PROJECT PROFILE

ON

ELECTRONIC CITY

(KONAPPANA AGRAHARA)

PREPARED

BY

Karnataka State Electronics Development Corporation Ltd.

'EMLYN HAVEN'

30, RACE COURSE ROAD, BANGALORE-560 001.

KEONICS

PROJECT PROFILE

ON

ELECTRONIC CITY

(KONAPPANA AGRAHARA)

PLACED AT THE
XIII MEETING OF THE
BOARD OF DIRECTORS
HELD ON 30-07-1979

KEONICS

Karnataka State Electronics Development Corporation Ltd.

'EMLYN HAVEN'

30, RACE COURSE ROAD, BANGALORE-560 001.

PROJECT PROFILE ON ELECTRONIC CITY

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***

INTRODUCTION

The Electronic Industry in India, and especially in Karnataka, is growing at a very fast rate. It is as high as 20% per annum. The high rate of growth of Electronics is due to the following intrinsic merits :-

1. It is a labour intensive industry which provides more employment per unit of investment particularly for skilled workers and engineers;
2. For a given foreign exchange investment the complementary rupee investment is very high in the long run;
3. Capital formation ability of Electronic Industry is the highest among all sectors;
4. Technological competence for self-sufficiency and self-reliance can be achieved within a short span of time;
5. Electronic Industry can be located in every part of the State including the backward districts;
6. The size of the industry can be from a handful few to a few thousand workers thereby allowing the technocrat entrepreneurs with limited resources to enter the field and grow;
7. The industry has a very high export potential in view of its labour intensiveness;
8. Electronics plays a vital role in the Defence preparedness of the country and as such the country has to depend itself and limit the imports to the minimum;
9. The Electronic Industry helps the continuous growth of productivity of process industries as well as facilitate large-scale production;
10. The growth of Electronic Industry reflects in growth of communication facilities in the country;

Electronic is a core industry and has been accorded highest priority. Because of the very high potential for the growth of this industry and also to contribute to the National Development covering various facets viz., Economic, Communication and Defence Prepardness, the Government of India gave very special importance and established the Electronic Commission and the Department of Electronics to safeguard the high National interests and to foster the growth of Electronic Industry in a planned manner.

Karnataka has been a pioneer in the field of Electronics and one of the first to establish Electronic Industries, as back as in 1947, and had established in the organized sector of Electronic Industry. Today Karnataka, in the field of Electronic Industry, accounts for one third of the total Electronics and 90% of the Professional Grade Electronic Equipments and Components. Reference is made to table given in Annexure-1 which shows that during the last 3 years, Karnataka has maintained its share of about one third of the total production in the country and it may be seen from the table that Karnataka has to put in considerable effort to maintain its share of production in the years to come. It may be further seen that in the year 1983-84 the production is going to be in the order of 14,125 million of which Karnataka has to produce atleast 4,945 million to hold its share.

The Government of Karnataka having realised the importance of Electronics and its contribution to the State's economy, has been promoting Electronic Industries for the last three decades. The first industry that was set up is the Radio and Electrical Manufacturing Company in the year 1947 and thereafter in view of the special infrastructural and other facilities available, the Central Government Industries viz., Indian Telephone Industries Ltd., was established in 1950 and the Bharath Electronics Ltd., in in 1954. Apart from these production units, there have also been excellent infrastructure for training of manpower in the field of Electronics in Karnataka.

The Indian Institute of Science has been the Institution which has been the main source of top Electronic Engineers for the last 4 decades who are found all over the country and abroad. Since that time a number of institutions, Research Organization like Electronics & Radar Development Establishment and Indian Space Research Organization, Controllerate of Inspection Electronics, National Aeronautical Laboratory have fostered development of Electronics. In order to continue to play its part, the State Government was the first to conceive of a Functional Electronic Estate in Peenya which is the largest in South East Asia and which is going to house about 800 Industries.

In the year 1971 the State Government constituted an Expert Committee to make recommendations for promoting small scale Electronic Industries, which after due deliberations, made a case that Karnataka is an ideal State and has got all infrastructures ideally suited for developing Electronic Industries and recommended that a separate organization be set up. In 1976 the Government established the State Electronics Development Corporation Limited (KEONICS) exclusively to plan, organise and promote rapid growth of Electronics, and was entrusted with the task of formulating policies and programmes and implementing steps to maintain the leadership of Karnataka in the field of Electronics.

(L)

AREA DEVELOPMENT

As may be seen from the above, having realised that Karnataka is ideally suited for development of Electronics and with the infrastructure available, the KEONICS, Karnataka State Electronics Development Corporation Ltd., made an indepth study and have identified areas for rapid growth of Electronics. To begin with the following areas are being taken up:-

1. The rural area in Bangalore City (Konnappana Agrahara).
2. Mysore - Hunsur Area.
3. Hubli - Dharwar Area.
4. Malnad Area - Hassan, Theerthahalli.
5. Raichur, Gulbarga &
6. Belgaum, Uttar Karnataka Area.

There are other areas in the State also and as a matter of fact, every district is a potential source. However, to make a realistic beginning it is proposed to take up, as a very first phase, the development of these 6 areas and thereafter extend it to other districts in the State.

The objectives of development of these areas, have been :-

1. To create employment for educated young men and women, in different parts of the State as electronics is labour intensive industry.
2. To commence production activities, Electronic Industry needs minimum investment and can be self-generating within a short period after commencement of commercial production.
3. To establish production activities with rural bias as projects can be implemented in rural areas without the need of large investment.
4. To develop available resources in backward areas as Electronics has got applications in every field and in each district we could lay emphasis on the infrastructural facilities available vis-a-vis the application that can be made.
5. To give economic boost in different parts of the State as multiplication of the economy of the area of technological development.

KONNAPPANA AGRAHARA

The present proposal is to take up one area out of the six areas earmarked.

To begin with it is proposed to take up the Konnappana Agrahara area which is about 18 kilometers from Bangalore. Konnappana Agrahara has been selected because of the following specific reasons. (A note on the subject had also been placed at the Sixth Board of Directors' Meeting held on Saturday 24-12-1977).

1. This area has been declared as 'Industrial Area' by the Government of Karnataka vide their notification No.CI 81 FDB 76 dated 2-5-1977 (Annexure-2)

2. The area proposed is near to the Hosur area of Tamil Nadu which has been declared by the Centre as backward area and Tamil Nadu Government have invested more than a crore of rupees for development of industries. This has resulted in the flow of industries to Tamil Nadu though they continue to make use of the infrastructural facilities of Karnataka. In order to arrest the flight of industries and thereby loss of employment to the people of Karnataka as well as revenue from Sales Tax and Income Tax, it is proposed to establish the 'Electronic City' in this area.

3. Konnappana Agrahara could offer complementory support to Hosur and derive benefit of industries in Hosur.

4. It will bring about rural employment for the educated in that area.

5. It would also take pressure off the Bangalore City and arrest the growth within the City.

6. This will be the first 'Electronic City' which will be pollution-free exclusively earmarked for electronics and will be amply supported by the other facilities required by the industries located in the adjoining area of Bommasandra.

LOCATION

Konnappana Agrahara is located in Bangalore South Taluk in the rural area which is about 18 kilometers from Bangalore and on the National High Way No.7 between Bangalore and Hosur. The area is fairly level and the Government has about 210 acres of its own land and we have to acquire about 90 acres of Private land.

OBJECTIVES OF ELECTRONIC CITY

It is proposed to develop this City with an integrated approach whereby there will be large, medium and small-scale industries. This City is being thought of in a manner different from the Industrial Estates, as a matter of fact as functional electronic estates, because experience has shown that Industrial estate does definitely give fillip to small-scale industries in certain aspects and have limitations from the point of view of making available the know-how, on the job inspection and quality assurance facilities, and lastly but most important, marketing. With the integrated approach it is proposed to have a close liaison between large, medium and small industries so that the larger ones could place orders with the small scale giving the necessary know-how and other facilities mentioned above. With this small scale man will be benefited of not having to look for market all over the country and the large scale industries will have the benefit of having their ancillaries or subcontracting agencies close at hand as well as able to get jobs farmed out at a much lower cost than producing themselves.

PROPOSED PROGRAMME

It is proposed to develop abo t 124.4 hectares (300 acres) of land at Konnappana Agrahara making layout as given in the master plan at Annexure-3. The proposal envisages development of the large area to be allotted to individual industries and earmark certain other areas for development of small scale industries. The proposal provides for the following:-

(a) Large Scale Industries	. .	10
(b) Medium Scale Industries	. .	20
(c) Small Scale Industries	. .	235

It is proposed the small scale industries be housed in modern Multi-storeyed buildings which are ideally suited for small scale electronic industries. Keeping this in view, the plan has been made to cover an area to give the following :-

	Nos.
a) 5 Acres (2.02 Hectares)	Plots - 8
b) 3 Acres (1.21 Hectare)	Plots -14
c) 2½ Acres (0.50 Hectare)	Plots -22
d) 1½ Acres (0.50 Hectare)	Plots -37
e) 1 Acre (0.40 Hectare)	Plots - 4
f) Odd sized plots (with minimum of area 1 acre size)	- 7
Total:	92

Apart from these plots the area also provides for lung-space, parks and other Civil service facilities. When the full area is developed, it is proposed to have a fully developed administrative machinery which provides for not only administration of the area but also caters to the needs like certain essential raw materials, reasonable amount of testing facilities, area for deliberation, business meetings, packing facilities, etc. It is also proposed to provide infrastructural facilities such as water supply and drainage to the small scale industries. The entire project is proposed to be completed within a period of 3 years commencing from the current calendar year as phased out at Annexure-4A. The investment involved for execution of this project is indicated in the Annexure-4B. It is proposed to avail the services of KIADB and KSIDC to the maximum possible extent to execute the project within the stipulated period of three years.

FINANCIAL RESOURCES

Annexure No.5 gives the resources required. It is estimated, as indicated above, that it would cost about Rs.40,000/- to develop the land. (It may please be noted that in Hosur the Government of Tamil Nadu charge Rs.10,000/- per acre in addition to the 15% central subsidy. Hence, it may not be advisable to charge more than Rs.40,000/-). The proposal made now is on 'No Loss No Profit' basis. It is proposed to utilise the resources of the Corporation to begin the activity and thereafter collect it from the entrepreneurs.

ALLOTMENT OF PLOTS

It is proposed to have an Allotment Committee formed, consisting of representatives of KEONICS, Member of the Industrial Area Development Board and a representative from the Directorate of Industries for the allotment of plots with Chairman & Managing Director, KEONICS as Chairman of the Committee.

The rules that will be framed will be on similar lines as those existing for allotment of land to entrepreneurs by the Industrial Area Development Board with special emphasis that the Electronic projects are given due consideration and allotment is made for those who have got ready projects to implement.

WATER SUPPLY

This area does not come under Cauvery Water Supply Scheme as it is outside the City limits and as such it is proposed to use under-ground water in some places and bore wells for meeting the needs of the industry and provision has been made to provide water supply to the small scale industries and the others will make their own arrangements. For the water required for meeting the needs of the people in small scale industries an estimate has been prepared on the basis of an average of 50 litres per person. This does not cater for processed industries which need large quantities of water. Other individual units will have to make their own arrangements having bore-wells.

TRANSPORTATION

There are enough buses running between the city and this area and as such there may not be a big problem. However, the Karnataka State Road Transport Corporation will be contacted for running additional buses.

H O U S I N G

This area is expected to give potential employment to about 10,800 people. The details of employment potential are given at Annexure-6 Based on this estimate the Bangalore Development Authority has been contacted and has been given a programme for construction of 3000 houses in two phases of 1500 each, along with other common facilities. The details of the proposal made to the Bangalore Development Authority are at Annexure-(7a), (7b), & (7c).

IMPLEMENTATION

The following steps have been taken for implementation of the project :-

1) The Government land has been taken over (through Karnataka Industrial Area Development Board on 15-10-1978) and 210 acres have so far been taken possession of. Fifty-eight acres are recommended to Government for notification by KIADB on 28-6-1979 for acquisition. Action is being taken to take possession of 33 acres of land which are already notified for final acquisition.(Now already taken possession of.)

2) Contour survey has been completed including the land under acquisition based on which a layout has been prepared to maximise the utilisation of the land with minimum investment.

3) Action has been taken to contact the Town Planning Authorities who have clearly stated that this land does not come under the purview of the Bangalore Conglomeration (vide their letter No.TP/AD/ODP/13-9/79-80 dated 17-5-1979 placed at Annexure (8a) and (8b).

4) The Government of Karnataka have already notified this part as 'Industrial Area' vide Government Order No.CI 81 FDB 79 dated 2nd May, 1977 placed at Annexure -3.

5) As desired by Government of Karnataka vide letter No.CI 100 CEL 79 dated 9-11-1979, it is proposed to take up for implementation of this project during this calendar year ie., 1980 and complete the project within three years.

6) The layout has been finalised and submitted to Town Planning Authorities. They have approved after minor modifications vide their letter No.TP/ADI/LAO/501/79-80 dated 14-11-1979.

7) Geophysical survey is being taken up with the Department of Mines and Geology, Government of Karnataka for locating sites for Borewell to provide drinking water to the township.

8) The first allotment is expected to be made during this year so that the entrepreneurs could build their buildings, by which time the roads and other facilities will be completed.

9) It is also proposed to take up small portion of the administrative building in the current year so that facilities will be available at the site.

10) Detailed estimates have been worked out and are ready for implementation.

ANNEXURE -1

PROFILE FOR ELECTRONICS

PRODUCTION FIGURES & TARGETS FOR ALL INDIA VIS-A-VIS KARNATAKA

(Rs. Million)

	1976-77		1977-78		1978-79		1983-84 (Target)	
	All India	Karnataka	All India	Karnataka	All India	Karnataka	All India	Karnataka
1. (a) Consumer Electronics (b) Mass Communication	1030.0	19.0	1303.0	40.0	1580.0	45.0	3685.0	525.0
2. Telecommunication, Radar Aerospace & Defence	1600.0	1175.0	1810.0	1500.0	1885.0	1360.5	4040.0	3235.0
3. Computers							620.0	75.0
4. Control & Industrial Electronics							1600.0	255.0
5. Medical Electronics	640.0	39.0	1025.0	123.0	1190.0	240.0	280.0	100.0
6. Test & Measuring Instruments, Analytical & Special applications							800.0	135.0
7. Components								
8. Materials	800.0	200.0	905.0	230.0	1170.0	268.5	3100.0	620.0
9. General facilities	N.A	1.0	N.A	6.0	N.A	10.0	–	–
10. SEEPZ	30.0	–	40.0	–	75.0	–	–	–
TOTAL :	4100.0	1434.0	5085.0	1899.0	5900.0	1924.0	14125.0	4945.0

ANNEXURE - 2

Notification No.CI 81 FDB 76 (1)

Bangalore, dated 2nd May 1977.

S.O. 1120 :- In exercise of the powers conferred by Section 3 of the Karnataka Industrial Areas Development Act, 1966 (Karnataka Act 18 of 1966), the Government of Karnataka hereby declare the area comprised in S.Nos. mentioned in column (2) of the schedule below, to the extent specified in column (3) situated in Konappana Agrahara and Doddathogur Village, Begur Hobli, Bangalore South Taluk, Bangalore District, to be an Industrial Area for the purpose of the said Act, and defines the limits of the said area as specified in the corresponding entries in column (4) thereof :-

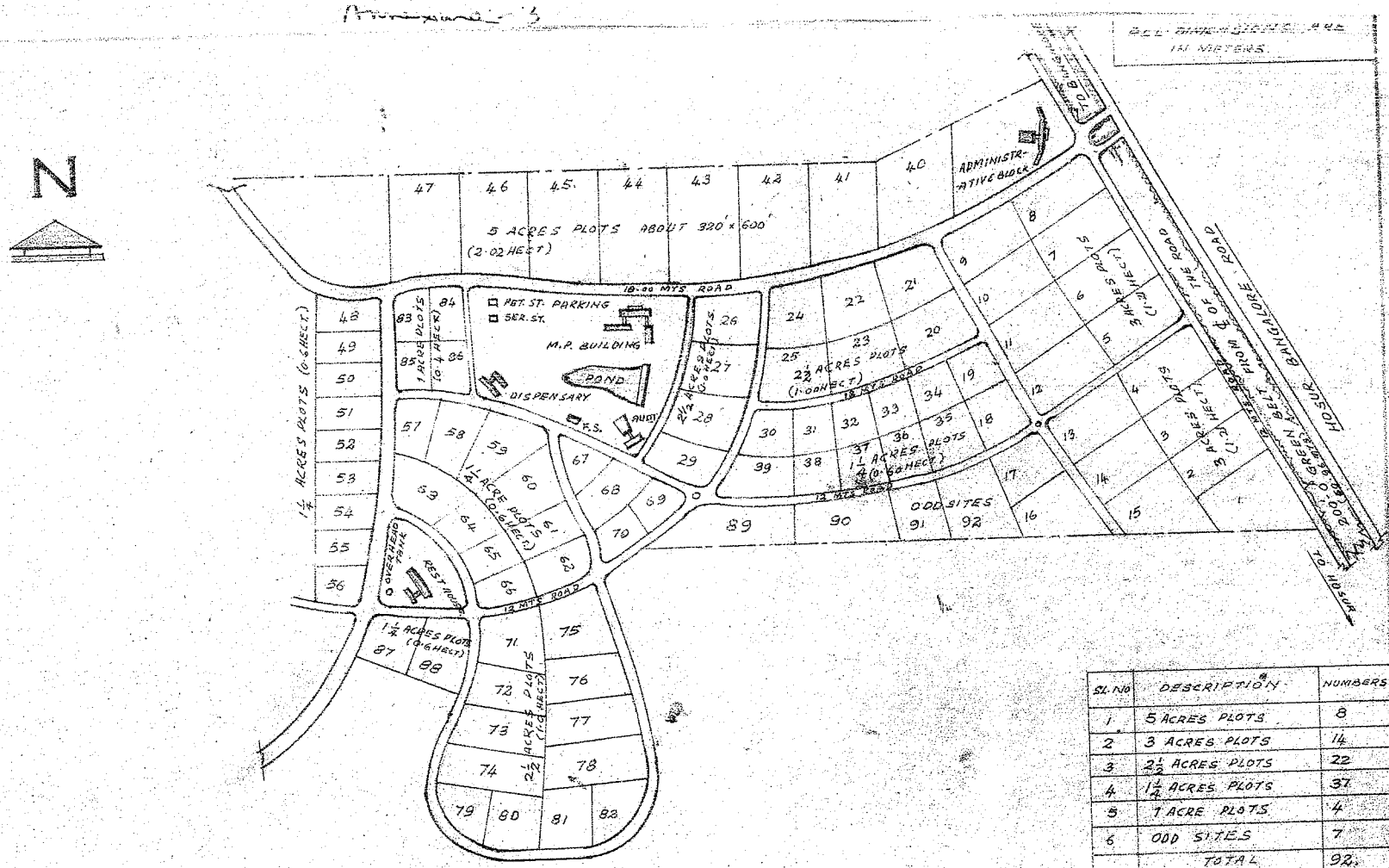
SCHEDULE

Name of the village	Sl.No.	Approx. Area A-G	Limits of the area
1	2	3	4
Konappana Agrahara	10 (Govt. lands)	11-29	Bounded by North :- S. Nos.9, 5, 15, 97, 23 of Konappana Agrahara Village.
	11 "	12-14	
	12 "	11-22	Bounded by South :- Village boundaries of Kayamgutha village Veerasandra Village and Gollahally village.
	13 "	19-32	
	14 "	9-32	
	16 "	4-12	
	17 "	10-18	Bounded by West :- S.Nos.159, 62, 161, 157, 158, 64, 71, 69, 155, 154 of Doddathogur village and its Boundry line.
	18 "	29-28	
	19 "	10-07	
	20 (Pvt. lands)	15-09	
	21 "	4-30	Bounded by East :- Bangalore-Hosur Road.
	22 "	11-25	
	96 "	8-05	
	Total	159-23	
Doddathogur	65 (Govt. lands	9-07	
	66 "	29-09	
	67 "	15-23	
	68 "	32-06	
	Total	86-05	
	Grand Total	245-28	

By Order and in the name of Governor of Karnataka

A. LAKSHMANA RAO,
Under Secretary to Government,
Commerce and Industries Department.

Annexure - 3



SL. NO	DESCRIPTION	NUMBERS
1	5 ACRES PLOTS	8
2	3 ACRES PLOTS	14
3	2½ ACRES PLOTS	22
4	1¼ ACRES PLOTS	37
5	1 ACRE PLOTS	4
6	ODD SITES	7
	TOTAL	92.

SL. NO	DESCRIPTION
1	
2	
3	
4	
5	
6	

R. NO.	DATE	REVISIONS	BY	APD
1				
2				
3				
4				
5				
6				

DRAWN	
CHECKED	
APP'VED	
DATE	19790721
SCALE	1:8000

KARNATAKA STATE ELECTRONICS DEVELOPMENT CORPORATION LTD.

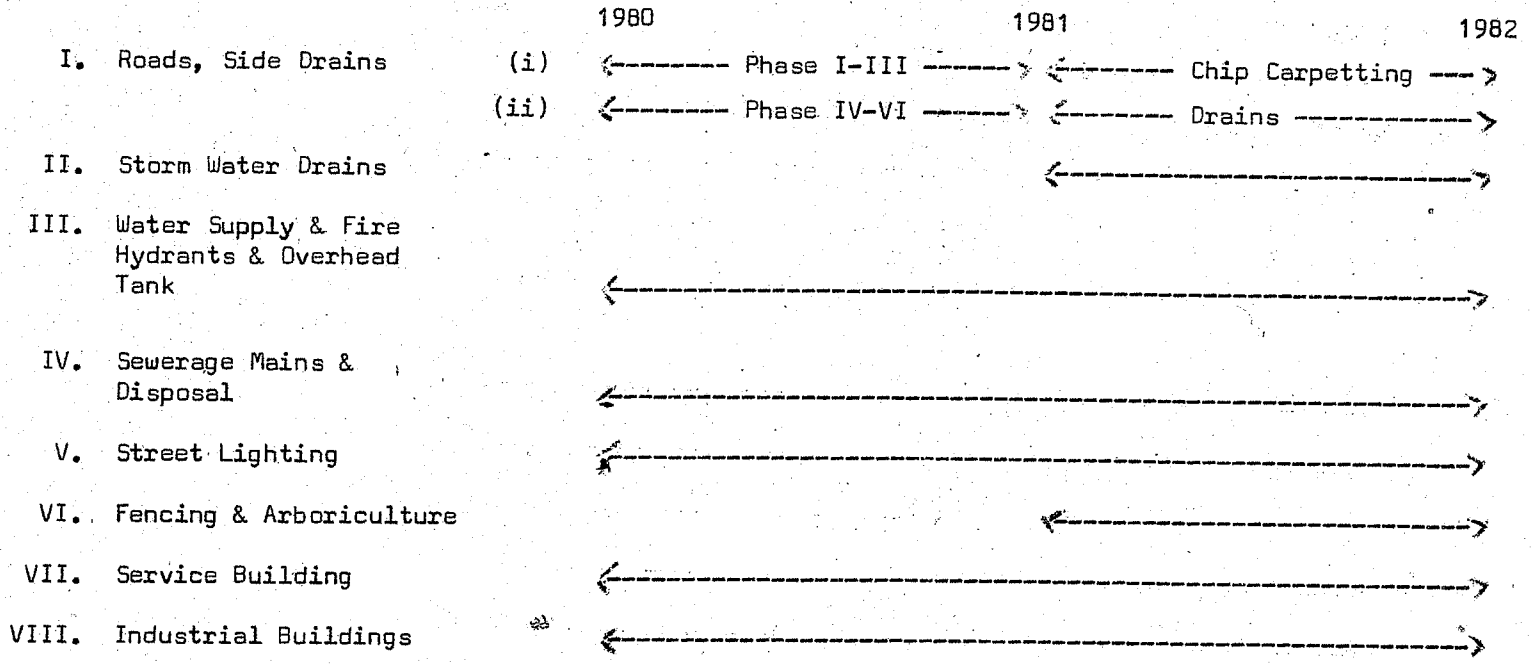
PROPOSED LAYOUT PLAN FOR ELECTRONIC CITY AT KONAPPANA AGRAHARA BANGALORE SOUTH TALUK.

PROJ. NO.	–	MATL. SPEC.	–
DRG. NO.	A4-040-79	PROJECTION	– 2.0

(18)

ANNEXURE -4A

PROPOSED CONSTRUCTION PROGRAMME FOR ELECTRONIC CITY



ANNEXURE -4B

FINANCIAL OUTLAY OF ELECTRONIC CITY

(Rs. in lakhs)

YEAR	1980	1981	1982	Total
I. Infrastructural facilities :				
1. Acquisition of land	4.00	2.00	–	6.00
2. Road formation and culverts Chip carpeting	3.00	10.00	5.00	18.00
3. Drains, Storm Water Drains	0.50	4.00	3.00	7.50
4. Water Supply to SSI and fire hydraints	4.00	8.00	6.00	18.00
5. Sewage Mains, Disposal Tanks etc.	1.50	3.50	3.00	8.00
6. Fencing, Trees and Arboriculture	1.00	0.50	0.50	2.00
7. Street Lighting and Power Supply	1.00	3.00	2.00	6.00
II. Service and Administrative Buildings:	4.00	8.00	7.00	19.00
III. Industrial Buildings for 250 Units:	50.00	90.00	140.00	280.00
TOTAL:	69.00	129.00	166.50	364.50
IV. Unforeseen Contingencies 10%				36.45
				400.95

ANNEXURE - 5.

FINANCIAL RESOURCES

(a) Revenue from sale of land at Rs.0.40 lakhs per acre (Total 268.00 acres)	Rs.107.20 lakhs
(b) Institutional Finances for Small-Scale Industries	Rs.280.00 lakhs
(c) KEONICS own funds	Rs. 13.75 lakhs
TOTAL:	Rs.400.95 lakhs

NOTE: Though the ultimate funds invested by KEONICS is Rs.13.75 lakhs, we may have to invest from our own funds for initial progressing of the works.

ANNEXURE - 6.

EMPLOYMENT POTENTIAL IN 'ELECTRONIC CITY'

Sl. No.	Particulars	Average No. of employees/Unit.	Nos.	Total Employment
1.	Large Scale Industries	200	10	2,000
2.	Medium Scale Industries	100	30	3,000
3.	Small Scale Industries:			
	(a) 'A' Type	30	70	2,100
	(b) 'B' Type	20	180	3,600
4.	Service Organisations	-	-	100
			TOTAL:	10,800

NOTE: Out of the 10,800 employees it is expected that the distribution of employment will be as follows :-

(a) From Villages and in and around Konnappana Agrahara.	60%	6,480
(b) From Bangalore City.	30%	3,240
(c) Others.	10%	1,080
		10,800

ANNEXURE - (7a)

KARNATAKA STATE ELECTRONICS DEVELOPMENT CORPORATION LIMITED

'EMLYN HAVEN', 30, Race Course Road,
Bangalore - 560 001.

Dated: 3rd October, 1977.

Dear Shri Somanna,

Subject : ELECTRONIC CITY AT KONNAPPANA AGRAHARA.

Reference: Our discussion on 24th September, 1977.

Warmest greetings and good wishes.

I am herewith enclosing the outline of the first phase of housing and town-ship that is required to support the proposed Electronic City at Konnappana Agrahara. It is estimated that there would be 265 factories employing 10,800 persons. In the first phase it is proposed to house 1,385 persons in addition to have a working hostel for 200 single employees. This provides for 15% of the total employees.

In the Second phase it is proposed to have an equal number for making a total of 2,780 houses and hostel facilities for 400 persons. The detailed requirement as well as the annual proposed plan for Phase-I is enclosed herewith. I am also enclosing herewith a map showing the location of the factory site for the Electronic Complex.

As we discussed I will be happy to come over and discuss with you on the said subject at a mutually convenient date and time.

With kind regards,

Yours sincerely,

Sd/-

(R.K. BALIGA)

Shri B.T. Somanna,
Chairman,
Bangalore Development Authority,
K.P.W. Extension,
BANGALORE -20.

/COPY/

ANNEXURE - (7 b)

PHASE - I REQUIREMENT OF HOUSING AND AMENITIES FOR THE 'ELECTRONIC CITY' AT KONNAPPANA AGRAHARA.

	E.W.S.	L.I.G.	M.I.G.	Total
LS2 -	300	200	100	600
MS2 -	180	120	60	360
SS2A -	55	35	20	110
SS2B -	105	70	40	215
Service -	60	25	15	100
TOTAL :	700	450	235	1,385

Phase - II : Same as above to provide additional 1385 Houses.

E.W.S. : Economically Weaker Section.

L.I.G. : Low Income Group.

M.I.G. : Middle Income Group.

ANNEXURE - 7(c).

THE PROPOSED PROGRAMME OF CONSTRUCTION OF TOWNSHIP FOR THE 'ELECTRONIC CITY'.

	I YEAR	II YEAR	III YEAR	TOTAL
A. HOUSES:				
E.W.S.	300	200	190	690
L.I.G.	150	150	150	450
M.I.G.	50	100	100	250
TOTAL:	500	450	440	1,390
B. COMMUNITY BUILDINGS:				
i) Shopping Center	**	**	-	
ii) Parks and Gardens including Nursery.	**	**	**	
iii) Primary school	**	-	-	
iv) Secondary School	-	**	-	
v) Dispensary	-	**	-	
vi) Sports Grounds and Open Air Stage.	-	-	**	
vii) Crafts man Training Institute (Electronics).	-	-	**	
viii) Single Employees Hostel (200)	**	**	**	

** Indicates the year in which the facilities required.

Annexure 7 (d)

GRAMS : MYCENSUS

TELEPHONE PER : 24313
OFFICE: 75983

NO. TCH 1 MSC 79

GOVERNMENT OF INDIA

Ministry of Home Affairs

OFFICE OF THE DIRECTOR OF CENSUS OPERATIONS,KARNATAKA

No.1, Ali Asker Road,
Bangalore-52

Date: 31.7.79.

To

The Managing Director,
Karnataka State Electronics Development
Corporation Limited,
30, Race Course Road,
Bangalore - 560 001.

Sir,

Sub: Establishment of Electronic Industries in Konappana Agrahara.

Ref: Your letter No.KPC/E.City/79 dated 30.7.79.

With reference to above, I write to state that Konappana Agrahara L.C. No.40 and Doddathogur L.C. No.41 of Bangalore South Taluk lie outside the limits of Bangalore Standard Urban Area (1971).

Yours faithfully,

Sd/-
(R.Y.REVASHETTI)
Assistant Director of Census Operations(T),
Karnataka, Bangalore.

TRUE COPY

(26)

ANNEXURE - (8a)

GOVERNMENT OF KARNATAKA

No. TP/AD/ODP/13-9/79-80.

OFFICE OF THE
Director of Town Planning,
Ananda Rao Circle, Bangalore-9.

Date: 17-5-1979.

The Chairman & Managing Director,
KARNATAKA STATE ELECTRONICS DEVELOPMENT
CORPORATION LTD.,
"Emlyn Haven", 30, Race Course Road,
BANGALORE - 560 001.

Dear Sir,

Sub: Local Planning Area of Bangalore - regarding.

Ref: Your letter No. KPEC/EC-1/001/79 dated 3rd May 79.

With reference to the above, I write to inform you that the village Konnappana Agrahara and Dodda Tegur of Bangalore South Taluk are situated beyond the metropolitan area i.e. the local planning area of Bangalore.

This is for your information.

Yours faithfully,

Sd/-
(N. GOVINDAPPA)
Director of Town Planning.

/ TRUE COPY /

(24)

ANNEXURE - (8b)

BANGALORE DEVELOPMENT AUTHORITY

No. BDA/RPM/60-79-80.

Sankey Road, Block XII
Kumarapark West Extension
Bangalore - 560 020.

Dated 30th April, 1979.

The Managing Director,
Karnataka State Electronics Development
Corporation Ltd.,
"Emlyn Haven" 30, Race Course Road,
Bangalore - 560 001.

Sir,

Sub: Issue of Certificate regarding location of Konnappana Agrahara Village - reg -

Ref: Your letter No. KPC/E.City/78-79 dated 27th April, 1979.

With reference to your letter dated 27th April, 1979, I write to state that Konnappana Agrahara village is situated outside the jurisdiction of Bangalore Development Authority.

Yours faithfully,

Sd/-
(B.T. Somanna)
Chairman,
Bangalore Development Authority,
Bangalore.

/ TRUE COPY /

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Sri. R.K.BALIGA'S BIO-DATA

After passing B.E. (Elec.) Honours, studied Master's Degree (in Power Engineering) as Govt. of Madras Scholar and was working on Doctoral Program as Indian Institute of Science Merit Scholar when on a General Electric Co., invitation, went to U.S.A. to work in their factories. He also worked in U.S.A. in Westing House Electric Corporation and Kaiser Engineers.

He has been actively associated with the following activities during his thirty four years of working in different capacities :-

1. a) As a Chief Engineer in Bharat Electronics Ltd., he was responsible for developing the integrated residential colony of the company, consisting of more than 1,400 houses, including places of worship of different religions (1961-68).

   b) (1974-76) As President of BEL Co-operative Housing Society developed another housing colony of 1,500 houses.

   c) (1976-83) As Chairman and Managing Director of Karnataka State Electronics Development Corporation Limited, developed the "Electronic City" concept and implemented it. This has

....2/-

been adopted by many other states in India. Also assisted more than 400 new electronics in Karnataka state during this period. Today Electronic cities have been started in MAHARASTRA, U.P. and now in MADRAS. He pioneered the idea of "ELECTRONIC CITY" in INDIA.

d) As Chairman & Managing Director of Hindustan Teleprinters Ltd., (1984 - 86) successfully introduced Electronic Teleprinters in India replacing the old outdated model of Electro-mechanical Teleprinters of 1961 vintage.

e) In U.S.A. (1955) was the President of the International Club at Westing House Electric Corporation, when more than 10 different nationalities were brought together and promoted international Goodwill among them and Americans.

f) Was the National President of Indian Institute of Plant Engineers, bring together more than 4000 Engineers from all parts of India and Europe.

g) Was a Consultant of ESCAP countries (an unit of United Nations Organisation) in 1982 - 1983 of Electronics Industries sub contracting.

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h) Was President of Karnataka Productivity Council and was deputy leader of the team which was sent to France in 1961.

i) Was member of the advisory Board of Friends World College, South East Asia Centre, Bangalore, which has students coming from different parts of the world for more than a decade.

j) Was Member of the Board of Studies, Faculty and Examiner for the MBA programme of the Bangalore University (1969 - 1976). Guest faculty at National Productivity Council, A.I.M.A. and other Professional bodies.

k) Was involved in transfer of technology on Pollution Control from West Germany to India.

l) As President, BEL Officers Club (1967-68) consisting of about 1000 officers from different parts of India. Their social integration and programmes for their families.

m) As President, BEL Fine Art Club (1967-70) Organised Drama Festival, Music Festival, Carnival etc., covering ten different languages and cultural association of industrial workers (man & woman) and their families.

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n) As President, Rotary Club of Bangalore (1981-82) was host to 23 Japanese Rotarians and Rotaryans with Home Hospitality and promotion of mutual goodwill and international understanding.

o) As President, All India Public Sector Sports Association (1984-86) responsible in organising annual meets of 300 Athletes and Sportsmen and women from 40 different public sector Industries from all over India.

p) Was member of Bangalore Management Association (1982-83). Madras Management Association (1984-86) and promoted Modern Management concepts and interaction between practicing managers. He was Member of Bangalore Industrial and Business Management Association, Bangalore (1984 onwards).

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EXPERIENCE

Company	Designation	Year
General Electric Co., New York	Test Engineer	1954-55
Westinghouse Electric International, New York	Engineer	1955-56
Kaiser Engineers, Oakland, California, U.S.A.	Project Engineer	1956-59
Kaiser Engineers Overseas Corporation, Jamshadpur	Design Engineer Errection Engineer	
National Carbon Co.	Project Engineer	1959-60
Mainipal Institute of Technology	Professor and Vice-Principal	1960-61
Bharat Electronics Ltd., Bangalore	i) Chief Engineer (Services)	1961-68
	ii) Works Manager	1968-73
	iii) Dy. Gen. Manager (Radar)	1973-76
	iv) Dy. Gen. Manager (Projects)	1976
	v) Officer on Special Duty (H.O.)	Sept. '83 - Feb. '84
Karnataka State Electronics Development Corporation Ltd. (KEONICS) Bangalore - 560 001.	Chairman & Managing Director	July 1976 - Sept. 1983
Hindustan Teleprintrs Ltd., (Public Sector Undertaking) Government of India Madras	Chairman & Managing Director	Feb. 1984 - Feb. 1986

CHIEF ENGINEER - 1961-68

As Chief Engineer, was incharge of all planning, design and drawing, plant layout, installation and maintenance of plant and machinery in the existing factory as well as new projects, development of a township included.

Contd.3...

vantages of marrying these two types of plants are particularly obvious.

And Westinghouse is believed to be the only company in the world capable by itself of building all the major components of a combination atomic power-water desalting plant.

The first such plant to go into operation will be a huge installation on a man-made island off the coast of Southern California near Long Beach. Its twin nuclear reactors will produce sufficient heat for generating 1,800,000 kilowatts of electricity and producing 150 million gallons of pure water a day from the salty Pacific Ocean.

Westinghouse Researches New Fuel

Westinghouse also is directing its attention to the use of plutonium along with uranium as a fuel in both conventional thermal reactors and fast breeder reactors that will produce more fuel than they consume. Plutonium is produced as a by-product by conventional reactors as they operate, so it offers the promise of a new and virtually limitless source of energy.

In the field of fast breeder reactors, Westinghouse has been joined by more than 20 electric utilities in a program to develop a commercially-feasible fast breeder by the early 1980's.

Such a reactor, because it would use plutonium more efficiently than conventional reactors and because it would produce more plutonium than it consumed, could produce electricity at less than half of the cost for fuel of the best present-day generating methods, Westinghouse engineers say.

The peaceful atom has passed the threshold of acceptance, but both the atom and mankind are on the eve of new and perhaps even greater advances in fulfilling man's never-ending and ever-growing need for energy.

INDIAN ENGINEER MUST BE VERSED IN SOCIAL SCIENCES

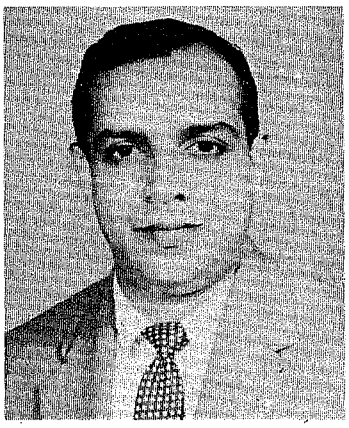
A citizen of India, now living in Bangalore, Mr. Ram Krishna Baliga obtained his Bachelor of Science degree in Electrical Engineering from Annamalai University in 1951. He was named a Government of Madras Merit Scholar and in 1953 was awarded an advanced degree in Power Engineering. Mr. Baliga is a member of numerous professional institutions and is now Chief Engineer, Plant and Services, Bharat Electronics, Ltd.

Mr. Baliga writes:

"After spending one year as a Westinghouse student, I returned to India in 1956 with an assignment from M/S Kaiser Engineers, consulting engineers to M/S Tata Iron and Steel Co., Ltd., Jamshedpur for the expansion of their production capacity from one million tons to two million tons per annum.

"The project, costing $160 million, had to be completed within a period of 33 months.

"For three years I worked for M/S Kaiser Engineers and their associates, M/S Kaiser Engineers Overseas Corp. I was initially involved in the design and drawing division. I was also responsible for planning, material control and coordination, until such time as the equipment arrived on site. Once it was installed, I worked on commissioning and handling over various equipment. Upon completion of the program, I served with a subsidiary of Union Carbide, National Carbon Co., Ltd., in Calcutta.



Mr. Ram Krishna Baliga

"In 1960, I became Professor of Engineering and Engineer-in-Charge of the Manipal Engineering College and its workshops. Within a few months, I went to France as the Deputy Leader of the Indian team for specialization in production and management.

"In 1961, I joined the Bharat Electronics, Ltd., and I am still working in this organization as its Chief Engineer, Plant and Services. This is our only electronic factory of this magnitude. It manufactures a wide range of electronic communication equipment which meets India's defense requirements as well as other civil equipment needs.

"The experience that I gained at Westinghouse has been extremely valuable. The company's Educational Center is a unique institution in its own right. There, those of us from foreign countries welcomed the opportunity to meet each other. As a result, we were able to implement a continuing dialogue.

"The programs that are organized by the center have been of maximum value. Today, 12 years after completing the international graduate student program, I am still in touch with several American engineers who are working at Westinghouse.

"The role of the young Indian engineer of today is, of course, predicated upon the technological advances that have been made in the last decade. Such a man must be completely up-to-date in his field. Nevertheless, pure knowledge is not the complete panacea. In practical terms any engineer must apply his know-how with an eye to the social, economic, geographic, educational and natural resource limitations of his country.

"In a developing land, he must be willing to work long hours. In addition, his ingenuity will be tested constantly in the use of indigenous products. Parts can't always be purchased abroad due to a generally acute shortage of foreign exchange. India is a country unlike all others. Here, the engineer has to produce results with available resources despite the fact that there exists an inequality of conditions.

"It is my belief that the Indian engineer's optimum effectiveness hinges in large part on the help rendered to him by his American counterpart. While we are now host to large U.S. companies, we also seek alliances here with numerous medium to small American industries led by engineers.

"These companies could find unusual scope for their professional activities in India through a profitable association with our technicians. We have unlimited potential for industrial development, and I am positive that together we could create meaningful change in this area of the world".

this system, we would put a 1 in 2's *place* and a 0 10 standing for "one two and naught." Similarly, five would be 101—"one four, no two and one," eighteen would be 10010, and so on. Incidentally, if that sounds like New Maths taught in class VII, you are right—that's what it is!

This system of counting is called the binary system. It would be foolish to use it in everyday life ("Give me a 1011010 paise ticket, please!"), because the number of digits needed to express most numbers of everyday use would be too large. But it makes a lot of sense in electronics, because a 0 and a 1 can be represented by "off" and "on" of a switch. Thus the four possible off/on positions of two switches could count from zero up to three. Ten switches could count up to 1,023. Note that multiplying ten 2's together we get 1,024—a number that is called 1k in technical parlance.

Each 0 or 1, by the way, is called a *bit*, an acronym for binary digit. Ten bits, that is a string of ten 0s or 1s is therefore equivalent to 1k (or 1,024—roughly a thousand). The usual arithmetic operations of adding, subtracting, multiplying etc. work out similar to the way they work in the decimal system (try it). And all that is called binary arithmetic.

Around 1850, George Book, an English mathematician, made a remarkable discovery. He showed that logical operations (like "if," "and," "or," etc.) could be denoted by algebraic symbols, and logic can then be treated as a branch of mathematics. This idea, however, did not have much currency or popularity among electronics engineers,

India's electronics city

About 20 kms south of Bangalore city on the way to Hosur is a mini industrial township. No smoke belches out of the factory sheds and neither is there the inevitable hooter signalling the factory hours. Instead one hears the steady hum of women's voices from a short distance. Closer, one hears the ping, zap and wow of electronic measuring instruments. This is the Electronics City of India. Estimated to cost around Rs 365 lakhs and expected to be completed by the next year, the city is the brainchild of Mr R. K. Baliga, the chairman-cum-managing director of the Karnataka State Electronics Development Corporation (Keonics).

India's electronics city has over 410 acres of land and already a number of plots have been sold to small and large entrepreneurs, among whom are Tata Electric and Indian Telephone Industries. Said Mr R. K. Baliga, "Keonics' main objective is to plan, organise and promote the rapid growth of electronics in Karnataka. It has been our constant endeavour to assist entrepreneurs right from the state of processing of the project report to the final stage of implementation of the project and continuous growth thereafter." This may sound ambitious but given the basic needs of an electronics industry—a fine climate and skilled labour—Bangalore is admirably suited. Nearly Rs 330 crores or a third of the country's entire production of electronics goods amounting to Rs 980 crores is concentrated in Karnataka. To top this, around 90 per cent of the country's total professional equipment is made in this state.

"Our aim is to create around 10,000 jobs in the electronics industry in the state," explained Mr Baliga. "You see, we do not have an industrial culture like Japan or the USA. Whatever strides we have made is from 1956 onwards, when India started industrialisation." Established in 1976, Keonics has already invested Rs four crores and helped about 300 units through its various divisions: the design and engineering centre, the material centre and the manufacturing division.

Speaking of the future, Mr Baliga said: "I have a dream of establishing mini electronics cities in other parts of Karnataka, like Mysore. But that will take a few more years to come about. In the meanwhile, Keonics on its own has started manufacturing some electronics goods. "With that he took out a Keonics-manufactured dialling unit for teleprinters. Opening the cover of the dialling unit, Mr Baliga pointed out the different parts within. "Earlier," he said, "most of the implements which went into the manufacture of these dialling units were made outside the state. Today, all the units are manufactured by Keonics-sponsored small scale electronics manufacturers in or near Bangalore." With only 63 employees on its rolls, Keonics has a number of projects under implementation. There are plans to produce 20,000 black-and-white TV sets, high voltage resistors, two-way communication equipment, 2,00,000 telephone instruments and two million professional grade connectors. Recently, Keonics technicians set up a totally indigenous ground control unit for Hindustan Aeronautics Limited at Bangalore airport: an achievement of no mean stature when most such units are manufactured by giants like Bharat Electronics Limited.

Tirthankar Ghosh

Production figures and targets of electronics goods in India and Karnataka (Rs in millions)

	1980-81		1981-82		1983-84	
	India	Kar	India	Kar	India	Kar
Consumer electronics (includes mass communication equipment)	2140	136	2460	185	3685	525
Telecommunication, radar, aerospace and defence	2485	1890	2230	166	4040	3235
Computers					620	75
Control and industrial electronics, medical electronics, test and measuring instruments, analytical and special applications	1600	380	1885	580	2680	490
Components	1630	440	1730	460	3100	620

Source: KEONICS

Deccan Herald
October 28, 1988

Times of India
November 1, 1988

Indian Express
November 6, 19

Baliga, a pioneer in electronics

By Our Staff Reporter

BANGALORE, Oct. 27. — Mr. Ram Krishna Baliga, former Chairman of the Karnataka Electronics Development Corporation, who passed away here on Wednesday, was a pioneer in the field of electronics with a string of firsts to his credit.

As the Chairman and Managing Director of KEONICS, Mr. Baliga developed the concept of "Electronic city" and implemented it on the outskirts of Bangalore. This concept has since been adopted by many other States in India.

During his tenure as the Chairman and Managing Director of the Hindustan Teleprinters Ltd., (1984-86), he successfully introduced the "electronic teleprinter" in the country, replacing the outdated "electro-mechanical teleprinters" of 1961 vintage.

Mr. Baliga was the President of the "International Club at Westing House Electric Corporation," USA, in 1955 when scientists from 10 nationalities came together to promote international goodwill and understanding. He was also the National President of the Indian Institute of Plant Engineers, a body representative of 4,000 engineers from India and Europe. He was a consultant of ESCAP countries, an unit of the UNO, from 1982-83 on electronics industries and constructing.

Mr. Baliga was a member of the Board of Studies, Faculty and Examiner for MBA programme of the Bangalore University between 1969 and 1976. He was also President of the Karnataka Productivity Council.

As Chief Engineer in Bharat Electronics Ltd, Mr. Baliga was responsible for the development of the integrated residential colony of the company, consisting of over 1,400 houses. As the President of the BEL Co-operative Housing Colony, he developed another colony of 1,500 houses.

OCTOBER 26 was a sad day for the electronic industry in Karnataka. Mr Ram Krishna Baliga, a pioneer in the field of electronics, passed away that day at the age of 58. He was a former chairman of the Karnataka State Electronics Development Corporation.

Mr Baliga has a string of firsts to his credit in his long and illustrious innings as an industrialist. As chairman of the corporation between 1976 and 1983, he developed the "electronics city" concept and implemented it. This has become a model for other states. He was instrumental in assisting over 400 electronic units during his term as chairman.

As chairman of Hindustan Teleprinters Ltd. (1984-86), he successfully introduced electronic typewriters in India for the first time, replacing the out-

dated electro-mechanical teleprinters.

He was the president of the International Club at Westing House Electric Corporation, USA, in 1955, when representatives of more than 10 different nationalities came together to promote international goodwill. He was also the national president of the Indian Institute of Plant Engineers, and a consultant of ESCAP countries, a unit of UNO, in 1982.

As chief engineer of Bharat Electronics Ltd., he was responsible for developing the integrated residential colony of the company. Later, he was president of the BEL officers' club.

A man of tireless energy, Mr Baliga was president of the Karnataka Productivity Council, member of the board of studies, Indian Institute of Management and president of the Rotary club of Bangalore. Surely, many will miss this man of bubbling enthusiasm and creative ideas.

In memoriam

IF BANGALORE today is looked upon as the "Silicon Valley of India" with a number of electronic units coming up, both in the hardware and software sectors, one of the names which will be remembered for long for pioneering efforts is that of Mr. Ram Krishna Baliga. His sudden death at 58 last week comes as a cruel blow to an industry which is just taking off.

When Mr. Baliga talked of his dreams in the early 70s of making Bangalore an 'electronic city', there were many who laughed in their sleeves. However, the then Chief Minister Devaraj Urs had faith in him and made him the Chairman of the Karnataka State Electronic Development Corporation in 1976.

Though initially he did face difficulties, Mr. Baliga encouraged entrepreneurs to set up electronic units in the City and saw nearly 400 of them come up before he relinquished office in 1983. He later took over as Chairman of Hindustan Teleprinters and was instrumental in introducing electronic teleprinters for the first time in the country.

Mr. Baliga has had a distinguished career. He was, among others, the president of the Indian Institute of Plant Engineers, president of International Club at Westing House Electric Corporation (USA), a consultant of ESCAP and president of Karnataka Productivity Council. His creativity and dynamism will, no doubt, be missed.