

INDUSTRIAL ESTATES IN THE PUNJAB: A MACRO SURVEY

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ABSTRACT: A macro level survey of the Industrial Estates functioning in the Punjab is being presented in this paper. Study of the working of the Industrial Estates in the Punjab is being undertaken to get knowledge with a clear understanding about the philosophy of the program and its relevance in the context of the Punjab, with particular reference to the economic and industrial background of the Punjab. For collecting source materials, two elaborated questionnaires were prepared, Industrial Estates and units of these estates were visited. The observations made in course of the discussions and also the information collected through the questionnaires and the data obtained by different departments has been processed rationally for use in this article.

Key words: Punjab, estates, development, manufacturing units, Macro, Survey

1. INTRODUCTION

Most of the countries started to establish their Industrial Estates after 2nd world war. Although Industrial Estates were discussed by geographers during that period such as Roterus [1]; Kenyon [2]; Meyer [3]; Martin [4]; Bale [5] but it is a matter of fact that this phenomenon of industrial development was neglected by geographers. Bale [6] stated that only few studies such as (Wagner, [7]; Kupper, [8]; Dickenson, [9]; Hartshorn, [10] were carried out specifically for Industrial Estates from 1950 to 1973. Robert *et al.* [11] examined the organization and operation of the firms which are working for the development of planned industrial districts with special reference to Chicago area. Perry [12] discussed the planning and development of Industrial Estates and concluded that basically government established Industrial Estates to minimize the unemployment but with the due course of time developed Industrial Estates now present example in planned location of industry. Allen [13] studied the Growth of Industry on Trading Estates, 1920-39, with Special Reference to Slough Trading Estate while Roterus [1] contributed through his studies about some of the planned Industrial Estates of USA. Bale [14] investigated the attitude of industrialist to the concept of Industrial Estates and how the advantages of these estates effect their decision regarding the location of industry through a survey of nine Industrial Estates of South Wales. Different agencies of United Nations [15, 16] such as UNIDO, UNEP and Department of Economic and Social Affairs carried out many studies for different aspects of Industrial Estates from guidelines for establishment of Industrial Estates for developing countries to some evaluation studies to assess the efficiency of existing Industrial Estates of different countries of the world such as Pakistan, India, Brazil, Iran, Argentina etc.

Bale [6] identified the possible research areas for geographer in which they could make useful contribution to the study of Industrial Estates. A number of authors have anxiously studied Industrial Estates through different ways for instance their planning, growth, performance, efficiency, location, impact on industrialization and on environment and as an instrument for industrial development and promotion. Somasekhara [17] analyzed the efficacy of Industrial Estates in India with particular reference to Mysore. Fong [18] discussed the problems faced by Malaysian government

during planning of Industrial Estates for optimal development. Pyke *et al.* [19] made a comparative study between the Industrial Estates of Italy and Canada, Cyprus, Denmark, Germany and Spain and suggested some policy guidelines which can help to sustain the existing industrial districts and guided other regions to adopt similar strategy in the interest of local economic regeneration. Sarma [20] discussed the industrial landscape of north-east India with special reference to the Industrial Estates of Assam. Cheol [21] identified the factors which have strong influence on the performance of rural Industrial Estates of Korea. Scott [22] discussed the development of Industrial Estates and the advantages provided by these Industrial Estates to the industrialist in U.K. before 2nd World War. He argued that the role of Industrial Estates is very important for growth of new industries and for the concentration of firms in certain areas. Sforzi [23] revealed the importance of industrial district for the renewal of the new economic geography in Italy. Louw *et al.* [24] defined spatial efficiency as 'number of people who work on one hectare and as the value added on one hectare' and showed the planning mechanism which are responsible for the decrease in spatial efficiency of Industrial Estates in Netherland.

In this article study of the working of the Industrial Estates in the Punjab is being undertaken to get knowledge with a clear understanding about the philosophy of the program and its relevance in the context of the Punjab, with particular reference to the economic and industrial background of the Punjab. A macro level survey of the Industrial Estates functioning in the Punjab is being presented in this paper. For collecting source materials, two elaborated questionnaires were prepared, Industrial Estates and units of these estates were visited. During these visits direct discussions were also arranged with administration of estates, occupant entrepreneurs running industrial units and also certain representative industrialists and workers. The observations made in course of the discussions and also the information collected through the questionnaires and the data obtained by different departments has been processed rationally for use in this research work.

1.1. The objectives

The program of Industrial Estates as an instrument to achieve breakthrough in the development of small-scale industries was accepted in the Punjab during the First Five Year Plan (1955-60). The objectives of setting up the Industrial Estates vary from time to time and area to area depending on economic background and developmental needs. The Industrial Estates program of the Punjab combined all the important schemes of assistance to small enterprises and to provide a tool for their integrated development. The primary objective of the program was the rapid development of small scale industries by having the advantage of common services and other facilities such as good sites, electricity, water, gas and etc being located near to one another. The subsidiary objective has been the dispersal of industry to rural and underdeveloped areas to raise their level of industrialization with the expectation to ensure progressive reduction of disparities in levels of development between different regions. With the progress of the scheme, additional objectives like relieving the cities of congestion and overcrowding and slum clearance were tagged to the program. The Government of the Punjab had the following objectives in establishing Industrial Estates:

- To provide factory plots at suitable sites at economic rates to Small Scale Industry (SSI) units with necessary facilities such as water, power, common workshop and service facility, internal roads, watch and ward, transport, canteen, post office, banks etc.;
- The economic development of comparatively backward areas by encouraging the establishment of new industries by small investors with all the economic benefits of a planned unit, including roads, water, power, and sewage facilities, and social services such as bank, post office and dispensary for the care of industry and the needs of workers;
- The modernization of existing industry by advice and example through the provision of technical advisory services;
- The dispersal and balanced regional development through relocation of industries in semi-urban, rural and backward regions.;
- Employment and training possibilities for the labor force in the healthy environment;
- Adequate common facilities to equip the industrial units for achieving specialization and modernization;
- Testing facilities to enforce and maintain standards;
- Great ease in provision of technical, managerial, counseling and training services and central processing and servicing facilities;

- Provision of conditions favorable to healthy development of internal and foreign markets;
- Provision of necessary supporting industries for production of spares and repairs facilities;
- To bring together a number of different SSI units to facilitate a common service centre;

2. CRITERIA FOR SITE SELECTION

In the selection of sites for locating Industrial Estates in the Punjab, the Government has been adopting the following criteria:

- The Estate should be in the proximity of sources of water and power, having good transport and communication facilities, preferably near a railway station or highway;
- There should be availability of labor and raw materials and also the scope for industrial development;
- The Estate should be nearer to marketing and distribution centre;
- There should be possibility of ancillary industries;
- There should be scope for decentralization;
- The area should have a good industrial base.

According to the Punjab Small Industries Corporation, Punjab sites for all Industrial Estates. in the province were selected on the basis of techno-economic surveys, but no specific report or document being available, it is presumed that either no techno-economic survey was conducted, or even if conducted the same was not followed at least in respect of certain sites for location of estates. It is essential that the economic and industrial potentialities of an area should be ascertained through proper investigation by an independent agency before finally selecting a site for an Industrial Estate. It is also necessary that such investigation should be conducted for various areas and sites within the province where viable Industrial Estates may be set up, and a list of such sites should be so that the government may take it into consideration according to priority, for finalizing sites for setting up Industrial Estates.

3. DEVELOPMENT OF INDUSTRIAL ESTATES

At the time of independence in 1947 Pakistan had negligible industrial base. The contribution of industry toward GDP was only 7.7% in 1949-50 [25]. Pakistan's first Industrial Estate "Sindh Industrial Trading Estate Ltd. Karachi" (SITE) was established in November 1947. Its main purpose was to promote industry in a manner calculated to be most attractive to industrialists, so they could obtain all facilities such as Land, road, railways, water supply, electricity, telephone, stores, sanitation, drainage, labor colonies, and other public amenities [26].

Table-1:-Industrial Estates Established by WPSIC during 1960-70

S. No.	Name of Estate	Establishment during Year	Total Area (Acers)
1	SIE- 1, Sialkot	1960-61	98.5
2	SIE- 1, Lahore	1961-62	9.75
3	SIE-1, Gujarat	1961-62	71.0
4	SIE- Bahawalpur	1961-62	52.0
5	SIE-1, Gujranwala	1967	103.5

Source: [27]

Table-2:- Industrial Estates Established by PSIC during 1970-90

Sr. No.	Name of Estate	Establishment during Year	Total Area (Acers)
1	MIE- Gujar Khan	1978	183
2	SIE- Jhelum	1979	52.06
3	MIE- Chakwal	1979	116
4	SIE- Faisalabad	1980	1020
5	SIE- Sargodha	1980	51.75
6	SIE-II, Gujranwala	1980-81	106.15
7	SIE- Daska	1984	52
8	SIE- Sahiwal	1984-85	51.99

Source: [27]

Table-3:- Industrial Estates Established by PSIC during 1990-2010

S. No.	Name of Estate	Establishment during Year	Total Area (Acers)
1	SIE- Mian Channu	1992	65
2	SIE- Taxila	1994	118
3	MIE- Kasur	1998	80
4	SIE- Khanewal	1999	64
5	SIE-II Lahore	2004	112

Source: [27]

Table-4:- Detail of Industrial Estates According to Mode of Financing

Sr. No.	Name of Estate	Establishing Year	Mode of Financing
1	SIE Jhelum	1979	Govt. Funded
2	MIE Gujar Khan	1978	Govt. Funded
3	MIE Chakwal	1979	Govt. Funded
4	SIE Taxila	1994	Self Funded
5	SIE-I Gujranwala	1967	Govt. Funded
6	SIE-II Gujranwala	1981	Govt. Funded
7	SIE Gujrat	1961	Govt. Funded
8	SIE Daska	1984	Govt. Funded
9	SIE Sialkot	1961	Govt. Funded
10	SIE-I Lahore	1962	Govt. Funded
11	SIE Kasur	1998	Self Funded
12	SIE Faisalabad	1980	Govt. Funded
13	SIE Sargodha	1980	Govt. Funded
14	SIE Sahiwal	1985	Govt. Funded
15	SIE Mian Channu	1992	Self Funded
16	SIE Khanewal	1999	Self Funded
17	SIE Bahawalpur	1962	Govt. Funded
18	QIE Lahore	1960	Govt. Funded

Source: [28]

Table-5:- Classification of Industrial According to Mode of Financing

Sr. No.	Type of Estate	Number	%age
1	Govt. Funded Industrial Estates	14	77.78
2	Self Funded Industrial Estates	4	22.22
TOTAL		18	100

Source: [28]

Table-6:- Classification of Industrial Estates According to Size

Sr. No.	Type of Estate	Number	%age
1	Mini Industrial Estate	3	16.67
2	Small Industrial Estate	15	83.33
TOTAL		18	100

Source: [28]

Table 7:- Infrastructure Facilities Available in Industrial Estates

Sr. No	Facilities	No. of I. E. which provide the facilities	Sr. No	Facilities	No. of I. E which provide the facilities
1	Roads	18	11	Bank	Nil
2	Drainage	16	12	Railway Siding	Nil
3	Electricity	18	13	Warehouse	Nil
4	Water	18	14	Canteen	01
5	Telephone	18	15	Fire Service	Nil
6	Tool Room	Nil	16	Security	Nil
7	Testing Centre	Nil	17	Medical Aid	Nil
8	Post Office	Nil	18	Recreation Centre	Nil
9	Raw Materials Depot	Nil	19	Sales Emporium	Nil
10	Training Centre	Nil	20	Display/Show Room	Nil

Source: Field Survey

Table 8:- Colonization Status of Industrial Estates of the Punjab (31-03-2010)

Sr. No.	Name of Industrial Estate	Established During/ Mode of finance	Total Provision	Total Allotted	% of Plots allotted	Vacant	Plot Colonized	% of Plots Colonized
1	SIE-1, Sialkot	1960-61/G.F.	380	380	100.0	0	380	100
2	SIE-1, Lahore	1961-62/G.F.	41	41	100	0	40	97
3	SIE-1, Gujarat	1961-62/G.F.	422	422	100.0	0	422	100.0
4	SIE-Bahawalpur	1961-62/G.F.	204	204	100.0	0	199	97.5
5	SIE-1 Gujrnwala	1967/G.F.	408	408	100.0	0	408	100.0
6	MIE- Gujar Khan	1978/G.F.	183	182	99.45	1	130	71.42
7	SIE-Jhelum	1979/G.F.	288	288	100	0	249	86.5
8	MIE-Chakwal	1979/G.F.	119	119	100	0	78	65.5
9	SIE- Faisalabad	1980/G.F.	1020	1020	100	0	992	97.6
10	SIE-Sargodha	1980/G.F.	254	254	100	0	215	84.6
11	SIE-II, Gujranwala	1980-81/G.F.	551	551	100.0	0	453	82.2
12	SIE-Daska	1984/G.F.	148	148	100	0	34	22.79
13	SIE-Sahiwal	1984-85/G.F.	188	187	99.5	1	173	92.0
14	SIE- Taxila	1994/S.F.	384	383	99.5	1	6	1.5
15	SIE-Mian Channu	1992/S.F.	157	157	100	0	46	29.3
16	SIE- Kasur	1999/S.F.	326	326	100	0	17	5.2
17	SIE-Khanewal	1999/S.F.	313	289	92.33	30	5	1.6
18	Kot Lakhpat Lahore	1960/G.F.	439	439	100.0	0	439	100.0
		Total	5828	5798	99.5	27	4316	74.05

Source: [28]

Table: 09:- Macro Level Overview of Industrial Estates Program (31st March 2010)

Sr. No.	Name of Estate	Establishment Year	Total No. of Plots	Plots Colonized	Units		
					Functional	Non-Functional	Total
1	SIE Jhelum	1979	288	249	92	44	136
2	MIE Gujar Khan	1978	183	130	25	14	39
3	MIE Chakwal	1979	119	78	25	35	60
4	SIE Taxila	1994	384	6	1	5	6
5	SIE-I Gujranwala	1967	408	408	218	35	253
6	SIE-II Gujranwala	1981	551	453	261	32	293
7	SIE Gujrat	1961	422	422	234	2	236
8	SIE Daska	1984	148	34	5	2	7
9	SIE Sialkot	1961	380	380	230	5	235
10	SIE-I Lahore	1962	41	40	22	7	29
11	SIE Kasur	1998	326	17	5	5	10
12	SIE Faisalabad	1980	1020	992	421	260	681
13	SIE Sargodha	1980	254	215	73	78	151
14	SIE Sahiwal	1985	188	173	123	50	173
15	SIE Mian Channu	1992	157	46	18	19	37
16	SIE Khanewal	1999	313	30	7	4	11
17	SIE Bahawalpur	1962	204	204	29	27	56
18	QIE Lahore	1960	439	439	204	46	250
TOTAL			5825	4316	1993	670	2663

Source: [28]

3.1. Emergence and Role of Punjab Small Industries Corporation

In 1973, Punjab Small Industries Corporation was set up under the Punjab Small Industries Act, 1973 after the dissolution of WPSIC. PSIC mission statement envisions the promotion and development of small industries [27]. PSIC entrusted with the responsibility of development of the small-scale sector including cottage industries through integrated and coordinated action plan based on local raw materials, local demands and locally available skills by establishing small Industrial Estates, Industrial support center and cluster development center. In respect of the Industrial Estates program PSIC was responsible for existing and to establish new estates along with necessary infrastructural facilities in its territory for the development of small-scale industries beside medium and large industries in the province. The development of sites,

allotment of plots, providing power and water supply and the other relevant duties in connection with the Industrial Estates have been placed under the PSIC. The PSIC having encouraged from the success of the above five estates developed by the federal government, developed eight more Industrial Estates at Jhelum, Gujar Khan, Chakwal, Sargodha, Faisalabad, Sahiwal, Daska, and another at Gujranwala [28]. The Industrial Estates established during this period are shown in the Table 2. Figure 2 shows the location of Industrial Estates established during 1970- 1990. All these thirteen estates provided industrial plots on installments basis and funds for development were provided by the Government through Annual Development Program (ADP). These estates provided a base for the growth of modern small industry in a planned manner. While the Industrial Estates developed in the underdeveloped regions

like Bahawalpur, Jhelum proved to a catalyst to augment the industrial development [28].

During the 90's the government stopped to provide funds for the development of Industrial Estates and it was decided that estates should be developed under self financing. The entire cost of the project is recovered from allottees (to whom plots will be allotted for establishment of industrial units). Five Industrial Estates have been established through self financing after 1990 [27]. The Industrial Estates established during this period are shown in the Table 3.

3.2. Punjab Industrial Estate and Management Company

Government of Punjab introduced its new industrial policy in 2003 with the vision to provide full employment till. Punjab Industrial Estates & Development Company (PIE) was established under Company ordinance 1984 in 2004 to establish new Industrial estates in the Province and to renovate some of the exiting estates. It is a private-sector led authority and classical example of private public partnership for rapid and sustainable industrialization by establishing a network of modern and new Industrial Estates providing one-window facilities to entrepreneurs. Vision of the company is to provide more employment opportunity to the resident of the Punjab through promotion of small and medium scale industries. In this regard, Faisalabad Industrial Estate Development and Management Company (FIEDMC) was also established by the government for promotion of industrial activity in Faisalabad. PIE is a section 42 company, incorporated under Companies Ordinance 1984. Government granted a loan of Rs. 1.00 billion to start development of new Industrial Estates. It is an effort which aims at quick industrialization in the province to create jobs, alleviate poverty, and to bring less developed areas of Punjab into main stream. PIE is entrusted to develop a chain of Industrial Estates in a dynamic and innovative manner by capitalizing on proposed & existing industrial and agricultural strengths of the Punjab and through following environmental laws & comply with future World Trade Organization (WTO) regime. The main objectives of the PIE are as follows:

- Provide quality infrastructure.
- Ensure efficient, cost effective and sustainable management of Industrial Estates. To enact on "One Window Operation" by providing utilities and services to Industrial Estates.

PIE will guide and facilitate such local entrepreneurs that are setting up joint ventures on a technology sharing basis. PIE will also attempt to expose small and medium industries to latest trends in technology by providing a platform in modern Industrial Estates. As such, PIE will act as a catalyst by creating an institutional mechanism aimed at achieving rapid technological progress and will lead the Punjab into a new dimension of industrial excellence and global participation.

3.3. Current Projects of PIE

- Development of new Industrial Estate at Sundar Lahore
- UP-gradation of Quaid-e-Azam Industrial Estate at Lahore
- Up-gradation of Multan Industrial Estate Phase-I
- Expansion of Multan Industrial Estate - Phase-II

4. LOCATIONAL CHARACTERISTICS

The effectiveness of Industrial Estates is however, to a large extent related to their location. The Industrial Estates in the Punjab are located in selected sites in urban and rural/semi-urban areas, keeping in view the broad objectives mentioned earlier. It has been observed that the majority of the Industrial Estates in the Punjab have been established in small cities, with a view to promoting the industrialization of rural areas and averting further concentration of population in large urban centers.

The Industrial Estate, Mian Channu is a rural estate set up in 1992 within the Pilot Project Area of the Govt. for providing infrastructure facilities to local entrepreneurs. The location is not so advantageous. Transport and communication, power supply, water supply, general maintenance etc. are also inadequate. Naturally the demand for plots is low. The area has potentials in agro-based industries which may be facilitated by the infrastructural facilities provided in the estate. The Industrial Estate, Khanewal is a semi-urban estate and latest one, established in 1999 and is located at Lodharan National Highway Road Khanewal. The factory plots are independent with open space around. The improvement of the internal road and further expansion of the town towards the estate will enhance the importance of this estate. General standards of maintenance, supply of power and water etc. need improvement. From locational view point Khanewal has good prospects for diversified industrial growth. The Industrial Estate, Taxila is a semi-urban estate set up in 1994 at a distance of 7 km at Bahatar road. With improvement of communication and transport facilities, power and water supply, the estate has better scope in future since the town has good commercial and industrial potentials. The demand for sheds is at present moderate. The Industrial Estate, Kasur is a semi-urban estate and is one of the latest set up in 1998 at Lahore Road Sahiwal. With improvement of power/water supply and general diversification of industrial production and may generate more employment.

5. CLASSIFICATION OF INDUSTRIAL ESTATES

The Industrial Estates of the Punjab can be divided into three classes: Those intend to accommodate large and medium scale establishments, small-scale enterprises and artisan workshops. There is of course a degree of overlap, artisan workshops are included in some small industry estate, and some medium scale enterprises are present on the small industry estates [16].

6. Secondly, the classification is made on the bases of size, the small Industrial Estates and mini Industrial Estates. The estate which consists of less than 50 acres area is declared as mini Industrial Estate, the estates of Gujar Khan, Lahore-I and Chakwal fall under this category. If the area of estate is more than 50 acres it is called is a small Industrial Estate. The rest of 15 estates of our study group, fall in this category. The biggest are kotlakhpat Industrial Estate (Lahore) and SIE- Faisalabad with the area of 565 acres and 244 acres respectively, and smallest one is MIE-I Lahore with the area of 9.75 acres.

7. FACILITIES AVAILABLE

Facilities like transport and communication, banking, market etc. differ from estate to estate depending on location. The position is better at the Industrial Estates of Bahawalpur, Gujranwala and Sialkot while in respect of the other estates, the same is of inferior standard. General maintenance of all the estates is poor for want of fund and staff. Problems of sewerage and internal roads are almost common. Facilities of security, medical aid, display room, recreation centre common service workshop, and post office are not available in any Industrial Estate so far. An overview of the available infrastructure facilities in the Industrial Estates of the Punjab is presented below in Table 7.

8. PERFORMANCE OF INDUSTRIAL ESTATES

Different variables and parameters can be used to analyze the performance of an individual estate. Table 8 reports that some estates are successful and have reached at the level of the occupancy rate of 100%; four estates out of eighteen have colonization status of 100% (SIE-I Sialkot, SIE-I Gujarat, and SIE-I Gujranwala, QIE Lahore). The average occupancy rate of Industrial Estates under study is 74%. Out of 18 estates, 13 estates possess occupancy rate more than 50%. Some estates have very low occupancy rate/colonization status such as SIE Khanewal (1.6%), SIE Taxila (1.5%) and SIE Kasur (5.2%). The Industrial Estates which are located in the northern Punjab or in the large urban centers have high occupancy rate while estates which are located in the southern Punjab and near small cities and in rural areas have low occupancy rate. The information from above table also indicates that government funded estates are more successful as compare to self funded estates.

9. CONCLUSION

Now having had a macro survey of the existing Industrial Estates of the Punjab which represents an important national program, it is observed that there has been an appreciable numerical increase in number of estates, number of units and also the products during the last 60 years; especially during 1980-2000 This quantitative increase nevertheless reflects the great efforts of the Government in making substantial investments to motivate the people of the Punjab for industrial pursuits. The main idea behind setting up these Industrial Estates is to promote coordinated, intensified, and integrated development of small scale industries, thus, Industrial Estates, particularly of small scale units of industries can prove to be an ideal instrument for promoting industrial development. If these are organized and planned with proper sense of responsibility, they can generate employment opportunities and improve skills of large number of people at a lower cost and can giving quick returns in response to relatively small capital investment. Realizing the importance and significance of Industrial Estates for industrial development the Government of Punjab has always given special attention to establish and develop more and more Industrial Estates in different parts of the country. Industrial Estates of the Punjab share a lot in the economy of Pakistan in the form of foreign exchange and provide employment to the people of the province. At the

same time, it is also observed that an industrial climate has set in, which has attracted some energetic entrepreneurs for setting up industrial units, taking the benefit of the infrastructure and other facilities provided in the various types of estates

REFERENCES

1. Roterus V. *Planned Industrial Districts*. Proceedings of the American Society of Civil Engineers. 1956;82:1-4.
2. Kenyon J. *Industrial Localization and Metropolitan Growth: The Patterson-Passaic District*, University of Chicago Research Paper. 1961;67151-153.
3. Meyer H M. Centex Industrial Park: An Organized Industrial District," in R. S. Thoman and D. J. Patton, eds., *Focus on Geographic Activity: A Collection of Original Studies* (New York: Mc- Graw-Hill). 1964:135-145.
4. Martin JE. Greater London: An Industrial Geography, London: Bell. 1966:32-35.
5. Bale JR. Towards the Geography of Industrial Estates. *The Professional Geographers*. 1974;26(3):291-97.
6. Bale JR. An Industrial Park at Abercam, Monmouthshire, *Town and Country Planning*. 1972:40.
7. Wagner C. Planning Industrial Districts. *Journal of Geography*. 1956;56:129-132.
8. Kupper UI. Socio-geographical Aspects of Industrial Growth at Shannon. *Irish Geography*, Vol. 1969; 6:14-29.
9. Dickenson JP. Industrial Estates in Brazil. *Geography*. 1970; 55: 26-329.
10. Hartshorn TA. Industrial/Office Parks: A New Look for the City. *Journal of Geography*. 1973; 72: 33-45.
11. Robert L., and Wrigley JR. Organized Industrial Districts. *Journal of Land and Public Utility Economics*. 1947; 23(2):180-189.
12. Perry RE. The Planning and Development of Industrial Estates. *The Journal of Royal Society for promotion of Health*. 1948; 68: 606.
13. Allen GR. The Growth of Industry on Trading Estates, 1920-39, With Special Reference to Slough Trading Estate. *Oxford Economic Papers*, 1951; 3: 272-300.
14. Bale J. Industrialists' attitudes towards location on industrial estates the case of south wales. *Tgdschrift voor Econ. en SOC. Geografie*. 1973:6(5).
15. United Nations. *Establishment of Industrial Estates in Under-Developed Countries*. Department of economic and social affairs, New York.1961.
16. United Nations. *Guidelines for the Establishment of Industrial Estates in Developing Countries*. United Nations Industrial Organization. New York.1978.

17. Somasekhara N. *The Efficacy of Industrial Estates in India: with particular reference to Mysore*. Vikas Publishing House, Delhi, India.1975.
18. Fong CO. Planning for Industrial Estate Development in a Developing Economy. *Management Science*, 1980;26(10):1061-1067.
19. Pyke F. and SengenbergerW. *Industrial Districts and Local Economic Regeneration* International Institute for Labour Studies , Geneva.1992.
20. Sarma BK. *Industrial Landscape of North-East India*. Mittal Publications, Delhi, India.1993.
21. Cheol C. The determinants of rural industrial estate performance in Korea. *Review of Urban and Regional Development Studies* 1996;8.
22. Scott P. (2001). Industrial Estates and British Industrial Development, 1897-1939. *Bussiness History*. 2002;43 (2): 73-98.
23. Sforzi F. (2002). The Industrial District and New Economic Geography. *European Planning Studies*. 2002;10(4).
24. Louw E. *Spatial efficiency and the planning of industrial estates*. Paper presented to the Third Joint ACSP/AESOP Congress, Leuven, July 8th-12th 2003. 77316.
25. Khan FK. *Geography of Pakistan, Environment, People and Economy*. Oxford University Press Karachi. Pakistan. 2001.
26. Inayatullaha *Industrial estates in West Pakistan: An Appraisal of Government effort*. NIPA. 1963.
27. Ferguson, AF and Company. *Industrial Estates-mid term report*. Reform of PSIC, study number 4, Lahore. 2006.
28. Punjab Small Industrial Corporation. *Industrial Estates*. Directorate of estate development and works PSIC, Lahore. 2003.