

BASIC DESIGN STUDY REPORT
ON
THE CONSTRUCTION PROJECT
OF
THE NATIONAL YOUTH CENTRE
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

NOVEMBER 1985

JAPAN INTERNATIONAL COOPERATION AGENCY

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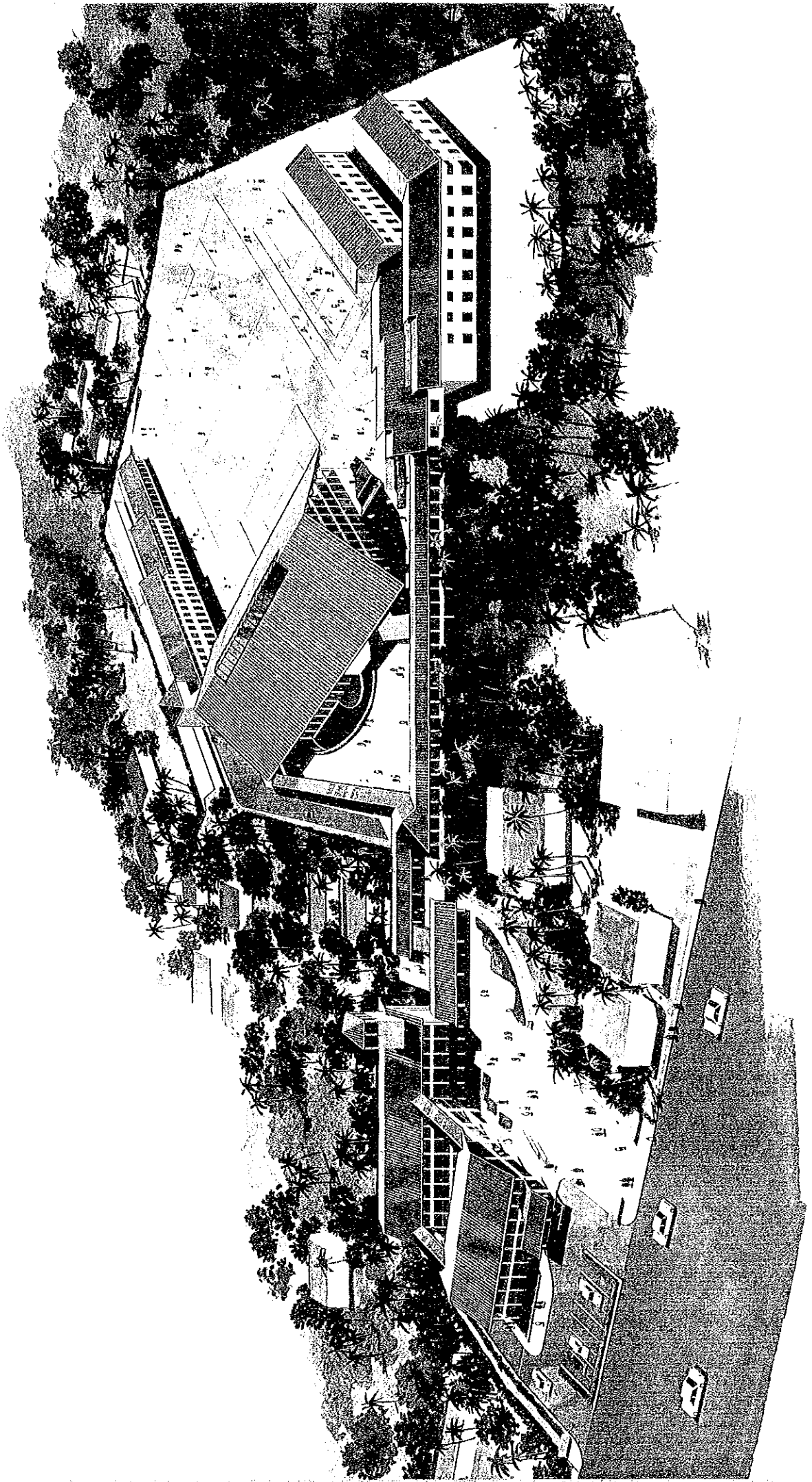
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THE NATIONAL YOUTH CENTRE IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

PREFACE

In response to the request of the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct a Basic Design Study on the Construction Project of the National Youth Centre and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Sri Lanka a Study Team headed by Mr. Hideo ENDO, Director, Grant Aid Planning and Survey Department, JICA, from June 18 to July 8, 1985 and from September 28 to October 7, 1985.

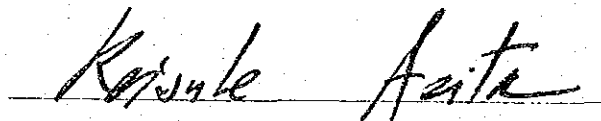
The team had discussions on the Project with the officials concerned of the Government of Sri Lanka and conducted a field survey in Maharagama, Sri Jayewardenepura.

After the team returned to Japan, further studies were made and the present Report has been prepared.

I hope that this Report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of the Democratic Socialist Republic of Sri Lanka for their close cooperation extended to the team.

November, 1985



Keisuke ARITA

President

Japan International Cooperation Agency

SUMMARY

Today, the Government of the Democratic Socialist Republic of Sri Lanka led by President Jayewardene is confronted with the important task of directing the creativity and activity of Sri Lanka's youth toward the nation building by means of the transition from the current agricultural economy to an industrial-oriented economy.

It became increasingly important to enable Sri Lanka's youth to acquire the ability to participate in productive activities through vocational training, and to provide various fields of activities for the youth such as education, culture, sports, and recreation in order to cultivate their self-reliance, creativity, and sociability. Unemployment rate is still running high. And it is especially prominent among young people, and it reveals that social conditions in Sri Lanka have not yet developed to the extent that the nation's youth can fully use their inherent abilities.

With the Ministry of Youth Affairs and Employment as the nucleus of its efforts, Sri Lanka has striven to promote the employment of the youth and to upbringing them by means of social education and cultural and recreational activities.

The National Youth Services Council (hereinafter referred to as NYSC), a government agency under the Ministry of Youth Affairs and Employment, has been developing movements of various levels of the youth throughout the country. However, insufficiency and meagerness of the facilities that are presently available have become a great obstacle to develop these activities more effectively. In view of these situations, the Government of Sri Lanka has planned to establish a national youth centre which will be a key centre for projects of the youth activities in Sri Lanka. This comprehensive facility for the youth education would be the first of its kind in Sri Lanka.

To accomplish this goal, the Government of Sri Lanka has asked the Government of Japan to provide its grant aid for the construction of this centre.

Note: The term "Social education" in Japan means non-formal education mainly for the adult and youth based on their voluntary and spontaneous desire for learning. It comprises lectures and seminars on various topics, technical and physical training, sports and recreation and these are carried out at public halls, libraries, museums, youth centres, women's centres, cultural centres, gymnasiums, etc.

In response to this request, the Japanese Government sent a basic design study team to Sri Lanka for 21 days, from June 18 to July 8, 1985, through the Japan International Cooperation Agency to identify the propriety of this project under Japan's grant aid.

The objectives of this project are;

1. To expand the opportunities for the youth to receive vocational education,
2. To provide the arena in which the youth can devote themselves to creative activities of culture and art, sports and recreational activities,
3. To provide social education for the youth to deepen their knowledge regarding the development of society, nation building and roles to be played by the youth themselves,
4. To promote good will and mutual understanding between the youth in Sri Lanka and in other countries.

The proposed construction site of the centre is about 10 km from the centre of Colombo and is situated along a main road connecting Colombo with the inland area of the Island. The size of the proposed site is 8.5 acres (about 34,000 square meters) and owned by the NYSC. The site is currently used as a temporary athletic ground of the NYSC and in one corner of the site there exist one-storied buildings comprising office rooms, printing office and auto repairing workshop of NYSC. Maharagama, in which the proposed project site

locates is situated south of the new Administrative Metropolis, the city of Sri Jayewardenepura. This district is expected to be developed as a commercial district under the urban development plan in the future. The surrounding area has a high population density as an extension of the town of Colombo. As to the infrastructures of the area, there will be no problem for the installation of electric supply and telephone lines. Development plans of water supply and drainage are being executing in the area in parallel with the surrounding development area of the city of Colombo.

The planned facilities of the National Youth Centre will consist of four buildings, namely Training Building, Multi-purpose Hall Building, Administration and Exhibition Building, and Hostel Building. It will have Outdoor Sports Facilities and Parking Area, too.

Major rooms and total floor area of each building are as follows;

Training Building:

Training rooms, work shops (for the courses of electronics, repairing and assembling of electric appliances, repairing of refrigerator and air conditioner, repairing of radio and audio equipment, computer and home science), a language study and training room, lecture rooms, and seminar rooms
Total area; 2,595 m²

Multi-purpose Hall Building:

An arena, a stage, a rehearsal room, a gymnasium, a video production room, a first-aid room
Total area; 4,982 m²

Hostel Building:

Lodging rooms (200 persons), meeting rooms a dining room, a kitchen, a cafeteria, and a laundry room
Total area; 3,479 m²

Administration and Exhibition Building:	Library, exhibition rooms, an administration office, and machine room	Total area; 2,014 m ²
Covered Way:		633 m ²
Pilotis:		1,330 m ²
Outdoor Sports Facility:	Soccer ground and Volleyball courts	
		Grand total; 15,033 m ²

The Government of Sri Lanka will be responsible for the cost of site preparation, construction of the parking area, the gate and fence in and around the site, the infrastructural work to and around the site and the items which are not borne by the Japanese Government. The construction expense to be borne by Sri Lankan side is expected to be Rs.2,500,000.- approximately.

The period required for the execution of the project is expected to be 5 months for detailed design; 2 months for tender and contract; 20 months for construction.

The executing agency of the Government of Sri Lanka is the NYSC. An implementation committee will be organized and it will be headed by Mr. J.C. Ratwatte, Secretary of the Ministry of Youth Affairs and Employment and is concurrently serving as the Chairman of the NYSC. The implementation committee will perform administrative and coordination work.

The National Youth Centre will be the unprecedented comprehensive facility equipped with lodging, training, and study facilities in Sri Lanka. And the Centre, as such, will be expected to be the key institute to upsurge the activities for the youth by NYSC.

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CHAPTER 1. INTRODUCTION

The Government of Sri Lanka led by President Jayewardene since 1977 has been promoting an economic development policy which emphasizes the growth of industry and emergence from the agricultural economy in order to cope with the economic and employment situations. The Administration has attempted to vitalize production activities and to create employment opportunities through public investments centering on the development of infrastructure of the country. As the role of the youth is very important for such economic development and nation building, the Government has been devoting its efforts to the education of the youth and cultivation of their abilities.

In Sri Lanka, it has been years since the system of the education without tuition was established and general education became widespread. In recent years, efforts have been made to maintain and improve the educational level to cope with the increment in the volume of primary and secondary education. Efforts have also been made to improve social education for the youth in parallel with the said educational system.

The condition of the country's unemployment has not yet been improved, however, and above all, most of the youth are unemployed causing a great problem of the country.

For the resolution of these problems, the Government of Sri Lanka has established its policy to provide the youth of primary and secondary school graduates with vocational educations and increase their capacity for qualified jobs, or improve the rate of employment. The Ministry of Youth Affairs and Employment is acting as the central agency to execute this project. By organizing the youth under the youth club, the NYSC (an agency under the Ministry) has been devoting to demonstrate their creativity and vitality for the nation's development, together with the expansion of vocational and social educations and activities of culture, sports, and recreation.

Today, the Government of Sri Lanka is confronted with the problems of insufficient and meager facilities that cannot satisfy the needs to develop these activities in versatile and effective ways. To overcome this situation, the Government of Sri Lanka has planned to establish the National Youth Centre that would become a central facility for the education of Sri Lanka's Youth and has asked the Government of Japan to realize this project through the cooperation of grant aid. In response to this request, the Government of Japan sent a basic design study team to Sri Lanka in connection with this cooperation in June 1985 through the Japan International Cooperation Agency to conduct the study for the basic design.

The study was conducted for a total of 21 days, from June 18 to July 8, 1985. During the study period, 1) the contents of Sri Lanka's requirements and the executing agency for the project were confirmed; 2) the proposed site and similar facilities were surveyed; and 3) various conditions to be considered as basis of this project were studied and discussed between the Japanese and Sri Lankan sides.

The Minutes of Discussions agreed between the Japanese and Sri Lankan sides was signed and exchanged by both Mr. J.C. Ratwatte, Secretary, Ministry of Youth Affairs and Employment, and Mr. Hideo Endo, Leader of the Study Team. (Refer to APPENDIX 2.)

CHAPTER 2. BACKGROUND OF THE PROJECT

2-1. Socioeconomic situation and the problem of the youth of the Democratic Socialist Republic of Sri Lanka

Since the independence in 1948, the Democratic Socialist Republic of Sri Lanka has lacked a consistent Policy in regard to socioeconomic development because of frequent changes in its government. The country's economic structure is also a typical monoculture economy in which tea, rubber, and coconut products account for 70% of the total export. Until the the Government led by President Jayewardene (formed by the general election held in 1977) had succeeded in establishing a long-term stable administration, the country suffered the serious problems of the deficit in finance resulting from the controlled economy and social security expenditure beyond its ability and the stagnation in production activities. Conversely, the current life expectancy in the country is 69 years, which is much higher compared with other developing countries, and a low birth rate or a low death rate among infants indicate the country's successful development in respect to health and sanitation conditions.

Especially in the field of education, the country has implemented the present system of the education without tuition from kindergartens to universities since before its independence. Today, Sri Lanka has attained a literacy rate of 87.6% which ranks high among Asian countries. (Refer to Table 2.1.3)

President Jayewardene has solidified the long-term stable government and has promoted a development oriented economic policy that emphasizes the growth of industry. The Government has been working on the promotion of production activities and increment of employment through large-scale public investments centering on the improvements and developments of infrastructure of the country. The overall effect of the above policies, however, is shown in the high G.N.P. actual growth rate of 6.2% per year since 1978.

In pursuing the accomplishment of these policies, one of the most important problems related to the internal politics confronting the Government led by President Jayewardene has been the separation and independence movement of the Tamil minority race coupled with violent and destructive activities. The historical contention and confrontation between the Sinhalese and the Tamils races have not yet been resolved despite the President's appeasement policy. The rapid increase in expenses for internal security with respect to the terrorists' activities in the northern districts has put pressure on Sri Lanka's national budget, affecting the policy of increasing public investments. Further, this problem has struck a fatal blow to the country's tourism industry, which played an important role in acquiring foreign exchange, and to the industrialization policy of introducing foreign investments into Sri Lanka.

Consequently, these problems have added further difficulties for resolution of unemployment, which has been another problem confronting the country. Although there has been no reliable estimation in regard to Sri Lanka's employment and unemployment, the investigations by the Ministry of Finance and Planning revealed that although the rate of unemployment of 25.9% in 1977 declined to 13.4% in 1982, the unemployment situation has worsened since the occurrence of the large-scale riot in July 1983.

Today, under these circumstances, the employment rate of Sri Lanka's youth is at an extremely low level, thereby making it a more apparent social problem. Especially, in Sri Lanka, about 180,000 young people being in the ages ranging from 5 to 14 finish their educational courses every year in the primary and secondary schools, and this figure represents 70% of the total population of the youth being eligible attending the same schools. (Table 2.2.1, 2.2.2) Although at least more than a third of the graduates desires to enter the labour market, practically none of them will be able to find a job. The reason for this is that they lack the ability and technical eligibility required by employers, even though they may have received a good general education through secondary school. Students are admitted to colleges or universities after a keen competition. Among

Table 2-1-1 Estimated Mid-year Population By Age Groups

In Thousands

Age Group	1974	1975	1976	1977	1978	1979	1980*	1981*
All ages ..	13,284	13,496	13,717	13,942	14,190	14,472	14,738	14,988
0 -- 4 ..	1,746	1,771	1,800	1,829	1,863	1,900	1,935	1,967
5 -- 9 ..	1,753	1,777	1,806	1,835	1,869	1,906	1,941	1,973
10 -- 14 ..	1,686	1,712	1,739	1,768	1,799	1,835	1,868	1,901
15 -- 19 ..	1,419	1,446	1,470	1,494	1,520	1,550	1,579	1,606
20 -- 24 ..	1,328	1,352	1,374	1,396	1,421	1,450	1,476	1,500
25 -- 29 ..	993	1,015	1,032	1,048	1,067	1,088	1,107	1,126
30 -- 34 ..	764	776	788	802	816	832	848	862
35 -- 39 ..	757	771	784	797	812	828	843	858
40 -- 44 ..	612	625	634	644	655	668	680	692
45 -- 49 ..	565	579	589	598	609	622	633	643
50 -- 54 ..	439	445	451	459	468	477	486	494
55 -- 59 ..	366	371	378	384	391	399	406	413
60 -- 64 ..	280	285	290	294	301	306	312	317
65 -- 69 ..	234	234	238	242	247	251	256	260
70 -- 74 ..	168	170	173	176	178	182	186	189
75 -- 79 ..	82	79	81	84	82	84	86	87
80 years and over ..	92	88	90	92	92	94	96	100

* Provisional

Source: Department of Census and Statistics

Table 2-1-2 Enrolment in Primary, Junior Secondary and Senior Secondary Cycles by Sex

Cycle	Total Enrolment			Percentage	
	Male	Female	Total	Male	Female
Primary ..	1093875	1019239	2113114	51.7	48.3
Junior Secondary ..	542377	562533	1104910	49.1	50.9
Senior Secondary ..	72647	107384	180031	40.3	59.7
Total	1708899	1689155	3398055	50.3	49.7

Table 2-1-3 The Percentage of Literates in Sri Lanka:

Year	Males	Females	Both Sexes
.. 1901 ..	42.0	8.0	26.4
.. 1911 ..	47.2	12.5	31.0
.. 1921 ..	56.4	21.2	39.9
.. 1946 ..	70.1	43.8	57.8
.. 1953 ..	80.7	69.0	75.5
.. 1963 ..	85.6	67.3	76.9
.. 1971 ..	85.6	70.9	78.5
.. 1981 ..	90.5	82.4	86.5

Source: Ministry of Education

the college and university graduates representing only 1.3% of the youth of the same age, the unemployment is a serious problem to the graduates majored in the field of arts as the demand for them as employees is much less than the demand for the graduates majored in the field of science.

Sri Lanka has been unable to expand education of technical vocation and education in the higher disciplines of science and engineering rapidly due to the lack of qualified personnel and funds required for it in spite of the fact that the country needs the youth with these specialities. Furthermore, those who have received educations in these fields have continued to leave Sri Lanka for the Middle East and other countries in search of higher wages.

As a result, despite the high rate of unemployment, middle-class manpower and professionals with specialized skills are badly needed and are short in supply. Today, it is said that the greatest social dissatisfaction of Sri Lanka's youth is the lack of job opportunity throughout the country. In the several large scale riots in the past resulting from racial antagonism, the young generation took a large share. It has been pointed out that one of the principal reasons driving these young people to resort to such extreme movement was their dissatisfaction which is attributable to the lack of job opportunity for the youth.

The young generation is extremely sensitive to social conditions, and its inherent moving power and creativity may greatly affect Sri Lanka politically and socially, and may also affect Sri Lanka in the aspect of the social activities. In Sri Lanka, this young generation has been confronted with an extremely difficult economic problem in satisfying its requirements. At present, the greatest problem of the Government of Sri Lanka concerning the nation's youth is how the Government can provide the youth with more employment opportunities in order to eliminate potential social unrest, and how the Government can direct the inherent vitality and creativity of the young generation in more constructive ways. The government of Sri Lanka has been striving to overcome this challenge.

2-2. Dealing with the problem of the youth

2-2-1 Posture of the Ministry of Youth Affairs and Employment in dealing with the problem of the youth

In the process of the construction of the nation, the Government of Sri Lanka emphasizes the role of the youth and strives to cultivate it and to have it effectively participate in the developmental policy of the nation. The improvement and expansion of the established education, the expansion of technical and professional education, the execution of social education, and the projects to facilitate the employment of the youth have been actively promoted by the administrative authorities of the Government of Sri Lanka.

Because of the importance of and great concern about the youth problem in Sri Lanka, the Ministry of Youth Affairs and Employment was established in 1978. The Minister of Youth Affairs and Employment is Mr. Ranil Wickremasinghe, who also serves as the Minister of Education.

The problems of the youth that the Ministry of Youth Affairs and Employment deals with are as follows:

- o Preparing the youth for national employment in respect of skills and aptitudes,
- o Involving the youth in National Service,
- o Promoting and co-ordinating the youth service programmes in the country,
- o Providing for exchange of youth between Sri Lanka and other countries,
- o To operate a Graduate Employment Guidance Service,
- o Organizing schemes of guidance training and facilities for self-employment, and

- o Preparation of special programmes to provide employment for the youth.

To execute these principal aims, the Government has two project-implementing agencies under its control; one is the National Youth Services Council (NYSC) and the other is the National Apprenticeship Board (NAB).

2-2-2 Objectives of the NYSC activities

The parent organization of the NYSC was established in 1967 aimed at public welfare service activities by the youth for the social development of Sri Lanka. It was in 1980, however, when the NYSC was finally developed and organized into its present status, whereby it performs a wide range of youth cultivation activities of today. Presently, the whole of Sri Lanka is divided into eight regions, and each regional assistant director generally directs and controls three districts. (Refer to Fig. 2.2.2) In each district, a youth service officer is responsible to promote the activities of the youth in towns and villages. The objectives of the NYSC's activities are as follows:

- o to foster among the youth a spirit of national consciousness, a sense of discipline, an awareness of social and economic problems and a sense of dignity of labour,
- o to enlist the participation of the youth in national development schemes,
- o to promote goodwill and mutual understanding between the youth in Sri Lanka and in other countries,
- o to encourage competition and a sense of achievement among the youth,
- o to widen the knowledge of the youth and to give training in fields relevant to development,

- o to encourage cultural, literary and artistic activities among the youth,
- o to provide recreational and entertainment facilities for the youth,
- o to encourage the development of physical culture and sports among the youth,
- o to assist the youth who are handicapped,
- o To provide regular employment opportunities for the youth by constructively investing funds on a long term policy basis with an aim to strengthen the economic fabric of the State,
- o to provide opportunities for the participation of the youth in the formulation and implementation of policy,
- o to establish youth organizations and to assist organizations already established for the youth welfare,
- o to plan, co-ordinate, promote and direct the expansion of the youth services, and
- o to develop the inherent characteristics of the individual youth.

2-2-3 Youth education and cultural activities of the NYSC

Among many different problems related to the young generation of Sri Lanka, especially, the promotion of employment is the most important problem. Consequently, the youth education in Sri Lanka gives preference to the practical supplementary education type that permits the youth to acquire the ability to participate in production activities through practical vocational training rather than an advanced country's youth education focusing on sports, recreation and re-education. To attain the comprehensive growth of young generation, a variety of cultural and sport activities, lecture meetings, and study and training programs have been carried out on the nationwide and

districtwide basis. Thus, the NYSC has actively executed its programs to heighten the youth's sociability and creativity by widely uniting the youth.

a. **National services and voluntary services**

The NYSC has been tackling these since the beginning of its establishment for having the unemployed youth in local districts participate in infrastructure improvement and expansion works, in each area. The government has taught patriotism, discipline, recognition of social and economic problems of Sri Lanka, and a sense of dignity of labour to the young generation through the participation in the labour force for these local development projects. At present, many youth are participating in irrigation works under the Mahaveli Scheme and other improvement works under tank restoration programs for irrigation. These attempts have steadily attained expected results both in the construction work and in the spiritual effects on Sri Lanka's youth. The government pays remunerations to the youth who participate in these projects. Besides these services, voluntary services to the regional societies involving the youth in urban areas together with the organizations of university students have been planned and executed.

b. **Community services**

The principal subjects of these services are females in local areas. The contents of education are principally such home training as the preservation of health, first-aid, cooking, and the knowledge of nourishment, domestic trade, and sewing. Besides these activities, the nature protection campaign and tree planting project are also carried out. Although facilities and installations that can be used continually have not yet been provided, short courses in cooking and sewing, being performed by using local school facilities and temples, have become quite popular among women in rural areas.

c. **Youth training programs**

The training for the leaders of the youth activities and the instructors of the NYSC have been given on week-ends continuously. Seminars are held on many different subjects, such as family planning defending human rights, narcotic control, improvement of living, racial problems, and promotion of youth activities. The objectives of these training programs are to have the leaders acquire the necessary knowledge and technique to perform their roles.

d. **Activities of sports and recreations**

Sports activities are the most important among various activities of the NYSC, and sports camps are held in all of the districts throughout Sri Lanka. These sports camps are planned and executed by the joint efforts of the Ministry of Sports and professional sports associations. There are some sports groups in each district, and the NYSC also has a soccer team and a volleyball team that belongs exclusively to the NYSC. The members of these teams are being trained so that they will become full-time instructors to sports groups in each district.

e. **Cultural activities**

The NYSC has continued to plan cultural projects in districts throughout Sri Lanka. The cultural projects has provided chances for the youth to study and participate in play, theatrical performance, folk dance, music, art, and literature. Contests in each field are held, and better activities in the respective fields and the distribution of information on these matters are pursued. The youth festival, which is regularly held every year in 24 districts throughout Sri Lanka, includes all activities of youth clubs, the youth organizations of religious groups, and of other circles and individual activities. These festivals have become literally Sri Lanka's youth festival. They are intended to achieve the interaction of the youth and mutual understanding of the young generation beyond religion and creed as well as creative performance in artistic activities and development of those.

Fig. 2-2-2 NYSC'S administrative code number

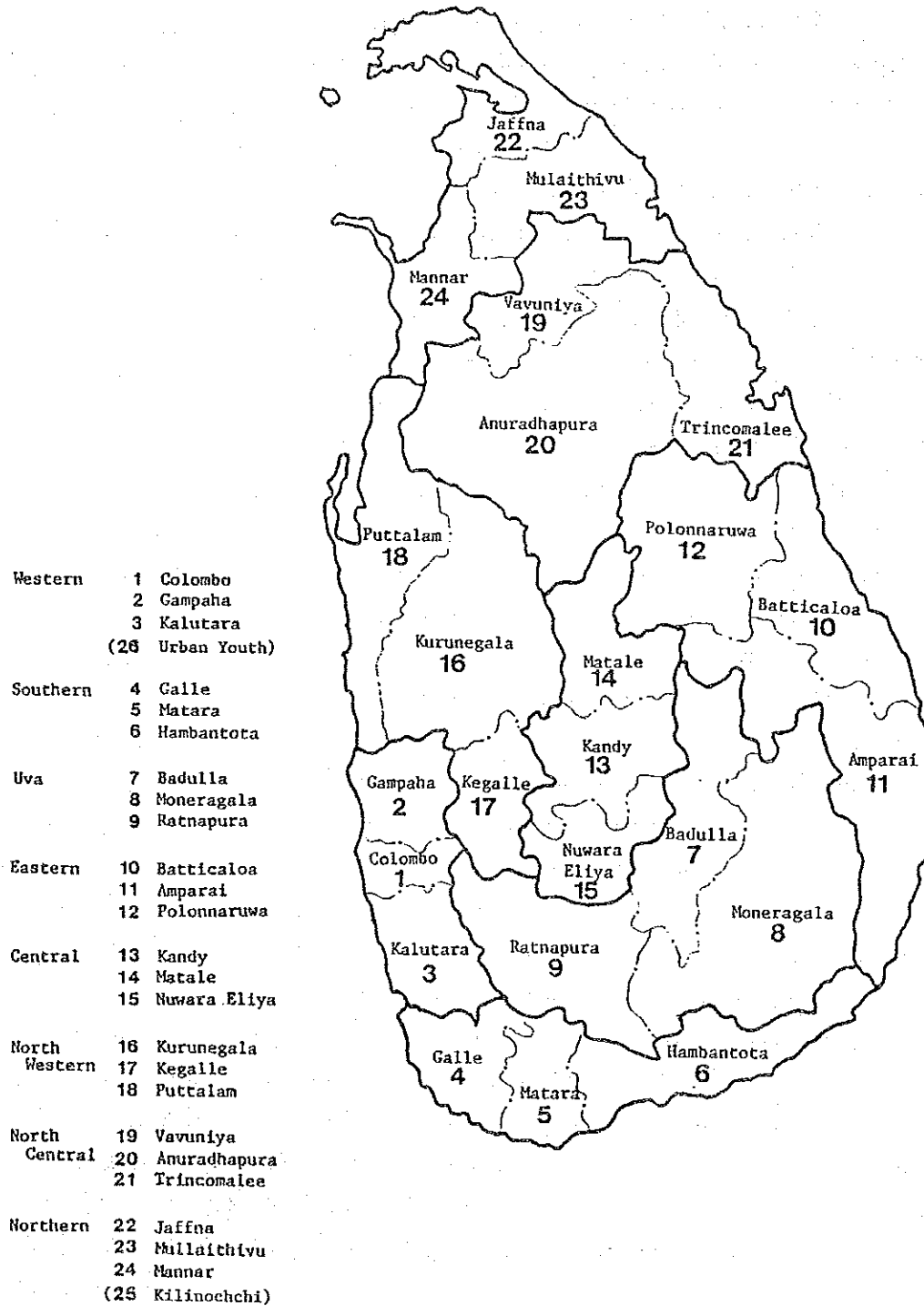


Table 2-2-3 Cultural and training program of the NYSC in 1985

Cultural & Youth Festivals

Project	No. of Projects	Period	Duration	District Code	Allocation
New Year - Sinhala & Hindu	01	April	1 day	02	Rs. 10,000.00
Deepavali	01	November	1 day	15	Rs. 1,000.00
Easter Sunday	01	April	1 day	01	Rs. 1,000.00
Vesak	01	May	1 day	13	Rs. 1,000.00
Poson	01	June	1 day	20	Rs. 1,000.00
Hadji	01	September	1 day	24	Rs. 1,000.00
Thai Pongal	01	January	1 day	15	Rs. 1,000.00
Christmas	01	December	1 day	02	Rs. 1,000.00
Exhibition of Arts, Crafts & Sculpture	01	July	4 days	01	Rs. 25,000.00
Youth Award Festival	01	December	1 day	01	Rs. 50,000.00
Year-End Festival	01	December	1 day	01	Rs. 10,000.00
Youth Days	25	--	1 day	in 25) Dis- tricts)	Rs. 50,000.00
Youth Festivals	24	--	3 days	in 24) Dis- tricts)	Rs. 148,000.00
Repairs to Stages	--	--	--	--	Rs. 10,000.00
Hiring of Stages	--	--	--	--	Rs. 20,000.00
Cultural Unit (Horana Sripali)	--	--	--	--	Rs. 5,000.00
Drama Festivals	--	--	--	--	Rs. 5,000.00
TOTAL					Rs. 340,000.00

Cultural & Youth Festivals

Project: Youth Festivals	
Month	District
January	-
February	03, 09
March	-
April	15, 16
May	11, 20
June	06, 13, 23, 25
July	07, 22, 24
August	04, 10, 14, 19, 21
September	05, 12
October	08, 17
November	01, 02, 26
December	18

Project: FIELD VOCATIONAL TRAINING	
Project Code: 11 - A	
Allocation: Rs. 50,000.00	
District Code	Participation
01	45
02	45
03	45
04	30
05	20
06	15
07	15
08	10
09	20
10	05
11	05
12	10
13	40
14	20
15	10
16	40
17	25
18	15
19	10
20	20
21	15
22	10
23	10
24	10
25	10
500	

Project: MOBILE TRAINING COURSES FOR YOUNG WOMEN		
Project Code: 11 - B		
Allocation: Rs. 600,000.00		
District Code	No. of Projects	Participation
01	03	150
02	03	150
03	02	100
04	02	100
05	02	100
06	02	100
07	02	100
08	02	100
09	02	100
10	02	100
11	02	100
12	02	100
13	03	150
14	02	100
15	02	100
16	03	150
17	02	100
18	02	100
19	02	100
20	02	100
21	02	100
22	01	50
23	01	50
24	01	50
25	01	50
50		2500

Project: UNIVERSITY YOUTH DEVELOPMENT PROGRAMME	
Project Code: 11 - C	
Allocation: Rs. 50,000.00	
District Code	No. of Projects
01	02
02	01
05	01
10	01
13	01
22	01
26	01
Implemented) under the) Cultural) Section)	02
TOTAL	
10	

The NYSC especially places great importance on the succession of such Sri Lanka's traditional folk-entertainment arts of Kandian dance, and a total of 150 youngsters of males and females are receiving education for music and dance at the Bellwood Training Centre in Kandy City. The National Youth Ensemble (NYE), which consists of members who have been trained at this facility for three years, perform publicly in different places throughout Sri Lanka and abroad as well. Further, these members teach children and students at schools and prospective successors as instructors of entertainment arts and culture throughout Sri Lanka.

f. Youth Clubs

The Youth Clubs are youth-initiated organizations existing throughout all the districts and schools of Sri Lanka under the guidance and direction of the NYSC. The number of Youth Clubs throughout the country totals about 3,000 with members exceeding 500,000. The number of members has been rapidly increasing. The social, cultural, and sports activities executed by the NYSC have been developed through the active participation of nationwide youth clubs. The Youth Clubs have united organization committees at both the district level and the national level. An event of youth camp at the national level is also actively held every year.

The youth camp, which for the second time in Sri Lanka was held from March 26 to March 31 on a large scale successfully this year in Kuriyapitua with more than 10,000 participants, of youngsters and youth representatives from abroad.

g. Vocational training given by the NYSC

The employment promotion project that the Ministry of Youth Affairs and Employment executed centres the organization of the NAB, as the NAB is responsible for the planning and supervision of on-the-job trainings that also serve to find jobs for the youth. Apart from the above, the NYSC has its own exclusive vocational training facilities.

As shown in Table 2.2.3, the NYSC has 17 vocational training facilities throughout Sri Lanka, and about 2,000 youngsters receive vocational training for a period of 3 to 6 months or one year, depending on the course. The vocational trainings that the NYSC provides concentrate mainly on the guidance and instruction on living skills with understanding of the respective local areas as well as the teaching the basic vocational knowledge and techniques.

When youngsters graduate from the primary and secondary (grade 1 to 10) schools in Sri Lanka, they lack the ability or technique needed by employers. Because nearly no graduates among these youngsters can find jobs at this stage, the NYSC's vocational training can be considered to have the goal of guiding and teaching youngsters finding jobs. The NYSC teaches youngsters so that they can find jobs independently by making the most of the knowledge and techniques they have acquired at the facility, or they acquire an ability to independently be self-employed.

For those youngsters who intend to become self-employed, a cooperative society (National Youth Cooperative Society: NYSCO) is established. The NYSCO is under the direct control of the Ministry of Youth Affairs and Employment and lends the funds necessary to carry out self-employed businesses. Presently, the NYSCO has about 90,000 members, of which 1,000 received a loan. The total amount already lent is 5 million rupees (equivalent to ¥50 million.) Efforts are being made to enable them self-employed in the areas of small-sized industries, agriculture, dairy and commerce. It has been reported that the self-employed youth in business that sufficiently generate profits have begun to appear in the areas of commerce and agriculture, but no self-employed person has yet begun to generate profits in the small-sized industries.

Fig. 2-2-3 Location of the Training Centres under the NYSC

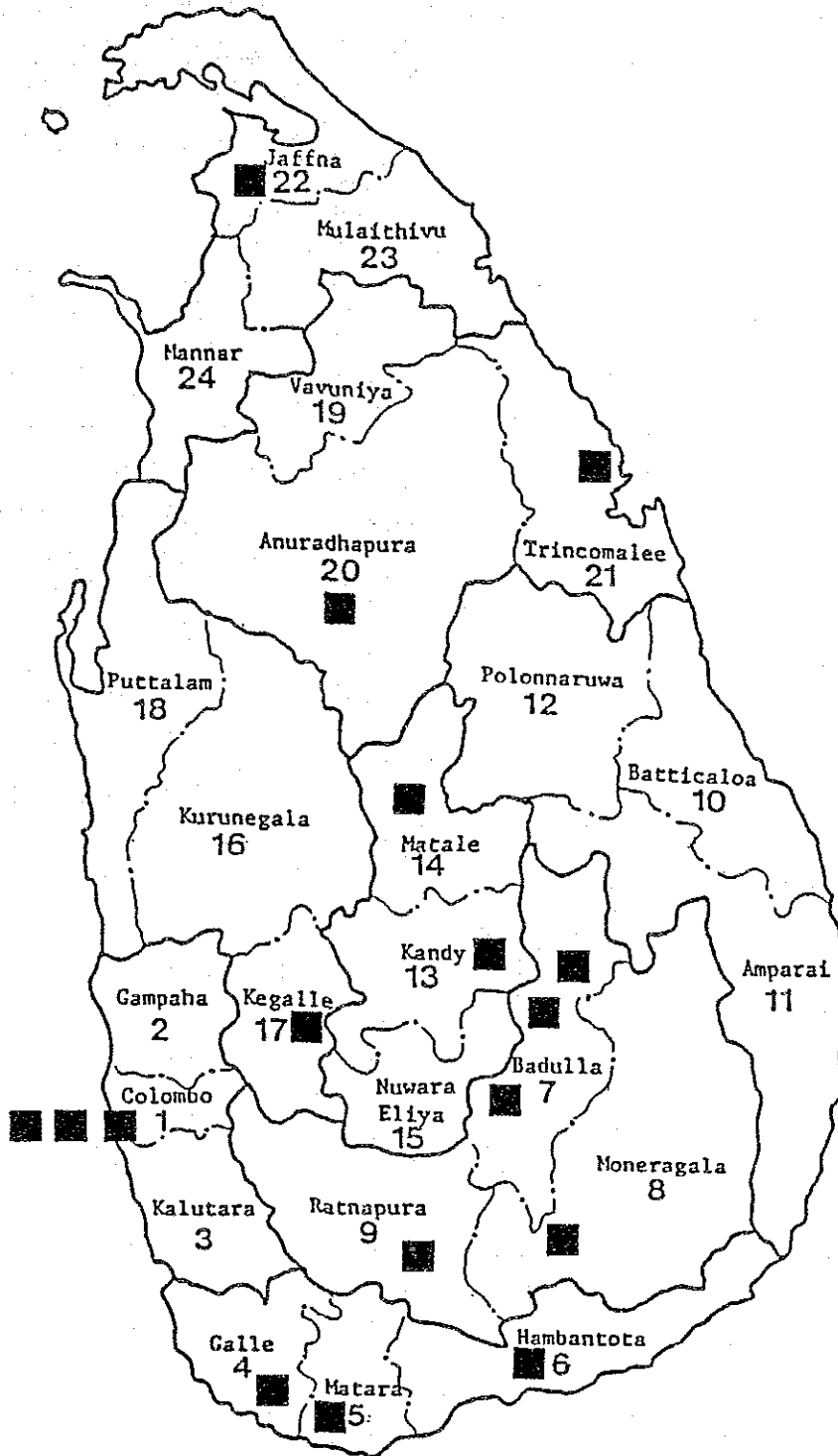


Table 2-2-3 Training Centre Operated by the NYSC

Name of the Training Centre	Name of the Courses	Duration	Annual Participation	Annual Allocation	Distric Code Number
Akmeemana	Training Course for young women	3 months	160	Rs.150,000-	4
Akurassa T.C.	Gem Cutting	6 months	60	Rs. 25,000-	5
Batangala	Agriculture Tr.	6 months	40		
Training Centre	Training Course for young women	3 months	200		
	Welding	6 months	40		
	Motor mechanism	6 months	30		
	Metal Work	6 months	30		
	Carpentry	6 months	30		
	Masonry	6 months	30		
	Electrical wiring	6 months	30	Rs.765,000-	17
Belwood	Music and Dance	3 years	200	Rs.1,200,000-	13
Eraminiyaya	Training Course for young women	3 months	300		
	Agriculture Training	6 months	40		
	Capentry	6 months	40		
	Wood Carving	1 year	15	Rs.587,500-	6
Ethungama	Agriculture Tr.	6 months	40		
Training Centre	Carpentry	6 months	30		
	Masonry	6 months	30		
	Sewing	6 months	30	Rs.253,000-	20
Gemunupura	Masonry	6 months	30		
Training Centre	Carpentry	6 months	30		
	Driver Training	3 months	120	Rs.302,000-	7
Heiyantuduwa	Motor Mechanism	1 year	20		
Training Centre	Agriculture Tr.	6 months	40		
	Masonry	6 months	40		
	Sports	2 years	100	Rs. 40,000-	1
Jinerathana	Electrical wiring	6 months	50		
Training Centre	Motor Cycle Repairing	6 months	50	Rs. 32,000-	1
Kilinochchi	Agriculture Tr.	6 months	40		
Training Centre	Carpentry	6 months	30		
	Masonry	6 months	30		
	Cultural Tr.	2 years	30	Rs.220,000-	22
Maharagama	Welding	6 months	20		
Training Centre	Motor Mechanism	1 year	10	Rs. 80,000-	1
Mapakaduweva	Lathe Work	6 months	20		
Training Centre	Metal/work/Welding	6 months	40		
	Electrical wiring	6 months	30	Rs.197,000-	7
Nilaweli	Agriculture Tr.	6 months	40		
	Training Course for young women	3 months	180		
	Metal Work	6 months	30		
	Motor mechanism	6 months	30		
	Welding	6 months	30		
	Electrical wiring	6 months	30		
	Masonry	6 months	30		
	Carpentry	6 months	30	Rs.629,000-	21
Nivithigala	Gem Cutting	6 months	40	Rs. 58,000-	9
Orubandiweva	Training Course for young women	3 months	320	Rs.310,000-	7
Sri Lanka Swiss	Repairing and Maintenance of	2 years	30		
Training Centre	Agricultural Equip.			Rs.242,000-	14
Uva Kudaoya	Agriculture Tr.	6 months	60		
Training Centre	Masonry	6 months	30	Rs.241,500-	8
			3,135	Rs.6,532,000-	

2-2-4 Projects to promote employment of the youth

While the NYSC organizes the general activities of the youth and performs vocational education as one of its activities, the National Apprenticeship Board (NAB) has been promoting the employment of the youth through vocational training, which also practically serves to help the youth find jobs.

The objectives of the NAB's activities are as follows:

- o the formulation, implementation and supervision of a scheme of training covering various categories of apprentices,
- o the establishment of the Apprenticeship Standards in relation to the nature, content and levels of training and the determination of the numbers and duration of training of such apprentices,
- o determination of skill tests to be undergone by each category of apprentices and the issue of certificates to those who qualify, and
- o determination of conditions with respect to the qualification of the certificates.

At present, the NAB has sent a total of about 15,000 youngsters to 1,300 private firms and public corporations as trainees for practical training. Although the fields of training vary in 175 kinds of which 85% is designed to train the youth at the level of a craftsman, and the rest is designed to train the youth to become skilled technicians or engineers. The greater part of the training period is 2 to 4 years, and during this period the Government of Sri Lanka pays 300 rupees a month to a trainee as living expense. When the training is completed, each trainee can get a job at the respective firm or corporation. In parallel with the practical training at these firms and corporations the NAB has educational study courses for the trainees. As for the craftsman's course, the NAB educates a total of 96 trainees in four classes for a period of six months to four years at the A.T.I. Morotuwa School. As for the skilled technician's course, the NAB

educates a total of 150 trainees in three classes for a period of 4 years at T.T.I. Katunayake School. These activities are being carried out through the grant aid extended by the Federal Republic of Germany, the United Kingdom and Australia.

The members of the youth clubs organized in each district under the control of the NYSC throughout Sri Lanka are given the priority to be selected first as trainees by both the NYSC and NAB. The problem of an extremely high unemployment rate indicates that the normal economic growth of Sri Lanka in the past has not been sufficient to absorb the newly joining labour force and the remaining unemployed. This may also indicate that unless overall social problems are solved, the problem may not be tackled.

Consequently, the task of the Government is to concentrate in achievement of increment of employment throughout Sri Lanka. The Government has pursued an expansion of employment in connection with the following projects and fields;

- o Employment in construction works through implementation of the Mahaveli Scheme.
- o Employment at the free trade zone.
- o Employment in various service works which are related to the above scheme and the area.

It is impossible for a single ministry to provide opportunities for vocational training to the enormous number of the unemployed, to provide the ability to be employed and to create the additional opportunity for self-employment by managing independent businesses. Apart from the training programs provided by the Ministry of Youth Affairs and Employment, various ministries of Sri Lanka including the Ministry of Labour, the Ministry of Higher Education, the Ministry of Social Services, and the Ministry of Rural Industrial Development have been providing vocational education at their related training facilities for craftsmen, skilled technicians, and engineers.

Vocational education and training facilities operated by the Ministry of Labour

Vocational Training Centres

Narahenpitiya T.C	150 persons/year
Orugodawatta "	550 persons/year
Marawila "	30 persons/year
Badulla	} 355 persons
Galle	
Hambantota "	
Kandy	
Kegalle	
Kurunegala	

Another 6 centres are being constructed with UNDP aid.

2-3. Actual conditons of social educational facilities for the youth

For the social education of the youth in Sri Lanka, the Sri Lanka Foundation Institute (SLFI) which is under the control of the Office of the President makes and executes various plans of lecture, seminar, meeting, etc. in cooperation with the governmental and non-governmental organizations. (Table 2.3.1) Most of these meetings are held in the capital, Colombo, and such facilities as the SLFI (facilities constructed by the assistance of West Germany), the Bandaranaike Memorial International conference Hall (BMICH) (facilities constructed by the assistance of China) are mostly used for them. The activities of the SLFI relate to various aspects concerning labor problems, youth problems, regional service, problems on the protection of fundamental human rights, problems on mass media, etc. They are intended for the government officers and professional staffs of private organizations who belong to the higher level of the society than the ordinary level.

In addition to them, the national library and museum are available as the facilities for social and cultural education. However, no particular activities are carried out at those facilities except the service of book lending and regular exhibition.

Table 2-3-1 Social education program coordinated by Sri Lanka Foundation Institute

SEMINAR STATISTICS

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total number of Seminars	34	69	44	57	68	115	110	93	86	85	87
1. Types of Seminars											
SLFI Seminars	28	57	13	05	16	30	27	39	26	28	29
SLFI Outstation Seminars	—	06	01	01	06	12	13	08	08	05	04
SLFI Regional/International Seminars.. .. .	—	—	—	—	—	01	—	—	—	—	01
Joint National Seminars	03	04	19	42	16	32	26	18	14	31	34
Joint Regional/International Seminars	02	02	07	07	12	20	20	11	15	07	09
Meetings/Conferences	01	—	04	02	08	21	24	17	23	17	10
2. Medium-wise Classification											
Sinhala	13	29	14	17	20	40	30	31	25	31	29
Tamil	09	25	09	07	11	17	17	18	13	14	10
English	11	15	19	33	27	55	59	36	42	40	48
Mixed Group	01	—	02	—	—	04	04	08	06	03	—
3. Subject-wise Classification											
Labour	21	16	12	03	13	27	27	20	32	25	23
Youth	02	04	04	05	19	40	17	10	09	10	17
Community Development	11	48	28	44	26	49	54	53	31	42	36
Human Rights	—	—	—	—	—	—	08	07	04	01	01
Mass Media	—	01	—	—	—	—	04	03	10	10	10
4. Foreign Participants	30	10	128	121	263	472	333	258	210	118	210

There are schools, temples, churches, private institutions such as the Lionel Wend Hall, etc. which can be widely used as public facilities for education, studies, and cultural activities for the inhabitants and the youth in each region. However, there are no facilities exclusively for the social and educational activities, and education and training of the youth.

For the creation of ideal facilities for the youth's voluntary study and activity, such facilities should be provided with proper equipment for various activities, and be used by all the people of various social level. The purpose of the above-mentioned BMICH differs from that discussed here in use. The SLFI is not large enough to provide the arena for a wide range of the youth's activities. Also, the rental fees of auditorium of public schools are not always low. Therefore, the facilities that young people can use at their own will are in serious shortage at present.

The NYSC has conducted its education and training using the external facilities due to the fact that it lacks its own facilities for such education and training.

The activities the NYSC has conducted in Colombo using the external facilities include the seminar at the SLFI, the youth club conference at the BMICH, etc. The annual rental fee the NYSC paid for these activities amounts to approximately Rs.135,800.

In recent years, the increasing and expanding activities of the NYSC united many groups and individuals that are directly and indirectly associated with the activities of the youth. It is an undeniable fact that the insufficient number of and meager existing facilities are now obstacles to the further progress in the promotion of the wide-range participation of different groups in order to develop even more effective movements.

As for the vocational training facilities which are linked with the social education program run by the NYSC as a part of it, the facilities' quality and quantity are overwhelmingly insufficient. Above all, the facilities to teach the youth operating and repairing techniques for electronic and electric equipment, skills are totally lacking in spite of the fact that such demand continues to increase. The same is true with regard to the technical education for basic computer operations. The school fees of private special schools exist in Sri Lanka, are too high to be paid from incomes of standard families.

CHAPTER 3. CONTENTS OF THE PROJECT

3-1. Objective of the Project

Since the establishment of the Ministry of Youth Affairs and Employment, as the number of persons and parties contributing to the activation of the youth activities in Sri Lanka increased, the youth activities began achieving a progress at rapid speed more than ever.

In reality, however, because of the shortage of funds and an available number of facilities, it is impossible to expand the facilities and to provide opportunities for the youth to keep up with the fast pace of the remarkable rise in the youth activities of the recent years. Although the NYSC is responsible for the assistance and growth of youth activities as one of the government agencies, the shortage of proper facilities has greatly impeded an appropriate and effective management of youth activities.

The conception of the establishment of a central facility on a nation-wide level, capable of performing a variety of youth activities, has been established under the conditions mentioned above. The facility is primarily intended to promote comprehensive youth activities.

The objectives of this centre's activities are as follows:

- o to promote goodwill and mutual understanding between the youth in Sri Lanka and in other countries;
- o to widen the knowledge of the youth and to give training in fields relevant to development;
- o to encourage cultural, literary and artistic activities among the youth;
- o to provide recreational facilities for the youth;
- o to provide opportunities for the participation of the youth in the formulation and implementation of policy;
- o to develop the inherent characteristics of the individual youth.

3-2. Activities of the National Youth Centre

This Centre will be operated under the guidance and control of the NYSC, which is under the jurisdiction of the Ministry of Youth Affairs and Employment. The activities at the Centre will be a part of the activities of the NYSC.

The particulars of activities of the Centre will be as follows:

1) Training activities

Training courses	Number of trainees	Training period
1 Electronics engineering	25	2 years
2 Techniques to repair and assemble electric appliances	25	1 year
3 Techniques to repair refrigerators and air conditioners	25	1 year
4 Computer technology		
Engineering	25	2 years
Programming	50	1 year
5 Video production technique		
Junior class	25	6 months
Senior class	25	1 year
6 Techniques to repair radio and acoustic equipment	25	6 months
7 Home science	50	3 months, 3 times a year
8 Community development training	100 (25 persons x 4 groups)	2 weeks, 6 times a year
9 Staff training	50	2 weeks, 20 times a year
10 Language education	4 courses x 15 persons	6 months, or 1 year

2) Public Exhibitions

For the purpose of cultural exchange, and for the publication and exchange of knowledge and technology for the youth the following events and exhibitions are being planned.

- o Exhibition of paintings, fine arts, and sculpture.
- o Projection of motion pictures and exhibitions of photographs.
- o Exhibitions of handiwork, and horticultural or garden products.
- o Exhibitions and introductions of dressmaking and clothes.

3) Public performance and cultural, sports, and recreational activities

- o Activities for the succession and preservation of traditional folk dances and music
- o Public performances and exhibitions of plays, music, and cultural activities
- o Sports contests and gymnastic games
- o Motion picture shows and recreational activities
- o Cultural exchanges and international exchanges.

3-3. Contents of facilities at the National Youth Centre

The contents of facilities requested by the NYSC are as follows:

1) Facilities

a) Training facilities:

Workshops and Laboratories for:

- Electronics
- Electric appliances assembly, repairing, servicing and maintaining
- Refrigeration and Air conditioning
- Computer engineering and programming
- Video production
- Radio and Acoustic engineering
- Home Science

10 Lecture rooms

04 Seminar rooms

01 Language laboratory

01 Library

b) Multi-purpose hall (Gymnasium)

Seating capacity of 1,500

Cafeteria and auxiliary facilities

c) Hostels for 200 residents

Canteen and auxiliary facilities

d) Exhibition hall of 500m² approximately

e) Administration office for the Centre

f) Out door facilities

Foot ball field, Volleyball courts

2) Related equipment for training activities:

CHAPTER 4. OUTLINE OF THE PROPOSED PROJECT SITE

4-1. Location of the proposed project site

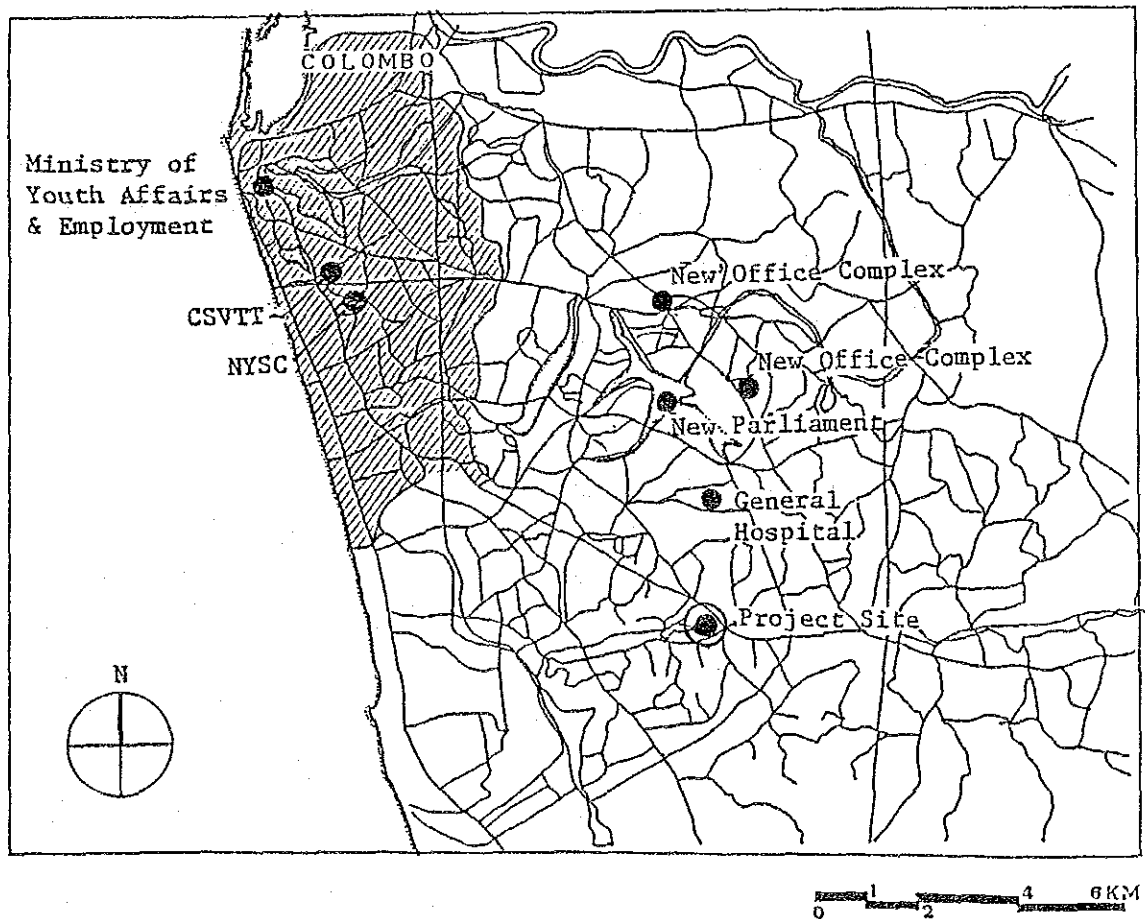
The proposed project site, No. 65, High Level Road, Maharagama is about 10 kilometers from the centre of Colombo and situated along High Level Road A-4, and it takes 20 to 30 minutes by automobile from the centre of Colombo to the proposed project site. The Maharagama district is in the City of Sri Jayewardenepura, to which the Government of Sri Lanka is proceeding to move its administrative facilities. In the new metropolitan development plan to be executed by the Urban Development Authority (U.D.A.), the district is positioned as one of the core situated within the boundary of this development area, and is expected to be developed principally as a commercial district in the future.

Along High Level Road A-4, a row of houses continues without interruption, and commercial facilities in small scale have already appeared.

Although the pace of development is slow, a new expressway connecting the new Parliament Building and the Sri Jeyewardenepura General Hospital is planned to be extended to the district of Maharagama. Thus, it is considered that there will be no problems in the future from the viewpoint of location regarding the proposed project site for the construction of a socioeducational facility situated in the urban area.

However, because of present traffic service conditions to the district as well as the time required for the growth of urban service facilities to reach this district, the project site area may have some problems for a some years to come in regard to its access at night for the general public.

Fig. 4-1 Location of the project site



4.2. Conditions of the site and its surroundings

The proposed project site, No. 65, High Level Road, Maharagama is about 10 kilometers from the centre of Colombo and situated along facing the High Level Road is narrow, while a constricted part exists in the middle, and the main site then expands toward the end. The inner and largest part of the site is located several meters below the front and the middle area is presently used as a sports field temporarily. On the eastern part of the site, which is the lowest part of the proposed project site, exists a long and narrow structure containing the administration office and the printing work shop of the NYSC. The site is surrounded by the residences with rich greenery. The southeast end of the site is bounded by the marshland with a canal which runs in the middle and is used as the drainage of rainwater and sewage. The size of the site is slightly not large enough to construct the Center, and because of the previously described distinctive shape, there may be some restriction in constructing comfortably stretched groups of facilities. Because of the said disadvantage, the full view of the facilities to be constructed cannot be seen from the road. We, therefore, inquired of the NYSC about the possibility of expanding the proposed project site. But the reply was negative.

U.D.A. once also had a plan to develop this site for the construction of a bus terminal and a public zone for local residents. However, because the periphery of the site was already occupied by private houses at that time, the expansion plan of the site was deemed to be not feasible due to the above condition.

The left corner of privately owned land, facing the High Level Road, and the bottleneck shaped part of the site may become great obstacles to the access to the proposed facilities in the site and to the connections between the facilities. For this reason, it is desirable that these parts be enlarged in the future. The U.D.A. is planning to construct a road on the south of the site by means of landfill at the marshland. How and when this will be realized are yet to be seen. Should this happen, the conditions of the access to the

site will be substantially changed as the proposed facilities will have another access. Consequently, the project should be designed by taking the said possibility into account with respect to the flow of service and the frontal direction of the building to meet such new requirements and conditions when the new road is completed.

4-3. Conditions of infrastructure

The conditions of infrastructures around this site are as follows:

1) Power supply

Along the opposite side of the road facing the site, overhead power main lines including the high voltage of 11 kV and low voltage of 400 V/230 V are installed. Also, another overhead line for the high voltage of 33 kV is installed about 1 km away from this site. Thus, power supply to the project site may be easily obtained. Whether to distribute the voltage taken in through the 11 kV power supply cable or by extending the 33 kV power supply cable will be determined by taking into account the power supply conditions of Maharagama area concerned. At present, the power of 50 kW from the low voltage line is fed into the guard room, facing the front road, and it is distributed from there to all the existing facilities of the site. It is possible to supply the power for the construction work easily from the said power line installed along the road in front of the site.

2) Telephone

An overhead telephone line is installed on the road in front of the site. Therefore, it is possible to supply main telephone cables to the proposed buildings from this line.

3) Water supply

No city water supply main is installed around the proposed site. The National Water Supply and Drainage Board has a plan to install a city water supply main along the road in front of the proposed site. The

city water supply main will have a diameter of 350 mm and be laid 900 mm underground with water pressure capacity of 1.5 kg/cm^2 . The work will be commenced from the year of 1986 and will take 2 years to be completed. At present, a shallow well (diameter of 1,500 mm, 10 m deep) is provided on the site to supply water to the existing facilities of the NYSC. Since the said work of the city water supply main will not be completed in time to be used for this project, study should be carried out to provide a deep well, under this project, in consideration of the influence of the existing shallow wells currently used by private houses in the neighboring area.

4) Drainage

At present, the main drainage pipe has not yet been laid. The drainage from the existing buildings and rainwater drainage are discharged into the existing drainage channels surrounding the site after treatment. As a result of discussions with the U.D.A. it has become clear that there is no prescribed value regarding the drainage BOD value, the same discharging method shall be adopted for this project.

5) Gas

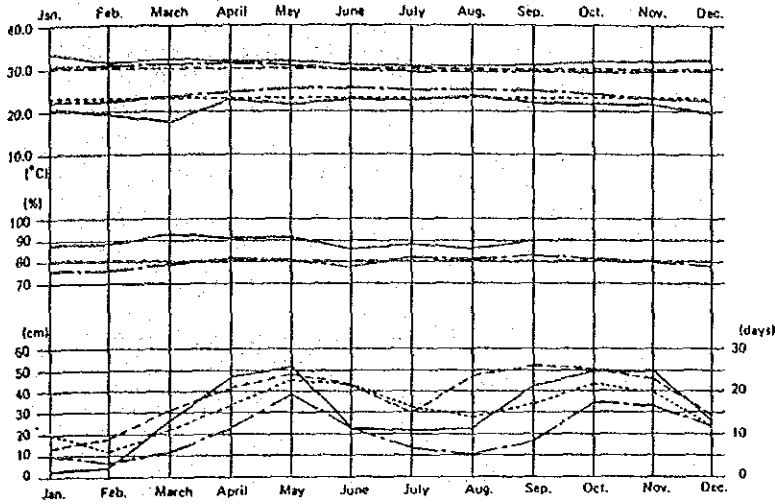
Since no city gas main pipe has been laid in the vicinity of the proposed project site, the energy necessary for the facilities shall be supplied by means of LPG cylinders.

4.4. Climatic conditions

Sri Lanka is situated between latitudes 6°N and 10°N and in a tropical monsoon zone with high humidity and high temperatures. Because Sri Lanka is a small island country surrounded by sea, there is little difference in temperature throughout Sri Lanka. The difference in the volumes of rainfall, however, is very large depending on the district. Sri Lanka is largely classified into three large regions in accordance with rain-fall; dry and lowland area in the northeast; damp and lowland area in the southwest; damp and highland area in the centre.

Colombo is situated in the southwestern district of the island, and the average annual temperature there is 27°C , with little fluctuation. The average high temperature is 32°C from March to May, and the average low temperature is 23°C from December to January. The annual rainfall is about 2,400mm, and the two rainy seasons are from April to June and from October to November; the dry season is from December to March. The average relative humidity is 75% in the day and 90% at night. The wind blows from the southwest from May to September and from northeast between October and April. This is because of an equatorial air mass going first north and then south. Violent thunderstorms frequently occur during the monsoon season.

Fig. 4-4 Climate Conditions



AIR TEMPERATURE IN COLOMBO

- Highest Maximum Air Temperature in each month of 1961
 - Average Monthly Mean Maximum Temperature for the period of 1931-60
 - Annual Average of Monthly Mean Maximum Temperature
 - Annual Average of Monthly Mean Minimum Temperature
 - Average Monthly Mean Minimum Temperature for the period of 1931-60
 - Lowest Minimum Air Temperature in each month of 1961
- NOTICE: Transition Formula $\gamma (^{\circ}\text{C}) = \frac{5}{9} (1 \times (^{\circ}\text{F}) - 32)$

RELATIVE HUMIDITY IN COLOMBO

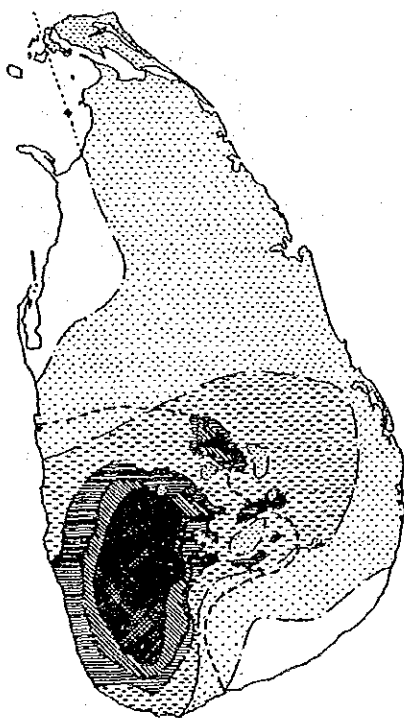
- Monthly Mean Relative Humidity obtained from the Minimum Dry and Wet bulb readings during 1961
- Annual Monthly Mean Relative Humidity
- Monthly Mean Relative Humidity obtained from Dry and Wet bulb readings at 08:30, 11:30, 14:30 and 17:30 hours.

RAINFALL IN COLOMBO

- Average Number of Rainy-days at Eighty-five selected stations representative of the Island during 1961
- Number of Rainy-days in Colombo during 1961
- Average Rainfall at Eighty-five selected stations representative of the Island during 1961
- Monthly Rainfall in Colombo during 1961

NOTICE: ● Rainy day is a day for which at least 0.01 inch = 0.254 mm is recorded.
 ● Greatest daily rainfall recorded during 1961 and over the whole period during which observations have been taken is in Colombo 13.5 cm on April 19, 1961 and among other stations 29.0 cm on May 18, 1936.

ANNUAL AVERAGE RAINFALL (1911 ~ 40)



[White box]	25 ~ 50 (inch)	64 ~ 127 (cm)
[Dotted box]	50 ~ 75	127 ~ 191
[Cross-hatched box]	75 ~ 100	191 ~ 254
[Horizontal lines box]	100 ~ 125	254 ~ 318
[Diagonal lines box]	125 ~ 150	318 ~ 387
[Dark cross-hatched box]	150 ~ 200	387 ~ 508
[Solid black box]	OVER 200	OVER 508

--- Boundary line between the arid region and the humid region (The region Northeast of the line is arid.)

0 100
KM

SOURCE: The Ceylon Economic Atlas, Dept. of Census and Statistics

CHAPTER 5. BASIC DESIGN

5-1. Principle of basic design

- 1) Creating harmony with the environment pertaining to the proposed project site and the buildings suitable for the activities of the youth

Because the buildings will stand in a suburb of the city of Colombo amid abundant green, the buildings should be built low in height and comfortably stretch out so as to create the harmony of the buildings with respect to the said peripheral environment.

The buildings shall be constructed by utilizing the distinctive shape of the site and the differences in the levels of the site. Special consideration should also be given for the creation of the buildings acclimated to the customs and natural features of Sri Lanka.

Furthermore, the buildings should be designed in such a way that the youth will be attracted to those as their own facilities with comfortable atmosphere, which make them act freely when using the facilities of this Centre and performing various activities there. Further, emphasis will be placed on the combination of facilities to permit an unobstructed view of the activities to encourage the interaction of the youth through their activities.

The facilities stretching horizontally, and not vertically, and connected by corridors or spaces with comfort so as to facilitate the interaction between the youth using those facilities.

2) Coordination with the development plan of the peripheral area

The peripheral area of the proposed site are planned to be developed as commercial zone by the UDA. The design should be made on the assumption that many different private facilities will be built up around the boundary of the site. It is desirable that the peripheral of the buildings of the project be kept open as much as possible so that the desirable environmental conditions of these facilities can be maintained.

A subentrance and a service access to the facilities need to be installed on the south side of the site in accordance with the UDA's plan to build a new road on that side.

3) Buildings utilizing natural ventilation and lighting to save maintenance expenses

To comply with the basic principle of low cost maintenance, air conditioning and electrical lighting shall be limited to a minimum. For this purpose, a system that permits easy maintenance will be employed, and the types of lighting fixture will be minimized to reduce the amount of spare parts' stock as it increases the number of common spare parts by minimizing the types of lighting fixture.

Also, the buildings need to be sufficiently strong for frequent use of many years, as those are used not only for the youth education activities, but for social education activities of the general public and the education and training of the leaders for various youth activities.

4) Consideration for outdoor sports facilities with future prospect

It is impossible to arrange a 400 meter-track as requested by the NYSC although having such an official size athletic field may be very useful for a facility for the youth education and training. It is desirable that the proposed project site be stretched in later stage. The layout of the facilities, therefore, is arranged by taking such possibility of future expansion of the site into account.

5) Grade of the facilities

The required space for each unit of these facilities will be determined based on the number of persons using and the layout of equipment to be used. To create a comfortable space through natural ventilation, both the size of room and the height of the ceiling need to be made greater than those of normal sizes in Japan.

Also, to make the entire facilities well ventilated without depending on the air conditioning and mechanical ventilation, corridors shall be positioned at only one side of each building so that the layout of external walls become open to the outside. Consequently, the ratio of common space will be made slightly greater to accommodate the necessary margins. The quality of the building shall be in compliance with the standards of similar buildings in Sri Lanka.

Basically, locally produced construction materials, that local craftsmen are familiar with, will be used. However, consideration should be made for preference of the materials which allow and result low maintenance and operation cost after the completion of the buildings over a long period of use. As for the quality regarding functional aspects of the facilities, special consideration should be given to the performance of the multi-purpose hall's various ways of use as well as the audio and lighting equipment to be affixed to the hall. When the hall is used as a gymnasium, the acoustical performance will be unavoidably sacrificed. Efforts will be made, however, to provide acoustical and lighting capabilities to satisfy the requirements of musical and theatrical performance.

5-2. Plan for the site and facility arrangements

The facilities of this Centre can be broadly classified into four groups; training; cultural and physical education; lodging; administration. The shape of the site is divided into two parts; one is the part of the site facing the access road and the other is the lower and wider inner part. Thus it is impossible to build facilities as a single group on the site.

An administrative section will be arranged near the entrance to provide information to the outside, and this section will control the facilities of the Centre. A group of main facilities of the Centre will be arranged on the wider inner part of the site. The facilities of the Centre will be arenas of comprehensive activities for the youth and many unspecified persons are expected to come and use them. For this reason, a wide approach and access area is necessary to permit a smooth inflow of people to these facilities. By using the difference in height between the part near the entrance and the inner part of the site, the main building will be designed so that the height of the open space (deck) on the part of the site facing the road will be the same as the first floor level of the main facilities, and people can directly enter the entrance hall on the first floor of the multi-purpose hall (which can be used as gymnasium.) The deck having the same height as that of the first floor of the main building also connects with both the training building and the hostel building, which are arranged one on each side of the multi-purpose hall. In this way, the flows of people can be smoothly directed to each facility. The vehicle flows at the area for the existing NYSC's building on the inner part of the site can also be used as a service flows for stage activities at the multi-purpose hall. This roadway is below the deck, thus allowing people to be completely separated from the flows of vehicles. Also, the facility shall be designed to permit an effective use of the space below the deck for services to the hostel building and for parking that will not subject cars to the direct rays of the sun. The hostel building, which can accommodate 200 persons, will be situated at the northern end of the site, and at the right hand side of the multi-purpose hall, which provides the most quiet environment on the site with many trees.

The training building will be arranged at the opposite side of the hostel building with the multi-purpose hall in between. In this way, the training building will stand in the proximity of the existing printing shop and automobile repairing workshop thereby constituting an educational training zone.

In laying out the facilities, an effort will be made to obtain maximum space for the outdoor sports field, giving consideration to leave some space for a future 400-meter running track if expansion is made in the future, and subsequently determine the position of the buildings. The buildings of the main facilities mentioned above will surround the proposed outdoor sports field (a soccer and volleyball courts), and the open corridors can also serve as seating areas.

It should be noted that the privately owned lands are making inroads into part of the site facing the road.

Providing an getting on and off space for buses for the Centre will be extremely useful and necessary in the access to these facilities. The Government of Sri Lanka is recommended to take necessary measures to expanding this part of the site.

5-3. The plan of each building and the size of each room

1) Training building

Because of restrictions arising from the shape of the site, the training building shall be a three-floor building on a straight line. The technical training course rooms shall be positioned on the ground floor and the lecture and seminar rooms on the first and the second floors. All the lecture and seminar rooms can be used not only for theoretical study but also for meetings of various regional activities for the youth, short courses for leaders of youth activities, special courses for the staff, and various conferences. One of the seminar room shall have sufficient size to accomodate 200 seats, suitable for a youth club conference, a group and a general meeting. In addition, the room shall be properly equipped with audio equipment and a

projection facility. In this way, the room may be useful from the viewpoint of combining its function with the functions of the over-all facility.

The space for the courses for techniques in repairing refrigerators and air conditioners will be positioned in the semiunderground room, which is the lowest structure because of its position on the inclined configuration of the site. This is because the equipment to be handled is large and the room for these courses need to be situated at a place that facilitates carrying this equipment in and out. As a result, the space for these courses may be on the same level in height and position as the existing automobile repairing space.

Comfortable corridors will be made on the building facing the sports field. The corridors will be provided with deep eaves to protect these from the strong rays of the sun and rain. 800 seats can be arranged on these corridor as a temporary stand during field events. If the temporary seats on the corridors of the multi-purpose hall and hostel building are all used, a temporary stand with a roof capable of accommodating 1,500 seats can be made.

2) Multi-purpose hall building

Among the facilities of this Centre, the multi-purpose hall building is the central facility from the perspective of scale and contents. This hall is intended for use of theatrical performances, musical events, public performances of dancing, motion pictures, large conferences and athletic competitions, athletic demonstrations. The arena shall have ample space for basketball games and shall have ample ceiling height for volleyball games.

It shall be capable of accommodating 1,500 seats, including the temporary seats for the occasions of theatrical and musical performances. The total number of seats in the arena will be 950, of which 450 will be collapsible, pull-out seats in tiers, and for the remaining seats, temporary chairs will be used.

The stage shall be provided with echo plates, sound control systems and stage lighting systems so that the hall can be used as a gymnasium and also for multi-purpose events as practically as possible. The outer wall of the building shall be designed as an open structure to sufficiently permit natural ventilation. In order to prevent rain from entering the building, the corridor shall be equipped with a deep eaves.

Under the deck which is a front approaching plaza for the multi-purpose hall, a video production room, an athletic training room and a rehearsal room will be installed as supplementary facilities.

3) Hostel building

The hostel rooms total 46, all of the same size, of which 25 are equipped with 2 stage-bed accommodating 6 persons (totaling 150 persons), 6 rooms for 4 persons (totaling 24 persons), 10 rooms for 2 persons (totaling 20 persons), and 5 individual rooms (totaling 5 persons). These rooms can be selectively used, depending on the purpose and users. Also, the facility shall consist of two buildings of 3-floors each to cope with the combinations of male and female guests and of groups. The common-use sections will be of open type structure, and capable of being maintained at low costs by adapting themselves to the Sri Lankan climate. A canteen will be provided adjoining the dining room for the convenience of services for guests. In addition, a laundry will also be provided.

4) Administration and exhibition building

This building shall be designed to have mainly the following functions:

a) Function to provide information

- o Library with books and information; for the training courses provided in the Centre; for the cultivation and education of youth; for general education; for recruiting and employment of youth. The volume of books are approx. 3,000. The number of carrels to be installed are about 40.
- o Exhibition rooms with some external space to display the products of horticulture and garden so that the exhibition rooms can cope with various occasions and events.

b) Function to administer all the facilities of the Centre

- o Administration room
- o Machine room

5) Coveredway

Coveredways, connecting the facilities functionally, protect the users from the rays of the sun and rain with roofs. The coveredways also function as corridors and surround the plaza in front of Multi-purpose hall building and serve as the boundary separating the outer area physically and visually or as the means to facilitate interactions of the youth using these facilities.

Facilities, Classified by Building

1. Training Building (3-storied and partly in the semiunderground)

Room name	Requested number of rooms (persons x rooms)	Designed area (m ²)	Remarks
Classroom	50 x 8 100 x 2	456	57m ² x 8 rooms 1.14m ² /person
Seminar room	50 x 3	114	50 persons x 3 rooms
Large seminar room	—	181	200 persons x 1 room (For convention and projection)
Language laboratory (L.L)	15 x 1	68	Available up to 30 sets, including preparatory room and air condition
Home science course room	50 x 1	Practice room: 75 Preparatory room: 38	
Electronics course room	25 x 1	Practice room: 45 Preparatory room: 23	
Electronic appliances repairing technique course	25 x 1	Practice room: 38 Preparatory room: 19	
Radio and acoustic product repairing technique course	25 x 1	Practice room: 38 Preparatory room: 19	
Computer program course	50 x 1	Lecture and practice room: 68 Preparatory room: 23	50 persons x 1.4m ² /person
Computer course	25 x 1	Lecture and practice room: 45	(air conditioned)
Refrigerator and air conditioner repairing technique course	25 x 1	91	Semiunderground outdoor space
Automobile repairing space	—	181	Semiunderground, commonly used as garage space
Rooms for instructors		30	15m ² x 6 rooms, 12 persons for only senior class. Instructors live in the preparatory room attached to the practice room.
Corridor, toilet and other common space		1,043	
Total		2,595	

2. Multi-purpose Hall Building
(2-storied structure)

Room name	Requested rooms and scale	Designed area (m ²)	Remarks
Gymnasium arena	1500 persons	895	Official basket court (1 court) Collapsible, pull-out seats in tiers: 15 tiers, 450 seats Movable seat: 500 seats Fixed seat: 550 seats <hr/> Total 1,500 seats
Fixed stand		265	
Stage		333	Including both wings of 181m ² . Chair accommodating space is installed under the stage.
Dressing room		105	3 rooms
Player's locker room		110	2 rooms
Appliance storage room		88	
Rehearsal room		145	
Athletic practice room		110	
First-aid room		38	
Control room		45	
Video production			
Junior class	25 persons	427	Stadio, control room, editing room, animation and film library.
Senior class	25 persons		
Corridor, toilet, common space		2,333	
Total		4,982	

3. Hostel Building (3-storied structure)

Room name	Requested rooms and scale	Designed area (m ²)	Remarks
Guest rooms	200 persons	1,058	6-persons room x 25: 150 persons 4-persons room x 6: 24 persons 2-persons room x 10: 20 persons 1-person room x 5: 5 persons
Superintendent room	One room	68	Sitting room and bed rooms
Reception		15	
Meeting rooms		30	2 rooms
Sick room	One room	45	8 beds
Dining room	One room	151	100 seats, 2 shifts
Cafeteria *	One room	60	40 seats plus 60 outdoor terrace table
Kitchen		144	
Laundry		76	
Work shop		45	
Entrance hall		181	
Corridor, toilet, and other common space		1,606	
Total		3,479	

* Cafeteria is provided for all the personnel who use this Centre, it has been requested by the Sri Lankan side as an auxiliary facility of Multi-purpose hall building, however Cafeteria was designed to locate in Hostel Building to have easy access from each building and to have short service route from the main kitchen in Hostel.

4. Administration and Exhibition Building
(3-storied structure)

Room name	Requested rooms and scale	Designed area (m ²)	Remarks
Office room			
Director General room		66	Including conference room 18m ² x 3 rooms 58 persons x 3.6m ²
Directors rooms		84	
General office		208	
Exhibition room	500m ²	416	1st floor 208m ² 2nd floor 208m ²
Library		151	Low book shelf for 3,000 books Reading space (40 seats)
Electrical and pump room		182	
Corridor, toilet, and common space		907	
Total		2,014	

5. Covered way 633

Total area: 13,703m²

6. Pilotis 1,330

Grand total area 15,033m²

7. Outdoor facility Foot ball field, Volleyball courts

5-4. Material planning

Emphasis shall be placed on the idea that locally produced materials should be used basically for the construction of buildings under this project. The recognition of the youth in Sri Lanka that the buildings they use were built with materials manufactured by local manufacturers of Sri Lanka with better methods of use will no doubt result in a favorable and educational effect.

At the same time, they may see with their own eyes how the products of the advanced industrial countries are rationally used and with what techniques. This is also an important educational point. Materials capable of being generally maintained at low cost, of being easy to operate, and of producing a functional and strong space needed.

1) Principal structural members

Column, beam, and floor slabs ... Reinforced concrete (steel structure for the roof frame of the Multi-purpose Hall Building)

Wall ... Concrete block and brick

2) External finish materials

Roof Clay tile roofing (Heavy gauge iron sheet for the Multi-purpose Hall Building)

External wall ... Mortar, paint finish

Fittings Wooden and aluminum windows and doors

Deck floor Cement tile

3) Internal finishing materials

(a) General

Floors Terrazo tile, cement pressed tile

Walls Paint finish on cement mortar troweled

Ceilings ... Paint finish on exposed roof boards

(b) Multi-purpose Hall Building

Floors .. Arena: Resin painted floor

Stage: Wooden

Lobby: Terrazo tile, Cement pressed tile

Gallery: Colored mortar

Walls ... Paint finish on cement mortar troweled (Wooden finish in Arena)

Ceilings Paint finish in exposed roof structure

(c) Corridor

Floors .. Cement pressed tile

Walls ... Paint finish on cement mortar troweled

Ceiling . Paint finish on cement mortar troweled

5-5. Structural planning

The cast in place concrete structure, which has become most popular in Sri Lanka as the most natural and inexpensive engineering method, for the building with a scale similar to this project shall be applied for the construction of buildings under this project as practically as possible. In selecting the design force and design standard, general design procedure prevailing in Sri Lanka shall be preferred to others.

1) Ground conditions

The nature of the soil of the site is a lateritic soil, which is the most common soil in the local area. Beneath the surface layer of soil 1m to 2m deep exists, which consists of an extremely hard gravel layer and a relatively weak gravel layer mixed with sand having a standard penetration test N-value of about 11, exists 6m to 10m deep. Thus, the soil layer of extremely hard rock exists 10m to 12m below the surface of the ground.

Judging from peripheral existing buildings, construction method and cost efficiency, the foundation by means of piling cannot be employed, and normal direct foundation may therefore be preferred. Because bearing capacity of soil determined by means of the N-value is being about $13t/m^2$, which is not a very large value with respect to a

3 to 4-storied building. Thus, it was decided to selectively use the foundation system i.e., either the independent footing, distributed footing or mat foundation, depending on the column axial force and the scale of the building. Especially, special consideration shall be given to the level setting of the supporting ground in regard to the inclined and filling area. Also, expansion joints shall be placed at strategic points of the pedestrian deck area to counter differential settlement and drying shrinkage.

2) Structural design

The reinforcement concrete rigid frame structure shall generally be employed for the construction of buildings in this project. The steel space truss shall be employed for only the roofing frame of the Multi-purpose Hall Building with a long span that exceeds 30m.

The following design standard will be used.

- o Fixed load, live load: BS 6399 Part 1 (1984)
- o Wind load: BS CP3 Chapter V (1972)
- o Reinforcement concrete structure: BS CP110 (1972)
- o Steel-frame structure: Design standards of
Architectural Institute of Japan

Note that Table 1 shows the principle live load to be used for the design of these buildings. Also, when the wind load is computed, the design wind velocity of 35 m/sec (about 75 mile/hr) will be used.

3) Selectin of materials

The locally procured materials shall be used as practically as possible. Materials made in Japan shall be used only when local dealers lack the capability to supply a sufficient amount of the required materials or to supply quality materials.

Cement: Normal portland cement (locally manufactured)
Coarse aggregate: Locally produced crushed stone
Fine aggregate: Locally produced river sand
Reinforcement bar: Deformed steel bar made in Japan SD 30, SD 35
Steel: Steel pipe and light gauge steel made in Japan
STK 41, SSC 41

Note that all steel frames will be processed in Japan because this item has not yet widely been used in Sri Lanka. Only assembly and erection will be performed on site.

Table-1 Live load of principal room (kg/m^2)

Office room	255
Lecture room	306
Workshop	306
Lodging room	153
Hall	510
Audience seats	510

5-6. Mechanical and plumbing system

The basic mechanical and plumbing system under this project shall be as follows:

- o To maintain a close connection with the architectural design
- o To make the basic mechanical plan optimized with respect to natural conditions and the living conditions of users
- o To selectively determine the type of equipment that is easy to be maintained and easy to be checked
- o To reduce the running costs and to attempt energy saving

1) Air-conditioning and ventilation system

■ Air-conditioning

An air cooling heat-pump package and a separated type air cooling heat-pump air conditioner shall be installed in part of the administration office, medical room, special practice rooms (L.L. room, computer classroom), convention room, rehearsal room, video studio, and others.

■ Ventilation

Mechanical ventilation shall be provided for the kitchen in the hostel and for the lavatories and others. The multi-purpose hall and lecture rooms shall be designed for natural ventilation.

2) Plumbing system

Although there is no city water supply main is available around the area of the proposed site, the NWS & DD has a development plan to install it along the road in front of the site. The installation work is expected to be commenced in 1986, and be completed in 2 years afterward.

Because the installation does not coincide with the completion of the Centre, the water for the Centre will be supplied from a well in the same manner as done by the neighbors around the site. As for the well for the Centre, it shall be a deep well type in order to make it yield water of good quality and avoid having any effect on the shallow type wells of the said neighbors.

■ Well-drilling facilities

At a place having a water supply potentiality in the proposed site, a well will be drilled to acquire an amount of $150 \text{ m}^3/\text{day}$ with maximum water pumping amount of $300 \text{ m}^3/\text{day}$ ($300 \text{ m}^3/\text{day} \cdot 12\text{h} = 25 \text{ m}^3/\text{h} = 420 \text{ l}/\text{min}$). Water is preserved in an FRP-made water reservoir tank of 150 m^3 ($75 \text{ m}^3 \times 2$ tanks: the average daily use amount), which has been filtered by means of a sand separator. Note that the water reservoir tank will be an on-the-ground type (Midway-partitioning type) because of maintainability and excellent sanitational capability.

Water pump volume: $150 \text{ m}^3/\text{day}$ to $300 \text{ m}^3/\text{day}$ (max.)

Well diameter: 300ϕ

Depth: 100 m

Depth well pump: $80 \phi \times 420 \text{ l}/\text{min} \times 60 \text{ m} \times 11 \text{ kW} \times 1 \text{ unit}$

■ Water supply

The total daily water consumption of these buildings is expected to be about $150 \text{ m}^3/\text{days}$. Water is sent to an elevated water tank by means of a water supply pump through the water reservoir tanks ($75 \text{ m}^3 \times 2$ tanks). The elevated water tank can store an amount of water corresponding to the service consumption for one hour or 20 m^3 . The pumping capability shall satisfy the required pressure of fire-hydrants, and the specification of pump shall be

$80 \phi \times 940 \text{ l}/\text{min} \times 50 \text{ m} \times 15 \text{ kW}$

A chlorine disinfectant interlocking with the water supply shall be installed to reduce bacteria in the well water. Two water supply pumps will be installed for automatic alternate operations. Note that a vinyl chloride lined steel pipe shall be used as a water supply pipe. Also, the water reservoir tank shall be designed to be capable of receiving water from the main city water supply pipe when it is laid in the future. (Fig. 5.6.2)

- o Estimation of the amount of water to be supplied for;

Administration Building

$$250 \text{ men} \times 10 \text{ l/man.day} = 25,000 \text{ l/day} \dots 1$$

Training Building

$$1,000 \text{ men} \times 70 \text{ l/man.day} = 70,000 \text{ l/day} \dots 2$$

Visitors

$$1,500 \text{ men} \times 10 \text{ l/man.day} = 15,000 \text{ l/day} \dots 3$$

Hostel Building

$$200 \text{ men} \times 200 \text{ l/man.day} = 40,000 \text{ l/day} \dots 4$$

$$1 - 4 \text{ Total: } 150,000 \text{ l/day} = 150 \text{ m}^3/\text{day}$$

Refer to the water supply diagram (Fig. 5.6.2)

- o Water reservoir tank capacity

In consideration of the maximum instantaneous water consumption, power failure and the time required for the sand sedimentation, the water reservoir tank capacity shall be determined as being the daily average water consumption of 150 m^3 ($75 \text{ m}^3 \times 2$ tanks.)

With this amount in mind, proper steps shall be taken in regard to maintenance such as cleaning.

The tank shall be of an FRP-made ground tank serving also as a tank which stores water for fire-fighting.

o Elevated water tank capacity

The tank capacity shall be determined as being an amount of water equivalent to one hour consumption of the daily average water consumption.

(assuming that the total daily water consumption hours are eight hours)

$$150,000 \text{ } \ell/\text{day} \div 8\text{h} = 18,750 \text{ } \ell/\text{h} \cong 20 \text{ m}^3/\text{h}$$

$$\text{Hourly average water consumption} = 18,750 \text{ } \ell/\text{h}$$

$$\begin{aligned} \text{Hourly maximum water consumption} &= 18,750 \text{ } \ell/\text{h} \times 2 \\ &= 37,500 \text{ } \ell/\text{h} \end{aligned}$$

$$\text{Instantaneous maximum water consumption}$$

$$= 18,750 \text{ } \ell/\text{h} \times 3 = 56,250 \text{ } \ell/\text{h}$$

o Water lifting pump capacity

Calculate this capacity based on the maximum

$$56,250 \text{ } \ell/\text{h} \cong 940 \text{ } \ell/\text{min}.$$

The water lift range shall be determined as being 50 meters (the pump also serves as a fire-fighting pump)

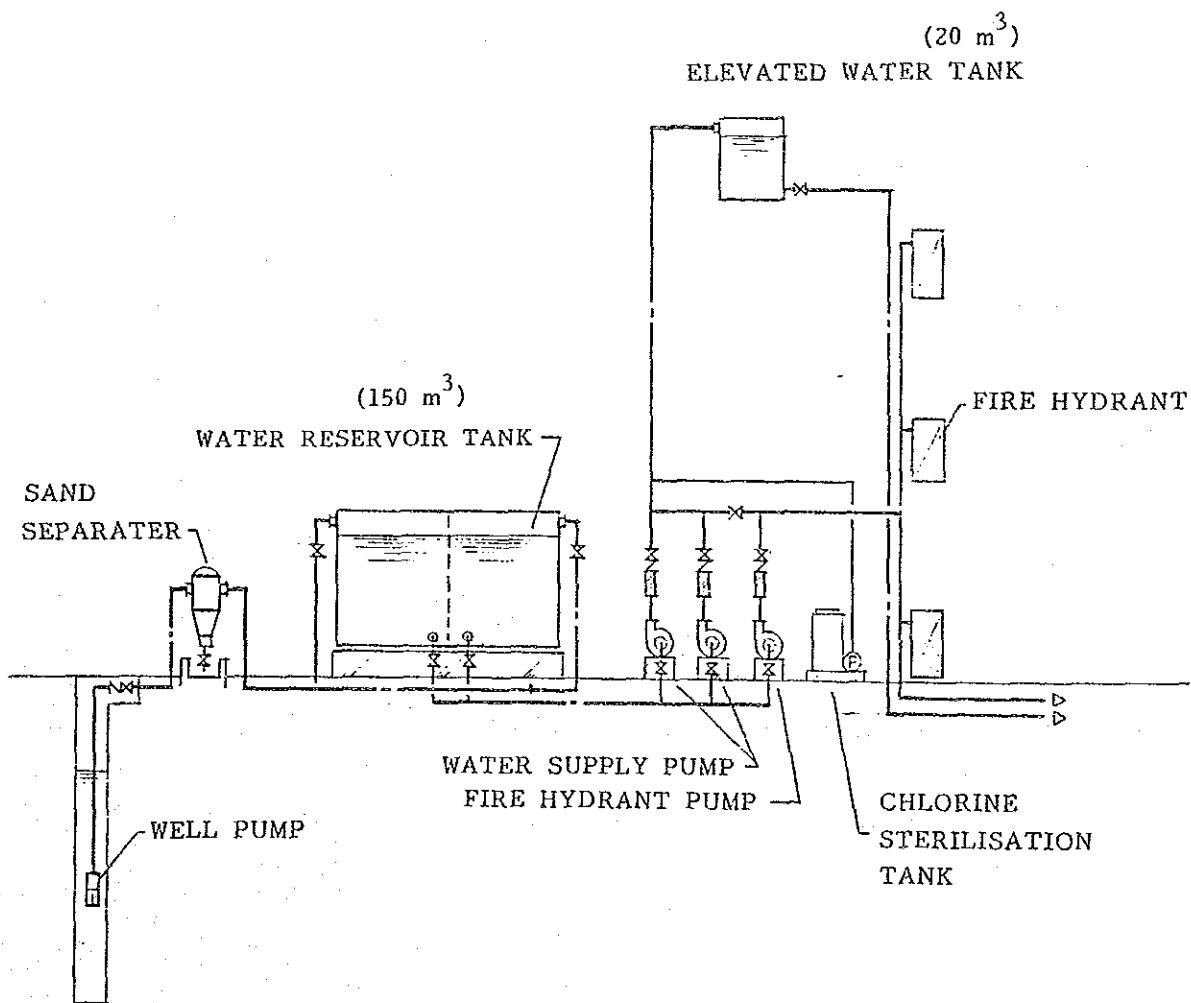
$$150 \text{ } \ell/\text{min} \times 5 \text{ units} = 750 \text{ } \ell/\text{min} \quad 940 \text{ } \ell/\text{min}$$

The specifications of the pump are as follows:

$$80 \text{ } \phi \times 940 \text{ } \ell/\text{min} \times 50 \text{ m} \times 15 \text{ kW} \times 3 \text{ units}$$

(of which 1 unit for fire-fighting)

Fig. 5-6-2 Water supply diagram



■ Drainage

Drainage from these buildings of this project can be broadly classified into two kinds; one is sewage and general drainage, and the other, rainwater. The sewage and general drainage shall be sent to a sewage disposal facility by means of the separate sewer system indoor and the combined sewer system outdoor. The sewage disposal facility shall be installed on a low place so that drainage from each building can be easily collected, and the drainage shall be discharged into a sideditch after it has been treated. Use drainpipes made of hard vinyl chloride to drain sewage and general drainage both indoor and outdoor.

o Estimation of drainage volume

Number of persons accommodated

Administration building 250 persons

Training building 1,000 " *

Visitors 1,500 "

Total 2,750 persons \times $1/3 = 917$ persons ... 1

* A third of the total number of persons that can be accommodated at one time

Hostel Building

The total number of persons that can be accommodated at one time

200 persons ... 2

Estimation of the capacity of a septic tank

$1 + 2 = 1,117$ persons

Design drainage volume of each building

Administration building

$250 \text{ men} \times 100 \text{ l/man.day} = 25,000 \text{ l/day}$

Training building

$$1,000 \text{ men} \times 70 \text{ } \ell/\text{man}\cdot\text{day} = 70,000 \text{ } \ell/\text{day}$$

Visitors

$$1,500 \text{ men} \times 10 \text{ } \ell/\text{man}\cdot\text{day} = 15,000 \text{ } \ell/\text{day}$$

Hostel building

$$200 \text{ men} \times 200 \text{ } \ell/\text{man}\cdot\text{day} = 40,000 \text{ } \ell/\text{day}$$

$$\text{Total} \quad \quad \quad 150,000 \text{ } \ell/\text{day}$$

Design amount of the treated water shall be $150 \text{ m}^3/\text{day}$.

Effluent quality

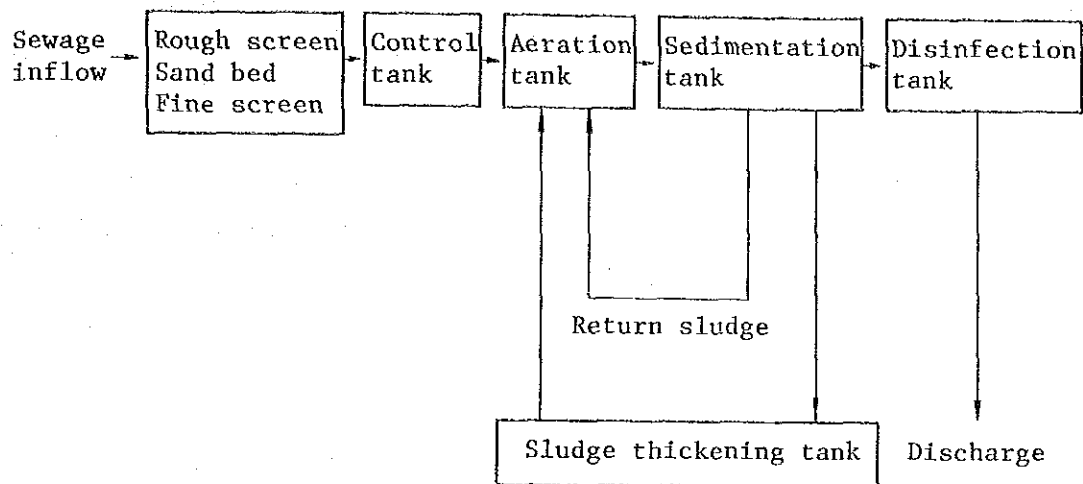
1. Inflow water quality	BOD	200 ppm
	SS	250 ppm
	PH	5.8 - 8.6
2. Outflow water quality	BOD	60 ppm
	SS	90 ppm
	PH	5.8 - 8.6

(Based on Septic Tank Standard of the Ministry of Construction of Japan)

■ Sewage disposal facilities

Sewage and general drainage from each building shall be drained to catch the septic tank, and the design treated amount of water shall be $150 \text{ m}^3/\text{day}$ at BOD 60 ppm. The sewage disposal system shall consist of a sand bed, a control tank, a disinfection tank and a sludge thickening tank. Effluent is discharged into the drainage ditch outside the site after it has been disinfected.

Sewage treatment flowchart



■ Rainwater drainage

Rainwater from the roof of each building and premise shall be drained through a single drain pipe to catch a nearby sideditch and finally to drainage ditches outside of the site.

■ Sanitary fixture

A set of sanitary fixture shall be installed in accordance with the architectural plan at the required places in each building.

3) Kitchen equipment and other facilities

■ Kitchen equipment

The dining room shall be designed to accommodate 200 persons at one time, and the arrangements shall be made focusing on the kitchen equipment and cupboard. Note that simpler equipment shall be used at the cafeteria kitchen.

■ Gas supply

LPG gas shall be used for the kitchen and home-science room. LPG gas cylinders shall be installed individually and the piping shall be extended from them to supply gas as needed.

Note that STGP (white) shall be used as the piping materials.

■ Laundry equipment

Washing machines and drier shall be installed in the washing room of Hostel Building to wash linens.

■ Fire-hydrant

A fire-fighting pump shall be installed in the pump room of the building, and indoor and outdoor hydrants (hose 200 meters long x 2) shall be installed in each building. For the initial fire-fighting, water will be supplied from the elevated water tank. Lining steel pipe shall be used as the piping material.

5-7. Electrical system

1) Power receiving facilities and a substation

■ Voltage and frequency

An overhead high voltage power supply main cable of 3-phase 3-wire 11 kV 50 Hz of the Ceylon Electricity Board (C.E.B.) is running on the road facing the proposed project site.

Power will be fed from this cable to the primary power receiving terminal of the facility on the site. Subsequently, it will be connected to the electrical room of Administration Building through the underground power supply cable. It should be noted that the power line which is presently being connected to the existing facilities on the site at a low voltage of 400 V/230 V must be replaced by the said underground power supply cable for feeding power to the facilities of the Centre upon the completion of the construction work. (The connecting work to the underground power supply cable shall be done by the Sri Lankan side)

■ Substation

Power receiving facilities by means of the cubicle system shall be installed in the electrical room at the basement floor of the administration building. The high voltage power of 11 kV led to the electrical room shall be stepped down to 400 V/230 V on transformer and supplied to the distributing board or power control board of each building.

Power shall also be supplied to the existing buildings. The required transformer capacity for the Centre shall be about 630 kVA. (Work to be done by the Japanese side.)

■ Demarcation of the works

The Sri Lankan side shall be responsible for the installation work of high voltage power line up to the primary high voltage receiving switch, the secondary terminal of the power fuse of the facility on the proposed site. Consequently, the Japanese side shall be responsible for the work beyond the said high voltage receiving switch.

Also, as previously described, the expenses to switch to the new power supply line from the existing power supply line for the low voltage of 400 V/230 V shall be borne by the Sri Lankan side.

2) Emergency power supply facility

A battery set with a capacity of 80 AH shall be provided as a power source for operation display, alarm signal and security lighting. Also, a diesel engine generator with a capacity of about 150 kVA shall be provided as an emergency power source for the security lighting of Multi-purpose Hall Building etc., and for fire-fighting pump and drain pump.

3) Power circuit main

The power that has been stepped down by the substation facility will be distributed to the board for lighting and power control board of each building through the master control board at the electrical room.

The electrical systems of main line and load are as follows:

(1) Main line for power;

3-phase 4-wire 400 V/230 V

(2) Lighting and outlets;

1-phase 2-wire 230 V

(3) Power for fans, pumps and others;

3-phase 3-wire 400 V

(4) Stage lighting;

3-phase 4-wire 173 V/100 V

4) Lighting facilities

■ Lighting fixtures.

Fluorescent lamps shall principally be used as lighting apparatus from the viewpoint of cost efficiency, and incandescent lamps shall be used for the parts if so particularly required by the architectural design. Exit lamps shall be installed at the main entrance and main exits of buildings such as Multi-purpose Hall Building, etc. which are used by many and unspecified persons.

Considering the cost efficiency, the lighting fixture capable of being turned ON and OFF shall be used in a small block, and the lighting fixture capable of being turned off selectively with certain intervals shall be installed at the corridors.

Also, switches installed in the studio for lighting shall be capable of adjusting the intensity of light.

The illuminance of lighting shall be as follows:

- | | |
|---|-----------------|
| (1) Administration office and library | 350 to 400 Lux. |
| (2) Work shop, lecture room, seminar room,
gymnasium and dining room | 300 to 350 Lux. |
| (3) Lobby | 150 to 200 Lux. |
| (4) Corridor, lavatory, and storage | 50 to 100 Lux. |

■ Outlets

Proper outlets shall be provided for the rooms such as kitchen and A.V. room in which electric appliances are frequently used in addition to general-purpose outlets for use in the administration office and conference rooms. These outlets shall be prepared in accordance with the equipment used and its capacity. Grounding terminals shall be provided for the equipment that requires special earthing.

■ Ceiling fans

Generally rooms in administration building, training building, and hostel's shall be provided with ceiling fans.

5) Power control facilities

A power control board shall be installed in each machine room to control ON and OFF of fans and pumps. An alarm system shall be installed to display any abnormality of power loads and water levels on the alarm panel at the administrative section.

6) Telephone system

■ Incoming of telephone lines

An overhead telephone line is installed on the road facing the project site. An overhaed line will be extended from it to the service terminal on the telephone pole. Subsequently telephone line will be fed through the piping to the service terminal at the telephone exchange room of Administration Building. The wirnig work up to the service terminal board shall be the responsibility of the Sri Lankan side. Also, the work required to shift the connection of the 3-trunk lines from the existing building on the site to Administration Building of this Centre upon completion of construction work shall be the responsibility of the Sri Lankan side.

■ Telephone conduit

Metal piping shall be used as the telephone conduit pipe from the receiving service terminal board of the administration building to the relay terminal board of each building, and to the telephone outlets of principal rooms. Outlets for public telephone shall be provided at the necessary places such as lobby.

■ Telephone exchanges

A PABX with the capacity of 100 lines shall be installed at the telephone exchange room of Administration Building for use in communication inside and outside of the building, and 50 extension telephones shall be installed at the necessary rooms.

7) Public address system

■ Addressing system

Speakers shall be installed in the public space. An amplifier and microphones are installed in the office of Administration Building for the communications of messages, calls, chimes and others throughout every floor of the facilities.

■ Independent broadcasting facilities

Multi-purpose Hall Building (gymnasium) shall be provided with a stage sound system. As for the outdoor area, a portable sound equipment shall be provided. Also, the large seminar room shall be provided with an independent broadcasting facility.

8) Interphone system

The following interphone facilities shall be provided for communication between the sections necessary inside the buildings.

- (1) Interphones for maintenance (electrical room, machine room and administration office)
- (2) Interphones for reception at night and on holidays (entry hall and administration office)
- (3) Interphones for dressing rooms and their related rooms (stage, dressing rooms, control room, and projection room)

9) Electrical clocks

Electrical clocks shall be installed in the broadcasting room of Multi-purpose Hall Building (gymnasium). Also, battery operated clocks shall be installed in the dressing rooms and others.

10) TV broadcast receiving system

Outlets of TV shall be installed in the studio, large seminar room, lecture and seminar rooms, and the workshops of electronics and electrical courses.

11) Buzzer for the stage performance

A buzzer system for the commencement of a performance on the stage shall be provided at Multi-purpose Hall Building.

12) Fire alarm system

A fire alarm system shall be installed to sound the emergency bell which can be operated by depressing the button when an emergency, such as a fire, occurs. In this way, people can be directed safely and the occurrence of the fire can be communicated to all people at an early stage.

A display board shall be installed at the maintenance office in the administration building to indicate the building in which the button has been depressed and to start the fire-fighting pump.

13) Lightning protection system

A lightning protection system shall be installed to protect peoples and buildings from being struck by lightning.

14) Stage lighting

Stage lighting system shall be provided as part of the stage facilities of Multi-purpose Hall Building. Also, a portable stage lighting apparatus shall be provided for outdoor activities.

15) External lighting facilities

External lights shall be provided on the premise for the prevention of crimes, and safety at night. Mercury lamps shall be used as light sources and the lights shall be able to be turned ON and OFF either automatically by means of a timer or manually.

5-8. Equipment planning

The equipment installed in the facilities of this project is as shown in the Appendix 5. When selecting the equipment, special consideration should be given to the following points.

- 1) Select the types of equipment for the various repairing technique training courses which are coincidental with the level of education for the basic professional knowledge. Select an equipment which will permit the youth to easily acquire the operating skill and repairing technique of it so that the youth seeking a regular job or intending to become self-employed can master the practical technique and professional knowledge.
- 2) Select an equipment or components whose spare parts and consumables can be easily obtained so that the teaching courses can be continued for a long term.
- 3) When determining the quantities of equipment and components, as a rule, one class shall consist of 25 persons, and study and training shall be provided for one group consisting of five persons. In this way, cost efficient and effective education is achieved.
- 4) As for the video production course, the video programs for public information and educational materials shall be produced.

The emphasis shall be placed on the idea that the practical training is implemented through these actual production activities.