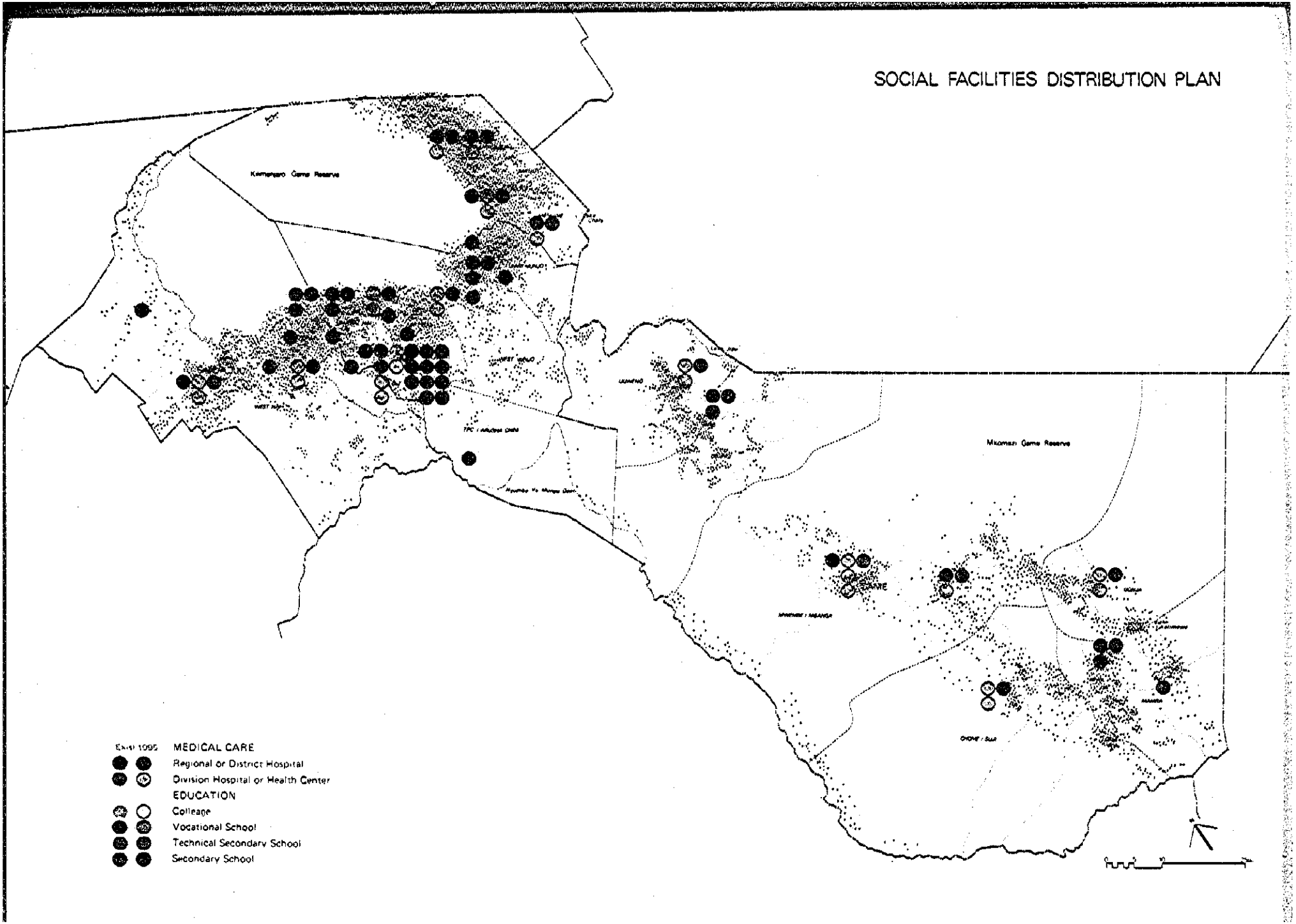
KILIMANJARO IDP

SOCIAL SERVICES

15

SOCIAL FACILITIES DISTRIBUTION PLAN



SOCIAL SERVICES

Contents

THE CONCEPT OF SOCIAL SERVICE
WHAT IS ITS INVESTMENT IMPACT ?

In the past the emphasis in regional development planning has been placed on productive industries, and investment in medical care, education, and other social services has been considered of little importance. This is because investment in production brings immediate tangible results in terms of raising income. If, however, one considers the need to improve the quality of life of the people as a whole, it is obvious that one cannot afford to make light of social service. Then again, considering education alone, it should be clear that over the long run investment in it has a much greater economic impact than direct investment in production, to say nothing of the social impact. In this respect it is very encouraging to note that Tanzania has set the achievement of universal primary education by 1977 as a national policy.

Any attempt to develop one part of the social system to a considerable extent beyond the rest of the system is doomed to failure, as the history of Tanzania itself has shown. In colonial days the sole criterion of policy choice was growth in the production process, improvement of the other five processes of the social system--the consumption process, the protection process, the learning process, the decision making process, and the interaction process--which are more important in terms of improvement of people's lives, being kept to a bare minimum so as to be able to maximize growth in the production process, and it is only natural that people were not able to accept the idea of balanced growth of the whole of the social system.

The social system is not production equipment. As already mentioned, it is extremely important that the gap between the other five processes of the social system and the production process be closed if the project objective of "greater welfare" is to be achieved. In the concept of "social service" society is viewed not from the angle of production but from the standpoint of the lives of the people. It should be kept in mind, moreover, that improvement of the learning process, and of the other four processes as well for that matter, which is the main purpose of social service, can make a big, although indirect, contribution to improvement of the production process.

In this chapter will be presented 5-year plans for five different aspects of social service in the Kilimanjaro Region: medical and health, primary education, secondary education, adult education, and family life improvement service, the short-range (1980) and long-range (1995) targets for each of these kinds of services being given in the following table.

Social Service Targets (Table-1)

				1980	1995
Education	Input	Primary	Pupil/teacher ratio	49.6	40.0
			Pop./school	1,635	2,100
			Enrollment	100%	100%
		Secondary	Student/teacher ratio	25.0	25.0
			Pop./school ratio	34,100	43,800
			Enrollment	15%	25%
		Adult	Participation	35%	100%
			Pop./adult education center	255,500	76,300
			Pop./tutor ratio	2,600	3,700
	Output		Average years of education	3.45	5.8
			Literacy	75%	95%
Medical & health	Input	Preventive	Pop./qualified personnel	969	663
			Pop./health center	92,900	69,300
			B.C.G. immunization	100%	100%
		Curative	Pop./medical doctor ratio	18,600	13,500
			Pop./hospital bed	475	300
			Pop./mobile clinic	25,500	14,500
			Pop./dispensary	5,870	4,180
	Output		Crude death rate	1.2%	1.05%
			Infant mortality	11.8%	11.1%
			Life expectancy	52	55
Family life	Input		Mobile clinic teams	4	0
			Pop./health center	255,500	76,300
			Pop./qualified personnel	9,100	4,400
			Pop./field volunteer	487	483
	Output		Awareness of services	90%	100%
			Use of services	50%	80%
			Natural pop. growth rate	2.9%	1.5%
			Protein & carolie deficiency	2.5%	0%

1. MEDICAL AND HEALTH SERVICE

1.1 Introduction

As stated in the chapter on population planning, the Kilimanjaro Region has one of the highest population growth rates in Tanzania. This is due not to a high crude birth rate but rather a low crude death rate, as indicated in Table-2. There are many indices of the level of medical service besides the crude death rate, including life expectancy and infant mortality rate, and even with respect to such indices the Kilimanjaro Region boasts a record second only to that of the capital Dar es Salaam. Nevertheless, in view of the fact that this record is good only in relative terms, i.e., in comparison to other regions, it is still necessary to promote further expansion of medical care facilities in this region in order to raise the absolute level of medical care service, which can still be said to be deficient.

Mortality and Fertility Estimates by Region (Table-2)

Region	Crude birth rate	Crude death rate	Natural rate of increase	Life expectancy	Infant mortality rate
Arusha	46.3	14.8	31.5	51	13.0
Coast	45.8	24.5	21.3	41	19.6
Dodoma	47.4	16.9	30.5	48	14.5
Iringa	50.6	20.3	30.3	43	17.8
Kigoma	46.4	25.4	21.0	38	21.5
Kilimanjaro	48.2	15.8	32.4	51	13.0
Lindi	39.4	173	22.1	48	14.5
Mara	48.8	15.5	33.5	51	13.0
Mbeya	47.1	17.8	29.3	46	16.2
Morogoro	45.9	20.1	25.8	43	17.8
Mtwara	44.2	17.3	26.9	48	14.5
Mwanza	43.8	16.2	27.6	48	14.5
Ruvuma	44.8	16.3	28.5	48	14.5
Shinyanga	40.1	16.3	23.8	48	14.5
Singida	43.0	27.7	19.3	41	19.6
Tabora	40.4	16.9	23.5	48	14.5
Tanga	49.7	16.6	33.1	48	14.5
West lake	46.6	18.9	27.7	48	14.5
Dar es Salaam	45.1	9.2	35.9	56	8.8
Averages	45.6	17.7	27.9	47	15.2

Source: National Demographic Survey, 1973

1.2 Interregional Comparison of Level of Medical and Health Service

This comparison will be made in terms of the level of medical facilities and the accessibility of medical facilities.

(1) Level of Medical and Health Facilities

Table-3 compares the medical and health facility levels of different regions. Although the Kilimanjaro has a 20% edge on the national average in terms of population per hospital, it is somewhat below the national par in terms of population per health center. If one compares the districts within the Kilimanjaro Region, one sees that whereas the Hai and Moshi districts have an edge over Rombo and Pare in terms of population per hospital, the superiority is the other way around in terms of population per health center. If one considers that the health centers are often substitutes for hospitals, although inadequate ones, there would not seem to be such a great difference between the districts in terms of the level of medical and health facilities.

Level of Medical and Health Facilities, 1976 (Table-3)

	Hai	Moshi	Rombo	Pare	Kilimanjaro region	Whole mainland
Hospitals	2 (1)	5 (2)	1 (0)	3 (2)	11 (5)	129 (62)
Hospital beds	476* (256)	668 (420)	83 (0)	213 (150)	1,440 (826)	19,268 (10,008)
Health centers	1	3	3	3	10	206
Dispensaries	21	38	19	36	114	1,981
Population	166,000	378,000	151,000	199,000	894,000	15,908,000
Population/ hospital	83,000	75,600	151,000	66,300	81,300	123,300
Population/ beds	349	566	1,820	934	621	826
Population/ health center	166,000	126,000	50,400	66,300	89,400	77,200
Population/ dispensary	7,900	9,950	7,950	5,530	7,840	8,030

Remarks: The figures in parentheses represent the number of governmental facilities.

* Including 256 national beds.

(2) Accessibility of Medical and Health Facilities

Although the Kilimanjaro Region does not have a particularly level of medical and health facilities, its medical and health facilities do have better accessibility than those of other regions. Table-4 gives figures on such accessibility obtained in a BRULAP survey carried out in 1967. In the Kilimanjaro Region 84% of the population is within 10 km of a hospital, and 97.4% is within some kind of medical and health facility, both of these figures being quite a bit higher than the national average. The reason for this is not a large absolute number of medical and health facilities, but rather a high degree of concentration of human settlement, which is an extremely favorable condition not only for medical and health service but for all social services. Furthermore, as indicated in the social infrastructure diagnosis, a full 99% of the dispensaries in the Kilimanjaro Region are located along good roads.

Accessibility to Medical and Health Service Facilities, 1967 (Table-4)

	Nation-wide	Kiliman-jaro Region	Kiliman-jaro District	Pare District
% of pop. within 5 km of hospital	12.8	35.0	40.6	16.0
% of pop. within 10 km of hospital	24.9	84.0	97.9	38.4
% of pop. within 10 km of any kind of medical or health service facility	78.2	97.4	98.5	93.6

Source: Health Facilities and Population in Tanzania, Part I, BRULAP.

1.3 Problems Regarding Medical and Health Service

(1) Inadequacy of Physical Quantity of Facilities

All of the hospitals have a large number of out-patients, and the demand for medical and health services is well in excess of their provision.

(2) Insufficient Health Manpower

As can be seen in Table-5, 30-40 new medical doctors complete their training in Tanzania each year, and the total number of medical doctors reached 683 in 1976. Just as in the case of other medical care personnel, however, this is far from being adequate.

(3) Inadequate Provision of Clean Drinking Water Supply Facilities, Electricity, Telephone Service, and Roads.

Of these, particularly indispensable in the case of medical and health facilities are clean drinking water and electricity. The Study Team was told by the director of a hospital in an interview that the water coming down from the mountains is being contaminated owing to population growth there, and that hospitals now find it necessary to have their own water purification facilities. The present inadequacy of electricity supply, telephone service, and roads is also a problem since these are important in terms of raising the quality of medical and health service.

Health Manpower, 1972-1976 (Table-5)

	1972	1973	1974	1975	1976
Medical doctors *	494	533	603	637	683
Assistant medical officers	140	140	160	160	193
Nurse-midwives (A)	877	934	1,000	1,065	1,100
Nurse-midwives (B)	2,382	2,690	3,000	3,400	3,720

* Excluding 34 Cuban and 60 Chinese doctors working in the country.

(4) Inadequacy of Medical and Health Information System

Medical and Health service in the region can be roughly classified into two categories: curative service and preventive service. Furthermore, there are several different levels of medical and health facilities, including hospitals, health centers, and dispensaries. Although individually the facilities may be functionally effective, it should be possible to make them more effective through a greater flow of information between them in the context of a unified medical and health system. The present situation could be improved by having the dispensaries, for instance, which are in closest contact with the people and thus best able to grasp initially the state of various diseases, relay such information to higher echelons of the medical care facility hierarchy and receive instructions.

1.4 Thinking Behind System of Provision of Medical and Health Services With 1995 as Long-range Target Year

Here let us consider what should be done about the problems identified in 1.3 above and what goals should be set in this respect for 1995.

(1) Number of Facilities and Amount of Manpower

Table-6 gives minimal targets with respect to number of facilities and amount of manpower. Since the Kilimanjaro Region is superior to other regions in terms of accessibility of social service facilities, expansion of existing medical and health facilities and boosting of their personnel strengths would seem to be a better strategy in terms of investment efficiency than that of providing new hospitals. Also, the manpower figures should be considered only as rough standards in view of the fact that manpower allocation will have to be considered case by case. Another urgent necessity for improvement of the quality of medical and health service is greater provision of public utilities, the standards for which are shown in Table-7. Particularly important in terms of better exchange of medical and health information is telephone service, which ought to be provided all of the medical and health facilities in the initial phase.

Medical Facility and Manpower Goals, 1995 (Table-6)

Type of medical facility	Number	Manpower per facility					
		Medical doctors	Medical assist.	medical aids	Nurses (A)	Nurses (B)	Mid-wives
Regional hospital	1	8	8	10	10	20	0
District hospital	3	6	6	5	8	20	0
Mobile clinic	4 (1 per district)	3	3	10	6	12	0
Divisional hospital	20 (1 per division center) **	4	4	0	5	12	0
Health center	21 (1 per division center) **	1	2	3	3	6	0
Dispensary	419 (1 per village center)	0	0	1	0	1	1

Plus the following:

**	Moshi Town	2
	Same	1
	Mkuu	1
	Sanya Juu	1

Plus the following:

***	Moshi Town	2
	Same	2
	Mkuu	1
	Sanya Juu	1

Priorities of Improvement or Provision of Public Utilities (Table-7)

	Hospitals	Health centers	Dispensaries
Electricity	A	A	C
Treated water	A	B	C
Telephone service	A	A	C
All-weather roads	A	B	C

Keys: A--within 5 years
B--within 10 years
C--within 20 years

(2) Medical and Health Service System

As already mentioned, the overall level of medical and health service can be raised by achieving organic linkage between individual facilities and individual personnel in what ought to be considered a unified medical and health service system. Here let us consider the differing functions of the various facilities and the kind of relationship of mutual cooperation between them that is desirable.

Facility Functions (Table-8)

	Curative services				Preventive services			Social education			
	Diagnosis	Dispensing of medicine	Operations	In-patient case	Dispensing of medicine	Preventive injections	Sterilization	Nutrition	Hygiene	Childbirth	Birth control
Regional hospital	△	△	○	○	△	△	△	△	△	△	△
District hospital	△	△	○	○	△	△	△				
Divisional hospital	△	△	△	○	△	△	○				
Health centers	△	△		△	○	○		△	△	△	△
Dispensaries	○	△			○			○	△	○	○
Mobile clinics	△	△			○	○		○	△	○	○

○ Main functions
△ Other necessary functions

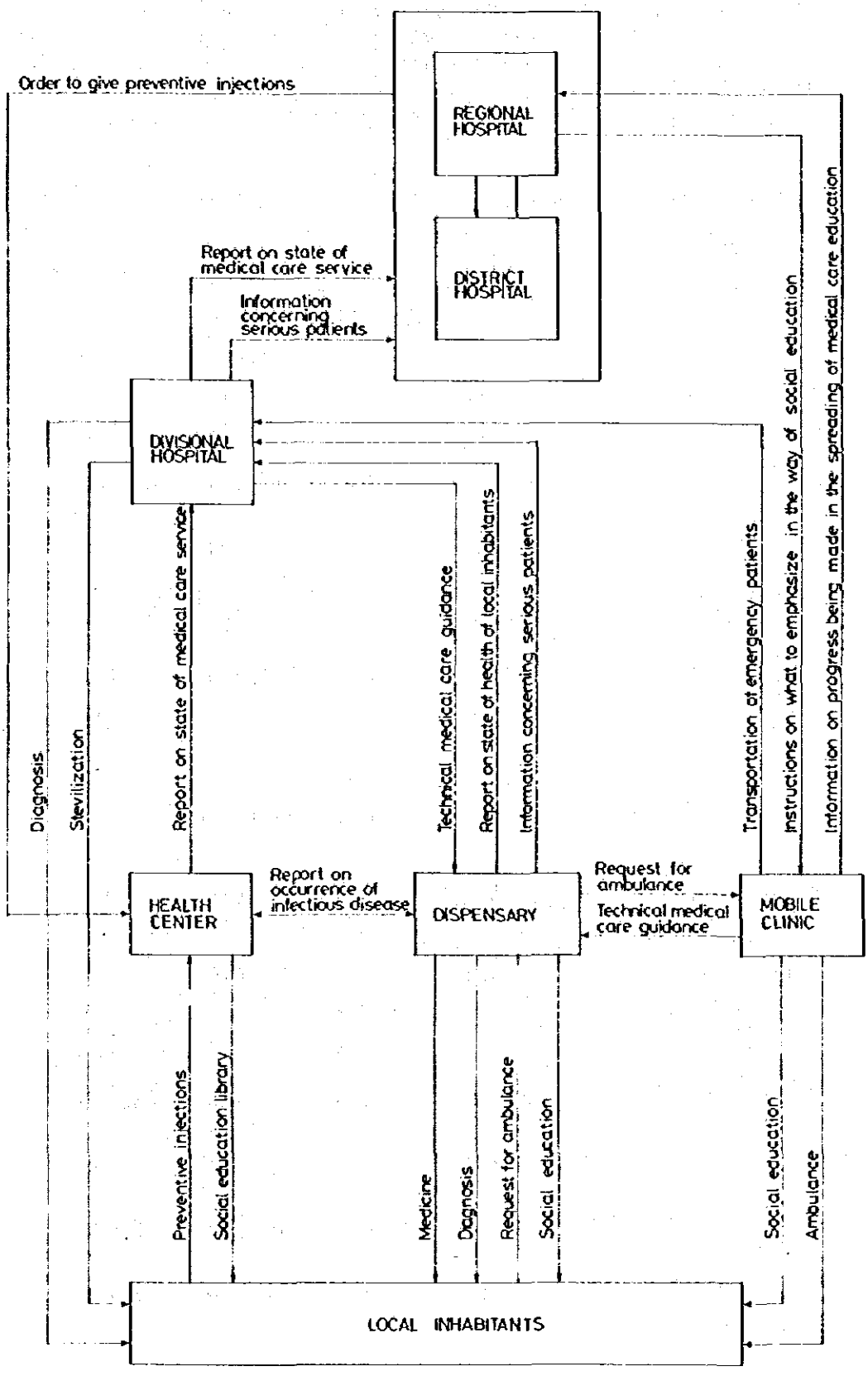
As in the past, the prime responsibility for curative services will lie with the hospitals, and the prime responsibility for preventive services will lie with the health centers. As for social education, it will be taken up in Section 5, Family Life Improvement Services, since it is a subject that goes beyond the field of medical and health.

Fig.-1 gives one possible scheme for a medical and health information system.

The dispensaries will be responsible for initial diagnosis and simple prescription of medicines and simple surgical treatment. When diagnosis is difficult, the divisional hospital should be contacted by telephone for instructions. The regional and district hospitals, besides being responsible for higher level treatment, should keep themselves current on the state of health of the people within the areas that they cover and have the final say regarding allocation of medical and health resources for the purpose of making the medical and health service system perform better, one requirement in this respect being the capability to react immediately upon report of occurrence of serious epidemics or the possibility thereof. Each regional or district hospital will have a mobile clinic as another means besides telephone service of linkage between medical and health facilities on different levels. These mobile clinics will be responsible not only for emergency transportation of patients but also for the training of dispensary personnel and transportation of medical supplies and equipment. Moreover, for the time being, i.e., until the dispensaries can be increased in number and improved as planned, the mobile clinics should assume the additional responsibility of providing health check-ups in villages still without a dispensary and of promoting social education.

Since many items of the social education program, which will be discussed in the chapter on "Family Life Improvement Service," relate to medical and health, the cooperation of medical and health personnel with be essential, and for the time being, it will probably be necessary for the mobile clinics and the social education mobile teams to share the same vehicles.

MEDICAL AND HEALTH SERVICE INFORMATION SYSTEM Fig - 1



(3) Long-range Goals

Table-9 gives the schedule for achieving the kind of system for supply of medical and health services outlines above. The hospital, health center, and dispensary standards set in Table-6 are to be achieved by 1995, by which time the number of hospital beds will have tripled so that one will be available for every 300 persons.

Long-term Medical and Health Service Goals (Table-9a)

Region	1976	1980	1985	1995
Hospitals	11	11	16	24
Hospital beds	1,440	2,150	3,000	4,850
Health centers	10	11	14	21
Dispensaries	114	174	228	348
One hospital for every persons	81,300	93,000	74,600	60,700
One hospital bed for every persons	621	475	400	300
One health center for every persons	89,400	92,900	82,500	69,300
One dispensary for every persons	7,840	5,870	5,230	4,180

Long-term Medical and Health Service Goals (Table-9b)

Hai District	1976	1980	1985	1995
Hospitals	2	2	3	4
Hospital beds	476	536	646	900
Health centers	1	2	2	3
Dispensaries	21	33	45	71
One hospital for every persons	83,000	94,400	72,700	65,900
One hospitals bed for every persons	349	352	340	293
One health center for every persons	166,000	94,400	109,100	87,900
One dispensary for every persons	7,900	5,720	4,850	3,710

Long-term Medical and Health Service Goals (Table-9c)

Moshi District	1976	1980	1985	1995
Hospitals	5	5	6	7
Hospital beds	668	868	1,228	2,050
Health centers	3	3	4	6
Dispensaries	38	61	80	126
One hospital for every persons	75,600	85,700	83,500	86,900
One hospital bed for every persons	566	494	410	297
One health center for every persons	126,000	142,800	125,200	101,400
One dispensary for every persons	9,950	7,020	6,260	4,830

Long-term Medical and Health Service Goals (Table-9d)

Rombo District	1976	1980	1985	1995
Hospitals	1	1	3	5
Hospital beds	83	363	523	820
Health centers	3	3	3	4
Dispensaries	19	32	42	55
One hospital for every persons	151,000	171,350	65,900	47,600
One hospital bed for every persons	1,820	472	380	290
One health center for every persons	50,400	57,100	65,200	59,500
One dispensary for every persons	7,950	5,354	4,700	4,230

Long-term Medical and Health Service Goals (Table-9e)

Pare District	1976	1980	1985	1995
Hospitals	3	3	4	8
Hospital beds	213	483	703	1,080
Health centers	3	3	5	8
Dispensaries	36	48	61	96
One hospital for every persons	66,300	77,800	69,100	43,300
One hospital bed for every persons	934	483	390	320
One health center for every persons	66,300	77,800	55,300	43,300
One dispensary for every persons	5,530	4,860	4,530	3,610

1.5 The Third 5-year Plan

(1) Development Programme

Instead of building new hospitals, the existing ones will be improved and expanded in terms of facilities and personnel.

One of the main points of emphasis of the programme is the construction of 60 new dispensaries in order to bring the total number to 174, which corresponds to one-half the total number of villages.

As it is desirable that the mobile clinic teams come into existence as soon as possible, all four will be organized in 1977.

Staff quarters for fifty households will be provided during the period covered by the program, the construction schedule being geared to the expansion of personnel. The additional investment for improvement of existing facilities will be of the amount required, and during the period covered by the programme all such facilities will be checked and improved each year. Two new medical doctors should be assigned each year up until 1980, with the exception of 1977, when four will be assigned to meet the needs of the mobile clinic teams. The additional number of rural medical aids and midwives will be required primarily for the new dispensaries, and in the next several years medical manpower will grow at a fairly high rate.

Facilities Development Programme (Table-10)

	77/78	78/79	79/80	80/81	Totals
Construction					
Hospitals	0	0	0	0	0
Hospital beds	160	160	200	190	710
Health centers	0	1	0	0	1
Dispensaries	10	15	15	20	60
Mobile clinics	4	0	0	0	4
Staff quarters (units)	17	13	10	10	50
Improvement					
Hospitals	2	3	3	3	11
Health centers	2	2	3	3	10
Dispensaries	24	30	30	30	114

Manpower Development Programme (Table-11)

	1976 (existing)	77/78	78/79	79/80	80/81	Totals
Medical doctors	45	4	2	2	2	55
Medical assistance	72	4	2	2	2	82
Rural medical aids	112	20	15	15	20	182
Type A nurses	82	5	5	3	3	98
Type B nurses	278	15	10	10	10	323
Midwives	72	10	15	15	20	132
Managerial & service personnel	140	12	10	10	11	183

(2) Cost Estimates

The cost of providing hospital beds and building new dispensaries represents a substantial proportion of the development budget that has been estimated as being necessary for achievement of the medical and health service facilities development programme. Moreover, by fiscal year 1980-81 medical and health personnel costs are expected to come to 8,975,900 shs.

Initial Unit Costs (Table-12)

Facilities	Shs. per unit	Remarks
Provision of hospital beds	5,000	Including all expansion of facilities accompanying the increase in the number of beds
Construction of health centers	650,000	Including all initially provided equipment, medical supplies, etc.
Construction of dispensaries	50,000	"
Organization of mobile clinic teams	120,000	Including large jeep (80,000 shs.)
Staff quarters (unit)	20,000	
Improvement of hospitals	50,000 - 500,000	Average of about 100,000 shs.
Improvement of health centers	20,000 - 80,000	" 50,000 shs.
Improvement of dispensaries	5,000 - 50,000	" 10,000 shs.

Recurrent Unit Costs (Table-13)

* Medical supplies, office and other supplies, water, electricity, etc.

	Shs. per unit per year	Remarks
Hospitals	90,000	
Health centers	50,000	
Dispensaries	30,000	
Mobile clinics	80,000	Including 50,000 shs. for gasoline and repairs

* Salaries	Shs. per person per year
Medical doctors	27,500
Medical assistants	16,500
Rural medical aids	8,800
Type-A nurses	8,800
Type-B nurses	5,500
Midwives	5,300

Development Budget (thousands of shs.) (Table-14)

	77/78	78/79	79/80	80/81	Totals
Construction					
Hospitals	0	0	0	0	0
Hospital beds	800	800	1,000	950	3,550
Health centers	0	650	0	0	650
Dispensaries	500	750	750	1,000	3,000
Organization of mobile clinic teams	480	0	0	0	480
Staff quarters (unit)	340	260	200	200	1,000
Improvement					
Hospitals	200	300	300	300	1,100
Health centers	100	100	150	150	500
Dispensaries	240	300	300	300	1,140
Totals	2,660	3,160	2,700	2,900	11,420

Recurrent Budget (hundreds of shs.) (Table-15)

	77/78	78/79	79/80	80/81	Totals
Salaries					
Medical doctors	13,475	14,025	14,575	15,125	57,200
Medical assistants	12,540	12,870	13,200	13,530	52,140
Rural medical aids	11,616	12,936	14,256	16,016	54,824
Type "A" nurses	7,656	8,096	8,360	8,624	32,736
Type "B" nurses	16,115	16,665	17,215	17,765	67,760
Midwives	8,056	8,586	9,116	9,699	35,457
Subtotals	69,458	73,178	76,722	80,759	300,117
Medical supplies, heating and lighting, water service, etc.					
Hospitals	22,000	22,000	22,000	22,000	88,000
Health centers	9,000	9,900	9,900	9,900	38,700
Dispensaries	37,200	41,700	46,200	52,200	177,300
Mobile clinics	3,200	3,200	3,200	3,200	12,800
Subtotals	71,400	76,800	81,300	87,300	316,800
Recurrent Totals	140,858	149,978	158,022	168,059	616,917

(3) Matters That Must Be Given Particular Attention in Implementation of the Third 5-year Plan

(i) Securing of Funds

This 5-year plan will entail a cost of 11,420,000 shs. for construction alone. If one takes into account as well personnel costs and the cost of running the facilities, the present regional budget for this purpose is certain to be well exceeded. Hence the need for means of procuring extra funds.

(ii) Mutual Cooperation Among Nongovernmental Hospitals

Presently a full half of the hospitals in the Kilimanjaro Region are staffed by volunteers. Considering the substantial contribution that they are making to medical and health service in the region, the national and regional government ought to extend them active financial assistance and promote mutual cooperation among such hospitals.

(iii) Volunteer Labor in Construction of Dispensaries

It is to be hoped that many local inhabitants will actively participate in the construction of dispensaries on the basis of an awareness that by so doing they will be contributing to the raising of the level of medical care service in their community.

(iv) Purchase of Medical Supplies and Materials

The considerable amount of medical supplies that will be consumed by the medical care facilities should probably be purchased in bulk through the cooperative shops.

2. PRIMARY EDUCATION

2.1 Introduction

The achievement of universal primary education by 1977 has been set as a national policy goal. The two main inputs of primary education are teachers and classrooms. Although the national program for the training of primary school teachers is being energetically implemented, it is doubtful that the number of teachers will be adequate, to say nothing of the quality. In view of budgetary limitations, the authorities has made it a policy to rely on local voluntary labor for the construction of classrooms and living quarters for teachers and their families, and this policy is unlikely to change for many years at least. The standard of facilities in the Kilimanjaro Region is relatively high, the primary school being one of the finer buildings in the villages. It would seem that the only major problem with respect to achievement of universal primary education by 1977 is that of finding enough funds to pay the teachers' salaries.

2.2 Analysis of Present Situation

(1) Number of Pupils

Table-16 gives the number of primary school pupils in the Kilimanjaro Region. Under the objective of "universal primary education by 1977" the number of children enrolling has been increasing sharply in recent years, the number of pupils in the first grade (Standard I) reaching 35,918 in the Kilimanjaro Region in 1976. Since this figure includes children not accepted in the previous year, however, it is extremely difficult to ascertain the actual rate of enrollment of children who have just reached enrollment age. Best estimates place this rate at over 90%.

Number of Primary School Pupils, 1976 (Table-16)

Standards	Hai	Moshi	Rombo	Pare	Totals
I	6,274	13,318	7,349	8,977	35,918
II	5,023	10,401	5,364	7,102	27,890
III	3,039	7,716	3,624	5,065	19,444
IV	2,935	7,055	2,750	4,650	17,390
V	2,796	6,918	2,288	4,637	16,639
VI	2,655	6,846	2,195	4,028	15,724
VII	2,542	6,721	2,172	4,132	15,567
Totals	25,264	58,975	25,742	38,591	148,572

(2) Level of Primary Schools

Table-17 gives the number of primary schools and the number of pupils. The average number of pupils per school is 248, and the average number of pupils per classroom is 44.2. Although the total number of primary schools--599--is much higher than the total number of villages, survey results show that there are still some villages without a primary school: 10 in the Moshi District, 9 in the Pare District, 3 in the Rombo District, and 4 in the Hai District. Considering the fact that not all of the villages in the region were covered in the survey, there are no doubt still more without a primary school--the actual figure probably being just under 10%. Table-18 gives the number of primary school teachers. In spite of the increasing number of pupils, the pupil/teacher ratio for the region as a whole has been held down to 49.6. This compares favorably with the nationwide ratio of 53 in 1975.

Number of Primary Schools and Classrooms, 1976 (Table-17)

Standards	Hai	Moshi	Rombo	Pare	Totals or average
I	19	15	38	8	80
I-II	34	27	3	45	109
I-III	2	9	12	7	30
I-IV	4	3	8	7	22
I-V	3	3	3	5	14
I-VI	3	7	2	4	16
I-VII	56	131	53	88	328
Totals	121	195	119	164	599
No. of classrooms	576	1,318	593	871	3,358
Pupils per classroom	43.9	44.7	43.4	44.3	44.2

Number of Primary School Teachers (Table-18)

Grades	Hai	Moshi	Rombo	Pare	Total
A	189	447	144	295	1,075
B	124	372	80	151	727
C	97	180	131	135	543
Others	240	239	123	157	749
Totals	540	1,238	478	738	2,994
Pupils per teacher	46.9	47.6	53.9	52.3	49.6

(3) Quality of Primary School Education

The quality of primary school education can be gauged in terms of three different measurements, including facilities, accessibility, and the quality of the teachers. "Facilities" includes the school buildings, blackboards, desks and other facilities as well as textbooks, notebooks, and other teaching materials. In the Kilimanjaro Region the securing of adequate teaching materials is a big problem. As for accessibility, in the absence of direct data it is not possible to get an accurate picture of the actual situation, but from the fact that some villages have no primary school it is safe to conclude that some children have to walk a long way to and from school. With respect to the third criterion--the quality of teachers--it must be said that this is an all-important element of the quality of education. It is a fact that owing to the growing demand for teachers, training facilities and putting out teachers who have not necessarily received an adequate amount of training. This may be an unavoidable trasitional situation in view of the goal of attaining universal primary education by 1977, but at any rate it is to be hoped that an effort will be made to pugrade such teachers through correspondence courses and by other feasible means even after they have assumed their teaching positions.

2.3 The Third 5-year Plan

(1) Forecast of Number of Pupils

Table-19 gives the forecasted figures for the number of pupils in 1980, the method of forecast being explained in the footnote. An increase of 63,000 pupils is expected in the next five years as children presently in standards III-VII, whose numbers are relatively few, leave school. Also given in parentheses in the table are rough estimates of the number of children not accepted in the previous year.

Number of Pupils, 1980 (Table-19)

Standards	Hai	Moshi	Rombo	Pare	Totals
I	5,421	11,799	6,699	7,976	31,895 (500)
II	5,428	11,813	6,707	7,986	31,934 (1,000)
III	5,521	12,012	6,820	8,121	32,474 (2,000)
IV	5,612	12,212	6,933	8,256	33,013 (3,000)
V	6,199	13,159	7,261	8,869	35,488
VI	4,963	10,276	5,300	7,017	27,556
VII	3,003	7,624	3,581	5,004	19,212
Totals	36,147	78,895	43,301	19,212	211,572

Remark: The figures for standards V, VI, and VII have been obtained by multiplying the 1976 figures by the natural annual death rate of 0.3%, and those for standards I-IV by doing the same to the 1975 BRALUP population forecasts for different age groups. In parentheses are given the forecasted figures for the number of children who will not have been accepted in the previous year, this number probably declining to 500 by 1980.

(2) Development Levels

Table-20 gives estimates of the amount of additional investments that will have to be made in education to cope with the number of pupils foreseen up to 1980. The pupil/teacher ratio has been set so as to maintain the 1976 level of educational service. It may not be an ideal level, but at any rate it has been considered advisable at least not to allow educational service to fall below the present level in the course of quantitative expansion. As a result of this ratio, it would appear that in the region as a whole it will be necessary to increase the number of primary school teachers by 1,272 and the number of classrooms by 1,429. At present there are four teacher training institutes in the Kilimanjaro Region with a total capacity of 1,110 trainees. Since, however, teacher training programs are run at the national teacher training capacity of 8,380 trainees is still inadequate. This being the case, the government recently reduced the period of training from two years to one year as a temporary measure. Although this would appear to have made it possible to secure the number of teachers needed, it is to be hoped that there will be a return to the original two-year training period before too long since a one-year training period cannot help but result in a decline in the quality of teaching personnel.

Additional Investment in Primary Education by 1980 (Table-20)

		Hai	Moshi	Rombo	Pare	Totals
1976	Number of pupils	25,264	58,975	25,742	38,591	148,572
	Number of teachers	540	1,238	478	738	2,994
	Number of classrooms	576	1,318	593	871	3,358
	Number of schools	121	195	119	164	599
	Number of villages without school	4	10	3	9	26
1980	Number of pupils	36,147	78,895	43,301	53,229	211,572
	P/T ratio	49.6*	49.6*	49.6*	49.6*	49.6*
	Number of teachers	729	1,591	873	1,073	4,266
	Add. no. of teachers	189	353	395	335	1,272
	P/C ratio	44.2*	44.2*	44.2*	44.2*	44.2*
	Number of classrooms	818	1,785	980	1,204	4,787
	Add. no. of classrooms	242	467	387	333	1,429
	Number of new schools	4	10	3	9	26
1995		P/T ratio 40	P/C ratio 40	2km accessibility for all pupils		

* These ratios are based on the 1976 service level.

Primary School Teacher Training Facilities, 1975 (Table-21)

	No. of schools	Capacity	Teacher grade(s)
Kilimanjaro region	4	1,110	-
Marangu (Moshi)		600	A and C
Kasulu Mandaka (Moshi)		150	C
Singachini (Moshi)		160	C
Usangi (Pare)		200	C
Other regions	27	7,270	-
Totals	31	8,380	-

(3) *Cost Estimates*

Table-22 represents a time schedule for the whole 5-year plan, with figures on planned investment in each year. Since the increase in the number of pupils, i.e., the difference between the number of pupils entering Standard I in that year and the number of pupils leaving school, will gradually fall of after 1977, investment will be most important in the initial phase of the 5-year plan.

Considering financial limitations and the fact that about 80% of the teachers employed are expected to be local residents, the number of new housing units to be built for teaching personnel has been set at only 20% of new teachers.

The overall amount of investment has been calculated on the basis of Table-23. Incidentally, it is to be hoped that local residents an be relied upon for voluntary service in the construction of classrooms and housing for teaching personnel.

The Third 5-year Plan calls for the construction of 26 new primary schools so that all villages can have at least one. Since such new primary schools will consist not only of classrooms but of management space and other service facilities as well, it has been estimated that 100,000 shs. should be added to the construction cost of each school for this purpose.

As indicated in Table-25, in fiscal year 1980-81 the burden of Primary school teacher salaries is expected to reach the hefty sum of 31,988,000 shs.

Development Levels (Table-22)

	76/77	77/78	78/79	79/80	80/81	Totals
Standard I enrollment	35,918	33,221	32,579	31,939	31,803	
Increase in enrollment		17,255	16,452	14,904	14,389	
Total no. of pupils	148,572	165,827	182,279	191,183	211,572	
New classrooms		391	373	338	326	1,428
Classroom equipment		391	373	338	326	1,428
Total no. of classrooms	3,358	3,749	4,122	4,460	4,786	
Increase in no. of teachers		348	332	301	291	1,272
Total no. of teachers	2,994	3,342	3,674	3,975	4,265	
New teacher housing (unit)		70	66	60	58	254
New primary schools		7	7	6	6	26

Development Costs (Table-23)

New facilities	Shs. per unit	Remarks
Classrooms	10,000 *	Self-help construction
Classroom equipment	2,000	Including desks, chairs & blackboard
Teacher housing	15,000	Self-help construction
Teacher salaries per annum	4,800	Beginning salary of Grade C teacher
	7,500 **	Average salary for all primary school teachers
Service facilities of each new primary school	100,000	
Maintenance cost per classroom	500	per annum

* Ordinarily the cost of the materials alone for construction of a new classroom would be 12,000 shs. Because of financial limitations, however, it will be necessary to do with fewer funds. In order to minimize reduction in quality it will therefore be necessary for local residents to find ways themselves to provide some of the lumber and stone materials that will be needed.

** As it will be necessary to raise the salaries of teachers already employed as new teachers are hired, it is possible to assume that the average salary of 7,500 shs. will not decline on account of such new hiring.

Development Budget (thousands of shs.) (Table-24)

	77/78	78/79	79/80	80/81	Totals
Construction of classrooms	3,910	3,730	3,386	3,260	14,280
Classroom equipment	782	746	676	652	2,856
Construction of teacher housing	1,050	990	900	870	3,810
Service facilities of new primary schools	700	700	600	600	2,600
Totals	6,442	6,166	5,556	5,382	23,546

Recurrent Budget (thousands of shs.) (Table-25)

	77/78	78/79	79/80	80/81	Totals
Teacher salaries	25,065	27,555	29,812	31,988	114,420
Maintenance costs	1,875	2,061	2,230	2,393	8,559
Totals	26,940	29,616	32,042	34,081	122,979

2.4 Future Goals with Respect to Primary Education

Let us consider the goals with respect to primary education in the Kilimanjaro Region for the year 1995. With a decline in the population growth rate, the need for additional investment in facilities and for additional teaching personnel with a view to maintaining the present pupil/teacher and pupil/classroom ratios should not be all that great. A figure of 40:1 for both these ratios seems to be appropriate for 1995. The main policy task will therefore be improvement of quality rather than coping with considerable quantitative increase.

Let us take a look at such qualitative improvement in terms of the three previously mentioned factors: facilities, accessibility, and quality of teachers.

(1) Facilities ..... Besides provision of libraries, physical education facilities, and school lunch facilities, it should be made possible for all pupils to have textbooks, notebooks, and pencils or other writing implements.

(2) Accessibility ..... There ought to be a primary school withing 2 km of the home of each pupil, and this will entail the building of some new schools. In cases where the number of pupils living farther than 2 km from school is small, however, school buses or other means of transportation should be considered rather than building new schools.

(3) Quality of teachers ..... As already mentioned, the quality of teachers is determined by the length of their training. By 1995 the rate of advancement from primary to secondary school should be somewhat higher than it is now, and hopefully it will be possible to require entrants to the teacher training programme to have completed secondary school (Form-VI) instead of just primary school as is presently required and also to readopt a 2-year training period.

3. SECONDARY EDUCATION

Secondary education is a national programme which cannot be treated on the regional planning level. Accordingly, in this report attention will be focussed on the present state of secondary education and future targets with respect to the rate of advancement to it from primary schools, with financial considerations only being mentioned in passing.

3.1 Analysis of the Present Situation

At present 8,191 students are enrolled in 30 secondary schools in the Kilimanjaro Region (see Table-26), which compares very favourably with the national enrollment of 38,327 in public secondary schools and 14,930 in private secondary schools in 1975 as determined by the Ministry of National Education.

Since 15, or half of these secondary schools in the Kilimanjaro Region are concentrated in the Moshi District, it can appropriately be considered the center of secondary education in the region.

One of the indices of the level of secondary education is the ratio of Form-1 students to Standard-VII pupils, which stood at 14.3% in the region in 1976 (see Table-26), although it must be kept in mind that not all secondary school entrants are from the Kilimanjaro Region.

A list of the secondary schools in the region is given in Table-28 for reference purposes.

Secondary School Enrollment by District (Table-26)

Forms	Hai	Moshi	Rombo	Pare	Totals
I	522	1,182	214	319	2,237
II	422	1,360	156	287	2,225
III	377	1,188	142	168	1,875
IV	381	932	159	78	1,550
V	-	152	-	-	152
VI	-	152	-	-	152
Totals	1,702	4,966	671	852	8,191

Number of Secondary Schools by District and Numbers of Forms (Table-27)

Forms	Hai	Moshi	Rombo	Pare	Totals
I	-	1	1	-	2
I-II	-	-	-	2	2
I-III	1	-	-	4	5
I-IV	4	12	2	1	19
I-V	-	-	-	-	-
I-VI	-	2	-	-	2
Totals	5	15	3	7	30

Types of Secondary Schools (Table-28)

Names of Schools	Location	Private	Boys	Girls	Co-education	Boarding	Day school	Going to Form V, VI
1. Moshi Secondary	Moshi		●			●		●
2. Moshi Technical	"		●			●		
3. Unibwe Sec.	"		●			●		
4. Mawenri Sec.	"				●	●	●	
5. Ashira	"			●		●		
6. Uru Sec.	"	●			●			
7. Uru Sem.	"	●	●			●		
8. Kibo	"	●			●		●	
9. Kibosho	"	●		●		●		
10. Kilema Sem.	"	●	●			●		●
11. Kolila	"	●			●	●	●	
12. Urujo	"	●			●	●	●	
13. Maua	"	●			●	●	●	
14. Kirua	"	●						
15. Weruweru	"			●		●		
16. Iyo	Hai		●			●		
17. Michaime	"			●		●		
18. Kibohehe	"	●			●	●	●	
19. Masawa	"	●		●		●		
20. Siha	"	●			●	●	●	
21. Kilimanjaro	Rombo	●	●			●		
22. Kiraeui	"	●		●		●		
23. Mashati	"	●						
24. Sanie	Pare		●			●		
25. Shishatini	"	●			●	●	●	
26. Sitenseni	"	●			●	●	●	
27. Minja	"	●			●	●	●	
28. Sarane	"	●			●	●	●	
29. Mauka	"	●			●	●	●	
30. Loniwe	"	●			●	●	●	

3.2 The Third 5-year Plan

The number of Standard-VII leavers is expected to increase at a fairly fast pace in the next several years, and even if the 1976 ratio of Form-I students to Standard-VII pupils of 14.3% is just maintained instead of rising, the number of secondary school students will continue to rise.

It is proposed here that this ratio be maintained up until 1980. Moreover, in order to improve the level of secondary education the ratio of Form-V students to Form-IV students should be raised from 9.8% to 23.6%. It is not necessary, however, to consider the construction of new schools for the purpose of attaining this target level, for it should be possible to achieve it merely by improving existing secondary schools.

As can be seen in Table-27, only two secondary schools in the region consist of Forms I-VI, the others having only a varying fewer number of forms. This being the case, it is to be hoped that the number of secondary schools with Forms I-IV will be increased to 24 by 1980, which will involve the organization of 116 new classes and the hiring of some 140 more teachers at the cost indicated in Table-31.

In Tanzania secondary schools are expected to accept not only local students but also those from outside the region. Already the Kilimanjaro Region has a relatively large secondary education capacity, which is a good thing from the standpoint of efficiency of investment in education, for a single unit of investment can be expected to improve the education process far more in a region which has reached a relatively high stage of overall development, as the Kilimanjaro Region has, than in a region in a lower stage of overall development, the assumption, which is a valid one, being that a higher level of other processes in the social system will make improvement of any one process easier.

Accordingly, further improvement of secondary education in the Kilimanjaro Region in the next five to ten years is advisable from the standpoint of efficiency of educational investment on the national level.

Needless to say, it will be necessary to bear in mind the need to keep the doors of secondary schools in the region just as open to students from outside the region as to local students in order to avoid widening interregional disparity in terms of educational opportunities.

Development Levels (Talbe-29)

	1976	1980	1995
No. of students	8,191	1,679	-
No. of teachers	316	456	-
Student/teacher ratio	25.6	25.6	20.0
Form I students/standard VII pupils	14.3%	14.3%	25.0%
Form V students/Form IV students	9.8%	23.6%	25.0%
No. of secondary schools	30	30	-
No. of schools by type	-	Form I-IV 24 Form I-VI 6	-
No. of students per classroom	31.5	31	30
No. of classrooms	260	376	-

Development Programme (Table-30)

Additional Classrooms and Teachers Each Year

	77/78	78/79	79/80	80/81	Total
No. of new classrooms	25	27	30	34	116
No. of teachers	30	33	37	40	140

Budget for Secondary Education (Table-31)

(thousands of shs.)	77/78	78/79	79/80	80/81	Totals
Development budget (Classroom construction)	750	810	900	1,020	3,480
Recurrent budget (Teacher salaries)	3,114	3,411	3,744	4,104	14,373
Totals	3,864	4,221	4,644	5,124	17,853

Remark: Development unit costs is as follows:

(i) Classroom construction 30,000 shs./unit
(ii) Average annual teacher salary 9,000 shs./person

4. ADULT EDUCATION

4.1 Introduction

In the past adult education has chiefly signified literacy education. In the present plan, however, the concept of adult education has been widened to include mother and child, health, nutrition, and other life improvement service programmes that up to now have been operated independently and various community improvement campaigns, such as the construction of primary schools with voluntary labor.

It is easy to imagine the effect of acquisition of literacy on other life improvement campaigns. The two are not simply interrelated, but rather through their interrelation produce an effect greater than the sum of their individual effects.

As indicated below, life improvement service can be classified into two broad categories--community life improvement service and family life improvement service--each of which consist of four subcategories. In the present chapter a 5-year plan will be proposed with regards to the literacy education and community development planning aspects of community life improvement service, family life improvement service being discussed in the next chapter.

Community Life Improvement Service

1. Literacy education
2. Community development planning
3. Co-operative education *
4. Technical training **

Family Life Improvement Service ***

1. Family planning
2. Nutrition
3. Mother and child health
4. Housing, etc.

* Based on other programme not described in this chapter.
** Mentioned in "Manpower" report.
*** To be explored in the next section.

4.2 Community Development Planning

(1) Definition of Community Development

At the present time construction of primary schools depends to a considerable extent on voluntary labor furnished by local residents, who themselves benefit therefrom. In other words, they build these and other social service facilities held in common by the community to which they belong for themselves. This kind of voluntary labor is a basic element of self-reliance local government and an essential ingredient of social life.

Hopes must be pinned on such voluntary labor all the more because of the fact that public financial resources are not sufficient to satisfy all of the social service needs of the population.

It must be emphasized, however, that such programmes ought to be based on the free will of those concerned. This being the case, the scope of community development is to be determined by the community residents themselves. One can, however, assume that they will in most cases choose to build primary schools, village meeting places, village water supply facilities, village churches, feeder roads, dispensaries, and other facilities of imminent relevance to local community life.

What is meant here by community development planning is planning for the organization of efforts to provide local residents construction tools, materials, and technical guidance upon request.

As the level of economic development rises, volunteer labor will be depended upon less and less for the construction of physical facilities for the public services necessary to local community life. At the present stage, however, in which economic take-off is being attempted, such self-reliance efforts are very important indeed.

The people cannot, however, be expected to participate actively in such efforts if there is no incentive for them to do so, as experience on Ujamaa farms has taught. Community development planning should be geared to the development of small industries in rural areas, in which effective use should be made of surplus farm labor. One idea in this regard is the pooling of funds for the establishment of small cooperative industries, dividing a part of the profits among the members of the cooperative, and using some of the remaining profits to purchase construction tools and materials for community development.

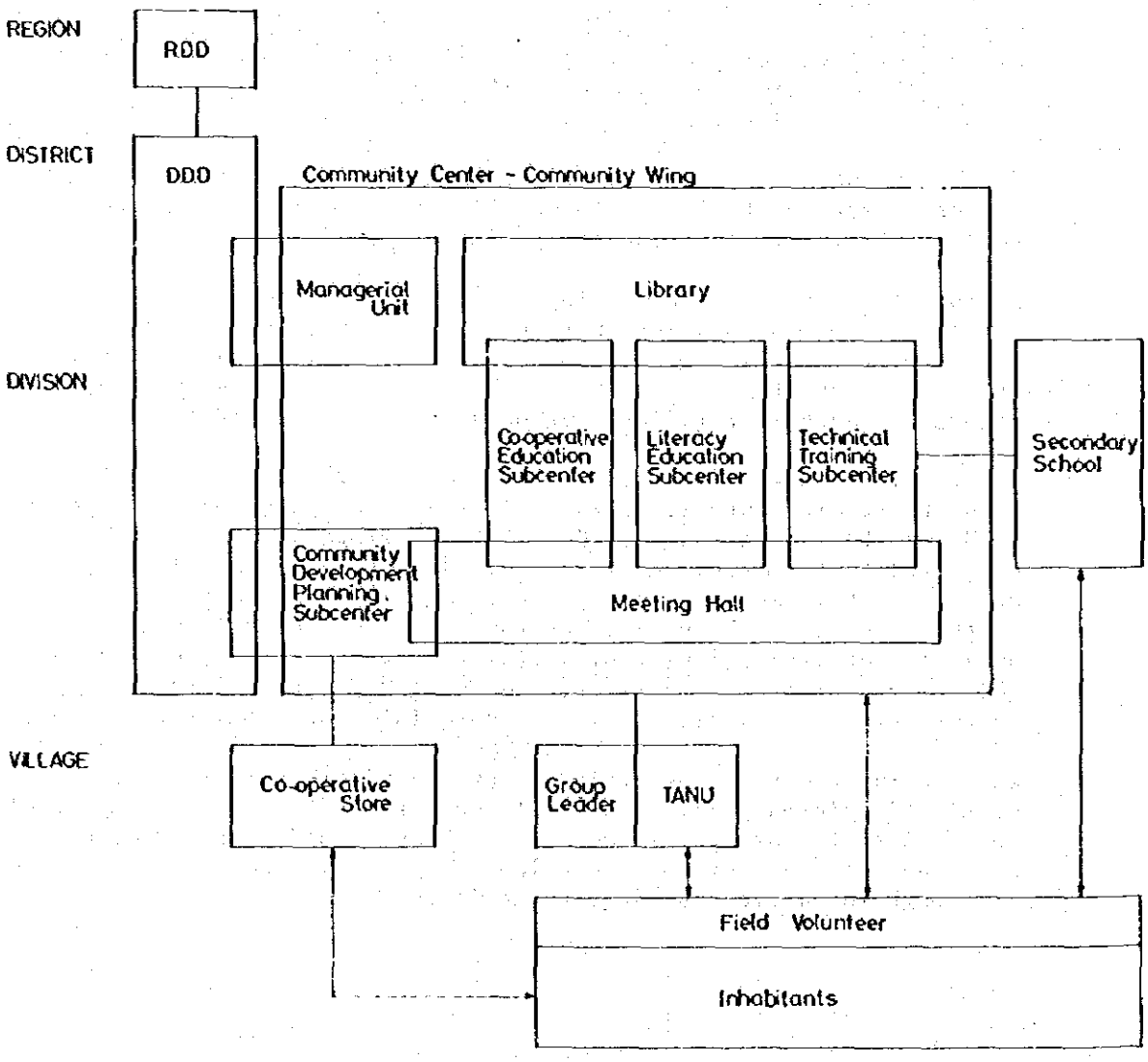
Considering the fact, as reflected by the findings in the above-mentioned opinion poll, that local grass-roots leaders are emphasizing the need to improve public services, there should be no trouble in securing the mount of volunteer labor necessary, provided that there is enough incentive and adequate leadership.

(2) Promotion System

Community centers should be built as staging pads for the promotion of community development planning. Such centers, which will each consist of a family wing and a community wing, will be discussed in greater detail in the next chapter. The community wing, outlined in Fig-2, will consist of four subcenters for promotion of community life improvement services and a managerial unit.

Since community development is strongly related to the work plans of regional and divisional authorities, good liaison with D.D.D.'s and R.D.D.'s is essential. Cooperative stores would seem to be a good place to store and control the construction tools and equipment that are to be lent out.

COMMUNITY LIFE IMPROVEMENT SERVICE SYSTEM Fig-2



4.3 Literacy Education

(1) Analysis of the Present Situation

Writing is an important means of conveying information and spreading knowledge. Realizing this, both the national and regional governments have invested a considerable amount of human resources both in the early attainment of universal primary education and in literacy education.

Table-32 indicates the number of tutors that have been engaged in such efforts, and Table-33 the number of those that have been taught. It would appear that with the rising proportion of qualified tutors, adult education is also improving in terms of substance. Thanks to this rapid increase in the number of tutors, the number of those receiving instruction doubled between 1970 and 1975.

The pace at which the illiteracy rate declines is a good indicator of the effect of literacy education, and by 1975 this rate had already fallen to 35.7%.

Number of Different Kinds of Personnel Involved in Adult Education
(Table-32)

	1970	1971	1972	1973	1974	1975
Qualified tutors	6,403 (26%)	9,960 (26%)	46,865 (35%)	59,590 (39%)	79,648 (74%)	97,233 (67%)
Ministry officers	7,643 (31%)	13,155 (34%)	33,903 (25%)	20,672 (13%)	13,289 (12%)	15,315 (11%)
Students	1,639 (7%)	2,394 (6%)	4,031 (3%)	2,893 (2%)	4,469 (4%)	18,424 (13%)
Workers	2,046 (8%)	2,183 (6%)	2,348 (2%)	7,153 (5%)	4,889 (5%)	7,257 (5%)
TANU officers	399 (2%)	825 (2%)	638 (0.5%)	3,310 (2%)	2,466 (2%)	3,872 (3%)
Regional officers	368 (2%)	487 (1%)	235 (0.2%)	- (-)	679 (0.6%)	897 (0.6%)
Others	6,403 (26%)	9,960 (26%)	46,865 (35%)	59,590 (39%)	2,234 (2%)	1,872 (1%)
Totals	24,901	38,964	134,881	153,208	107,674	144,870

Figures furnished by M.N.E.

Number of Recipients of Adult Education (Table-33)

	1970	1971	1972	1973	1974	1975
Nationwide	192,007	755,974	2,008,917	2,587,702	3,587,966	4,546,041
Increase index *	100	394	1,046	1,348	1,869	2,368
Kilimanjaro Region	4,227	67,027	76,027	69,453	94,409	-
Increase index *	100	1,586	1,799	1,643	2,233	

* 1970 has been taken as the base year.

Figures furnished by M.N.E.

Illiteracy Rate, 1975 (Table-34)

	Illiterates	Rate of illiteracy
Nationwide	5,593,101	37.3%
Kilimanjaro Region	309,221	35.7%

Figures furnished by M.N.E.

(2) Future Goals

Lowering the illiteracy rate to 25% by 1980 and 5% by 1995 would seem to be realistic goals. Once all the people have learned to read and write, literacy education will no longer be necessary, and even before that, say as early as 1990, when the illiteracy rate gets to be fairly low, it will be possible for school education to replace literacy education. Nevertheless, it will be necessary to increase the number of tutors somewhat up until at least 1980. Community centers should be thought of as the main places for the offering of such education.

4.4 The Third 5-year Plan

(1) Development Levels

Community centers are to be built in four division centers by 1980 and all division centers by 1995. Materials for use in literacy education will have to be increased by 100 units (1 unit being the amount required by 100 persons receiving such instruction), and 100 more tutors will be needed. For community development, construction tools and equipment as well as instructors to explain their use will be provided. In addition, the community centers will required some managerial and service personnel.

Facility Development Levels (Table-35)

	77/78	78/79	79/80	80/81	Totals
Community Centers	1	1	1	1	4
Education materials (units)	25	25	25	25	100
Co-operative stores	20	20	20	20	80
Construction tools and equipment (sets)	25	25	25	25	100

Manpower Development Levels (Table-36)

	77/78	78/79	79/80	80/81	Totals
Literacy tutors	25	25	25	25	100
Community Development instructors	5	5	5	5	20
Managerial and service personnel	3	3	3	3	12

(2) Cost Estimates

Project costs are indicated in Table-41 and Table-42. It appears that about 1,417,900 shs. of the Kilimanjaro regional budget in 1976 was for literacy education. Furthermore, it is estimated that a total of 2,437,500 shs. will be paid literacy tutors in the region in salaries in 1977-1978. The discrepancy between these two figures is due mainly to the fact that not all of the salaries of such tutors are included in the regional government's budget for adult education. The provision of tools and equipment for community development will not be all that great a burden. The provision of cement, gravel, lumber and other materials not included in the budget, however, could become a problem. Moreover, besides the guidance of instructors, the cooperation of regional government officials will be necessary in the course of the actual construction work.

Initial Unit Costs (Table-37)

	Shillings per unit	Remarks
Construction of community centers	1,000,000	Explained in "Family Life Improvement Service" section
Educational materials	850	1 unit consisting of 100 textbooks
Co-operative stores	200,000	Not included in this project (to be carried out in other project)
Community development construction tools and equipment (units)	930	Shovels and hammers, etc.

Recurrent Unit Costs (Table-38)

	Shillings per person (units) per year	Remarks
Salaries		
Literacy tutors	7,500	Average
Community development instructions	7,500	Average
Managerial and service personnel	7,500	Average
Maintenance cost of community centers	40,000	Electricity, water, office supplies, etc.

Development Budget (Table-39)

(shillings)

	77/78	78/79	79/80	80/81	Totals
Community centers	0	0	0	0	0
Education materials	21,250	21,250	21,250	21,250	85,000
Co-operative stores	0	0	0	0	0
Construction tools	23,250	23,250	23,250	23,250	93,000
Totals	44,500	44,500	44,500	44,500	178,000

Recurrent Budget (Table-40)

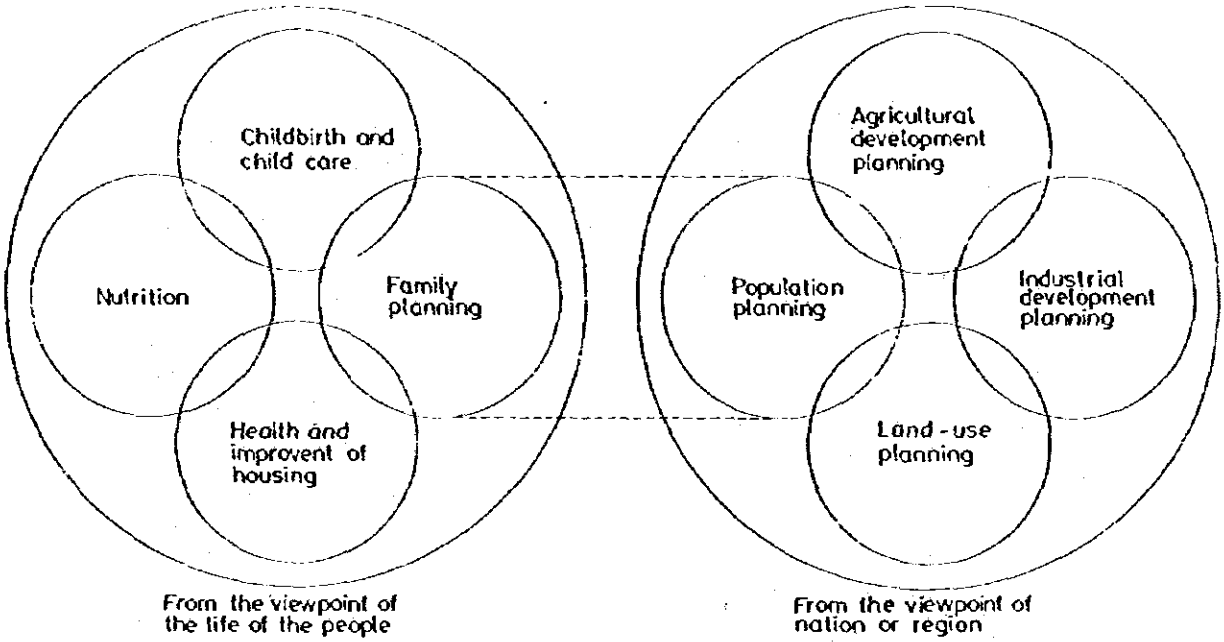
	(thousands of shs.)				
	77/78	78/79	79/80	80/81	Totals
Salaries					
Literacy tutors	2,437.5	2,625.0	2,812.5	3,000.0	10,875.0
Community development instructors	37.5	75.0	112.5	150.0	375.0
Managerial and service personnel	91.0	112.0	133.0	154.0	490.0
Maintenance cost of community centers	40.0	80.0	120.0	160.0	400.0
Totals	2,606.0	2,892.0	3,178.0	3,464.0	12,140.0

5. FAMILY LIFE IMPROVEMENT SERVICE

5.1 Introduction

The concept of family planning is very much different from that of population planning although the two have much the same effect in terms of holding down population growth. In the case of population planning, the population frame is set in relationship to national industrial policy, and the planning system is one of imposing the will of those above on those below, the living conditions of the people being treated as given for the purposes of promotion of implementation planning.

FAMILY LIFE IMPROVEMENT SERVICE Fig.-3



Family planning, on the other hand, is a concept based on the standpoint of improvement of the quality of life of the people. In this report it is proposed that this planning concept be carried as far as possible in providing family life improvement service that relates to the entire scope of the life of the people, the goal being the achievement of a health, safe life for all of a satisfactory cultural level. Four elements involved here, as indicated in the figure, are: (1) family planning, (2) nutrition, (3) childbirth & child care, and (4) health and improvement of housing.

The promotional efforts are on three levels: (1) making people aware of what improvement of their lives means, (2) getting them to want to improve their lives, and (3) providing them with the knowledge, tools, materials, and other means that they need in order to be able to achieve such improvement.

Many people still have bad habits and prejudices directly inimical to improvement of their lives, and although family life improvement service consists of programs determined by the people themselves, it cannot be successful without strong government backing. Community life improvement service and family life improvement service are both to be based in the community centers as closely interrelated efforts. This close interrelationship is obvious if one considers, for instance, the fact that the acquisition of reading and writing skills opens up new horizons and possibilities for improvement of family life.

5.2 Tasks of Family Life Improvement

(1) Family Planning

(i) Goals

As mentioned in the preceding section, the goals of this project are the health and welfare of families and mothers, the liberation of women, and the securing of human rights, a by-product being the holding down of population growth.

(ii) Obstacles to Family Planning

The following are some of the reasons why people have many children:

(a) Having a lot of children is advantageous in terms of security in old age. In other words, children are an asset in these senses.

(b) Because of the high infant mortality rate, women have to give birth to a large number of children so that enough will survise.

Social progress, however, has invalidated such reasons. If a family has too many children, it will not only have trouble adequately feeding and clothing them but will also be unable to afford them the education that counts for so much in modern society. Furthermore, a reduction in the number of any times that women experience childbirth will make childbirth safer and bring them a greater amount of time to use for other purposes than rearing children. As for the idea that employment of contraceptive methods results in sterility is a gross misconception. There need be no such worries with respect to either the pill or IUD's, provided that they are used properly.

(iii) Family Planning Methods

The best means of achieving the goals of family planning stated above is education in the broad sense. Roughly speaking, education can be divided into two categories: school education and social education. With respect to school education, while the construction of school buildings and the training of teachers are urgent tasks of educational planning, it is also necessary that the substance of family planning be incorporated into the curriculum. As school education progresses, the concept of family planning should naturally take hold among the people. It will take quite some time, however, for this most moderate of means to hold down population growth to take effect.

Family planning can be promoted in two ways through social education: (1) using radio, television and other mass media to make people more aware of and more willing to participate in family planning and (2) offering family planning guidance in direct contract with people through community centers and other facilities, the tasks involved being selection of the technical means of conception control, selection of means of approaching people on the subject of family planning, and the training of guidance and medical personnel.

An important factor in the implementation of family planning is adequate investigation and survey work. Since family planning touches on the inner life of families and of the community, it can be successful only if it takes into account the cultural and social features of the community. It is necessary, by means of surveys of the life habits of the members of the particular community in question, to find out what people want, how they generally reach a consensus on an issue, who the public opinion leaders are, how information gets around, whose opinion carries weight in the family, etc. so as to be able to decide to whom, where, and by what means family planning guidance should be offered.

Another question the answer to which is by no means obvious is that of what entity should undertake responsibility for family planning guidance. Nevertheless, since family planning is to be carried out on the basis of government assistance, it would seem reasonable for the government to dispatch the necessary personnel for implementation of family planning programs. It would also be possible for medical personnel to be sent from developed countries. It is advisable, however, to have local guidance personnel play as large a role as possible, for if the people sense that such personnel are different from themselves, successful implementation of family planning will be all the more difficult. The best arrangement, therefore, is to train local people as guidance personnel and have them do the necessary survey work and formulate detailed family planning action plans.

These kinds of efforts, which are educational in the broad sense of the word, are what family planning efforts ought to be, if at all possible. For them to be effective, however, it takes at least five years, during which time such guidance must be continued with perseverance while coping with the expected social change.

It is doubtful whether it will be possible to lower the crude birth rate to 2.6% by 1995 solely by such orthodox family planning efforts. Rather, in order to achieve the effect of holding down population growth, utilization of a combination of population planning methods as government policy would seem advisable.

Among such population planning methods are encouragement of contraceptive operations, tax and welfare service penalties, raising the age at which people get married, encouraging women to work outside the home, and other changes in the socioeconomic structure as well as acceptance of abortions.

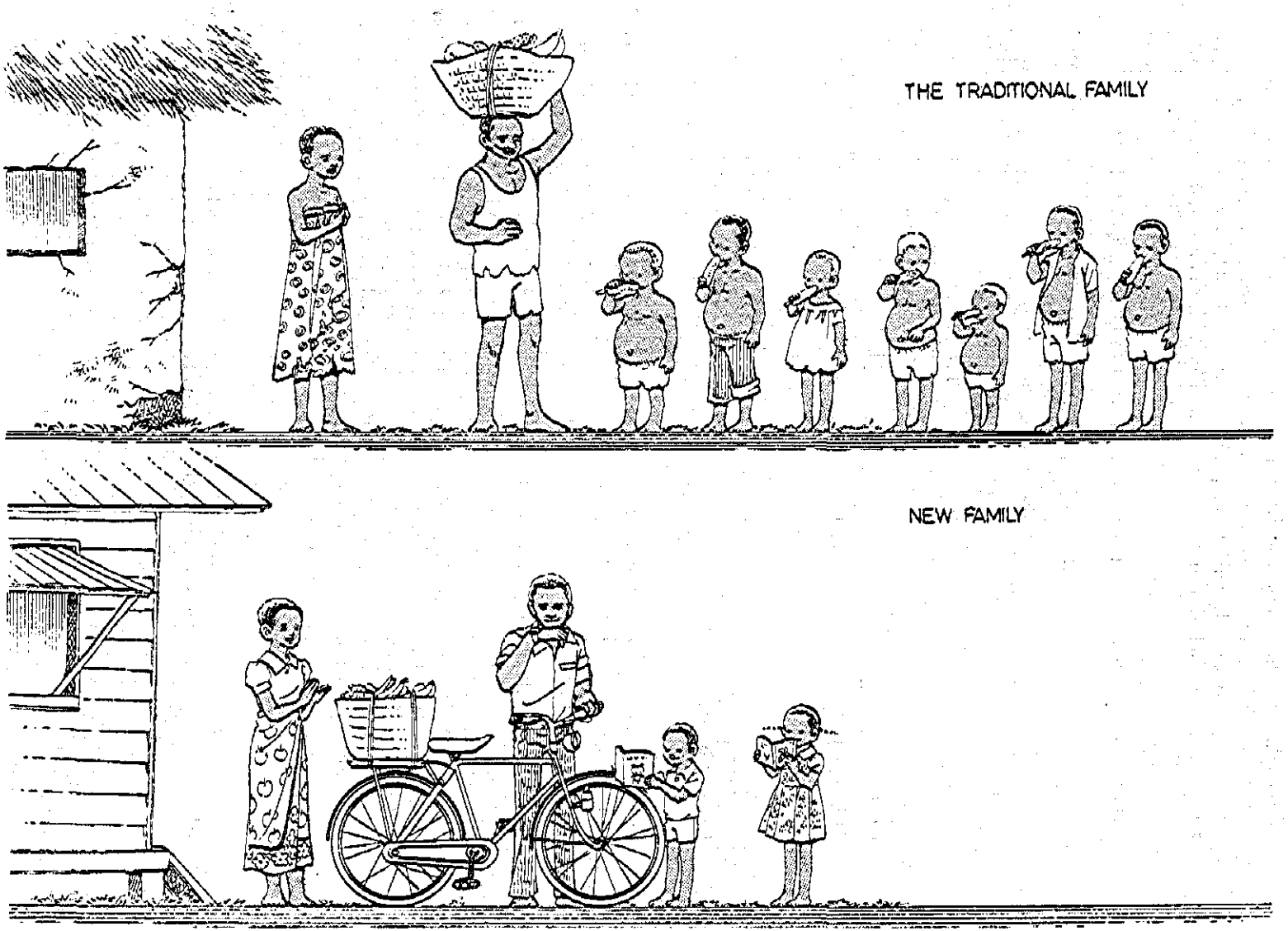
Which of the methods of family planning and population planning to adopt is a matter that must be decided on the basis of the particular circumstances of the community in question. Bernard Berelson, president of the Population Council of New York, has compared some of these methods in terms of scientific readiness, political viability, administrative feasibility, economic capability, ethical acceptability, and presumed effectiveness as follows:

Comparison of Family Planning Alternatives (Table-41)

	Scientific readiness	Political viability	Administrative feasibility	Economic capability	Ethical acceptability	Presumed effectiveness
School education and mass media	High	Moderately high	High	High	High	Moderate
Local social education	High	High	Uncertain	Too costly	High	moderately high
Encouragement of contraceptive operations	High	Moderately high	Low	Low-to-moderate	Low-to-high	Uncertain
Tax and welfare service penalties	High	Moderately low	Low	Low-to-moderate	Low-to-moderate	Uncertain
Socioeconomic structure	High	High	Low	Low		High

Before making any decisions regarding which of these methods to adopt and what tools to use and then formulating a detailed budget, sufficient survey work must be undertaken with the cooperation of local personnel.

(Fig.-4)



(2) Nutrition

It so happens, as indicated in Table-42, that although the Kilimanjaro Region ranks high in nutritional intake in terms of both calories and proteins, it has a greater percentage of children under age five suffering from malnutrition than many other regions in Tanzania. While it is necessary to check the reliability of this survey,** the figures seem to be fairly valid considering the crop pattern and other evidence.

Nutritional Intake and Level of Malnutrition (Table-42)

Regions	% of children under age five suffering from Protein/calorie deficiencies		Calories	FAO reference proteins
	All forms	Several forms		
Karagwe	12.0	3.0	1,420	24
Tabora	8.0	1.0	1,850	27
Kisarawe	31.0	7.1	1,890	27
Kilimanjaro	24.0	5.3	2,520	42
Morogoro	-	4.7	1,610	28
Estimated adult requirements at ref. age and 77°F		Men Women	2,960 1,130	35

Source: 1970 Nutritional Status Survey, by Dr. T.N. Maletnlema, head of the Tanzania Human Nutrition Unit

** The I.R.D.P. agricultural team has arrived at the figures of about 2,000 cal. and about 15 g. for nonsugar calorie intake and protein intake, respectively, which are quite different from those to be found in the T.F.N.C. data. In the opinion of the Social Service Planner, it is preferable to us the latter in view of the fact that they are based on an actual sample survey, and it is advisable that a more accurate nutrition survey be made as soon as possible to facilitate the better nutrition programme.

As for the causes of malnutrition in the region, the socioeconomic elements should be emphasized as follows:

(i) Crop Pattern

Land Allocation: Coffee as a cash crop is grown disproportionately to food crops in terms of acreage. Hence, food production is not great enough to cater for the population.

Expenditure Pattern: Coffee cannot be directly consumed. The money obtained is not spent on proper foods but rather on durable consumer goods like expensive clothing, radios, building materials, etc. Also, money earned from coffee is seldom saved for the purchase of food in periods of shortage.

Time Consuming: Coffee demands a lot of attention throughout the year so that farmers have very little time to look after other food crops than bananas that could flourish under the same climatic conditions.

(ii) Bananas: Bananas interplanted with coffee are the main staple food. Bananas are a fruit when ripened. But when cooked before ripening, they are a low-calorie starch/energy supplier. Therefore, calorie requirements can not be fully met if bananas are the main staple food.

(iii) Migrant System

Due to the shortage of land, people have to engage in migrant work, which has an adverse effect on family life in general and on nutrition in particular.

Male Migrant Labor: Rural family men go to work in urban areas, leaving the women to look after their homes. They do not, however, provide their families with a large enough proportion of the wages that they earn there.

Female Migrant Labor: As mentioned above, there is a land shortage in the coffee-banana zone. Therefore maize and beans are cultivated in lower areas. People to walk up and down five to eight miles a day each way, including women with small children and babies, who spend most of the day there. Mothers cannot carry their babies on their shoulders because in the evening they have to carry back grass for stall-fed cows. It is inevitable under such conditions that small children and babies should be adversely affected in terms of nutrition.

(iv) Distribution System

Lack of proper storage facilities is a cause of considerable loss of food, especially grains and legumes, through spoilage and attach by various insects. It also forces peasants to sell most of their crops immediately after harvested. In spite of this fact, not much emphasis in being placed on such traditional food preservation methods as drying of fresh bananas, to say nothing of new methods.

(v) Eating From the Same Dish

Customs at the table may also have an effect on nutrition. When all the children have to feed from one dish, the younger ones are likely to get less than their fair share.

(vi) Nutrition Education

In the past there has been very little emphasis on nutrition education either in the schools or in adult education programs, and since the greatest number of respondants to the questionnaire opted for the answer "about 25%" to the question, "What percent of housewives do you think are aware of the importance of nutritionally balanced meals?" one can only conclude that the idea of making meals as nutritionally balanced as possible does not yet have much currency in the region.

Of these problems, (i) and (ii) do not easily lend themselves to solution since they relate to the structure of agricultural production. In this connection, it is doubtful whether it would be possible simply to switch to production of food crops and, even if it were possible, whether this would result in an improvement in the standard of living in rural areas.

The problem of male migrant labor is a moral problem which should be dealt with in the context of adult education together with problems (v) and (vi).

As for the problem of child care that women engaged in agricultural production are faced with, a solution worth considering is the establishment of a day care center in each village. Available space in other existing public facilities such as schools, community centers, and cooperative stores can be utilized for this purpose, and the mothers can take turns looking after the children instead of having to hire professional personnel.

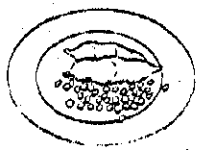
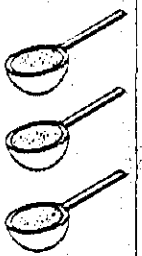
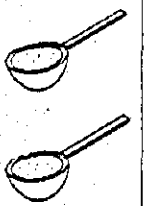
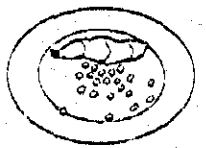
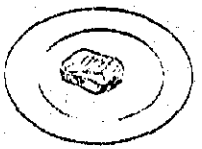
Storage facilities are important for the sake of ensuring a stable supply of food. That is why cooperative stores and other such facilities are already being built.

The problem of nutrition, including the disadvantages of having the whole family eat from the same dish, should be taken up in family life improvement service. Since it is not at all easy to change ingrained eating and meal preparation habits, it is important to try to achieve wider adherence to new practices in this regard through persevering educational and persuasive efforts. Visual aids such as Fig.-5 and -6 can be effectively used for this purpose, and through such social education one can expect a charge in people's morals as well.

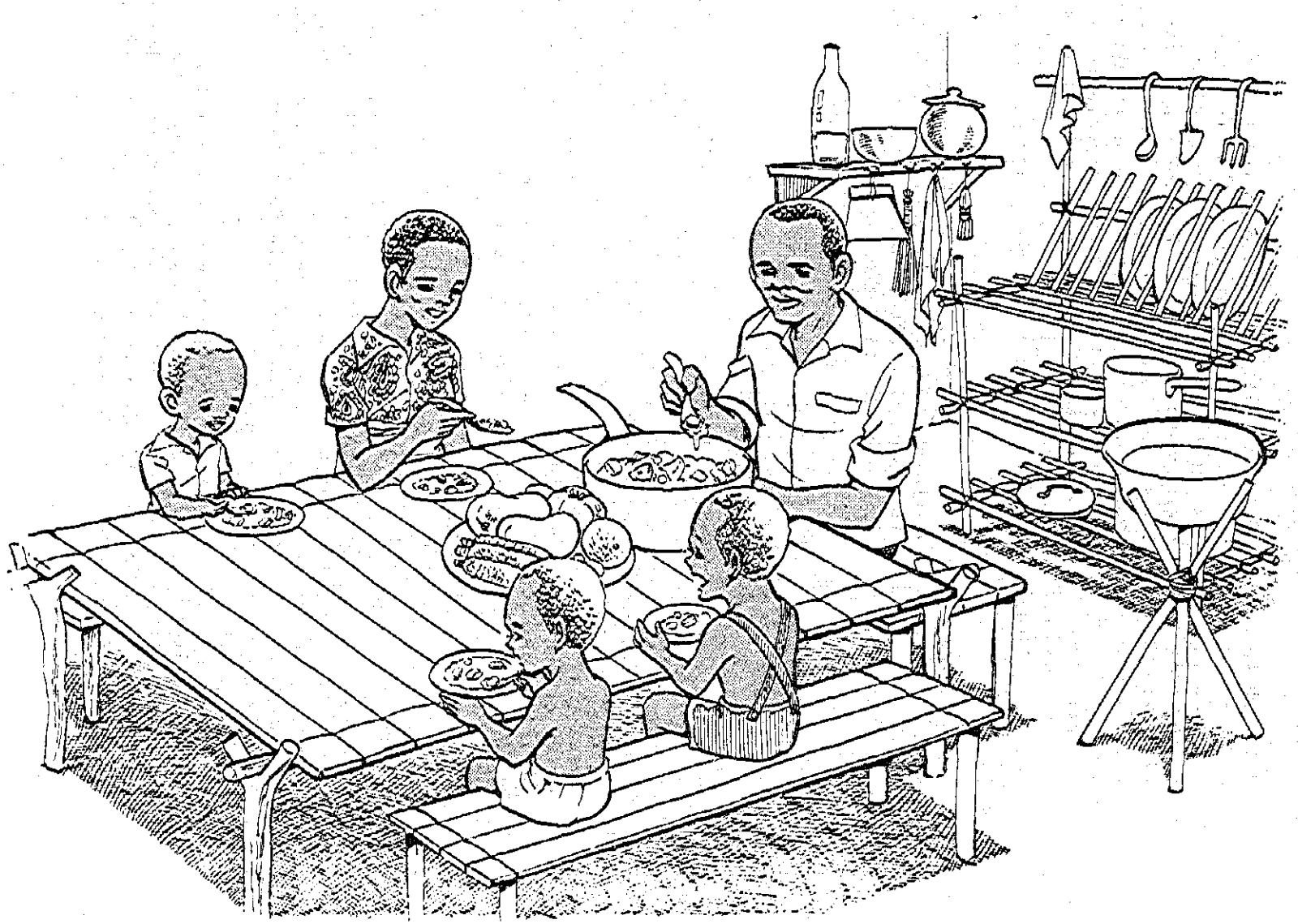
Nutritional Requirements (Table-43)

	Daily adult requirements	Daily nonadult requirements (under age 16)
Maize or cereals in same faily or millet or unpolished rice	680.4 g	226.8 g
Dried beans or cow beans or Egyptian beans	113.4 g	28.35 g
Fresh meat	113.4 g	28.35 g
or dried meat	113.4 g	28.35 g
or fresh fish	56.7 g	14.175 g
or dried fish (herring)	28.35 g	7.0875 g
or milk	0.473 l	0.11825 l
Ground nuts	28.35 g	14.175 g
Cooling oil	14.175 g	14.175 g
Fruits or vegetables	113.4 g	28.35 g
Sugar	28.35 g	14.175 g
Salt	21.2625 g	14.175 g

NUTRITIONAL EDUCATION (Fig.-5)

	BANANAS	BEANS	MEAT	GROUND NUTS	FRUITS	OIL	SUGAR	SALT
ADULTS								
THOSE UNDER 16 YEARS OF AGE								

WHOLESOME, TASTY MEALS (Fig.-6)



(3) Childbirth and Child Care

Although there is no accurate data available on the rate of fatality of mothers at childbirth, it is to be imagined that there are quite a few deaths due to parturition difficulties and unhygienic childbirth conditions. Furthermore, there are no doubt many infant fatalities after birth owing to poor methods of child care. In order to rectify this situation, it is necessary that dispensary midwives and other medical staff members serve as a source of specialized knowledge on childbirth and child care and that the necessary basic knowledge on these subjects be imparted to all mothers. Through sanitary and otherwise adequate child care, the infant mortality rate can be lowered appreciably.

The material costs need not be all that high. For instance, a low-cost bed such as that shown in Fig-7 can be very helpful in good child care. Moreover, by informing themselves on the basics of childbirth, women can considerably reduce the risk involved.

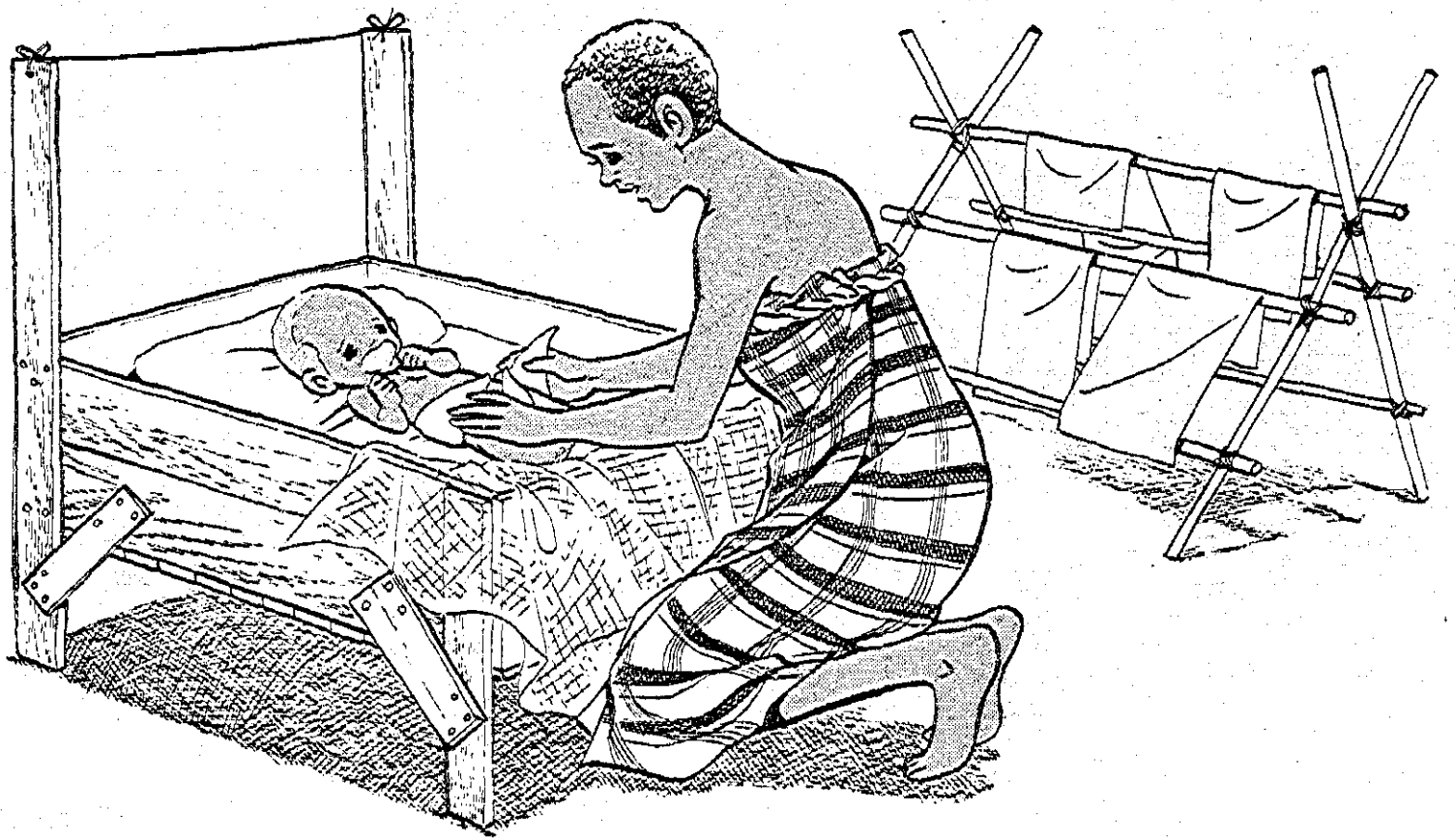
(4) Health and Improvement of Housing

A major task with respect to health is that of purifying drinking water, for as things are now, people take water from rivers and lakes and drink it without treating it in any way at all. Although many experts are in favor of boiling drinking water, this would involve a great deal of trouble considering the quantities of drinking water that are consumed. It therefore would be very significant in terms of the health problem if people would use some kind of simple purification device to treat their water before drinking it, say, something along the lines of the very low-cost home-made filter shown in Fig-8.

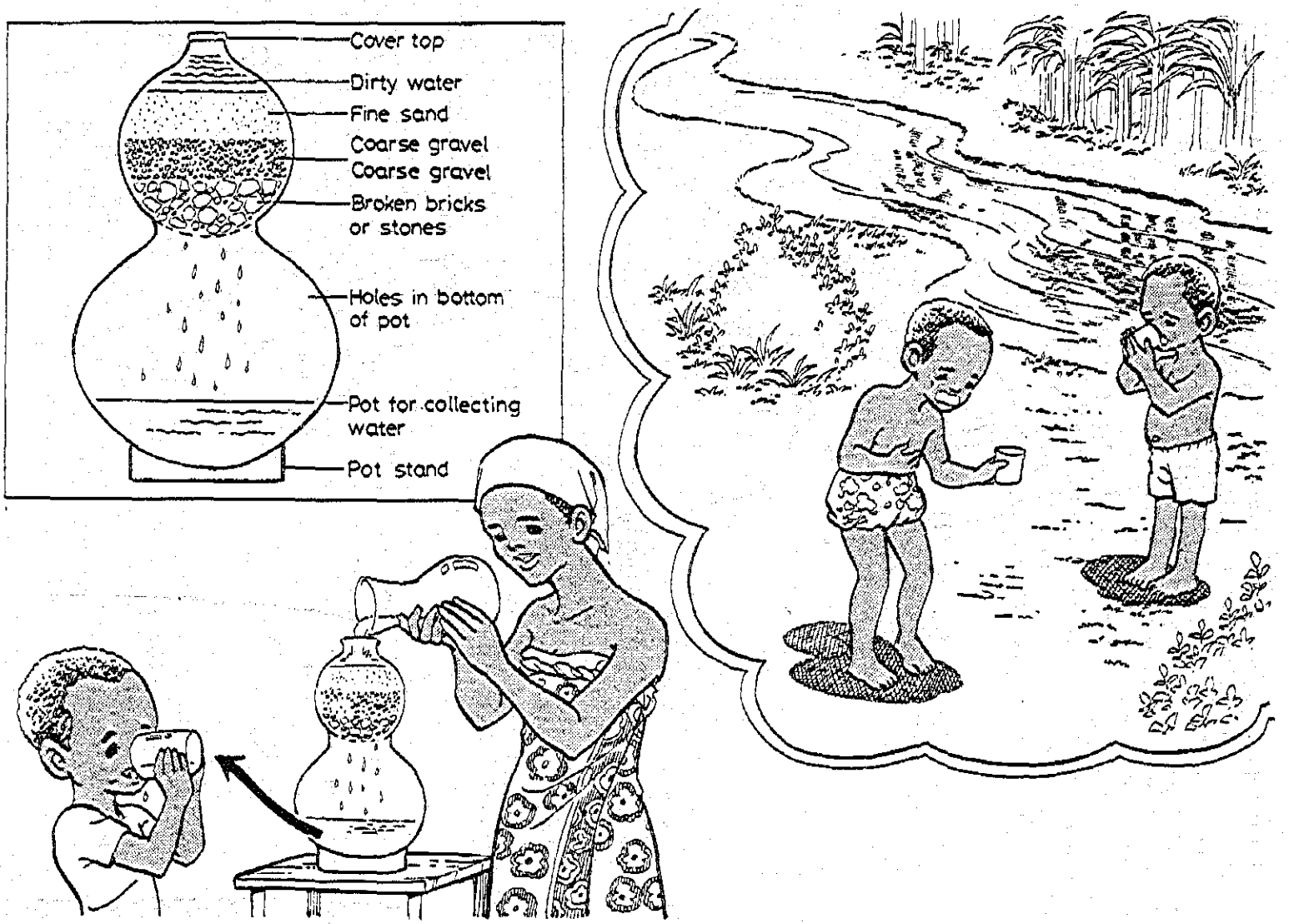
As for improvement of housing, priority should be given to wider use of the kind of simple furniture indicated in Fig-5 rather than to make major improvements such as providing windows for better ventilation and natural lighting. This kind of furniture can be made on a do-it-yourself basis at home in one's spare time. Later, when the do-it-yourselfer has gotten used to such simple improvements, he can be given a little more advanced training for undertaking more complicated improvements on his own.

In lowland areas, there is an additional urgent need for flooring, which would be very beneficial to health in the rainy season. Basically, the do-it-yourself method is applicable here as well, but some technical assistance is also desirable. In this respect, the activities of field volunteers can be significant.

NEW METHODS OF CHILD CARE (Fig.-7)



HOME MADE FILTER (Fig.-8)



5.3 The Third 5-year Plan

(1) Points of Emphasis in Family Life Planning

Since the four aspects of family life planning differ from one another in terms of the individual tasks involved, they will also differ in terms of the points of emphasis in the implementation programme, which are indicated in Table-44. "Passive education" refers to the process of getting people aware of what kinds of changes they ought to make in their lives and how to effect such changes. What it will aim at, primarily, is the removal of bad habits. "Active education," on the other hand, refers to the provision of technical guidance for actual, specific life improvements, which will require the participation of experts. Since the topics of "Active education" are not necessarily very interesting to people in general, such education can succeed only if people have become sufficiently aware of the need for and desirability of change in the course of "passive education."

Points of Emphasis in Implementation Programme (Table-44)

	"Passive education"	"Active education"	Diagnosis and consulting	Provision of materials, operations, etc.
Family planning	O	O	O	O
Nutrition	O	Δ	Δ	
Childbirth & child care	Δ	O	O	
Health & housing improvement	Δ	O	Δ	Δ

O Extremely important

Δ Important

The imparting of knowledge does not necessarily lead to smooth implementation of activities. This is where face-to-face "diagnosis and consulting" come in.

As for family planning, contraceptive and other actual materials will have to be provided.

(2) Promotion System for Family Life Improvement Service

Two pillars in the promotion of family life planning will be the community centers as bases or "staging grounds" and the mobile teams, which will make it possible to reach all of the people. Needless to say, it will also be necessary to obtain the cooperation of the dispensaries, the TANU offices in the villages, and so on, and another important factor will be the extent to which the field volunteers, who will be given intensive training at the outstart, will be able to promote their activities on the village level.

(i) Community Centers

These are multipurpose facilities which will eventually be provided all divisions. They are planned to function as places where experts in different fields can work on a regular basis, keeping in touch with the changing situation in each division, as well as sources of improvement services information and knowledge concerning family life. Since information is best furnished intensively, it is of very great significance that each community center will be provided with a permanent library. Planning effectiveness will be enhances by the fact that the community centers will at the same time serve as bases for community life improvement service, which will be promoted simultaneously and alongside family life improvement services, with the library serving as a link between the two.

Consideration should also be given to the provision in the community centers of meeting rooms, halls, etc., which can serve as places where women, young people, children, and other groups can engage in various kinds of local cultural activities.

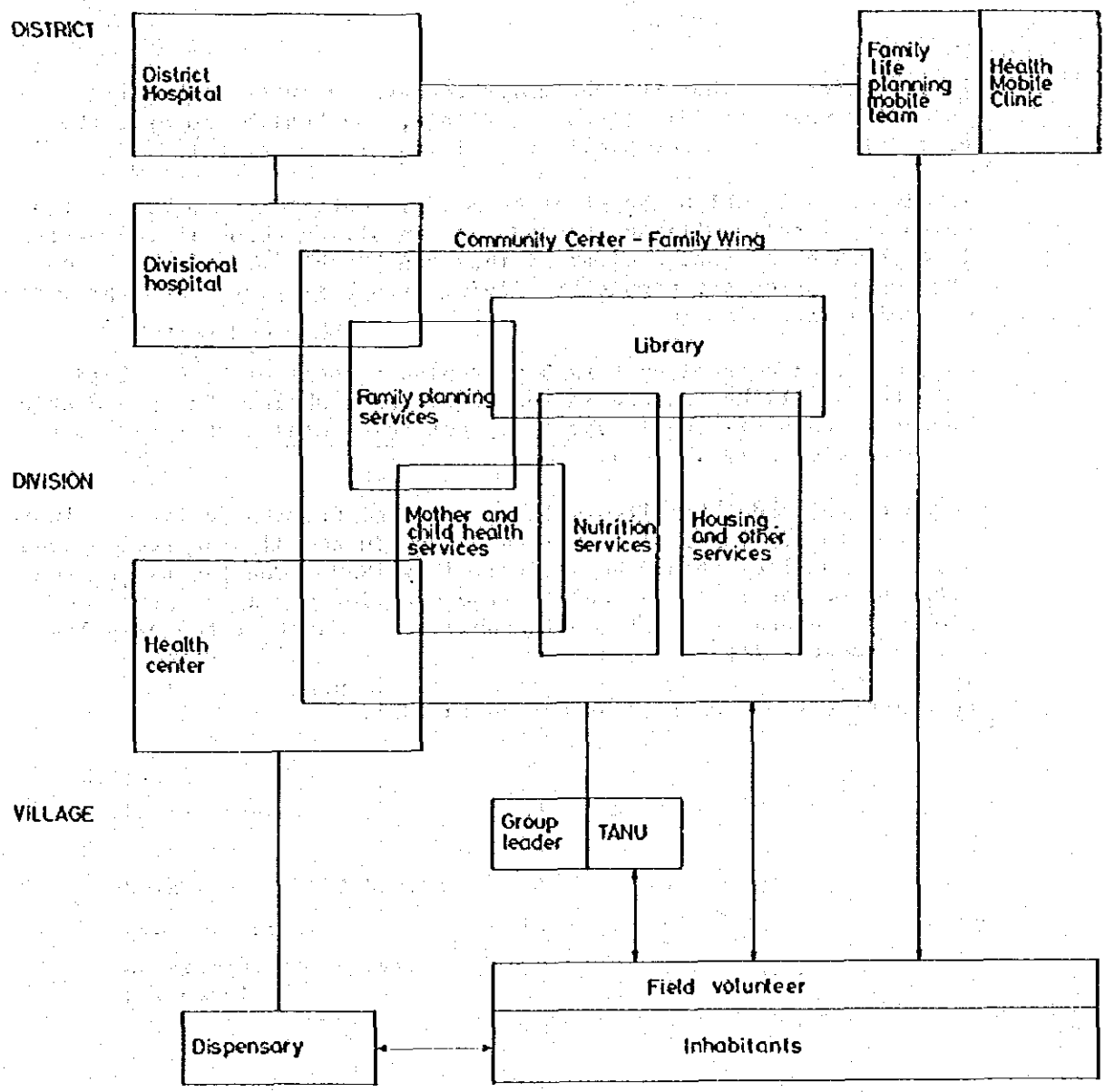
(ii) Mobile Teams

Because of limited finances it will not be possible to build community centers at a rapid pace. This being the case, the mobile teams, all four of which will be organized in 1977, will be all the more important in terms of promotion of family life improvement services. It is particularly important that family planning be actively promoted in the initial stage in view of the fact that its effectiveness can be expected to be detracted from considerably if it is slow in getting started.

Each district center will have a mobile team, which will be based at the same place as the health mobile clinic. Although each mobile team will have one new vehicle for its own use, it will also have to borrow vehicles from the health mobile clinic. Moreover, the cooperation of the mobile clinic will also be necessary in terms of manpower, including the participation of medical doctors.

As for the educational activities of the mobile teams, shows of the kind of picture cards represented by Fig-4 ~ 8 in the preceding section ought to be appropriate, for the audio-visual approach is the most easily understood and appealing. In "active education" it will be necessary to have not only medical specialists but also specialists in nutrition and housing participate, and perhaps even regional and district office administrators in some cases.

FAMILY LIFE IMPROVEMENT SERVICE SYSTEM (Fig.-9)



(3) Development Levels

Table-45 indicates the amount of investment up until 1980. Community centers are to be provided four divisions by 1980 and the rest by 1995. For provision of these first four community centers, one division has be selected from each district the divisions containing model villages on the basis of agricultural planning.

Divisions in which pilot community centers are to be located

Moshi -- Uru
Pare -- Gonja
Rombo -- Usseri
Hai -- Machame

It is preferable that the community centers be built in central locations where the divisional hospitals, the health centers, the post offices, and other public facilities are concentrated.

In divisions in which the pilot community centers are to be located community surveys will be carried out, involving about 15,000 persons in each case, so that a clear picture can be obtained of the circumstances in which the people are living as a basis for strong promotion of family life planning.

In the period covered by this 5-year plan a total of 2,100 field volunteers will be trained in the region as a whole. The preferable number in each village is about 15, but this total number will mean an average of only about 6.

Furthermore, model families will be selected from these field volunteers in order to set examples in various areas in actual practice. About 300 such families should be designated by 1980. One can expect the interest of people in general to rise considerable as a result of people in general to rise considerable as a result of the examples set by these model families.

Four mobile teams will be organized in 1977.

Facility Development Levels (Table-45)

	77/78	78/79	79/80	80/81	Totals
Community centers	1	1	1	1	4
Family life planning mobile teams	4	0	0	0	4
Model family programme (number of families)	75	75	75	75	300
Community serveys	1	1	1	1	4
Teaching materials (units: 1 unit per 1,000 persons)					
Family planning	10	8	10	10	38
Nutrition	8	5	5	5	23
Mother and child health	8	3	3	3	17
Housing, etc.	7	3	3	3	16
Field volunteers	80	85	90	95	350
Field volunteer training (1 unit per person)					

Manpower Development Levels (Table-46)

	77/78	78/79	79/80	80/81	Totals
Training of field volunteers					
Family planning	400	300	200	200	1,100
Nutrition	100	100	100	100	400
Mother and child health	100	100	100	100	400
Housing, etc.	50	50	50	50	200
Specialists					
Family planning	13	5	5	5	28
Nutrition	14	4	4	4	26
Mother and child health	10	3	3	3	19
Housing, etc.	10	3	3	3	19
Managerial and service personnel	10	3	3	3	19

(4) Cost Estimates

In view of the many functions that the community centers are expected to fulfill, approximately 1.0 million shillings should be spend on the construction of each. The other project costs have been calculated on the basis of the unit costs indicated in Table-47. The construction and personnel costs of the community centers together will account for about 60% of the development costs.

Not included in the project costs are the constraceptives and other materials to be provided in family planning services. There are three reasons why they have not been included. Firstly, before adequate community surveys are undertaken, it is not possible to determine what methods will be most appropriate. Secondly, unless there is an adequate level of education throughout the population it is possible that much of the materials supplied will end up being wasted. Thirdly, in connection with the supply of such materials it will be necessary to obtain the cooperation of the United Nations and various international organizations for the promotion of family planning, and such cooperation is not included in the scope of the present report.

The promotion of not only family planning but also all other aspects of the project will require the cooperation of all sorts of groups and organizations as well as the participation of the people on all levels: national, regional, district, and village.

Unit Service Costs (Table-47)

	Shs. per unit	Remarks
Community centers	1,000,000	Including meeting halls and library
Mobile teams	100,000	Purchase of one jeep included (70,000 shs.)
Model family programme	2,500	
Community survey	150,000	15,000 samples per survey, including data processing cost
Teaching materials	5,000	Including pictures, slides and 1,000 pamphlets
Volunteer activities	2,000	Cost of a bicycle
Volunteer training materials	50	
Training of field volunteers	60	20 shs./day x 3 days
Annual salaries		
Specialists	7,500	
Clerical staff	7,000	

Development Budget (Table-48)

(thousands of shs.)

	77/78	78/79	79/80	80/81	Totals
Construction of community centers	1,000	1,000	1,000	1,000	4,000
Mobile teams	400	0	0	0	400
Model family program	187.5	187.5	187.5	187.5	750
Community sruveys	150	150	150	150	600
Teaching materials	165	95	105	105	470
Volunteer activities	160	170	180	190	700
Volunteer training materials	32.5	27.5	22.5	22.5	105
Training of field volunteers	39	33	27	27	126
Totals	2,134	1,663	1,672	1,682	6,951

Recurrent Budget (Table-49)

(thousands of shs.)

	77/78	78/79	79/80	80/81	Totals
Salaries for specialists	352.5	465.0	577.5	690.0	2,085.0
Salaries for clerical staff	70.0	91.0	112.0	133.0	406.0
Totals	422.5	556.0	689.5	823.0	2,491.0