

CHAPTER-VI

GENERAL INFRASTRUCTURAL FACILITIES

INTRODUCTION

The important link between infrastructure development and sustaining rapid growth and economic development can not be overstated. Economic opportunities are strongly shaped access to infrastructure. There is solid evidence that infrastructure investment broaden opportunities for people and communities by integrating them into regional and national system of production and commerce, and by improving their access to public service (World Bank, 2005). Infrastructure refers to the facilities, activities and services which support operation and development of other sector of the economy. These also support the daily life of society. There are two basic components of infrastructure viz., Physical infrastructures and social infrastructures. Physical infrastructures like roads, railways, port, air port, power, and telecommunication have strengthen the economy, boost investment, attracts prospective entrepreneurs and helps in alleviation of poverty and unemployment through numerous positive backward and forward linkage effects on primary, secondary, and tertiary sectors of the economy. Similarly, social infrastructures, like drinking water supply, sanitation, education health etc. help in improving quality of life of millions of rural inhabitant. But, the development of infrastructure must move ahead of the development of agriculture, industry, and other sectors for smooth and orderly development of the economy, without being caught in all manner of bottlenecks arising from inadequate development of the infrastructure.

As the district is located in hilly and mountainous region, the development of infrastructure is very slow and treacherous work. But for the last two decades, the infrastructural development in the district is steadily progress.

6.1 EDUCATION FACILITY

Education is the back bond of economic development in the present day today. Morden education in Sikkim begins in 1830s when the when the missionary school in Sikkim were established.(Rana1998).As the economic development stride the necessity of education is also increased Efforts are being made to improve the educational status in the South District by Government and Local Bodies. There are five major types of educational institutions in the district viz., primary schools, junior

high school or middle schools, high schools or secondary schools, senior secondary schools and colleges (Under graduate, ITI, CCTI) and Sanskrit Pathasala. Beside these, another important semi-religious schools found in the district is monastic schools, where not only Buddhist religious philosophy but also the general educational studies are also taught.

Table 6.1 Status of Educational Institutions in South District, 2001.

Category of Institution	No of Institutions		Command Area in (km ²)		Command Population	
	1991	2005	1991	2001	1991	2001
Primary School	217	141	185	282	368	146
Middle School	60	47	672	847.56	1333	441
Secondary School	14	28	2881	1422	5713	865
Senior Sec School	02	09	20167	4426	33392	2307
College/Bed college	00	02	—	39840	79984	10382
ITI	00	01	—	39840	79984	20764
Monastic School	04	12	10084	3320	19996	1730
Sanskrit Pathasala	00	02	—	19920	79984	10382
Private Institution	22	68	1833	585.88	3635	305
Total	317	308				

* Source: Census of Sikkim 1991, 2001 & A report on making human resource development by HRDD &SSA, South District.2005

Table 6.1 represent the educational facility in the South District. The availability of educational facility in the district is increasing specially in secondary level. The number of secondary schools has increasing enormously during 1991-2005 from 14 to 28 doubling, it self. In the case of senior secondary level the case is same from 2 in 1991 it becomes 9 in 2005. In South District, there were not a single under graduate college in 1 Bed College, and Industrial training institute and Sanskrit Pathasala in 1991. But in 2001, all these facility of educational institutes are established. Besides, the number of privately runs educational institution is increasing from 22 in 1991 to 68 in 2005. Most of the privately runs was primary and middle standard. After 2001, privately runs two secondary and one higher secondary school are also established. The command population and command area per educational institution are also increasing along with the educational infrastructure facilities. All the primary and middle schools have 4 to 6 rooms, RCC buildings with electrification,

toilet, drinking water, approach road and all season footpath facility. In the case of secondary education the command area as well as command population is decreasing, this means that the facility available to per head is increasing. The situation is same for under graduate college, BEd College, industrial training institute, Sanskrit pathasala and computer training institutes in the district.

SOUTH DISTRICT
(COMPOSITION OF EDUCATIONAL INSTITUTION)
2006

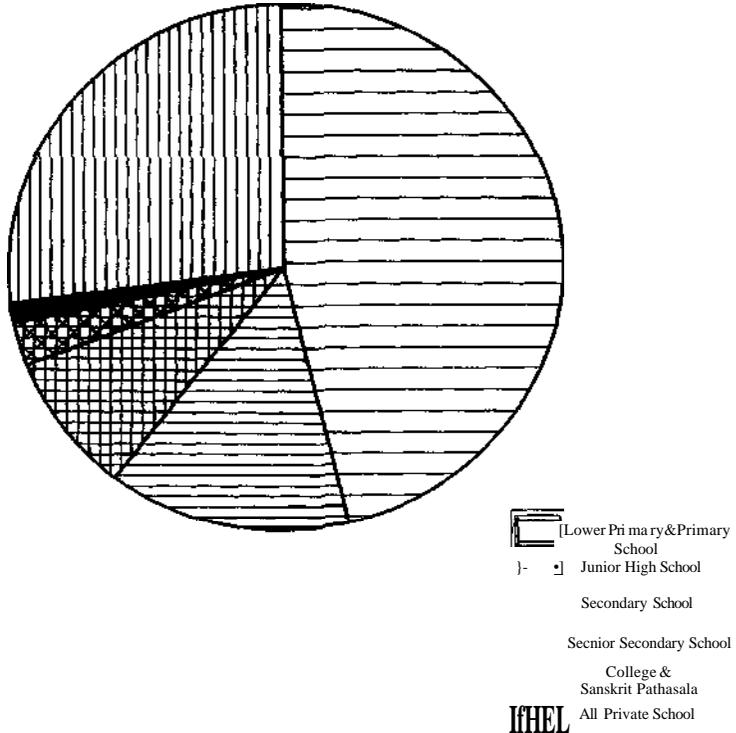


Fig6.a

Besides, augmentation from the Sarva Siksha Abiyan policies various sphere of elementary and primary education in the district like, identification of new habitation where children did not access to schooling facilities and establishing educational institution especially in far flung and remote areas and providing mid day meals, facility for compute education, free text book, rain coats and uniform up to class five will certainly boost the literacy level in the district.

SOUTH DISTRICT
DISTRIBUTION OF SCHOOL
2006

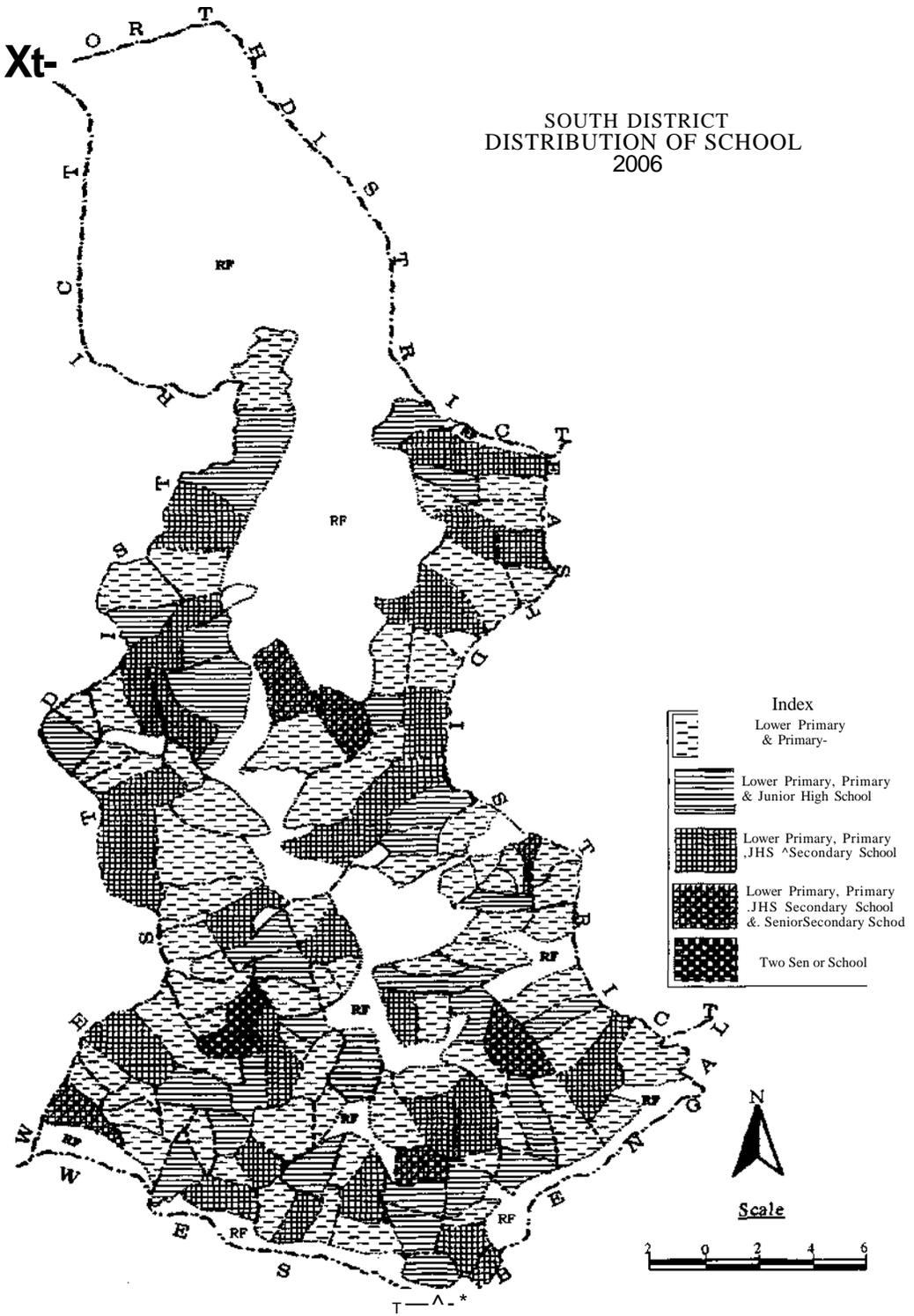
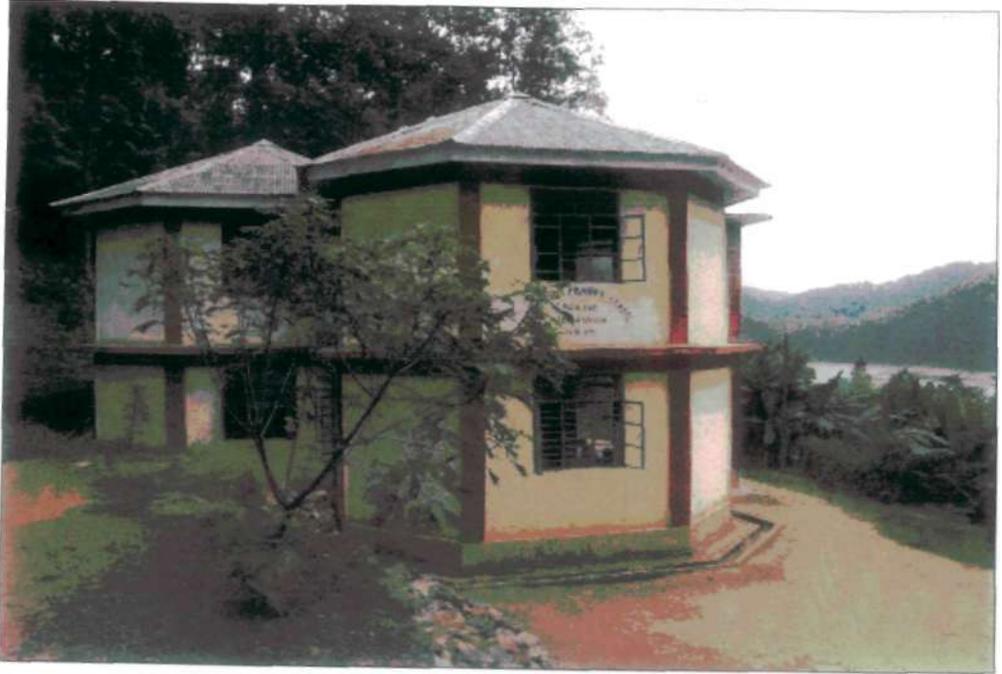
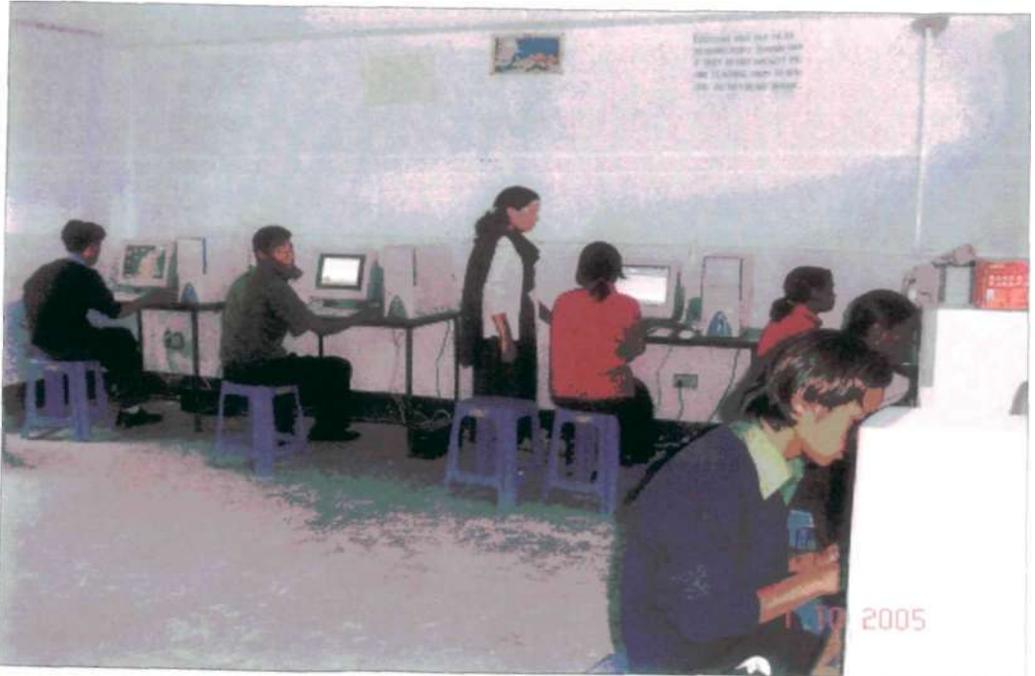


Fig 6.1

The educational infrastructural facility in the district is well developed and distributed all through the district and will benefit to the downtrodden population and ultimately benefit in the long run in the district.



Photograph 6.1 Primary School Building



Photograph 6.2 Technical Education

6.2 HEALTH CARE FACILITY

Good health is an essential input for the development of human resource and the quantity of life in terms of social and economic development of an area/ region. A positive health status is defined as a " a state of complete physical, mental and social well being and not merely the absence of diseases or infirmity (WHO 1971). Health is regarded as priority for sustained development intervention both at the individual, community and national level. Improved health is a part of total socio-economic development and is regarded as an index of social development. This index is by product of combine efforts of safe drinking water, sanitation, nutrition, and available health care facilities

The South District has been able to transverse a path of health development vis-a- vis other facets of development quite steadily. From a rudimentary in health care infrastructure, substantial progress has been made to build an appropriate health infrastructure with a view to elevate health status and improve quality of life of the people.

Table 6.2 Amenities not available in the Revenue Blocks in South District. 2001

Distance from Revenue Blocks (km)	No. of Revenue blocks	Revenue Blocks %
<5	74	51.03
5 - 10	28	19.13
>10	01	0.69
Total	103	70.85

* Source: Census of Sikkim.2001.

Table 6.2 shows the percentage of revenue blocks where any type amenities does not exist in more than 70 per cent revenue blocks about 51.37% revenue blocks are located 5 km away from the Primary Health Centre (PHC) or Primary Health Sub-Centre (PHSC). And around 20 per cent of the revenue blocks have avail the facility within 5 to 10 km distance. But only one revenue block viz, Ralong, is situated more than 10 km away from medical amenities. In the district 38 percent of the revenue blocks enjoy the facilities of medical amenities which were 31.11 percent in the year 1991.

Table 6.3 Availability of Health Care Amenities in South District. 1995&2005

Amenities/ Doctors	1991		2005	
	No of Amenities	Serving Population	No of Amenities	Serving Population
PHSC	14	6854	39	3089
PHC	24	4001	6	20039
Dispensary	1	96035	~	—
Hospital	3	32012	1	3005
MBBS	—	«	40	—
Dentist	~	—	07	—
Specialist	—	—	08	—
Homeopathic	—	--	01	~

* Source: Census of Sikkim 1991 & State Health Bulletin 2005.

Table 6.3 shows the available health care amenities in the district and indicates the increasing trend of available health care amenities. In 1991, the total number of PHSC and PHC were 38 which have increased to 45 in 2005. The number of doctors, specialists and nurses has also increased tremendously. New TB centre, Thyroid centre, Physiotherapy clinic, Blood bank, De-addiction centre and Counselling centres are also established. In 1991, one doctor serves 4242 persons but the situation is changed. In 2005 one doctor serves only 2268 persons. There are 15 staff nurses, 72 ANM, MPHW 72 and 7 private clinics, 13 lab technicians in the district. Besides, numbers of specialists is also increased. In 1991 there were not a single specialist in the district but in 2005 there are 2 Gynaecologists, 1 General Surgeon, 1 Medicine, 1 Paediatrician, 1 Radiologist, 1 Physiotherapist, and 1 Homeopathy doctor are available in the district.

According to state health bulletin 2005 there are 300 beds in different medical institutions in the district, occupying 26 percent of total beds available in the state, which was only 17 percent in 1991. The number of patients treated in various medical facilities is also increasing.

6.2.1 Mother and Child Health Care

Mother and child health care facility is considered as one of the important indicators of health care system. The availability of this facility is increasing in the district for last 6 or 7 years.

Table 6.3a Immunisation of Children in South District Sikkim, 2001&2006

Programme	Year	
	Achievement in (%) 2001	Achievement in (%) 2006
TT	72.40	96.66
DPT	91.17	98.30
OPV	98.59	99.00
Measles	85.29	99.76
DT	100.25	131.61

* Source: State Health Bulletin. 2006. Sikkim.

Table 6.3a shows the achievement of Mother and Child health care achievement in the district. All the programmes in Mother and Child health care have achieved more than 95 per cent. The TT immunisation has achieved 96.66% in 2006, 98.30% in DPT, and 99% in Oral Polio Vaccine. Measles also have 99.76% and DT more than 100 per cent. This means that the pre and post natal care of both the mother and child is very much improved in the district. This also indicates that the basic medical facility is improving.

Table 6.3b Achievement of Family Panning Programme in South District, 2001 & 2006

Programme	Year	
	Achievement in (%) 2001	Achievement in (%) 2006
Intra Uterus Device	66.77	111.90
Oral Pills	349.00	125.90
Sterilization	38.77	117.09

* Source: State Health Bulletin 2006. Sikkim.

The scenario in the family planning programme is also very encouraging. The three programmes which support the small family norms in the South District are IUD (Intra Uterus device), OP (Oral Pill) and Sterilization (NSV and Tubectomy). All these three programmes have achieved more than 100 percent in 2006. This figure shows that the small family norms policies and planning in the district is very satisfactory and encouraging. (Table6.3b)

The health care facilities and amenities in the South District are developing very fast. But still some of the revenue blocks which located in remote areas do not even get the first aid during the time of emergency. Appropriate health education programme evolving local communities especially Panchayat keeping in mind their cultural and traditions can achieve more coverage of health care facility within the local community. The encouragement of non governmental organisation for total health care will certainly benefit to the people living in remote areas. Besides encouragement of using alternate medical care systems like Homeopathic Ayurvedic and Unani along with the traditional methods like Tibetan medicine harmonising them

with modern system and evolve an integrated methods of affordable health care system for the poor and needy. Again encourage participation of private practice in health care facility will certainly improved the health care infrastructure in the district.

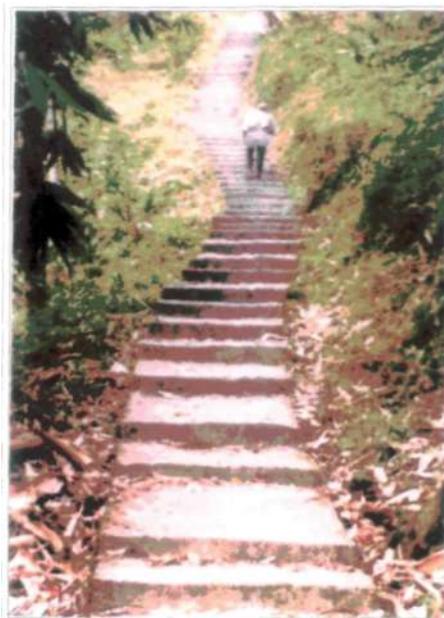
6.3 COMMUNICATION

Communication is the essential element for social changes. An elaboratively social change is the processes by which alternation occurs in the structure and functioning of a social system. It also provides to educate and participation in decision making and action taken that affect their lives. There fore, communication and of social changes leading to sustainable rural development go together.

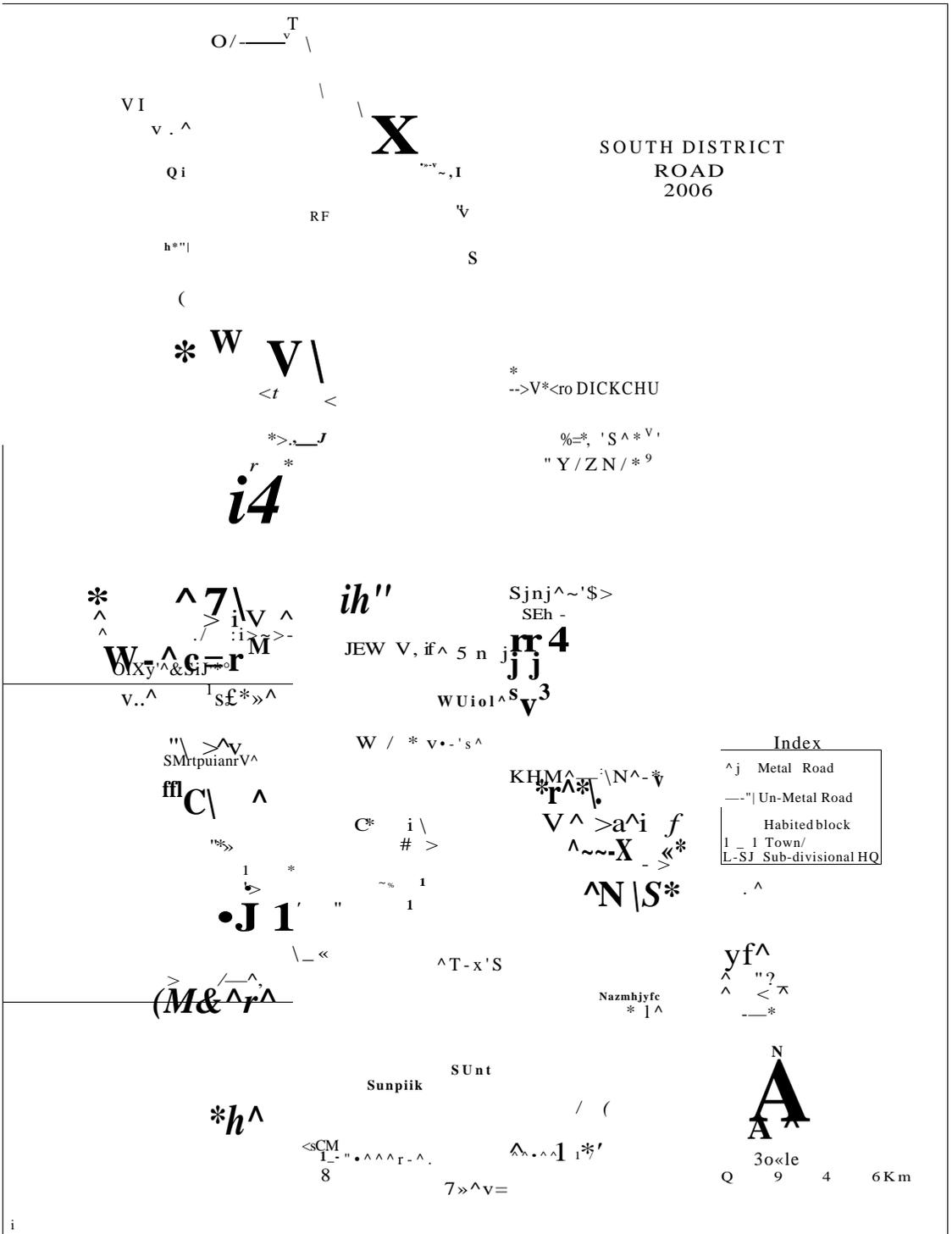
The communication system in the South District may be discussed in two heads; a) Transport and b) Postal and Telecommunication.

6.3.1 Transport

Transport is one of the most important infrastructures for the development in an area. Due to the physiographic constrains road transport is the most favourable means of transport in the district. The road density in the South District is the highest among the four districts of the state having 96% Table 6.5a. The total length of road altogether State High way, District Road and Blocks Road is 722 km in 2006. More than 45 per cent of the revenue blocks have access the public transport system. According to 2001 Census, in certain cases the distance between the relevant blocks and the most proximal points where one could avail him of public transport is 5 km. In the district, out of the total road net work 55.25 % where under the metal, pucca or all seasons road and another 30.55 per cent are under the category of un-metal road. (fig6.2)



Photograph 6.3 Foot path (Means of Rural Connectivity)



Source: N ATMO.DPS (S) & SPWD(S)

Fig 6.2

Besides road network footpath is one of the most suitable means of transportation in the steep hilly terrain, where the construction of road network is difficult. The Rural Development Department has so far constructed 205 km length footpath altogether in the district. Along with the construction of road network, the availability of transport

vehicles is also important component of the development of transport and communication system.

Table 6.4 Type of vehicles Registered in South District, ZVV5

Types of Vehicle.	No of Vehicle	Percentage to total
Two wheeler	420	31.10
Four Wheeler (Govt)	359	26.60
Four wheeler (private)	421	31.20
Trucks & Buses (Govt & private)	150	11.10
Total	1350	100.00

* Source: Department of Motor Vehicle, South District. 2006.

Table 6.4 represent the availability of vehicle in the district. The type of vehicle in the district is divided in to two types' viz., Government and private. Out of the total vehicles two wheelers mostly private constitute 31.10 per cent of the total vehicles in the district. The Government owned four vehicles occupy 26.66 percent of the total vehicles of the district and four wheelers owned by private constitute larger percentage having 31.20 per cent of the total vehicles. The category of trucks and buses won by both private and Government constitutes 11.10 percent of the total vehicles of the district. But in the cases of trucks it is mostly owned by private and in the cases of buses all of them are owned by the Government agency Sikkim Nationalise Transport Co-operation which took the burden of carrying the large passengers and goods in the district. But still more planning has to be done for further development of transport in the district.

6.3.2 Post, Telegraph and Tele communication

In spite the development of information technology still postal service is one of the important means of communication in rural and hilly areas. The postal and telegraphy infrastructure in the district is not adequate.

Table 6.4a Postal and Telecommunication Amenities in South District,2006.

Amenities	No of Revenue Blocks		Revenue Blocks (%)		Command Population
	Available	Unavailable	Available	Unavailable	
Post	64	81	44.13	55.86	4007
Telegraph	2	143	1.28	98.62	15029
Telephone	53	92	36.55	63.45	60115
National Information Centre	1	144	0.68	99.32	120239
Community information Centre	9	136	6.21	93.79	13359
Gramsat	91	54	62.75	37.25	1321

* Source: Sikkim Statistical Profile 2004-05

According to 2001 Census, there are 30 post offices (27 branch, 2 sub-centre and 1 district head office). Out of the total revenue blocks around 44 per cent have access the postal facility and remaining 56 per cent of the revenue blocks do not avail the facility. In the district, 1 post office has to serve 4007 persons. (Table 6.4a). Out of the total revenue blocks 76.55 per cent of the revenue blocks have the postal facility within 5km distance and 21.37 per cent of the revenue blocks have access the postal facility between 5 and 10km distance. The remaining 2.08 per cent of the revenue blocks have to access the facility beyond 10 km distance. (Table 6.5c). These revenue blocks are namely Manzing, Tokday, and Kolthang.

Table 6.4b Distance of available Communication Amenities in South District, 2001

Distance in (km)	Post Office		Telephone	
	No of Revenue Block	Revenue Blocks %	No of revenue Blocks	Revenue Blocks %
<5	111	76.55	23	15.86
5 - 10	31	21.37	89	61.39
. 10	03	2.08	33	22.75
Total	145	100.00	145	100.00

* Source: Census of Sikkim 2001.

Besides postal service, another important means of communication in the district is telephone. The state has the highest telephone density in India. Out of the total revenue blocks, 36.55 per cent of the revenue blocks have the telephone facility and 1 telephone exchange serves 15029 populations in the district. Again out of the total revenue blocks of the district, 15.86 per cent of the revenue blocks have access the telephone facility within 5 km distance. Another 61.39 per cent of the revenue blocks have access the facility between 5 and 10 km distance, only 22.75 per cent of the revenue blocks have access the facility by walking more than 10 km distance. But the scenario is changed after 2001, with the entering of mobile facility and wireless local loop system in the state. The communication by telephone and mobile is tremendously improved. As per the record, out of total households of the district 44.09 per cent have enjoyed these facilities. Another important means of communication in the district is Gramsat, which is also very suitable in the hilly terrain like South District. There are 91 Gramsat centre and all the Gram Panchayat office have connected by this means of communication. The third important and latest means of communication in the district is internet. In the district one national informatics centre (NIC), 9 community information centre (CIC) are located one each

in Namchi, Jorethang, Temi, Wak, Damthang, Sumbuk, Namthang, and Yanyang (fig5.2). Besides 15 cyber cafes are located in different selected towns of the district.

The over all picture of the communication facility in the district is developing in a fast pace, with the introduction of broad band internet facility.

6.4 MARKET

Traditionally market place is the important place for emergence of urban centre and economic development. Trade and commerce are most important functions in the rural areas and the trade is generally took place in a common place which is known as market (Jana 1998). South District is economically poor in both production and distribution of various commodities. The physiographic conditions further aggravated for the development of market centre. The market centre in the district is not located in proper place and they have grown haphazardly from the time immemorial with out any planning.

Table 6.5 Types of Markets in South District. 2005.

Types of Market.	2005	Total Markets %	Command Population
Bazaar Class II	4	9.52	4207
Bazaar Class III	8	19.04	
Rural Marketing Centre	30	71.42	
Total	42	100.00	2862.82

* Source: Department of Urban Development and Housing Development.2005.

There are three types of market centre in South District. They are a) Bazaar Class II, b) Bazaar Class III and c) Rural marketing Centre. The first categories have all the facilities of a market centre and are located in Namchi, Jorethang, Melli and Ravongla and constituted only 9.52 per cent of all the types of market. Table 6.5. The second type of market i.e. Bazar class III is less developed than the class II type where some of the facilities are not available. They occupy 19.04 per cent of the total markets. These types of markets are situated at Simchuthand, Majhitar, Temi, Damthang, Namthang, Kewzing, Yanyang, and Ralong. The third type of market is that where some small shops are agglomerated in rural area and where small volume of trade and commerce is going on to fulfilled the immediate local needs are called rural marketing centre. Some of the important rural marketing centres are Maniram, Sadam, Kitam, Wok, Nagi and Assangthang etc.

Another important characteristic of market in South district is that of the weekly market (locally known as hat). In a specific day, the traders from the class II

bazaar and neighbouring state came at rural marketing centre, where commodities which are not available in the rural market centres are brought and trade.



Photograph 6.4 Rural Market

The scenario of marketing infrastructure in the district is not satisfactory. As the economy of the district is based on the agriculture and agricultural production in the district is very low. The development of market centre is also moving in a slow pace. The ratio is that 1 market centre (any type) has to serve 2862 persons. Besides, most of the market centres have limited space. This lack of space has hampered the development of market centres except 4 notified market centres. All the class III market centres and Rural marketing centres neither have horizontal space for expansion nor housing and sanitation, proper connectivity of transport except a few. In order to solve this problem the department of rural development and management department has propose to construct one rural product market centre with proper building , sanitation, electricity, located near metal road net work with centrally located place of each Gram Panchayat unit will certainly be helpful in initiation of proper marketing mechanism in the district. So far such rural produce marketing centre has been completed. They are Nandugaon, Damthang, Temi, Tarku, and Namthang etc. These rural produce market centres will take the shape of rural business hubs and will provide marketing outlets for the farmers and non farmers like artisans product of the village as well as will provide basic amenities like toilet, snack stall, and PCO's to the tourists and locals at the same time.

SOUTH DISTRICT
LOCATION OF AMENITIES
2006

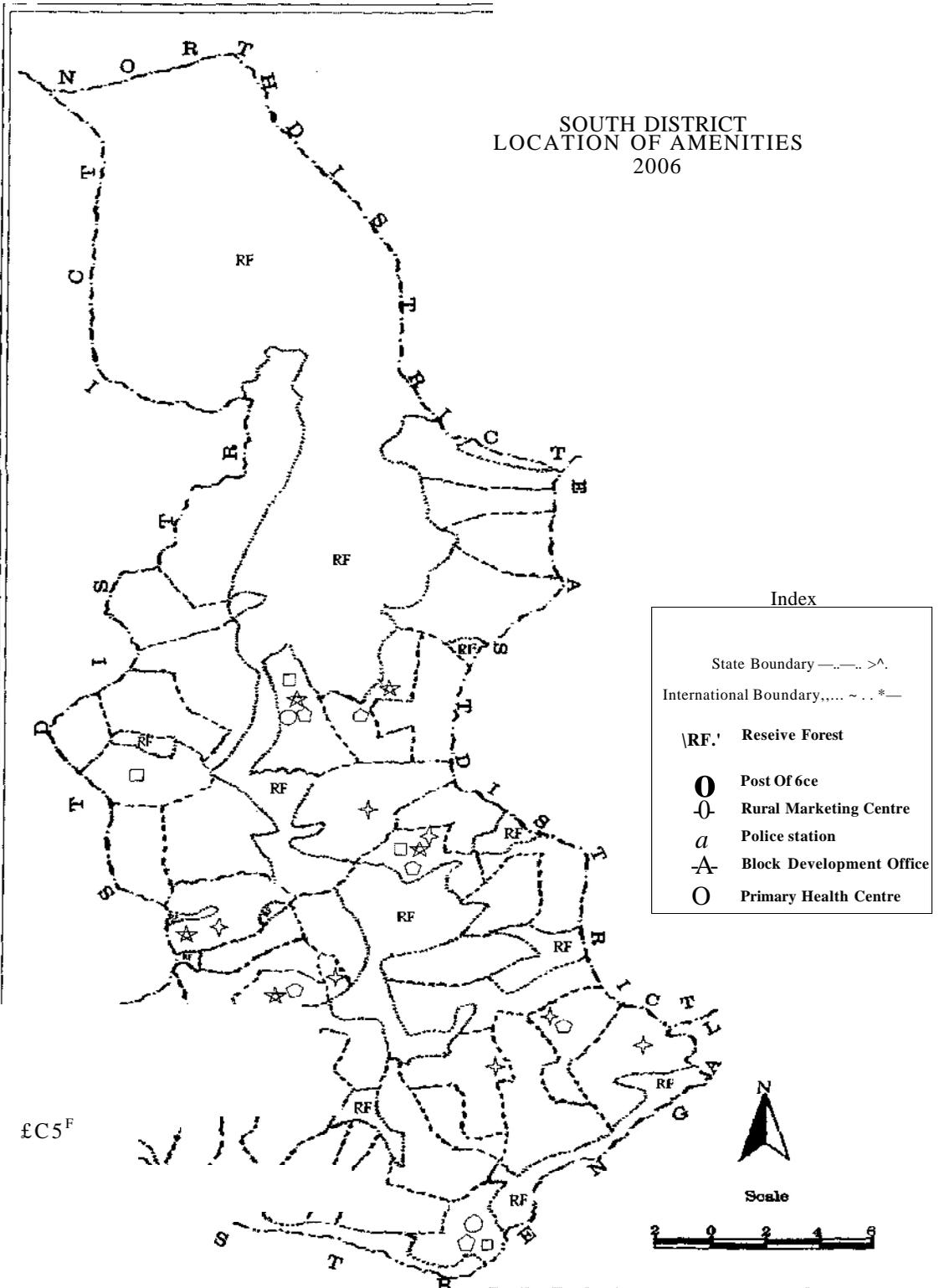


Fig 6.3

6.5 FINANCIAL INFRASTRUCTURE

Finance is a significant factor in any kind of development especially in agricultural development. Agricultural activity is concentrated in rural areas. Rural finance is a matter of great concern in an agrarian economy. It can be rightly said that the quantum of amount invested by financial institution can determine the level of agricultural development. Even it is non farm factor, but its contribution is immensely important.

The financial institution in the district may be divided into two types as;

- a) Banks, b) Co-operative - societies.

6.5.1 Banks

In the South District the number of banks is very few. There are 14 branches of banks. Of these SBI has 10 branches and among the rest 1 branch of Central Bank of India, 2 branches of Union Bank of India and 1 branch of United Bank of India. The SBI branches are located Namchi, Ravongla, Jorethang, Melli, Kewzing, Temi, Namthang, Singtam, Makha and Hingdam. Out of these branches Namchi has only core banking facility. The Union bank of India is situated at Namchi and Jorethang and UBI is located at Namchi only. The district headquarter Namchi has the highest number of bank facility.

In the South District, 33.53 percent of the accounts are occupied by agricultural sector 8.88 per cent by house hold industrial or secondary sectors and another 33.73 per cent by tertiary sector and remaining 23.84 per cent are instructed for non priority sector. This means that maximum accounts are occupied by primary and secondary sector of economy. But the financial support given by these banks in agricultural and allied sectors is not quite satisfactory. There is not much credit given to the farmers for agricultural development. Their nature of operation is only for urban oriented and mainly depends up on the quick recovery and high interest returns like housing loan, personal loans, vehicle loans etc. This nature of giving loans has suffered the small and marginal farmers. In the district, agricultural and allied activities loan is given only by recently open single co-operative bank SISCO (Sikkim co-operative bank limited). So far 1520 small and medium farmers get benefited from the banks in various field especially agriculture and allied activity. The Kishan Credit System, by which benefit the farmer directly, has been distributed by SISCO numbering 1039 till date, Altogether SISCO has spent money amounting up to 300

cores in South Sikkim in the field of training of skill development, mechanization of farms, technical supports etc.

6.5.2 Co-operative Societies

The discussion shows that the financial institutional supports in agriculture in the South District are not very strong. There is still a gap between the financial institution and farmers. The gap can be only filled up by strong co-operative movement. In the state, the co-operative movement starts with the enactment of Sikkim co-operative society's act 1978. The state has adopted two tier co-operative structures at state level, there are apex co-operative and at district level primary co-operative society. As the 80 per cent of the population in the district engaged in agriculture and allied activities, most of the members of the co-operative are farmers.

Table 6.6 Trends of growth of Co-Operative Society in South District.

Types of co-operative societies	2001	2002	2003	2004	2005	2005 (%)
Co-operative bank.	--	—	—	—	1	
Primary agricultural co-operative society	39	44	45	46	47	31.75
Farmer co-operative society	07	08	08	12	13	8.87
Non agricultural credit co-operative society	—	01	01	01	01	0.67
Labour contract co-operative society	—	—	—	—	06	4.05
Diary Co-operative Society.	25	25	28	29	33	22.29
Live stock co-operative society	02	02	06	06	08	5.40
Weavers co-operative society	01	01	01	01	03	2.04
	05	05	05	06	06	4.07
Consumer co-operative society	19	15	15	15	14	9.45
Marketing co-operative society	02	02	02	02	17	11.58
Total	100	104	111	118	148	100.00

* Source: Department of Co-operative, Govt of Sikkim. 2006.

The number of co-operative societies in South District is increasing (Table 6.7). It is 100, 103, 111, 118, and 148 in 2001,2002,2003,2004 and 2005 respectively. But the nature of co-operative society also varies. The largest share of co-operative society is occupied by Primary Agricultural Co-operative Society having 31.15 percent of the total co-operative societies of the district in 2005. The next higher percentage i.e. 22.29 per cent is also occupied by Diary Union Society. Another Agricultural Allied Co-operative Society is farmers and occupied 8.87 per cent. The third largest percentage of co-operative society is constituted by Marketing Co-

operative Society. Of these 12 are engaged in horticulture, floriculture and organic manure development. The 11th plan allocation of 624 lakhs for the development of co-operative society in the district for co-operative education, training, infrastructure, information and publicity, credit, consumer, go down and storage will certainly help the small and marginal farmers of the district.

6.6 RURAL DEVELOPEMNT

Sikkim is one of the least urbanised states in India. The composition of urban population is 11.10 per cent Census 2001. The case is same for South District, where 97 per cent of the population lived in rural area. The percentage rightly shows the state of development in the district. In order to change the scenario, 70 percent of state planning budget is devoted for various planning and programme of rural development. With the successful implementation of Panchatyati Raj system in the state, various planning and policies have been implemented for up lifting the economy of the rural population through sustainable income generation, development of village economy, and creation of rural infrastructure, creation of employment opportunities in rural areas, provide infrastructure for administrative and developmental activities, provision of safe drinking water, construction of road and communication, socio economic development giving prior importance to the economically weaker rural population.

Table 6.7 District Wise Zilla and Gram Panchayat in Sikkim,2005.

District	No of Zilla Panchayat	Total (%)	No of Gram Panchayat	Total (%)	Panchayat Ghar	No of CIC	No of Block Development office
North	20	20	20	12.05	15	2	6
West	25	25	51	30.72	25	8	10
South	24	24	45	27.11	37	6	10
East	31	31	50	30.12	25	4	10
Total	100	100.00	166	100.00	102	20	36

* Source: economic Survey (DES/ME) Govt, of Sikkim 2(006-07.

The pace of rural development is gaining momentum with the enactment of the Sikkim Panchayati Raj Act 1993 accommodating the provision of 73rd Amendment Bill. Table 5.9 represents the Panchayati Raj System in Sikkim. South district has 24 per cent of Zilla Panchayat, 27 per cent of Gram Panchayats and highest number of Panchayat Ghars in the state. Besides, 6 block development offices located one each in Yanyang, Temi-Tarku, Wak, Sumbuk, Namchi and Rong are located

In South District the grass root level developmental programmes and planning is implemented by Zila and Gram Panchat. Gram Panchayat and Zilla Panchayat are now have the power to prepare , sanction , supervised and implement the scheme up to rupees 3 lakhs and 10 lakhs in their own area under the supervision of Block Development Officer. The Block Development Office will be the nodal agency for implementations of various programmes at grass root level. All these tiers of rural development institutions have monitoring body known as Social-Audit cum Vigilance committee in each Gram Panchayat unit.

The institutional infrastructure in the district is very strong and devaluation of power and peoples participation in developmental planning will certainly achieved the goal of economic development.

6.7 AGRICULTURAL INPUT

Agricultural input is one of the important pre requisites as well as indicator of agricultural development. Out of the various components of inputs HYV, fertilizer, irrigation and power facility are the four most important items. The consumption pattern of these four inputs indicates the productivity level, development of agriculture, economic condition as well as the socio cultural aspects of the farmers.

In the district, there is discrepancy of information for the fertilizer consumption pattern, because of the declaration of the state as organic state and banning the use of chemical fertilizer and withdrawing of subsidy given to the chemical fertilizer by Government create the lack of information as the farmers can not instantly shift to the use of organic manure because of lack of scientific knowledge and high cost. Again due to the withdrawing of subsidy and banning farmers can not use the chemical fertilizer. These transition periods become a problem for collecting the data.

6.7.1 HYV Seeds

The total area under HYV seed coverage in the district is decreasing in the district. (Table5.11). But within the crops, the area under HYV seed coverage is varied. In 1999-2000, the highest HYV seed cover is occupied by Maize having occupying 54.60 per cent of the total HYV seed area. Again wheat, oil seed and rice occupy 19.43%, 14.22% and 10% respectively. The remaining crops occupy less than 1per cent of the total HYV seeds crop area of the district. In 2006-07, the order and

sequences of the crops under the HYV seeds is same but their percentage coverage is changed. Of the eight selected crops, three crops i.e. rice, pulses and oil seed has registered increase from 1999-2000 to 2006-07. The highest area under HYV is recorded by pulses having recorded more than 100 percent, the second highest is occupy by oil seed occupying 13.28 per cent and rice has only 1 per cent increase in HYV area.

Table 6.8 HYV Seeds Coverage in South District, (1999-2000 to 2006-07)

Crop	1999-2000		2006-2007		Changes in (%) 1999-2000 to 2006-07
	Area in (ha)	Total (%)	Area in (ha)	Total (%)	
Rice	1000	10.00	1010	10.40	1.00
Wheat	1940	19.43	1590	16.38	-18.04
Maize	5430	54.60	5370	55.36	-1.10
Finger Millet	60	0.60	24	0.24	-60.00
Barley	50	0.50	08	0.08	-84.00
Urad	40	0.40	07	0.07	-82.50
Pulses	35	0.35	76	0.78	117
Oil Seed	1430	14.22	1620	16.69	13.28
Total	9985	100.00	9720	100.00	

^Source: Annual reports, Department of Agriculture. Govt of Sikkim. 1999-2000 & 2006-07.

The area under HYV seed is decrease in wheat, maize, finger millet, barley and urad cultivated area. The highest decrease is recorded in barley area having 84% and lowest decrease is recorded in maize cultivated area 1.10%.

The figure shows that the area under HYV seeds in the district is decreasing due to various factors. The total area under HYV seeds was 9985 hectares in 1999-2000 and 9705 in 2006-07.

6.7.2 Fertilizers

Fertilizer is the second most important input for agricultural development. The changes of agricultural policy in the state for organic farming and banning of chemical fertilizers as well as withdrawal of subsidy has make a gap for reliable source and data about the consumption pattern of fertilizer in the district. The transition period from chemical fertilizer to organic has created problem to the farmers. Because of the various factors like lack of knowledge about how to use the new fertilizer, where to get, and high price of the organic fertilizer adversely affect to the agricultural productivity in the district. The shifting of chemical fertilizer to bio-fertilizer needs the cultivated field to left out for some time. During this time, farmer

has nothing to do which affects the economic condition of the farmers. According to the annual report by department of food security and agricultural development 2006-07, demonstration for the used of organic fertilizer has conducted in 262, 50 hectares of land, 150 hectares for bio-fertilizer, construction of rural composting cum urine pit 700 numbers and 1350 numbers of vermiculture pit has been so far constructed, besides training of field functionary and farmers has just started. Even though the benefit of organic farming is immensely benefited to the farmers in the long run but in the present scenario, it creates a problem to the farmers and development of agriculture in the district.

6.7.3 Irrigation

Irrigation is the third most important input for agricultural development. The provision of irrigation facility is very much necessary for the successful agricultural practice, especially in the South District where 80 per cent of the total area is under the dry field.

Table 6.9 Irrigated Area in the South District,2001

Irrigated area in (hectare)	Category	No of Revenue Blocks	Revenue Blocks %
<10	Very low	50	34.48
10-20	Low	20	13.79
20-30	Medium	12	8.27
30 -- 40	High	07	4.85
>40	Very high	16	11.30
Non available		40	27.58
Totaf		145	100.00

* Source: Census of Sikkim.2001.

According to 2001 Census, 34.48 per cent of the revenue blocks have very low (<10%) irrigated area. Another 13.79 per cent of the revenue blocks are under the category of low (10-20%) irrigated area and 8.27 per cent are under the category of medium (20 -30 %). Around 5 per cent of the revenue blocks has high (30-40%) irrigated area and more than 11 per cent of the revenue blocks have very high (>40%) irrigated area. The percentage of revenue blocks where the irrigation facility is not available is more than 27 per cent of the total revenue blocks. The picture of irrigation facility is very low and facility not available constitutes more than 75 per cent of the total cultivated area of the district. Table6.9

The available irrigation facility in the district can be group under the three category viz., i) Accelerated irrigation benefit programme (AIBP), ii) Small scheme

under taken by NABARD and iii) Private channel. The AIBP constitutes 87.5 percent of the total projects and small project has occupied 9 percent and again the private has occupied only 6 per cent.



Photograph 6.5 Water Conservation For Irrigation

The important method of irrigation in the district besides canal irrigation is sprinkled and drip irrigation methods. Sprinkle and drip irrigation methods occupy 60 per cent of irrigation facility concentrating in the higher altitudes and canal irrigation occupy 40 per cent of the total cultivated area of the district and are found in the lower altitude of the district especially in the river valley. The irrigation facility is not much developed in the district. More planning and efforts from the government side as well as common public contribution like development of small watershed, joint forest management for controlling the flow of water and retention will help the development of irrigation in the district.

6.7.4 Power

Power is also an important component of the agricultural development, especially in mechanisation of farming. The type of power use for agricultural purpose in the district can be grouped into three categories viz., electricity, animal power and man power. Out of total revenue blocks, there is not a single revenue block where the electricity is wholly used for agricultural purpose in spite of huge amount of electricity facility in the district. Only 39 percent of the electric consumption of the district is used for households' consumption, other purpose and agriculture. The most important source of power in agriculture in the district is human labours, due to the

difficult terrain. Animal power is the second most important power for agriculture. There are more than 2289 pairs of oxen and he buffaloes these have been using power in the district for agricultural tilling. Animal power is also very suitable for the hilly terrain because the use of machines in the hilly terrain has face numerable problems and due to high cost most of the farmers of district cannot afford the machines.

The agricultural input in the district is not up to the mark except in the category of HYV seeds. This shows that the state of agricultural development in the district is sedentary in nature. As the consumption of fertilizer, the low irrigational facility and utilisation of power which is still depends on human labours does not have any significant impact on the development of agriculture in the district.

6.8 DRINKING WATER

Almost all the inhabitant revenue blocks of the district has avail the dinking water facility. The sources of safe dinking water in the district depend on spring water and tap. (Census 2001). The provision of drinking water in the district is provided by two Governmental agency i.e. Rural Development Department in rural areas and Public Health Engineering Department in town and market place. In 1981, only 52 revenue blocks (38.52%) were connected with government tap water. The rest of the revenue blocks were dependent completely on spring. According to report of (DESME) 2007, around 139 revenue blocks are connected by tap drinking water whether it is from spring or reservoir, and so far 3990 household has been connected by tap water in towns/ market place by Public Health Engineering Department. (Table5.3). But the problem of drinking water scarcity is still prevailed in the district due to large gap in demand and supply. During the summer, the water sources are dried up due to deforestation which leads decrease the capacity of soil to retain water. Increase of population pressure, especially in the southern part of the district or Namchi Sub-division faces the problem of scarcity of dinking water. Even during the rainy seasons due to the disturbance at the source by landslide the problem of scarcity of drinking water for 3 or 4 days is a common phenomenon in the district. The problem of sewage contamination prevails in the towns and market places due to lack of proper planning. Thus, efforts are necessary on the part of government to ensure developmental work to provide adequate dinking water to the villagers.

Table 6.10 House Hold Distribution of Dinking Water in Selected Towns by PHED, 2007

Town /Place	No of Connection	Town/ Place	No of Connection
Namchi Bazaar	1480	Yangang	287
Temi	90	Ravongla	345
Damthang	32	Kewzing	98
Namthang	53	Melli	56
Majitar	360	Jorethang	1189
Total	2015		1975

*Source: PHED, South District. 2007

6.9 ELECTICITY(House hold Connection)

Electricity is one of the most important infrastructure elements for economic development. The availability of electricity reduces the pressure on the natural resources like forest and mineral to provide fuel in any area.

Table.6.11 Sources of House holds Lighting in South Distict.2001

Source	Urban House Hold	Percentage	Rural House Hold	Percentage
Electricity	794	99.37	17396	70.29
K.Oil	4	0.5	7138	28.81
Solar Energy	Nil	Nil	29	0.12
Other Oil	Nil	Nil	10	0.04
Any Other	1	0.13	10	0.04
No Facility	Nil	Nil	191	0.70
Total	799	100.00	24774	100.00

*Source: Census of Sikkim.2001.

Table 6.11 shows that the households lighting facilities in the district. Both in urban and rural areas electricity has occupied chunk of the percentage. In urban area electricity occupy more than 99% or 794 households, where as in rural households electricity occupied 70.29%. Within the districts revenue blocks of Boomtar, Singithang, Tinzir, Joethang, Melli, Lakeship and Ravongla have same percent household electrification. In 2007 up to 279663 MW units has been distributed during the winter season. Besides electricity kerosene oil is also use as one of the important means of household lighting in the district occupying 0.5% in urban area and 28%in rural area. The remaining house holds both in rural and urban area are depends up on the others sources of lighting. One of the notable features of household lighting in the district is that solar energy; it constitutes 0.12% of rural house hold lighting. The rural electrification in the district will be further improve in the current financial year up to same percent under the RGGVY programme and most of the substations will be

up graded 66kv from 1 lkv.The infrastructural facility of power in the district is very significant amongst the other three district of the State.

6.10 HOUSING

In the South District, general characteristics of housing facility is mainly made up of three types of dwelling viz., pucca, Semi- pucca and kutcha.(Table 5.15). The pucca house occupy almost 20 percent of all the house types, in the district and most of these houses are found in the four towns and class III bazaars of the district. The semi-pucca houses have occupied more than 51 per cent of the total houses in the district. Usually these houses are concentrated in sub urban fringe of the towns and rural market centres. The kutcha houses have constituted around 29 per cent of the total house type of the district.

Table 6.12 House Type in South District, 2007.

House Type	No of House	Total %	Facility	No of House	Total %
Pucca	4744	19.90	With toilet facility	16721	70.16
Semi-Pucca	12249	51.40	Without toilet facility	7109	28.84
Kutcha	6837	28.70	With Birth Room	15470	64.92
			With out birth room	8360	45.08
Total	23830	100.00			

* Source: DESME, 2007.

Out of total houses 70.16 % have toilet facility and 28.84% did not have the toilet facility. Again, 64.92% have bath room facility and another 45% does not have the bath room facility. Toilet and Bath room facilities are unavailable in the houses located in the villages. Another feature of housing in the district is that most of the semi-pucca and kucha houses which are located in villages have separate kitchen facility. But those houses located near the towns and market places do not have separate kitchen facility due to lack of space. One of the important factors for development of house type in the district is affected by lack of transportation facility. Most of the building materials like, bricks, rod, and cements has to be imported from outside the state. The revenue blocks where the road net work is not properly developed the type of house prevail in the area is semi-pucca and kutcha in nature because of high transportation cost. Even the rural folks who can afford for pucca building has been discourage due to this factor and ultimately cling to the old type of house which can be easily construct by the locally available materials.



Photograph 6.6 Modern House

CONCLUSION

The infrastructural facilities found in the district are improving gradually. In the field of higher education extra ordinary development is observed as establishing of Central University at Yanyang, computer training institutes at Shalghari and number of high and higher secondary is increasing very fast. Same trend is observed in the telecommunication sector achieving the highest telephone density in the country. In the field of health care facility, especially the mother and child healthcare and family planning many policies are implementing. But still has to improve in the filed. The transport is another field which indicates increasing trend having with highest road density among the district of the state. Higher rate of electrification, construction of rural market centres, with strong and solid decentralisation of policy making by full implementation of Panchayati Raj system will certainly boost the economic development of the district.

But still some infrastructure facilities shows inadequate and need more attention especially the financial sector and irrigational facilities. In the district, financial input in agricultural sector is very negligible and development of irrigational facility very low. These problems need proper address and attention. Without proper and adequate infrastructural facility (basic production and marketing infrastructure

and mechanism) development of agriculture in the hilly area like South District will be a Herculean task. These problems can be solved through public private participation and involvement of NGO's, Social organization and co-operative societies while formulating planning and policy and reformation of public support systems. In the district a concrete long term irrigational planning mechanism is urgently required involving the various department and agencies.