

Data Base Management Of Keelaiyur Block Nagappattinam District Tamil Nadu Using Remote Sensing And Gis

P.Sujatha, and R.Baskaran

Research scholar, Dept of Earth sciences, Tamil university, Thanjavur

Abstract: The underlying concept of a database is that data needs to be managed in order to be available for processing and have appropriate quality. This data management includes both software and organization. The software to create and manage a database management system. When all access to and use of the database is controlled through a database management system, all applications utilizing a particular data item access the same data item which is stored in only one place. A single updating of the data item updates it for all uses. Integration through a database management system requires a central authority for the database. With the help of GIS data base management including data on demography occupation, land utilization, rural electrification, and agriculture implements, post and telegraph offices telephone, education to analyzing processes, data base together to the needs of planning sharing information to various user organization with necessary data analysis etc. The Present study is creating data base for the keelaiyur block of Nagappattinam , Tamilnadu. Through Geospatial Techniques .

I. INTRODUCTION

The “information” and “data” are frequently used interchangeably; however, information is generally defined as data meaningful or useful to the recipient. Data items are therefore the raw material for producing information. The underlying concept of a database is that data needs to be managed in order to be available for processing and have appropriate quality. This data management includes both software and organization. The software to create and manage a database management system. When all access to and use of the database is controlled through a database management system, all applications utilizing a particular data item access the same data item which is stored in only one place. A single updating of the data item updates it for all uses. Integration through a database management system requires a central authority for the database. The data can be stored in one central computer or dispersed among several computers; the overriding requirement is that there be an organizational function to exercise control. A system is spatially referenced information, including computer programs

that acquire, store, manipulate, analyzed, and display spatial data.

II. STUDY AREA

The district of Nagappattinam has been carved out as a separate district by bifurcation of Thanjavur district. Six taluks namely Sirkali, Tharangampadi, Mayiladuthurai, Valangaiman, Nagappattinam and Vedaranyam were detached from their parent district. The district is bounded by the Bay of Bengal in the east, Palk Strait in the south, Thiruvarur and Thanjavur district in the west, and the Cuddalore district in the North. The district is spread over 2715.83 sq.km. Keelaiyur Block is one of the 2 blocks in Nagappattinam district situated in the northern most deltaic region of the district. This block consists of 43 revenue villages in kilvelur taluk. This block is bound on northern side, by Thirukkuvilai block and Vedaranyam block in southern side. Nagappattinam block lies to its east and Thiruvarur block is on its western side. This block has an area 16052 sq.km. it consists one town panchayat and 5 village panchayats.

III. LOCATION OF THE AREA

This district is having an area of 2715.83 sqkms in its fold. It extends in latitude from 10°10'N to 11°20'N and longitude from 79.15' E to 79°50' E. The general geological formation of the district is plain and coastal. The Cauvery and its off shoots are the principle Rivers. Nagappattinam is a coastal district having a long coastline of 141km. the study area namely keelaiyur block in Nagappattinam district is found in the inlands with coastal line. (Fig 1.1)

IV. AIMS AND OBJECTIVES

The present study aims to create a data of land use characteristics and its management for the Keelaiyur block in Nagappattinam district.

V. METHODOLOGY

Secondary data were collected from the district headquarters, panchayat and statistical office in the Nagappattinam district. With the help of GIS the data were analyzed and interpreted.

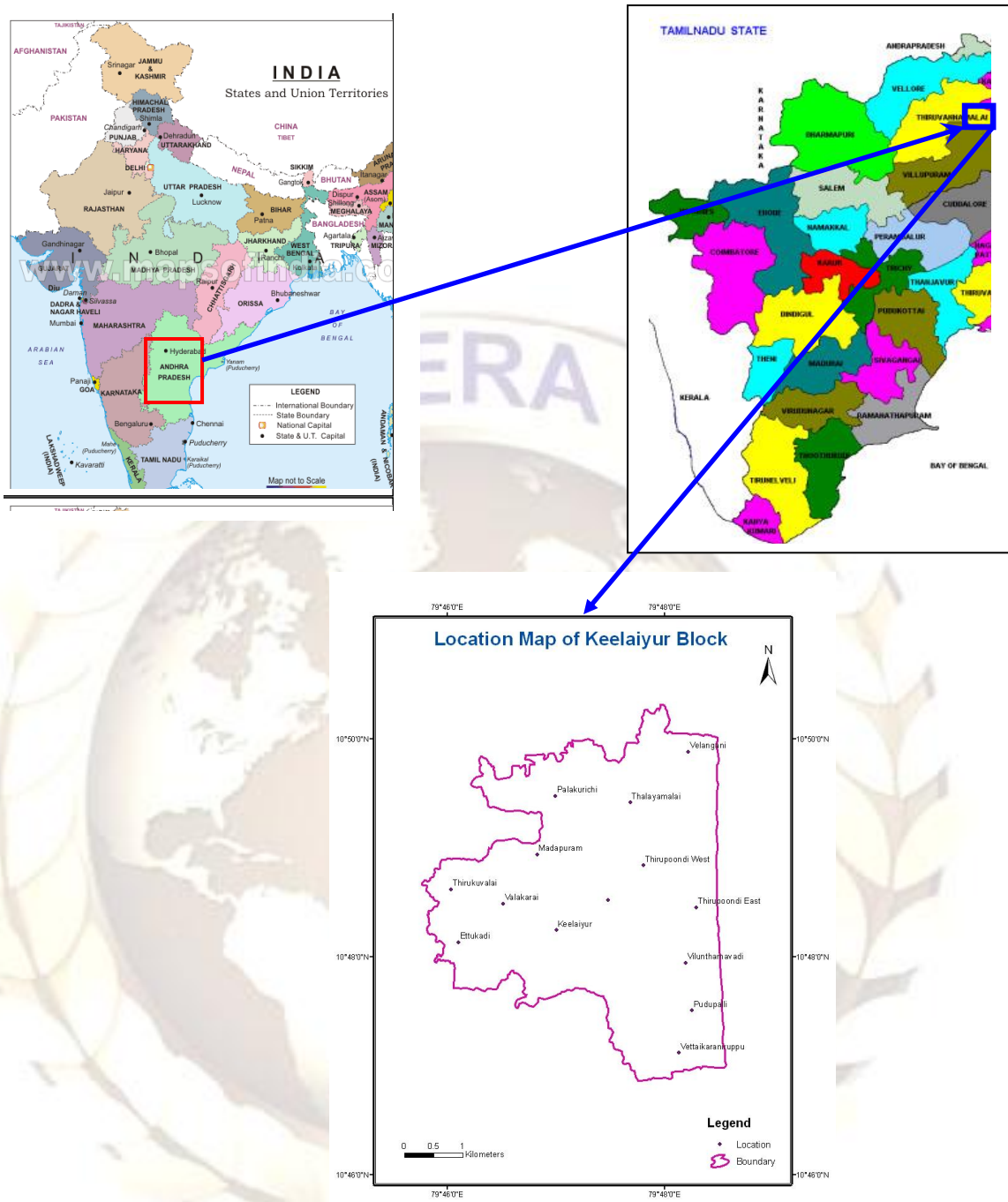


Fig.No:1
Location of the study area map

(Fig, No 1)

VI. LAND UTILIZATION

Changes of land utilization in Keelaiyur block between (2001-2002 and 2002-03)

During 2001-02, 2002-03 land put to non-agricultural uses has increased to 4388 hectares from 4377 cultivable waste had decreased to 535 hectares from 540 permanent pastures and other grassing land has changed to 62 hectares from 65. Land under miscellaneous tree crops and groves not included in

net area sown has increased to 632 hectares from 620. Current fallows has increased to 143 hectares from 740. Other fallow lands has increased to 473 hectares from 244. Net area sown has decreased to 12011 from 12100. Geographical area according to village papers has increased to 18244 hectares from 18000, total cropped area has changed to 17247 hectares from 17000 area sown more than once has increased to 6189 hectares from 1229.

Changes of land utilization in Keelaiyur block between 2002-03 – 2003-04:

During 2002-03 to 2003-04 land put to non-agricultural used has decreased to 4377 hectares from 4388. Cultivable waste has decreased to 540 hectares from 985. Permanent pastures and other grassing land has changed to 65 hectares from 62, land under miscellaneous tree crops and groves not included in net area sown has decreased to 620 hectares from 708. Current fallow has decreased to 140 hectares from 1539. Other fallow land has increased to 244 hectares from 157. Net area sown has decreased to 12100 from 10405 geographical area according to village papers has changed to 18000 from 18244. Total cropped area has increased to 17000 hectares from 10405 area sown more than once has increased to 1229 hectares from 1130.

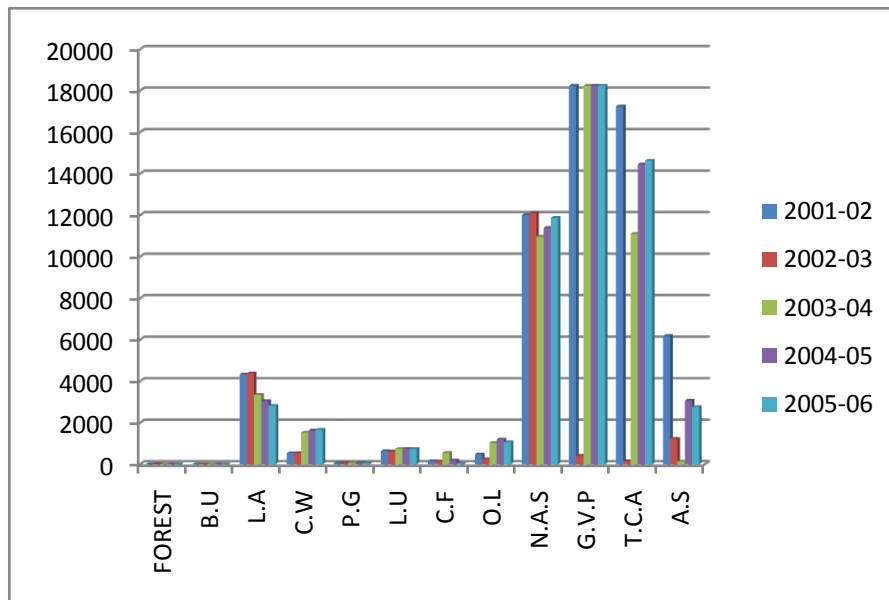
Changes of land utilization in Keelaiyur block between (2003-04 to 2004-05):

During 2004-2005 to 2005-06 land put to non-agricultural uses has increased to 3047 hectares from 3050. Cultivable waste has 1628 hectares from 1628. There is no difference same area in the found. Permanent pastures and other grassing land has changed to 62 hectares. There is no difference some are is found. Land under miscellaneous tree crops and fallow has increased to 178 hectares from 553. Other fallow lands has decreased to 1195 hectares from 1234. Net area sown has increased to 11388 hectares from 10977. Geographical area according to village papers has 18244 hectares from there is no difference same area was found than once has increased to 3066 hectares from 130. (Table,1Fig ,2)

Land utilization (Area in hectares) 2001-2006

Classification	Number				
	2001-02	2002-03	2003-04	2004-05	2005-06
Forest	-	3	-	-	-
Barren and uncultivable land	-	-	-	-	-
Land put to non - agricultural uses	4328	4377	3349	3050	2818
Cultivable waste	535	540	1526	1628	1668
Permanent pastures and other grazing land	62	65	62	62	49
Land under miscellaneous tree crops and groves not included in net area sown	632	620	743	743	741
Current fallows	143	140	553	178	36
Other fallow lands	473	244	1034	1195	1061
Net Area sown	12011	12100	10977	11388	11876
Geographical area according to village papers	18244	416	18244	18244	18244
Total cropped area	17247	145	11107	14454	14632
Area sown more than once	6189	1229	130	3066	2762

(Table No, 1)



(Fig No,2)

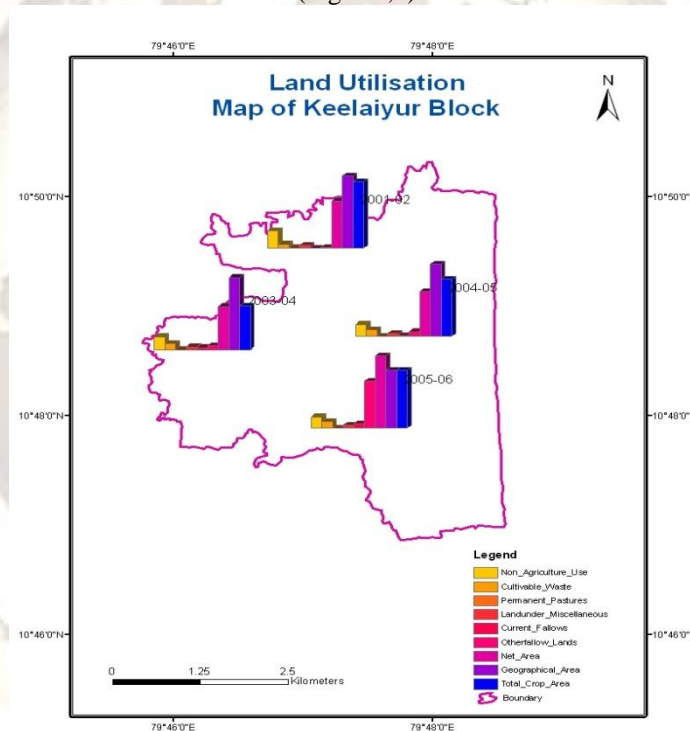


Fig.No:2 a

VII. RURAL ELECTRIFICATION

Changes in the rural electrification (Number) of keelaiyur Block

During 2001-2002 to 2002-2003 Number of villages electrified has same Numbers of area Number of towns electrified has same area Numbers of ham lest has same Number 106 of area population covered Number of street lights 3514 there is no difference found in the area. In 2002-2003 to 2003-2004 Number of villages electrified has same area Number of towns electrified, Number of ham lest population covered Number of street light electrified no difference is found in the area Rural electrified was found. In 2003 – 2004 to 2004 – 2005, 29 Numbers of Number Villages Electrified has been seen – 1 Number of Number of Towns electrified has same value, 106 found in the area. Population covered has increased to 69133 from 788721 was found. Number of street light, Tube light 3002 has increased to 3002 from 3116 was found. Sodium vapor lamps have increased to 401 from 449 found in the area. Ordinary bulbs have increased to 1228 from 1262 in the area. In 2004 – 2005 to

2005 – 2006 Number of villages electrified has same area. The Number of Towns electrified has no difference. Number of hamlets electrified 106 has same area. Population covered 78872 has same area. Number of street lights 4938 has no changes is found in the area was found. (Fig ,3)

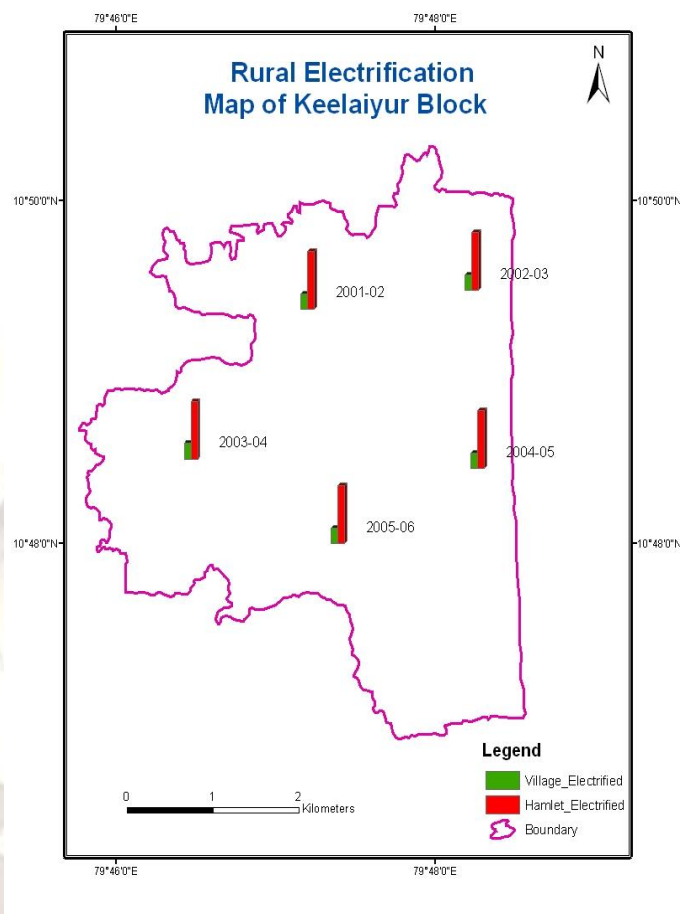


Fig No,3

Agricultural implements and machineries 2001 - 2006

Agricultural implements		Number				
Classification	Year					
	2001-02	2002-03	2003-04	2004-05	2005-06	
Wooden plough	1655	1655	589	586	586	
Iron plough	1011	1011	105	105	105	
Water pumps	250	250	250	250	250	
Tractors	153	153	49	49	49	
Sugarcane crushers	-	-	-	-	-	
Ghanise	-	-	-	25	25	

Agricultural Implements and machinery

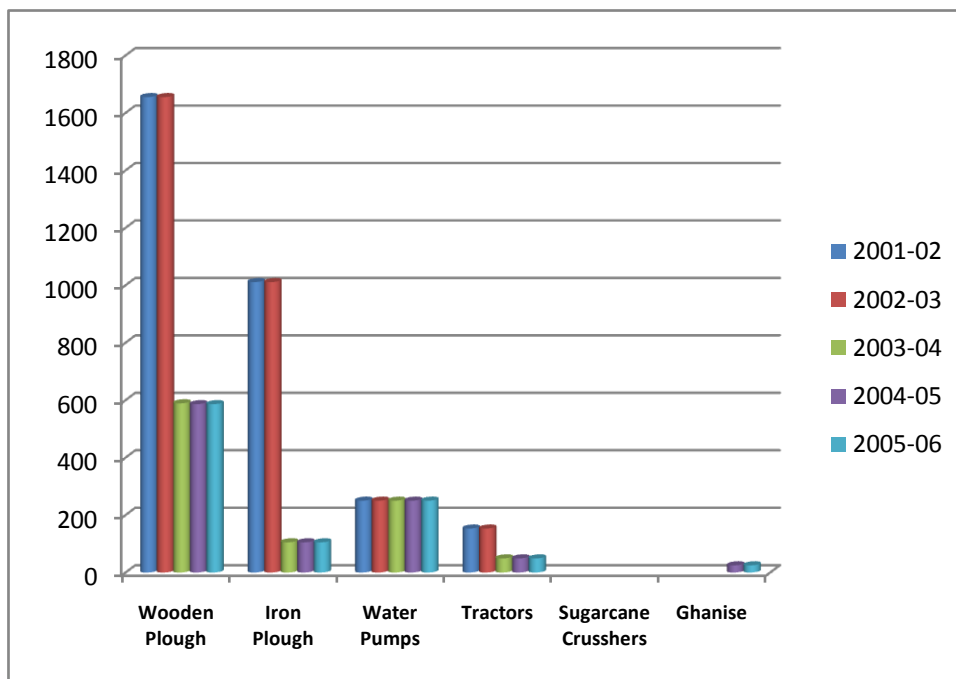


Fig.No:4

Changes in the Agricultural implements and machinery (in hectares) of Keelaiyur Block between (2001 – 2002 to 2005 – 2006):

During 2001 – 2002 to 2002 – 2003. Agricultural implement and machinerys plough has increased to 2666 Numbers From 268 wooden has increased to 1655 Numbers of was there. Iron has decreased to 1011 Numbers was identified. Water pump for irrigation purpose has there is no difference same Numbers was in use wooden and iron gas there is no changes same Numbers was in utilization. Tractors 153 Numbers of has increased to 154 Numbers from 153 Government 5 private 148 was there. Sugar cane crushers and oil chains, Rice mill was identified.

During 2002-03, 2003-04 agricultural implements plough has increased to 2666 number from 589. In 2002-03 wooden 1655 number of was in use. Iron 1011 number of was identified has increased to was there. In 2003-04 wooden has decreased to 301 number iron has decreased to 288 number has been seen. Water pumps for irrigation purpose has increased to 250 number from 105 was there. Government 140 private 110 was in use. 2003-04 water pumps for irrigation purpose worked by electrical power. 110 was in use. Tractors has increased to 153 numbers from 105. Sugar cane crushers oil chains and rice mills was in use.

2003-04 & 2004-05:

During 2003-04 & 2004-05 agricultural implements in Keelaiyur block plough has increased to 589 number from 586 wooden has increased. 301 number was there Iron has decreased to 288 number from 286 was in use.

Water pumps for irrigation on purpose has there is no changed. Same number was identified. In 2003-04 wooden and iron plough has increased from 301 number 288 was utilized. Sugar cane crushers and oil chains was found. Rice mills has decreased to 5 number from 25 was there. In 2004-05 rice mills increased to 25 numbers has been seen.

2004-05 & 2005-06:

During 2004-05 & 2005-06 plough has there is no changes same number was there. In 2004-05 wooden and iron has same numbers 285 to 301 was in use water pumps for irrigation purpose has there is no difference same number 105 from 105. Worked by oil Engines and worked by electric power same numbers 45 to 60 was found. Tractors has there is no changes same number 49 from 49 was in use. Government and private 49 was found. In 2005-06 private 49 was identified. Rice mills has there is no difference. Same number 25 from 25 was in use. (Table 2, Fig. 4)

COMMUNICATION

POST & TELEGRAPH OFFICES & TELEPHONES:

Changes in the post & Telegraph offices & Telephone of Keelaiyur Block

During 2001 – 2002 to 2002 – 2003 post offices doing postal business were there. There is no difference of found in the area post offices in Numbers post & Telegraph office was found. There is no change found in the area letter boxes in 117 Numbers was found Telephone Exchange / Sub Exchange Telephone in use are Number of public call offices was Utilized. There is no difference of found in the area.

In 2002-2003 to 2003-2004 post offices doing postal business alone are there post and Telegraph offices and Telephone Exchange / Sub Exchanges was found letter boxes has decreased to 58 from 62 was found. Telephone in use has decreased to 2682 from 3756. Public call office has increased to 114 from 39.

During 2003 – 2004 to 2004 – 2005 post offices doing postal business alone has decreased to 11 from 12 post and Telegraph office has decreased to 11 from 13 was there. Letter boxes has decreased to 62 from 117 Telephone Exchanges / Sub-Exchange was identified. There is no difference

found in the area Telephone Exchanges / Sub Exchanges 4 Number was noticed Telephone in use has decreased to 3756 from 3944 public call offices has increased to 39 from 13.

During 2004 – 2005 to 2005- 2006 post offices doing postal business alone are post & Telegraph offices and letter boxes and Telephone Exchange / Sub Exchange was found. There is no difference found in the area, Numbers of same area, Numbers of Telephone has decreased to 3756 from 3944 Numbers of public call offices has increased to 39 from 13.(Fig .5)

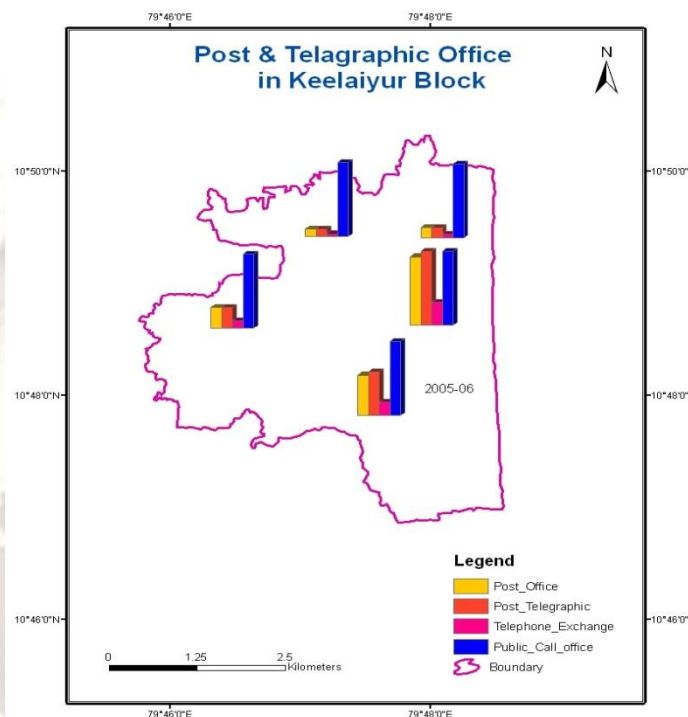


Fig.No:5

EDUCATIONAL INSTITUTION CHANGE IN THE EDUCATION:

Educational institutions student in 2001 – 2002 to 2002 – 2003 in the student in 2001 – 2002 to 2002 – 2003 in the pre primary schools has decreased to 750 from 760. The primary schools have decreased to 1585 from 610. The middle schools have decreased to 2460 from 2480. The higher schools have decreased to 6212 from 6219. The higher secondary schools have number changes data in the area. According to 2002 – 2003 to 2003 – 2004 in the pre primary school boys and Girls has increased to 760 from 245. The primary school boys and Girls have decreased to 1610 from 4598. The middle school boys and Girls have increased to 2600 from 855 and Girls has decreased 500 from 904. The High school boys and Girls has increased to 6219 from 856 and Girls has increased to 185 from 2189 and Girls has decreased to 140 from 2270 was identified. During 2003 – 2004 to 2004 – 2005 in the pre primary school boys and Girls has decreased to 245 from 347 and Girls has decreased to 196 from 347. The primary schools boys and Girls have decreased to 4598 from 3407 and Girls has increased to 4380 from 3224. The middle schools boys and Girls have decreased to 855 from 3507. The Girls has decreased to 904 from 2952. The High school boys decreased to 567 from 896 and Girls had decreased to 559 from 896 and girls have decreased to 559 from 882. The Higher secondary school boys and Girls has decreased to 2189 from 2821 Girls has decreased to 2270 from 3002 was found.

Type of institution	Students				
	2001	2002	2003	2004	2005
Pre-primary school	2137	1400	630	630	630
Primary school	4458	2915	6631	6631	6631
Middle school	63	2689	6559	6559	6459
High school	4882	11009	1778	1778	1778
Higher secondary school	350	205	5523	5523	5823

Table .3

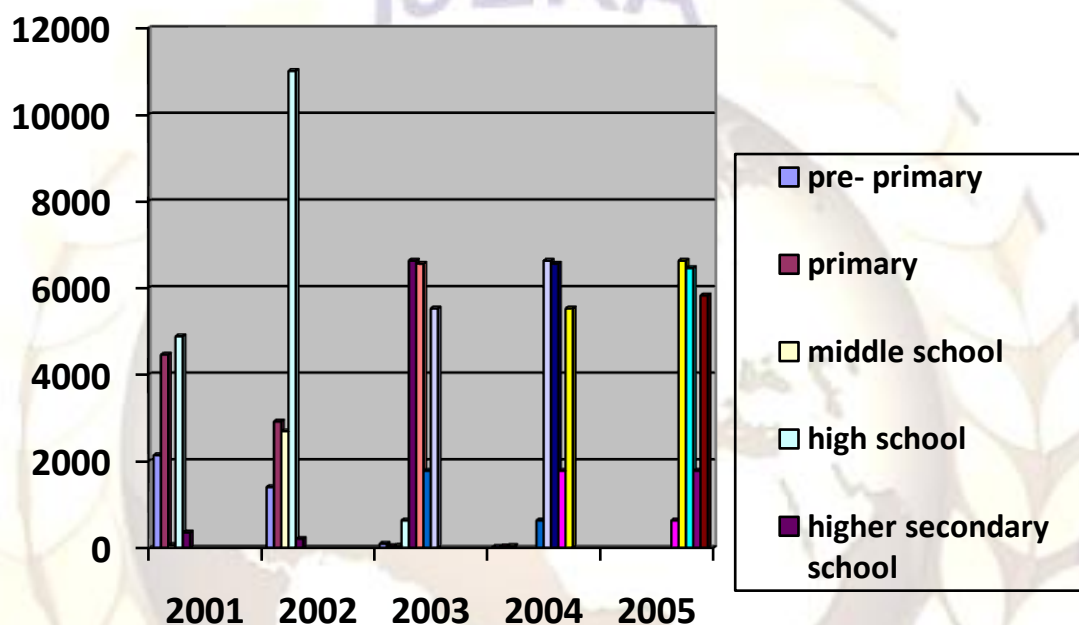


Fig No.5

Type of institution	Trained Teacher				
	2001	2002	2003	2004	2005
Pre-primary school	7	7	21	21	21
Primary school	80	80	154	154	154
Middle school	105	105	96	96	306
High school	55	55	25	25	25
Higher secondary school	368	26	123	123	123

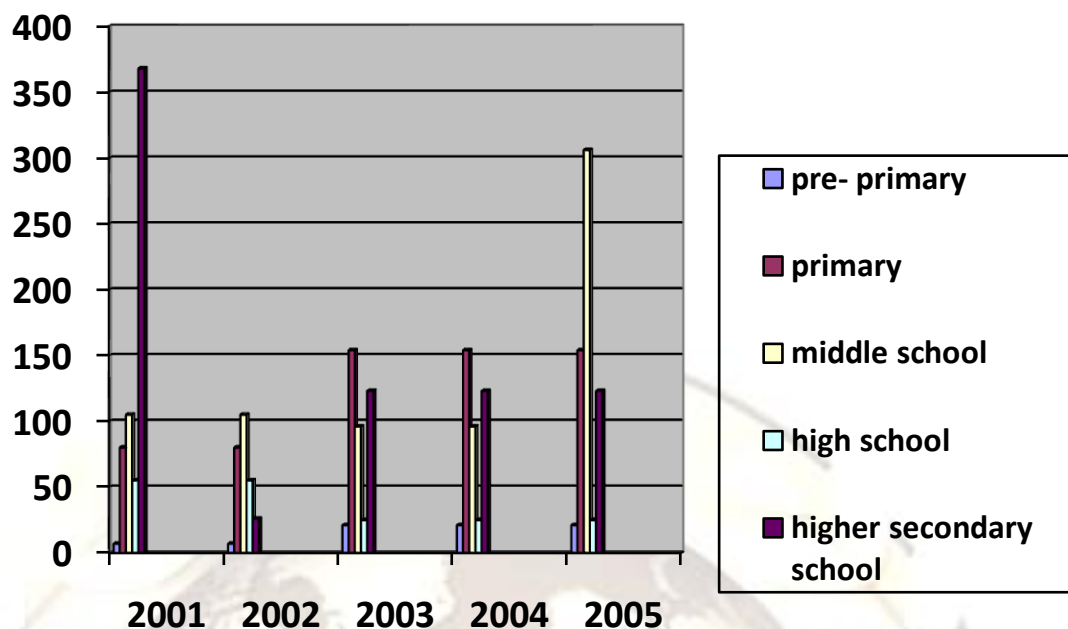


Fig No.6

VIII. SUMMARY AND CONCLUSION

The present project of the factor location is a widely accepted factor in the change in the keelaiyar block. The total population are cultivators; Agriculture implements and machinery, irrigation, land utilization, Rural electrification, communication, transportation, public health, water supply, Essential services finance of panchayat union, programme recording Rural development, Rural development, number of ware housing storage Educational institution of this block. The study of this block indicated that occupation in the rural areas very few cultivators found in the urban areas.

In this block the cultivated lands are irrigated by flow irrigation and ground water irrigation most of the areas are irrigated by flow irrigation cereals, pulses, oil feeds, fibers and other crops and an irrigated area. As for as land utilization is concerned the area of forest changed during the entire census. The total cropped areas are gradually decreased in this area. All the villages in the block are electrified for the 78872 villages for the convenience of the people public lighting were installed in this block. Telephone is the main communication system in this block. Number of Telephone and public call office are increased in these areas.

The study of the medical and health structure shows that there is only one Indian medicine. Primary health center available in this block. The most of the amount was utilized for development of this block as it is seen from the data.

REFERENCES

- [1] Anandand rajesh kumar (2003) principles of remote sensing ,sri venkateswara publishers,kumbakonam.
- [2] Burroughs P.P.&Mc Donnell , R.A. 1998, principles of GIS, oxford university press, PP.299
- [3] Burroughs,P.A., principles of geographic information Analysis for land resources Assessment,1986.Clarendon press.
- [4] Chrisman, N.R. (1997) Exploring geographic information system. John wiley and sons.
- [5] Karthikeyan ,(2001) Fundamental of geography praveena publications, Coimbatore.
- [6] Kale, singh and Roy (2002) biomass and productivity estimation using aerospace data and geographic information system.
- [7] Sahai (1985) Agriculture Remote Sensing in the India Context, Ahmedabad.
- [8] John Best and James Kahn , (2004) Research in education , Prentice -Hall of India private Ltd,New Delhi.