchangeably. Both refer to affective orientations on the part of individuals toward work roles which they are presently occupying. Positive attitudes toward the job are conceptually equivalent to job satisfaction and negative attitudes toward the job are equivalent to job dissatisfaction.

According to him, the term job satisfaction is the conceptual equivalent of the valence of the job or work role to the person performing it.

In the face of controversies regarding the nature and dimensions of job satisfaction, an exact definition of job satisfaction is difficult, but for practical purposes, a workable definition (in the opinion of present investigator) could be as follows : 'Job satisfaction is job incumbent's over-all valence, at a given time, toward the job he is occupying.'

Job-Satisfaction   -   General or Specific

There is controversy over the issue whether job satisfaction is general or specific. Some investigators treat it as satisfactions with different specific aspects of the job and some treat it as generalised attitude toward total job situation. Based on these two assumptions, two types of measures have been used. One measuring over-all satisfaction with total job situation; Hoppock's job satisfaction Blank (1935), Brayfield-Bothe's job satisfaction Index (1951) and Kunin's Faces Scale (1955) are frequently used tools for this kind of measure and other measuring satisfaction with different job-related factors and then deriving total satisfaction by summing up satisfactions with the factors incorporated in the study. Cornell Job Descriptive Index (1963) is a well constructed and widely used tool for this kind of study, though most of the investigators have used their own 'tailor-made' tools according to their assumptions and objectives of their study.

Multi-dimensional approach has received more attention than unidimensional approach and attempts have been made to determine specific dimensions of job satisfaction through various statistical procedures ; Ash (1954), Baehr (1954), Wherry (1954), Dabas (1958), Roach (1958), Twery et al (1958), Baehr and Renck (1958), Kahn (1960),

Clarke and Grant (1961), Harrison (1961), Kendall et al (1963), Even (1964), Will and King (1965), Friedlander (1965), Wernimount (1966), Lawler III and Hall (1970), Ronan (1970).

Attitude toward company management, advancement opportunities, work itself, supervision, financial rewards, working conditions and work-mates, are the most frequently emerging factors in these and other studies. However, most of the studies show positive and insignificant relationships among different factors associated with job satisfaction. This kind of relationship casts doubt on complete independence of the factors. In fact, studies of Wherry (1954) and Dabas (1958) seem to be suggesting a general factor which may be conditioning perception of different aspects of job; Vroom (1964).

Vroom (1964) offers four possible explanations for this kind of relationships among specific measures of job satisfaction :

1. It is possible that there are characteristics of individuals which similarly condition their reactions to objectively different aspects of the work situation.

2. The response set or acquiescence and social desirability elements may be influencing the scores

of job satisfaction.

3. The work situations providing one type of reward, tend also to provide other types of rewards, e.g. job providing participation in decision-making, generally, also provides high status, high salary and good working conditions.

4. The measure of satisfaction with different aspects of work roles are associated because they are functionally interdependent, e.g. dissatisfaction with supervision may influence attitude toward working conditions, nature of work and company.

Since none of these possibilities have been tested, it is difficult to determine 'Cause' of the association among different measures.

Another point worth consideration is association between two types of measures (over-all job-satisfaction and job-factors satisfaction measures). Though Bishwa Nath Mukherjee's (1969) study does not reveal very high correlation between these two types of measures, most of the studies show strong association between over-all job-satisfaction measures and multifactor satisfaction measures. For example, Even (1967) compared the most carefully constructed multifactor measure 'Cornell J.D.I. and well constructed over-all job satisfaction

measures - Brayfield-Rothe Scale and Kunin's Faces
Scale. Table 1.3.1 below shows correlation between
J.D.I scores and the two over-all satisfaction measures
for three samples.

Table   1.3.1 : CORRELATION BETWEEN J.D.I. SCORES   AND
THE TWO OVER-ALL SATISFACTION MEASURES FOR THREE SAMPLES

Sample	J.D.I. and Brayfield	J.D.I. and Faces Scale	N
A	* 73	* 74	21
B	* 50	* 70	23
C	* 66	* 55	120

Positive and strong association between the two types of
measures are quite expected because when an individual
is asked to estimate over-all satisfaction he considers
pros and cons of all the aspects and balances the total
situation depending on how much importance he attaches
to different aspects and how much frustration   or
satisfaction he derives from different aspects.   Of
course, how one balances and which aspects contribute
more and which less to satisfaction is not known in its
holistic way.

In the absence of conclusive studies, the issue whether
job satisfaction is general or specific remains

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unsolved. Both measures over-all job satisfaction and satisfaction with different aspects of the job-could be useful depending upon the purpose of investigation. Vroom is of the opinion that, ... at present there appear to be conditions under which both general and specific satisfaction measures are useful... most studies dealing with the determinants of job satisfaction use specific measures, whereas those dealing with the relationship of job satisfaction to job behaviour tend to use more general measures.

Job-Satisfaction refers to individual general attitude towards his or her job. A person with high level of job-satisfaction holds positive attitudes towards the job while person who is dissatisfied with his or her job holds negative attitude about the job, when the people speak of employee attitudes more often than not they mean job-satisfaction. Infact the two are frequently used interchangeably.

Job-involvement is the most recent term in organisational behaviour. A workable definition states that job-involvement measures the degree to which a person identifies with his job, actively participates in it and considers his performance important to his self worth. It has been found out by researchers that individuals who express high involvement in their jobs are likely to be more productive, have higher

satisfaction and are less likely to resign than employees with non-involvement.

The eminent researchers, Maslow, Herzberg & Likert (1966) said that development of motivation is the central factor in job-satisfaction. The stimuli for achievement, recognition, responsibility and status lead to motivating an individual.

Blake, Monton and Friedley said that job-satisfaction is related to leadership. It is seen that behaviour of superior has an important influence on the employees attitude.

Crezier and Goulder say that value system plays an important part in job-satisfaction.

Job-satisfaction is an important factor influencing performance of worker which affects quality and quantity of the work. Job-satisfaction contributes to individual self-satisfaction and his happiness. It gives happiness, efficiency, and success in work. Job-dis-satisfaction leads to a greater rate of absenteeism, wastage and low rate of production.

Work has become highly complex phenomenon with present technological changes and developments. It is an

important ingredient in determining worker's "attitude" in organizational job-conditions. Low job-satisfaction therefore, is the surest sign of deteriorating conditions in the organization. In its more sinister forms, it works behind wild cat strikes, absenteeism and employee turnover, grievances, accidents, low-productivity, disciplinary problems and other organizational difficulties. On the other hand, high job satisfaction was found to be related with positive job-behaviours such as, productive efficiency, employee morale, mental health of the workers and relationship between the employee and the employer. Besides, job satisfaction may be viewed as an effective measure of the excellence of our industrial civilization; Viteles, (1954) and as a criterion to evaluate the effectiveness of an organization; Likert, (1961).

The concept of job satisfaction emerged from the earlier studies of attitudes. Hoppock (1935) for the first time, used this term 'job-satisfaction' in his review of 32 articles conducted prior to 1933. Earlier researchers attempted to determine properties of satisfied and unsatisfied workers; and then correlated certain characteristics such as, age, education, length of employment, performance, salary, ability, mental status etc. with the satisfied - dissatisfied dichotomy; Palola and Larson, (1965). It followed a change in focus from factors 'extrinsic' to the actual

substance of the job to the factors related more intrinsically with the job; Locke, (1965). Incentive approach to job-satisfaction started during this period. It was argued that by providing financial and non-financial incentives at work-scene, individuals would be spurred to achieve a specific goal. Most of the studies related to incentive approach, were concerned with "on-the-job" variables, as causal of job satisfaction.

Researchers observed that on-the-job approach is a unidimensional approach and does not consider 'off-the-job' factors. Hawthorne experiments highlighted the importance of the social and emotional aspects on work behaviour. Secondly, psychologists have started to explain job satisfaction in the light of job adjustment. Therefore, researchers shifted their stand to study job-satisfaction from 'off-the-job' point of view.

However, off-the-job-factors appeared to be a partial explanation of job satisfaction. Later, researchers' attention diverted; Shrivastava, (1985) towards individual with his own personality and range of expectations and needs; Morse, (1953). It was also overemphasized in explaining the phenomenon of job satisfaction. In the light of above, a synthesis between the analysis of the nature of work-role and that of individual characteristics was viewed as job-satisfaction; Sinha, (1974); Pestonjee, (1973).

1.3.2 DEFINITION OF JOB SATISFACTION

Hoppock (1935) for the first time, in his classic book, 'Job Satisfaction' defined this term as "any combination of psychological, physiological and environmental circumstances that cause a person truthfully to say, 'I'm satisfied with my job'." In this definition, he had included both, on-and-off-the-job factors which affect job satisfaction of the employees.

Since Hoppock's time, many investigators have worked on the problem of job satisfaction and they have offered a number of definitions. For example, Smith (1955) refers to job satisfaction as the employee's judgement of how well his job on the whole is satisfying his various needs. For Bullock (1958), job satisfaction is "an attitude which results from balancing and summation of many specific likes and dislikes experienced in connection with the job, ... Their evaluations may rest largely upon one's success or failure in the achievement of personal objectives and upon the perceived contribution of the job and company towards these ends."

According to Handyside (1962), job satisfaction is a dynamic process of balancing one thing against another. Blum and Naylor (1965) described it as "a general attitude which is the result of many specific attitudes in three areas, individual characteristics and group

relationship outside the job. "Gilmer (1966) seems to agree with Blum and Neylor (1968), "job satisfaction or dissatisfaction is the result of various attitudes the person holds towards his job, toward related factors and toward life in general."

A shift in definition of job satisfaction may be seen in the work of later scholars. They emphasised on intrinsic factors of job-satisfaction. For example, Locke (1969) defined job satisfaction as 'a pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values'. Smith, Kendall and Hullin (1969) asserted, "job satisfaction are affective responses to the facets of the situation .... associated with a perceived difference between what is expected and what is experienced."

Review of literature revealed that job satisfaction is a multi-dimensional variable. It includes a number of factors and satisfaction with these variables contribute to overall job satisfaction. Pestonjee (1973), for example, defined job satisfaction as 'summation of the employees' feeling in four different areas, namely, job, management, personal adjustment and social relations'. He conceived that first two areas comprise on-the-job factors and latter two areas comprise off-the-job factors.

1.3.3 JOB SATISFACTION AND MORALE:

Although a number of studies have been conducted on job-satisfaction, opinions still stand divided on the issue of treating job satisfaction and morale synonymously. Some investigators in this field have taken the two terms as denoting one and the same thing. Krech & Crutchfield, (1948); Kahn and Morse, (1951); Kornhauser, (1944); Ganguli, (1964). To quote, Mann and Plaz (1945) "by morale in this paper, we mean the employee's satisfaction and dissatisfaction with the work situation." Nevertheless, others are of opinion to use these terms, namely, job satisfaction and morale inter-changeably; Hull and Kolstad, (1942); Bose, (1955); Seigal, (1962); Sinha, (1972); Gilmer, (1966). Proponents of this opinion, for example, argue that morale is a by-product of the group and is generated by the group. It has four determinants, namely, feeling of group solidarity, need for goal, observable progress towards goal, and individual participation in meaningful tasks necessary to achieve the goal. Thus, industrial morale refers to group involvement and, is a tendency to work together for the common purpose. Third group of scholars consider job satisfaction as an important dimension of morale; Gordon, (1955); Roach, (1958); Katz and Kahn, (1952). Pestonjee (1967) observed that, "job satisfaction and morale, even if related, are not exactly the same." Sinha (1972) showed in his empirical findings that industrial morale is a collective

phenomenon whereas job satisfaction is a distributive one.

Pestonjee reviewed the literature on the issue and concluded that "job satisfaction is a general attitude of the worker towards his job, towards related factors and towards life in general. Whereas, morale stands for a general attitude of workers which may be taken as an index of their regard for organization which employs them. Thus, ... morale and job satisfaction, though non-interchangeable, are inter-related"; Pestonjee, (1973).

1.3.4   COMPONENTS OF JOB-SATISFACTION

Job satisfaction involves inter-related factors which cannot be completely isolated from one another. However, theoretical speculation and statistical analysis, specially factor analysis enabled researches to find out major factors of job satisfaction. These factors differ in their importance both, from factory to factory and, from individual to individual. Since individual's satisfaction at job is related to one's 'total self', it cannot be explained on the basis of any single factor.

Scholars have reported numerous critical factors responsible for job-satisfaction. Hoppock (1935), for example, suggested that there are six major components of job satisfaction, namely, (a) the way the individual

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reacts to unpleasant situations, (b) the facility with which he adjusts himself with other persons, (c) the relative status in the social and economic group, (d) the nature of work in relation to the abilities, (e) interests and preparation of the work, and (f) security and loyalty.

Harzberg et al (1957) reported ten factors which constitute job satisfaction. These were (i) intrinsic aspect of job, (ii) supervision, (iii) working conditions, (iv) wages, (v) opportunity for advancement, (vi) security, (vii) company and management, (viii) social aspects of the job, (ix) communication, and (x) benefits. Scott et al (1958) also identified ten factors associated with job satisfaction. They included type of work and overall satisfaction in their list and, excluded two factors, namely, intrinsic factors of the job and social aspect of the job reported by Herzberg et al (1957).

It is evident in above citation that scholars solely concentrated on 'on-the-job' factors to explain the causal influence on job satisfaction. Later on, they shifted their attention towards off-the-job factors. For example, Smith (1955) has emphasised six factors related to job satisfaction, namely, (i) personal adjustment, intelligence and personality, (ii) type of work, (iii) fellow workers, (iv) supervisor, (v) company

and (vi) social status of the job. Harrell (1964) reported three broad categories of factors, namely, (i) personal factors, (ii) factors inherent in the job and (iii) factors controlled by management which collectively account for job satisfaction.

Siegel (1962) attempted to group all the job-satisfaction factors in two categories. First, intrinsic factors which included pay, job security, personal recognition, hours, conditions and occupational status. Second, extrinsic factors which included supervision, sex, age, level of intelligence, experience and personal adjustment. Twery, Schmid and Wrigley (1958) however, emphasized that job-satisfaction is constituent of five factors, namely, (a) general attitude towards the job, (b) satisfaction with the supervisor, (c) satisfaction with higher echelon, (d) satisfaction with living conditions and (e) satisfaction with co-workers.

There was still another shift in regard to study of dimensions of job satisfaction. It took place when scholars emphasised that job satisfaction "has many points of reference and few workers indeed are satisfied with all aspects of their job" Ghiselli and Brown , (1955). Researchers, therefore, attempt to rank the job factors into a hierarchy of importance. For example, Evan and Lasean (1950) reported following factors of job

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satisfaction in order of preference : (a) Income, (b) Interesting and important job, (c) Pride in company, (d) Fellow workers, (e) Immediate boss, (f) Management, (g) Working conditions, (h) Security, (i) Chance to get ahead, (j) Benefit plan, and (k) Safety and medical facilities.

A number of Indian scholars attempted to extract factors of job satisfaction. For example, Mukherjee (1970) found three interpretable factors of job satisfaction. These were (i) satisfaction with management, (ii) feeling of accomplishment and (iii) sense of job involvement. Dixit (1971) recognised that job satisfaction is caused by interplay of following four factors : (a) individual employees motivation, (b) influence of informal groups, (c) organizational climate, and (d) immediate supervisory style.

Pestonjee reviewed the correlates of job-satisfaction and found that there are at least four areas, namely, job, management, personal adjustment and social relations which account for one's satisfaction (or dissatisfaction) at work. According to him first two areas comprise on-the-job factors whereas latter two areas comprise off-the-job factors. Following factors were identified as constituents of above four areas :
(a) Job Area : Nature of work; hours of work; fellow workers; opportunities at job; overtime regulations;

interest in work; physical environment; machine and tools etc.

(b) Management Area : Supervisory treatment; participation; rewards and punishment; praises and blames, leave policy; favouritism etc.

(c) Personal Adjustment Area : Emotionality; health; home and living conditions; finances; relations with family members etc.

(d) Social Relations Area : Neighbours; friends and associates; attitude towards people in community; participation in social activities; sociability; caste barriers etc.

1.3.5. THEORIES OF JOB SATISFACTION.

Most of the investigators have focussed their attention on specific variables in explaining the phenomenon of "job-satisfaction". Recently, researchers attempted to explain the phenomenon of job-satisfaction in empirically evolved theoretical frame-work. Some of such theories are discussed as follows :

1.3.5.1. MASLOW'S THEORY OF NEED HIERARCHY :

Maslow (1943) formulated this theory based on the proposition that needs are important and arranged in a hierarchy of importance. Needs are defined as something

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that the individual lacks and which creates a state of dissonance or tension in the individual. Since dissonance is not a pleasant feeling, an individual usually takes some action to eliminate or reduce it. Needs thus become the driving force for human action.

According to Maslow (1943), system of hierarchy begins with the basic physiological needs and extends through a variety of psychological needs as initially less prepotent but ready to become more prepotent when the physiological needs are satisfied. Human needs arrange themselves in hierarchies of needs. That is, the appearance of one need usually rests on the prior satisfaction of need, the greater its power to give enduring satisfaction. Maslow's sequence of needs in herarchical order is as follows :

1. Physiological Needs   : E.g. Hunger, thirst etc.
2. Safety Needs   : E.g. security, health etc.
3. Social Needs   : E.g. belongingness, identification, affection, etc.
4. Esteem Needs   : E.g. prestige, success, self-respect etc.

5. Need for Self Actualisation : E.g. self-fulfilment, self-growth, desire for accomplishment, etc. Still another point of need theory is that deprivation

of lower level needs prevent emergence of behaviours influenced by high level needs. Satisfaction of lower level need however, does not insure the functioning of those at the next level; instead, potential higher level needs emerge and influence behaviour only after there is opportunity for satisfaction of lower level needs.

Researchers; Porter, (1967); Mathur and Sharma, (1978); Sharma, (1987) tested empirically, the Maslow's Model. It was found that needs are not arranged in the hierarchical order as suggested by Maslow; Sinha and Gupta, (1974); Singhal, (1974); (1976); Lawler and Suttle, (1972).

Locke (1976) criticised Maslow's theory on the following grounds :

(i)   Concept of self-esteem has not been empirically validated as in case of physiological needs.

(ii)   The lumping together of so many diverse factors such as freedom from physical harm to economic security.

(iii) The term 'self-actualization' has no coherent meaning and can mean different things to different people.

(iv)   As Maslow claimed, needs and values are not the

similar concepts. Needs are innate and universal whereas values are acquired.

(v)   Contrary to Maslow's claim, needs cannot "disappear permanently " (1954); as they are part of an organism's nature and can only be fulfilled or frustrated.

1.3.5.2 HARZBERG'S MOTIVATION-HYGIENE THEORY.

Herzberg and associates (1959) developed this theory on the basis of content-analysis of semi-structured interview data from 200 accountants and engineers. According to this theory, certain job-characteristics led to job satisfaction and are called satisfiers, while a different set of job-characteristics led to dissatisfaction and are called dissatisfiers. The satisfiers are allied to job-context or nature of the job and, are labelled as 'motivators'. Job dissatisfiers are allied to job-context, and are called 'hygiene factors'. Hygiene factors prevent dissatisfaction, but they do not lead to satisfaction whereas motivators lead to job satisfaction and their absence does not cause dissatisfaction.

As a matter of fact, Herzberg's theory contributed a lot in understanding the nature and causes of job satisfaction as well as in redesigning the job for greater psychological growth. Researchers, however,

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found that all the studies using the critical-incidence technique confirm the theory whereas those using other methods give less favourable results; House and Wigdor, (1967); Hulin and Smith, (1967). It is repeatedly concluded by scholars that Harzberg's insistence on the idea that dissatisfaction results only from "hygiene factors" and satisfaction only from 'motivators' is misleading both, logically and empirically. Pestonjee and Basu (1972), for example, found that motivators contribute to satisfaction in the public sector but to the feeling of dissatisfaction in private sector. Further, they found that motivators are more potent than hygiene in creating feeling of satisfaction and dissatisfaction.

Locke (1976) in his review, has noted following weaknesses of this theory :-

a. It creates the equivalent of mind - body dichotomy.

b. It suggests unidirectional operation of needs.

c. There is lack of parallel between man's needs and the motivator-hygiene factors.

d. It uses incidental classification system.

e. It has no explanation for the workers defensiveness, and uses frequency data.

f. It denies the fact of individual differences.

Rao (1970; 1971; 1972; 1974) and associates, Rao and Ganguli, (1971; 1972), on the basis of literature review

and empirical researches concluded that : (a) Herzberg's theory does not seem to be universally valid; (b) it may be artifact of his method; (c) The motivators and hygienes are bi-directional, i.e. both were responsible for satisfaction and dissatisfaction. Further, the job importance does not increase the efficiency in predicting job satisfaction.

1.3.5.3. VALENCE-INSTRUMENTALITY - EXPECTANCY THEORY.

Valence-Instrumentality Theory of motivation is proposed by Vroom (1964) which is also called Vroom's motivational theory. The basic theme of this model is that behaviour is a function of the interaction between personality (e.g. abilities, values, needs, expectancies, instrumentality and role demands) and the general environment (e.g. organizational contingencies, environmental constraints, supervision and available alternatives).

The theory rests on three basic concepts, namely, valence, expectancy, and force. Valence refers to the affective orientation toward particular outcomes. An outcome is positive when a person prefers to attain it; and it is negative when he prefers not to attain it. Expectancy refers to a momentary belief-concerning the likelihood that a particular act will be followed by a particular outcome. Vroom (1964) defined it as "an action-outcome-association". The concept of force is

based on the Lewinian theory in which behaviour, on the part of person, is assumed to be the result of a field of forces, each of which has direction and magnitude.

Vroom (1964) has proposed two models of his VIE theory. One deals with the prediction of the anticipated satisfaction associated with something individual wants to attain (outcome) rather than the actual outcome attained. This model is often applied to the prediction of 'job-satisfaction'. An individual's job-satisfaction is assumed to be a function of degree to which he sees the job as leading to other outcomes and anticipated job satisfaction.

The second model predicts 'job-performance'. or the amount of efforts or behaviour required to accomplish a task goal. The major difference between the two models is that instrumentalities are perceived as correlation between outcome in the satisfaction model, whereas in the job-performance model, expectancies are perceived as probabilities of outcomes of certain actions. Two concepts, namely, valence and instrumentality are introduced to explain the method of determining preferences for outcomes.

Vroom ties the concept of expectancy to person's act by stating that the force on a person to perform an 'action' is a monotonically increasing function of the

algebraic sum of the products of the valences of all "first level" outcomes and the strength of his outcomes; Vroom, (1964). Force, in this reference, equates to the concept of motivation and suggest that it is possible to examine the very explicit relationship between motivation and accomplishment of organizational goals.

This theory is not trouble free. One of the major problem with this theory is that it is too complex to be used effectively in solving problems. Secondly, it does not throw light on 'which goal has definite anticipated satisfaction in work situation; what incremental change in motivation is required to influence the choice of one goal over another; and what combination of factors or measures will result in the best prediction of behaviour in a given situation? Lastly, what combination of measures yield best prediction in a given situation ?

1.3.6 DETERMINANTS OF JOB SATISFACTION

Because of various implications and significance of job satisfaction for both individual's adjustment and job behaviour, most of the researchers in the area of job satisfaction and morale have attempted to determine the components of or causal factors of job satisfaction. Periodical reviews by R.Hoppock and Robinson (1949, 1950, 1951, 1952) and Robinson (1953, 1954, 1955, 1956, 1957, 1958, 1959), Robinson and Conners (1960, 1961, 1962, 1963), Robinson, Connors and Robinson (1964),

Robinson, Connors and Witacre (1966), Pallone, Richard and Hauley (1970), Brayfield and Crockett (1955), Herzberg et al (1957), Blaumer (1963), Vroom (1964), Porter (1966), Fournet et al (1966) give good critical accounts of the research. literature. The studies related with causal factors have generally been in three directions. First, relating job satisfaction to environmental factors, second relating job satisfaction to personal variables, and third determining job satisfaction as a result of the interaction of personal and environmental variables.

The areas which determine job-satisfaction are :

1. Physical conditions
It means physical tiredness caused due to work.

2. Remuneration
It means salary, increments and fringe benefits.

3. Promotion
How far an individual has received adequate promotion.

4. Authority
It means immediate reporting person and high officials.

5. Job-security
It means security in employment.

6. Work interests

It means how far the person feels that his job is interesting, challenging and pleasant.

7. Social satisfaction

It means attitudes of friends, family and one's own community towards the person's job.

8. Relations

It means person's relation with his collegues, bosses and subordinates.

1.3.7 JOB CHARACTERISTICS (ENVIRONMENTAL FACTORS) AND JOB SATISFACTION.

This approach views job satisfaction as a result of satisfying or dissatisfying properties of work roles or work conditions. Two lines of investigation can be traced through the relevant literature : (a) Attempts have been made to determine relative importance of different job characteristics through ranking or rating of different job aspects or by the analysis of data obtained by questionnaire or interview. It is beyond the scope of this report to mention all the studies, related with this aspect. To mention a few, studies by Chant (1932), Wyatt (1934), Berdic (1943), Blum and Russ (1942) and Jurgenson (1948, 1949) are frequently quoted in this connection. During the last two decades a number of studies have come out. Studies by Ganguli·

(1954), England and Stein (1961), Sinha, D. (1958), Gruenfeld (1962), Bose S.K. (1958), Dutta S. (1959), Gangrade K.D. (1966), Lapoor S.D. (1967), Ronan (1970) and quite a few studies testing Herzberg's theory of job satisfaction (to be discussed later on) show relative importance of different job characteristics which are supposed to be contributing to job satisfaction. It is very difficult to analyse the huge amount of data available in this connection and determine the relative importance of different characteristics. No two studies stand in complete agreement. Influence of cultural and socio-economic differences are understandable, but even within a homogeneous demographic group, different studies reveal different patterns of the hierarchical structure of job characteristics.

Difficulty in comparison of the results of different studies also arises due to the number and nature of characteristics included in different studies which differ widely. For example, Morse (1953) studied only four aspects of job while Ronan (1970) included sixty six job characteristics. In short, the studies do not warrant any generalization.

However, studies of this type, though differing in the number of variables, methods and results, do show some characteristics in the upper range and others in the lower range. For example, working conditions, benefits,

which are very much emphasized by efficiency experts and labour welfare planners are not important determinants of satisfaction. On the other hand job security, promotional opportunity and nature of work which are not given due care by management, especially in India, got top ranks and, the social aspects of the job which are over-emphasized by sociologists, get middle positions.

At the best, these studies are indicators of what workers want in a particular work situation depending upon the demographic characteristics of the work force and socio-economic and political conditions. This approach does not bring about precisely the basic components of job satisfaction.

The second approach is more elegant, precise and statistically sound. In this approach, a number of job characteristics are studied in relation to job satisfaction and then basic or principal factors are extracted by various procedures of factor analysis. (Studies by Ash (1954), Bachr (1954), Wherry (1954), Dabas (1958), Roach (1958), Twery, Schimed and Wrigley (1958), Kahn (1960), Clare and Grant (1961), Harrison (1961), Kendall Smith and Hulin (1963) cited above are examples of such studies).

The factor analytical studies also do not reveal identical factors which could be called components of

job satisfaction. Nevertheless, most frequently emerging factors have been, company and management, promotional opportunities, the intrinsic aspects of job, supervision, financial rewards, working conditions and co-workers. A good account of these factors along with critical review of the studies related with each factor is given by Vroom (1964).

1.4   CONCEPT OF ORGANIZATIONAL CLIMATE

1.4.1   INTRODUCTION OF CONCEPT

Before jumping right into the central problem of the work, it would be quite reasonable to clarify various concepts involved in the subject matter. The important concepts here are :-

1.4.1.1   ORGANIZATION :-

As it is explained, organizations are human groupings deliberately planned in order to attain specific goals. The organization is organized thought of group of individuals, which is summed up to obtain results which could be through the people or with the people.

Organization embraces the duties of designating the department and personnel that are to carry on the work, defining their functions, and specifying the relations that are to exist between department and individuals.

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Of course, the organizational structure is important. But good structure and plans alone cannot deliver the goods and hence, the problem of getting people to go to work willingly and enthusiastically assumes great importance.

1.4.1.2 <u>CLIMATE</u> :-

We behave differently in a hurricane than we do on a calm summer day. The physical climate makes a difference. So, also, does the social climate. For example, an organization characterized by leaders who are ruthlessly seeking more personal power and authority is different from an organization where the typical leader is sensitive and responsive to the human needs of the men under them. These differences in organizational climate have important effects upon the way man behaves.

The attitudes of employees in a company with the same formal organization and the same personnel may be very different when the organizational climate changes.

Thus climate of the organization becomes the central problem of importance. It is not enough to see that people work, they need to work willingly. Now, what are the constituent factors which build and maintain this climate in an organization. By and large, the pattern in which the management deals with their employees

builds the climate. It may be the words by which, the company refers to employees, the attitudes and way of behaviour and company's policy combine together and establish a climate for the organization.

Each organization has its own culture, traditions, and methods of action which in their totality comprise its climate for employees. An organization tries to attract people who fit its climate.

A sound climate is a long run proposition. A climate for each organization is achieved within an operative system of work control. The factors which influence the climate are called basic human relations factors, which represent operational conditions, in any organization irrespective of quantum of human relations that exists. Each organization may differ in the quality of human relations. These differences are caused by different theories, which predominates in management, Here, the researcher has distributed these in four parts. i.e.

(1) Authoritative Bureaucratic
(2) Authoritative Personal
(3) Paternalistic
(4) Consultative.

Climate indicates the pattern in which the management deals with people. So the organization climate is very important from the viewpoint of organization's

effectiveness.

Now, an attempt is made to examine what factors play very important role in building up the organizational climate. Normally, it is the group of persons who sit in the first row and that is the group known as executives, who leads the man power and the policies. It is this human factor which binds a group together and motivates it towards the goal. In management all activities are dormant until the executive triggers the power of motivation in people and guides them towards goals.

Executives/Officers integrate the needs of their staff, with larger needs of the organization and the society - getting people to go to work willingly. This willingness is based largely on ability to integrate the interests and needs of its employees with the objectives and goals of the organization. It depends on the time devoted towards the activities by executives/officers.

Scholars repeatedly have observed that one of the major forces influencing motivational and behavioural processes is in the nature of the organizational environment. Lewin (1938; 1951) was first to discuss the essential dynamics that linked human behaviour to generalized environmental stimuli He noted, "To characterise properly the psychological field, one has

to take into account such specific items as particular goals, stimuli, needs, social relations as well as more general characteristics of the field as the atmosphere or the amount of freedom .... Psychological atmosphere are empirical realities and are scientifically describable facts. " Lewin, (1951). The writings of Koffka (1935) who distinguished between geographical environment which constitute physical and social environments and the behavioural environment as perceived and reacted to by the subject too leads to same conclusion. Since behaviour is shaped by individual-environment interaction, as Murray (1938) pointed, it cannot be described or understood without reference to the environment in which the behaviour occurs. The essence of above thoughts lie in development of concept of 'organizational climate' which play a crucial role in determining the organization's as well as its employee's behaviour.

The existence of 'organizational-climate' in an organization may be seen in terms of interaction of person with environment. Behaviour in organization rests on the fact that the organizational entity responds to external environmental stimuli and changes in the environment. Simultaneously, the environmental changes produce changes in the internal structure and process of the organization. For the living organization, the changes in external environment is

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mapped in the internal structure and process of the organization, and the mapping is mediated through the 'purpose' or 'goal' of the organization. As a result, the organizational entity develops its own characteristic psychosocial and social millieu. This internal environment, considered to be a 'relatively enduring quality of an organization : "(a) is experienced by its members; (b) influences their behaviour and (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the organization", and is often termed as organizational climate; Tagiuri, (1968).

The concept and role of climate in the organization is a controversial issue; Johannesson, (1971); Guion, (1973); Payne et al, (1976); Schneider and Reichrs, (1983). It has been variously visualized by scholars. For example, some called it organizational culture, organizational personality; Haplin, (1966) whereas others called it organizational environment; Argyris, (1964), global perception of the organization; Snyder, (1975). Perhaps, the understanding and approaches to the construct of organizational climate varied from researcher to researcher. It might be this controversy which promoted : (1) Guion (1973) to conclude that OC represents a "fuzzy" concept; and (2) James and Jones (1974) to conclude that "the concept (of OC) is even more diffused now than it was when Forhand and Gilmer

(1964) reviewed the OC literature."

Researches on organizational climate though date back to 1930's, when the first historical studies by Prentice and Kunkel (1930-1931), were carried out systematic attempts to conceptualize and operationalize the concept started very recently. The aim of the various attempts could be summarized into defining the organizational climate and measuring climate. Attempts were not made to study the relationships of organizational climate with any other area since the researchers were concentrating on conceptualizing and operationalizing the concept.

1.4.1   RESEARCHES ON ORGANIZATIONAL CLIMATE.

Lawrence and Allan (1974) have designated three separate, but not mutually exclusive approaches to defining and measuring organizational climate. The 'multiple measurement - organizational attribute approach' which views organizational climate as perceptual and as an individual attribute.

1.4.2.   DEFINITION OF ORGANISATIONAL CLIMATE (OC).

Typically, researches have been confined either to the identification of dimensions of OC or differences of various organizations on these measures. Considerable diversity, therefore, exists in definitions, dimensions and measurement techniques of organizational climate.

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Different researchers have defined OC differently. For example, according to Howe (1977), OC can be thought of as an environment that is created because of interaction among host of organizational and personal variables. These person variables, situation variables and person-situation variables combine to result in an objective OC independent of perceptual distortion.

According to Forhand and Gilmer (1964), OC consists of a set of characteristics that (a) describe an organization, (b) distinguish it from other organizations, (c) are relatively enduring over time, and (d) influence the behaviour of the people. This definition considers OC as a characteristic property of an organization. Tagiuri (1968) added that OC refers to a quality of the members of the organization and can be described in terms of values or the meaning of a particular set of characteristics of the environment. Thus, climate represents the organization as people seek it in a holistic and global sense. A similar description of OC as a set of 'Summary or global perception held by individuals is given by Schneider and Hall (1972). These summary perceptions reflect interaction between personnel and organizational characteristics.

Campbell et al, (1970) explained OC as a set of attributes specific to a particular organization that

may be induced from the way that organization deals with its members and environment. For members within the organization, climate takes the form of a set of attitudes and expectancies which describe the organization in terms of both, static and dynamic characteristics, such as amount of freedom or autonomy and behaviour.

Hellriegel and Slocum (1974) referred to climate as a set of organizational or sub-system attributes that may be inferred from the way an organization or any of its sub-system deals with its members. For example, specific situational attributes such as unstructured-role prescriptions, unclear reward contingencies and non-directive leadership might be transformed in the set of situational influences referred to as a conflicting and ambiguous climate. These specific situational attributes result into specific climate characteristics, described as consideration, warmth support etc.

Payne (1971) describes organizational climate as a molar concept reflecting the content and strength of the prevalent values, norms, attitudes, feelings and behaviours of the members of social systems. Schneider (1975) conceived OC as a set of macro-perceptions which reflect processes of concept formation and abstraction based on micro-perceptions about specific organizational conditions, events and experiences. Campbell et al

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(1971) expressed similar ideas of perceptual filtering, summation and cognitive structuring.

Ittelson et al (1974) advocated that the individual organized perceptions of the environment in an abstract 'cognitive map' that serves to guide future predictions and behaviour. This cognitive map refers to the individual's internalised representation of the situation and reflects an inherently inseparable combination of perceptual and cognitive processes. The intervening nature of climate in a model of organization functioning is, thus a sub-set of the concept of cognitive map. Individual members transform situational stimuli into perceived situational influences. Such perceived influences as warmth, ambiguity progressiveness etc. are employed to achieve a fit with the situation by apprehending order and gauging appropriateness of behaviour. Ittelson et al (1974); Schneider, (1975).

One can observe from above citation of definitions that concept of organizational climate has been viewed differently by different scholars. Broadly, as Schneider and Snyder (1975) noted, "each individual perceives or conceptualises his organization in any number of ways, depending upon the context and the set of information about the organization, which is operative for that individual. "Kochler (1976) also

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felt" that employees may experience the same climate differently at different times; or different employees may perceive the same climate differently depending on seniority, age, or position in the hierarchy. Individuals can respond to the organizational climate only in terms of their perception of it, whether or not the perception of it is accurate." It therefore, seems that the perception of organizational-climate is dynamic and variable.

1.4.3. COMPONENTS OF ORGANIZATIONAL CLIMATE

Attempts have been made to find out various dimensions of organizational climate. Taguiri's (1968) study, for example, revealed following five factors of OC : (i) Practices related to providing a sense of direction or purpose to one's job viz., setting of objectives, planning and feedback; (ii) opportunities for exercising individual initiative; (iii) working with competitive and competent supervisor; (iv) co-operative and pleasant people; and (v) being with a profit-minded and sales-oriented company. Schneider and Bartlett (1968) reported six dimensions of OC, namely, (i) management support; (ii) management structure; (iii) concern for new employees, (iv) intra-agency conflict; (v) agent independence; and (vi) general satisfaction.

Kahn et al (1964) in a study on role-conflict attempted to identify dimensions of OC. The analysis yielded five

factors, such as (i) rules orientation, (ii) nurturance of subordinates; (iii) closeness of supervision; (v) universalism or the degree to which the individual should identify with the organization; and (v) promotion of achievement orientation.

Litwin and Stringer (1968) identified nine dimensions of climate related, to functioning of organizations and tasks. These are: (i) structure; (ii) responsibility; (iii) reward; (iv) warmth; (v) support; (vi) identity; (vii) risk, (viii) standard; and (ix) conflict. Pritchard and Kevasick (1973) in their factorial analysis, identified following dimensions of OC, autonomy; conflict vs. co-operation; social relationship; structure; reward; performance based reward; status polarization; flexibility and innovation; decision centralization; supportiveness and achievement orientation of organization.

Although it is extremely difficult to synthesise the various aspects of OC included in different studies in a meaningful way, Campbell et al (1970) reported four significant factors with a good deal of communality. These factors are; (i) Individual autonomy; (ii) degree of structure imposed upon the position; (iii) reward orientation; and (iv) consideration, warmth and control.

James and Jones (1974) reviewed the literature on OC and noted above differences, diversity and contradiction in definitions, dimensions and measurement techniques. They classified the prevalent approaches in climate research literature in three groups as follows:

I. Multiple Measurement - Organizational Attribute Approach :

This approach regards OC exclusively as a set of organizational attributes or main effects measurable by a variety of methods, and is represented by Forhand and Gilmer (1964) along with Frederikson (1968) and Litwin and Stringer (1968). According to this approach, the effect of OC on individual behaviour could be seen in terms of the definition of stimuli presented to the individual members, the constraints placed upon the individual's freedom of choice regarding behaviour, and the reward or punishment process. Further, according to this approach the measurement of OC at the organizational level rests on the assumption that an internally consistent and homogeneous set of measurements for OC exists for at least organizational sub-units and that these measurements are relatively permanent over time James and Jones, (1974). Researches with this approach to OC focus more on a global inclusion of organizational characteristics and make no new contribution to organizational theory. In other words, it suffers from lack of specificity.

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This approach defines organizational climate as a set of characteristics that describes an organization and that (a) distinguish the organization from other organizations (b) are relatively enduring over time and (c) influence the behaviour of people in the organization Forehand and Gilmer (1964).

The definition of organizational climate presented by Forehand and Gilmer is so encompassing that it is difficult to see how their description of organizational climate, is other than a rather broad spectrum approach to those organizational attributes which, Hall, Hass and Johnson, (1967). Pugh, Hickson, Hinings and Turner, 1968) have situational variance or structure. The major components of situational variances in an organizational model could include the organizational content, structure, system, values and norms, process and physical environment as well as the various subsystems (e.g. departments) and sub-groups (e.g. work groups). Finally a full organizational model would also include the socio-cultural environment and individual characteristics.

From a more general standpoint, studies which may be included under multiple measurement organizational attribute approach are determined simply by one's definition of organizational climate. Researches have been carried out to study organizational models and

taxonomies. Hall, et al (1967), Organizational content Lawrence and Lorsch, (1967), Pugh et al (1969), Woodward, (1965) and organizational structure Porter and Lawler, (1965), Pugh et al, (1968), Thomas and Fink, (1963). In addition, this broad definition would encompass system values and norms Katz and Kahn, (1966) as well as studies on the different facets of organizational and sub-group process such as leadership, conflict, reward, communication and control. In fact, almost any study focusing on organization or group characteristics would be included in the general area of organizational climate.

Perceptual Measurement - Organizational Attribute Approach

Campbell et al (1970) defined organizational climate as 'a set of attributes specific to a particular organization that may be induced from the way the organization deals with its members and its environment. For the individual member within an organization, climate takes the form of a set of attitudes and expectancies which describe the organization in terms of both static characteristics (such as degree of autonomy) and behaviour - outcome and outcome-outcome contingencies.'

Later Campbell and Beaty (1971) stressed that

organizational climate was a description of the organizational situation and as such must contain a significant portion between group variance.

Campbell et al (1970) identified four dimensions of organizational climate:

(1) Individual autonomy.

(2) Structure imposed upon position.

(3) Reward orientation.

(4) Consideration, warmth and support.

Guion (1973) concluded that the stipulation of perceptual measurement of organizational climate appeared to be more a function of methodological convenience than a deliberate intention to move to a new construct. 'However, the terminology and definitions of the perceptual measurement of organizational attribute approach have emphasized organizational climate as an organizational attribute and situational description, in each case organizational climate has also been considered as something above and beyond a measurement of the organizational situation. Campbell et al regarded organizational climate at the individual level as including individual differences in perceptions and attitudes; Campbell and Beaty regarded it as a perceptual filtering; and Pritchard and Karasick (1973) et al described it as a set of organizational expectations.

II. The Perceptual Measurement - Organizational Attribute Approach

It views OC as a set of perceptual variables which are still seen as organizational main effects. Implicit to this approach is the view that (a) OC is a perceptual measure that describes the organization and, is different from attitudinal, evaluative and need satisfaction variables, (b) Perceptions of OC are to influence the valences attached to certain outcomes, the instrumentalities for these outcomes, and explanations for various strategies to achieve these outcomes and, (c) OC is a situationally determined psychological process in which OC variables are either considered to be causative or moderator to performance and attitudinal outcomes.

III. Perceptual Measurement - Individual Attribute Approach represented by Schneider (1972, 1973), Schneider and Bartlett (1968, 1970) and Schneider and Hall (1972), views OC as perceptual as well as individual attribute. OC in this approach is viewed as summary or global perception held by individual about their organizational environment.

According to this approach, summary perception of OC reflect an interaction between personal and organizational characteristics in which individual by forming climate perception. "acts as an information

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processor using inputs from (i) the objective events in and the characteristics of the organization, and (ii) the characteristics of the individual (e.g. value, needs) or the perceiver" Schneider and Hall, (1972). Further, this approach suggests that, OC took the form of 'situation specific values' which reflect "those aspects of the situation to which individuals attach importance" Schneider, (1973). OC according to this approach is considered as an "intervening variable" because it is caused by discrete experiences which, in turn, cause later behaviour. The fact that 'climate is viewed as an individual rather than organizational attribute' differentiates this approach from perceptual measurement - organizational attribute approach.

When OC is regarded as individual attribute, Scholars prefer to term it 'Psychological climate'. Use of two terms, namely, organizational climate and psychological climate facilitated the additiona' clarity in both, definition and measurement of climate James and Jones, (1974). Jones and James (1979) observed that the dimensions of psychological climate represent more than mere description of work environment conditions. For example, psychological climate is a set of macro-perceptions derived from micro-perceptions of specific events, conditions and experiences with the psychological process of abstraction and concept formation Schnedier, (1975). To the extent, an

individual plays an active role as a cognitive processor, psychological climate scores will reflect the individual characteristics involved in the process of perception and concept formation as well as the characteristics involved in the process of the situation being perceived Mahoney, (1977). This fact is established through a number of studies which show that climate perception reflects differences in personality attributes, cognitive style, adaptability Johnson, (1974), alienation from cultural norms Blood and Hulin, (1967), need strength Steers, (1975) as well as a number of demographic variables Hellriegel and Slocum, (1974).

Perceptual Measurement - Individual Attribute Approach Many of the features identifying this approach to climate were presented in a series of articles by Schneider and his associates. Schneider (1972, 1973), Scheneider and Bartlett (1968, 1970), Schneider and Hall (1972).

Schneider and Hall (1972) described organizational climate as a set of summary of global perceptions held by individual about their organizational environment. Sehneider (1973) further conceptualized climate as an individual attribute. The concept of climate in present research must be described as rationalistic climate is an individual perception. There was no attempt to restrict the climate definition to perception shared by

member of a work group or organization. As stated elsewhere, Schneider and Barteett, (1970), "What is psychologically important to the individual must be how he perceives his work environment, not how others might choose to describe it."

Schneider (1973) stated further that the data collected should be appropriate for the level of explanation and that shared perception of climate may be important for predicting behaviour of many individuals.

Friedlander and Margulis (1969), employing reasoning similar to Schneider, viewed the relationship between situational variables and individual variables as dependent on the intervening variables of perceived organizational climate.

The above review of perceptual measurement - individual attribute approach is not exhaustive but appears sufficiently representative.

This review of the definitions and conceptualization of the concept of organizational climate makes it clear that as Gilmer (1966), has pointed out, "This concept is rather a new concept that became popular in organizational research only during last decade."

Concept of organizational climate has been tried to

operationalize few studies in industrial organizations. Nelson (1950) classified climate into four broad categories : Bureaucratic, Autocratic, Ideocratic and Democratic, Buchele (1955) concluded that organizations have unique characteristics that affect their management programmes. Dill et al (1962) used the term : Organizational personality, Sequiers (1964) restricted the concept to 'Permissive and democratic' climate of organization. Akhtar and Pestoonjee (1967) have reduced Nelson's four types into two "Management : 'Task Oriented' and 'Employee Oriented'. Gilmer (1967) equated the organizational climate with psychological climate of the organizations. He also used the term 'character of organization' for climate. Litterer (1963) used the term 'Organizational style', Kahn et al (1954) have analysed five dimensions of organizational climate, or normative factors: (a) Rules orientations (b) closeness of supervision (c) Nurturance (d) Paralism (e) Achievement Orientations.

These are the few studies which tried to operationalize the definitions and measurement of organizational climate.

1.4.4 ETIOLOGY OF CLIMATE :

Researchers attempted to highlight the etiology of climate. Schneider and Reiders's (1983) attempt is worth mentioning in this regard. In their exhaustive

review of literature on the topic, they identified two major approaches as follows :

I.   Structural Approach to the Etiology of Climate :
According to structuralists Payne and Pugh, (1976) individual's perceptions or organizational events are influenced by the organizational setting or structure. The attribution of meaning to the organizational events is primarily determined by the objective factors present in the organization. Hence, this approach adheres to the belief of absoluteness in reality. In other words, reality is conceived as a concrete structure and its entity is maintained irrespective of the presence or absence of the perceiver.

This approach, however, has been criticised on two grounds: (a) The climate and structural variables did not show systematic empirical relationship; and (b) conceptually, the approach fails to accommodate the reality of multiple climates (e.g., workgroup climates) within the same organization.

II. Selection-Attraction-Attrition (SAA) Approach :
According to SAA approach, individuals are attracted to organizations because they perceive it as having potentialities to satisfy their needs. The individuals who find difficulty in implementing their self-concept eventually quit the organization. As a result,

according to SAA approach, organizations achieve relatively homogeneous membership and similar members attach similar meaning to organizational events. In other words, because primary source of meaning attribution to organizational events is within individuals, hence there is OC. This approach is based on the implicit assumption that to a great extent, the reality is a projection of human imagination. SAA approach also suffers from its inappropriate appreciation of multiple climates within the same organization.

Taking cue from above approaches, Scheider and Reiders (1983) proposed symbolic interactionism as a third approach to the etiology of climate.

III. Symbolic Interactionist Approach : This approach assumes that the reality is partly a social construct and therefore, denies the role of human being solely as either responder or projector. The human being plays an active (rather than passive) role in the process of perception, and neither the object nor the person contains meaning, rather the meaning (perception) arises from the interactions between the perceiver and the perceived. This approach states that climate arises due to interactions between people, events and structures. The new comer adapts through the process of socialisation and also tends to change the existing

climate through the process of personalization.

The symbolic interactionist view held that selective interactionists over a period of time can form 'meaningful social units'. Therefore it is possible to have several climates in one organization.

1.4.5   STRESS-STRAIN RELATIONSHIP.

Researches revealed that stress is related with a number of physiological, psychological and organizational outcomes. French et al (1982), on the basis of previous researches, identified two major categories of stress manifesta'ions, namely, physiological strains and psychological strains. Davidson and Cooper (1981) also identified a number of stress outcomes such as, job-dissatisfaction, marital, satisfaction, work-related self-esteem, alcoholism, smoking and drug abuses, mental ill-health, coronary heart disease, minor ailments and, performance and accident.

Among the psychological outcome of stresses, job satisfaction (dissatisfaction) is highly studied phenomenon. Caplan et al (1975), for example, endeavored to identify the sources of stress among 23 different occupational groups. According to Cooper (1980), this investigation differentiated two separate groupings of stressors reported by white – and blue-collar workers as responsible for job-dissatisfaction

and ill-health. For blue-collar workers, stressors such as lack of job complexity, ambiguity about job future, role-ambiguity and under-utilization of abilities were reported to be responsible for job-dissatisfaction. Conversely, for professional and white-collar workers, stressors such as responsibility for people, job complexity and concentration, and high and variable workload were found to be accountable for job dissatisfaction.

Fisher and Gitelson (1983) in their meta-analytic study of results of past 43 studies on role-conflict and role-ambiguity, concluded that :

(i) Role ambiguity is negatively and significantly associated with job involvement, satisfaction with co-workers, satisfaction with promotion, boundary spanning, tenure and age.

(ii) Role conflict is negatively and significantly associated with commitment, involvement, satisfaction with pay, co-worker and supervision, and participation in decision-making.

There are numerous empirical investigations which high-light the above trend of stress-strain relationship. Quin and Shephard (1974), for example, observed that six means of role-stress, namely, role-ambiguity, overload,

under-utilization, resource inadequacy, employment-insecurity and non-participation in decision are moderately related (average r - .20) with three measures of job-satisfaction, namely, job satisfaction, motivation at job and, intention to leave the job. Rizzo et al (1970) and Lyon (1971) found significant positive relationship between role-ambiguity and expression of the desirability and likelihood of having the job.

A number of Indian scholars have studied role-stress in context of different professional groups. Jagdish (1983), for example, investigated the relationship of occupational stress with job-satisfaction and mental health of first level supervisors. Study revealed that occupational stress arising from role-overload, role-ambiguity, role-conflict, group and political pressure, responsibility for persons, under-participation, powerlessness, poor relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability significantly impair supervisor's area-wise as well as overall job satisfaction. Stress was found to have more inverse relation with on-the-job dimensions of satisfaction than off-the-job dimension. It was found to be inversely related, also with mental health of the focal employees.

Surty (1982) studied the psychological correlates of

role-stress in 360 working women of various professions. Statistical analysis revealed that nurses experience .higher level of overall role-stre's followed by bank employees, researchers, doctors, school teachers, gazetted officers, social workers and University teachers. Sen (1981) in his study of different levels of bank employees found that role-stress is inversely related with income. He concluded that persons with higher incomes hold correspondingly higher assignments with better status, esteem and more scope for satisfaction of self-actualization needs.

Pestonjee and Singh (1982) studied the relationship between role-stresses and job-satisfaction in case of 102 employees of an electric supply company. Study revealed that self-role distance, inter-role distance, role-stagnation, role-ambiguity, role-inadequacy and overall role-stress were negatively and significantly associated with all the areas - and overall job satisfaction. However, the only exceptions were (i) Social relations area which didn't associate significantly with role-overload and role-isolation; and (ii) role-erosion associated significantly with only management area and on-the-job satisfaction.