

調 査 の 概 要

1. 調 査 目 的

NYS 上級技術訓練センターに対する技術協力は、昭和 50 年 5 月に開始され、昭和 54 年 5 月に引継ぎを完了したが、同センターへの供与機材は、訓練センターとしての性質上、5 年間継続し反復訓練使用されており、現在ではそのかなりの部分が相当程度摩耗し、故障発生し、一部訓練に支障をきたしていることが予想された。

他方、同センターが、ケニア国内中級レベル技能工の養成に、過去・現在大きく貢献している実績を考慮し、同センターの現状、機構、予算、訓練計画、卒業者の就職状況、機械設備の稼働状況、パーツの補給状況、更には、新規労働力需要供給の関係を調査し、必要が認められるならば補完的供与機材（勿論修理用部品供与が主となるが）、及び短期専門家派遣の詰めを行ない、同センターが円滑に運営されるように、今後のアフターケア実施計画案の作成を目的として、今回のアフターケア調査団が派遣された。

2. 調 査 団 の 構 成

団長	勝山 雅史	総括及び指導計画	雇用促進事業団職業訓練研究センター研究員
団員	橋本 東一	協力企画	国際協力事業団社会開発協力部海外センター課課長代理
団員	久保田秀明	訓練機械	雇用促進事業団職業訓練部施設課

3. 調 査 の 日 程

日 順	月 日	曜 日	行 程	調 査 内 容
	6/3	日	東京（成田）→（LH-651）	
	14	月	→ フランクフルト	（BA-729）, ロンドン →（BA-055） → ナイロビ
	15	火	大使館 JICA 事務所）表敬訪問	萩尾書記官、柳井事務所長に調査目的 説明、長島事務所員と日程打合せ
	16	水	National Youth Service 本部表敬及び調査目的説明（第 1 回目協議） NYS 本部 Director Mr. Griffin, Assistant Director Mr. Ovitti 他 Ministry of Regional Development, Scienc & Technology 表敬（NYS 所属官庁）、次官 Prof. Gacii	
	17	木	NYS 上級技術訓練センター NYS 上級技術訓練センター	現況視察 供与機材調査

日順	月日	曜日	行 程	調 査 内 容
	18	金	NYS本部 NYS上級技術訓練センター	第2回目協議，専門家派遣，供与機材 を中心として 現行カリキュラム調査
	19	土	資料整理	
	20	日	休 日	
	21	月	NYS本部及びNYS上級技術訓練 センター	第3回目協議，現行コースの実情につ いて
	22	火	NYS本部，労働省職業訓練局	第4回目協議，現行職業訓練制度調査
	23	水	Ministry of Regional Development, Science & Technology 次官にアフタ ーケア実施協議内容説明，A ₁ A ₁ フォームコピー受理 鈴木参事官へ経過報告，JICA事務所へ経過報告，NYS本部訪問 (最後)	
	24	木	ナイロビ発 LH-541	
	25	金		→ フランクフルト → LH658
	26	土		→ 東京(成田)

4. 調 査 概 要

- ① 調査日数が限られているので，機材のチェックリスト，カウンターパートの現況，予算，現行カリキュラム，訓練生の就職状況等について事前に調査表を用意し，携行した。
- ② NYS本部及びNYS上級技術訓練センターにおいて，予算，センターの運営状況，卒業生の就職状況，現行カリキュラム，供与機材の現況調査，不完全な供与機材の有無の調査，短期専門家派遣必要性の有無の調査を実施した。
- ③ 労働省職業訓練局において，職業訓練制度・機関についての説明を受けた。
- ④ NYS本部で，必要追加機材及び短期専門家派遣につき協議を行なった。
- ⑤ 地方開発・科学技術省次官室において，次官に，アフターケアとしての必要供与機材及び短期専門家派遣につき協議結果を報告し，別途外務省経由送付されるケニア側要請書(A₁・A₁フォーム)に署名を求め，その写しを受理した。

5. 調 査 所 感

- ① 供与機材は非常に良く維持管理され(毎年1回4月に数量チェックを実施し，その詳細が機材一覧表としてNYS本部へ報告されている。)ているが，一部，部品補給出来ないため，故障後修理出来ず放置されており，訓練に不便を感じている点もあった(電気配線科)

- ② 故障も大きなものはなく、部品の交換で修理可能なものが多かった。このことは、機材の取扱いに馴れた者が使用していた事を示すもので、同一センターの訓練生は感能技術レベルが高いものであることを証明するものといえよう。
- ③ 訓練コースは、プロジェクト期間中は①機械仕上げ科 ②電気配線科共に1クラス構成であったが、現在は、共に3クラス構成となっている。
- Aクラス 従来通りの技能検定試験2級を目指すクラス
- Bクラス Basicコースで資格試験3級合格を目指すもの
- Cクラス 労働省傘下の職業訓練校から派遣されている。従弟生(apprentice)第3学年(最終学年)の実習訓練生コース
- ④ 訓練カリキュラムは、技能検定試験2級を目指すクラスのもの、日本人専門家が残したものを、そのまま使用していた。
- ⑤ 日本で研修受けているカウンターパート4名中2名が転職していたが(内1名は他官庁へ引抜かれた)、他の者は定着し、本センターに教官として残り指導していたのは心強かった。
- ⑥ NYS本部及び上級技術訓練センターのカウンターパートは共に、日本での研修を高く評価し、可能なら日本で再研修してほしいとの要望があった。
- ⑦ 卒業生の就職状況は極めてよく、卒業数年後には、技術系単大卒者と同程度の給料を貰っている者も多く、本センター卒業者は優秀として優遇されていることが分った。
- ⑧ このように、NYS上級技術訓練センターは、日本の技術協力終了後も、ナイロビ地方の職業訓練の上級感能訓練センターとして機能していた。
- ⑨ NYSは約2ヶ月前の政府機構改革により、従来のOffice of President(大統領府)からMinistry of Regional Development Science & Technology(地方開発、科学技術省)の一部局へ移管されていた。
- ⑩ 現在この省の下で、NYSがどのような役割を新たに与えられるのか、方針検討中との事であるが、従来以上に、地方での国家建設への参加、職業訓練機関の拡充を強化して行くものと推定される。
- 現にNYS本部のある敷地(50ha弱)に、定員240名の女性隊員訓練所(秘書科)を新設し、現在93名を訓練中であるが、2年後に240名の規模とし、更に技能検定1級合格を目指し、現在の上級技術訓練センターの2倍規模のものを建設する計画を持っている。我々調査団は、この新計画につき、JICAによる再度の技術協力を求められたが、調査団の範囲外の事であり、必要なら、JICAナイロビ事務所と接触するよう回答した。
- ⑪ 現在ケニアにおける上級技能者の訓練は、労働省傘下の職業訓練センター(ケニア及びモンバサにある)で理論を学び、実技訓練は従弟生受人工場で、技術実習訓練を受けること

とになっているが、NYS 上級技術訓練センターは、最終年度（3年目）生を受入れて訓練していることが判明した。

㊸ このように、NYS 上級技術訓練センターは、ナイロビという地方における職業訓練の中核としてはもちろん、ケニアにおける上級職業訓練の一翼を十分に担っていることが認められるので、今回のアフターケアとして、補完的機材供与と短期専門家派遣を行う事が望ましいといえよう。

㊹ 補完的供与機材は修理用機材を中心としておこない、短期専門家派遣は、機械仕上げ工分野から1名、電気配線関係分野から1名とし、機材の修理、補完的供与機材の据付・管理の面でカウンターパートへの技術者指導を行う事が望ましいといえよう。

ケニアNYS上級技術訓練センターアフターケア調査団の調査事項

R/D 期間の満了による日本人専門家帰国後の状況について、下記事項を調査するとともに、とくに著るしい変化等が見られる場合その理由等を把握する。

1. ケニアにおける職業訓練行政の動向
2. 訓練センターの機構、予算、教員の状況
3. 訓練課程別の定員、募集、入校状況
4. " の訓練計画及び訓練教材整備の状況
5. " の修了者の検定合格及び就職状況
6. 訓練センターの施設、設備の状況
7. 過去の機材（供与機材）の維持・管理及び使用状況
8. 日本に対する機材供与・専門家派遣についての要望（ただし、フォローアップとして予定されている範囲内に限る。）

II 調査の内容

1. ケニアの労働人口と職業訓練機関について

ケニアの労働人口は、ケニア国政府発表の「ケニア開発計画 1977～1983」によれば、1976年 509 万人弱であったが、年率 3.5 の増加により 1983 年では 659 万人弱と見込まれている。その内訳は表 1 によれば 1976 年の小規模農業従事者 267 万人が 1983 年には 321 万人へ増加し、同様に農村部非農業従事者 99 万人が 146 万人へ、近代部門 92 万人が 125 万人へ増加予定であり、雇用労働者総数も 509 万人から 656 万人へと増加が見込まれている。

年間労働力人口増加は 1978 年 - 1983 間の予想では生産人口 (15 才 - 19 才) で 266 千人の増加であり、内労働力増加は 228 千人である。これを雇用労働力内訳としてみると近代部門 5 万人/年、小規模農業 8 万人/年、牧畜生計者 12 万人/年、農村部の非農業従事者 12 万人/年、都市部インフォーマル部門 1.1 万人/年となる。

これに対し、これらの労働力の有効労働力化を目指す技術力・技能向上教育機関・職業訓練機関としては、政府系、民間系各種あるが、その年間訓練能力は表 2 のとおり 78,780 人となる。

TABLE 1: Present state of productive work opportunities and expected growth from 1979 - 1983

	1976	1978	1983	Annual Percentage Increase 1976-1983 %	Average Annual Increase 1978 - 1983	
	Reported '000's	Estimated '000's	Target '000's		Number '000's	Share %
Labour Force:						
1) Population of Productive Age (15 - 59)	6,600	7,070	8,400	3.5	266	
2) Labour Force (85%)	5,610	6,000	7,140	3.5	228	
Employment						
3) Modern Sector	915	1,000	1,250	4.6	50	22.5
4) Small-Scale Agriculture	2,665	2,810	3,210	2.7	80	35.6
5) Pastoralists	390	410	470	2.7	12	5.3
6) Rural Non-Farm	990	1,100	1,460	5.7	72	32.0
7) Urban Informal	125	140	195	6.5	11	4.9
8) Total Employment	5,085	5,460	6,585	3.8	225	100.00
9) Residual (Row 2 less Row 8)	525	540	555	0.1		
10) Residual as % of Labour Force	9.4	9.0	7.8			

Source: Development plan 1979 - 1983

これに中学校 (Secondary Technical School のこと、レベルはともかく、学校制度上は日本の工業高校に相当するもので、小学校卒業後4年間の技術系教育機関である。)の年間卒業生 1,400 人を加えると計 80,180 人となる。これは前述の新規労働人口増加 225,000 人の約 $\frac{1}{3}$ である。しかし、これから職業訓練としては技能訓練レベルの低い、農村職人訓練養成のための Village Polytechnics の定員 22,000 人/年と、農民への年間数週間程度の啓発コースである Farmers Training Centers で行う on the job training の 50,000 人を除外すると、専業的技術教育系職業訓練校での訓練生数は 8,200 人弱となるにすぎない。この場合は、約 28 人中僅か 1 人が職業訓練を受けられるに過ぎない事を示している。

Training Capacities

TABLE 2: Shows the annual training capacity by training level and training institution

Training Level	Training Institution	Annual Capacity	Utilization Factor
A) TECHNICAL SKILLS:			
1. Technicians	- Polytechnics	2,500	42%
2. Skilled Craftsmen	- N.I.T.C.	1,360	41%
	- Governmental and Parastatal Bodies		not avble
	- Private Firms	570	" "
	- Harambee Institutes of Technology	540	" "
	- Others	310	" "
3. Artisans Grade III and Grade II	- National Youth Service	865	90%
4. Artisans for Rural Self-Employment	- Village Polytechnics	22,000	not avble
	- National Youth Service	15	100%
B) AGRICULTURAL TRAINING:			
5. Formal	- Egerton College	215	"
	- Institute of Agriculture	405	"
6. On-the-Job	- Farmers Training Centres	50,000	"

Notes: 1) Data for the annual capacity have been derived from the figures in chapter 2.1 and chapter 2.2 and calculated on the basis of the duration of the training programmes.

Example: N.I.T.C. have a total capacity of 4,100 places.

Considering that training lasts for three years, there will be an annual output of $\frac{4,100}{3} = 1,360$ (approximately) graduates per year.

2) The above listed training institutions represent only the most relevant training programmes in relation to the NYS.

一方、将来の技術・職能工系人間の需給関係からすると、表3のとおり、現在の中堅技術者8,969人、技能工26,594人が、今後年平均中堅技術者クラスで1,400人、技能工クラスで4,260人の増加を必要とし、合計年平均5,600人強の初級・中級技術者を必要としている。しかし、この数字は職業関係を含まない数字であり、将来ケニアの全業種で必要とする技術者技能者数は相当な数になることを示している。

現在ケニアには、次のような技術系・技能工職業教育・訓練機関がある。

① National Industrial Vocational Training Centers (NIVTC)

② Polytechnics

③ Kenya Industrial Training Institute (KITI)

④ National Youth Service Training Center (NYS Center)

⑤ Harambee Institutes of Science and Technology (HIT)

⑥ Ministries and Parastatal bodies

⑦ Private Firms

⑧ Secondary Technical Schools

⑨ その他

Christian Industrial Training Centre

Young Women Christian Association (YMCA)

Young Men Christian Association (YMCA)

Limuru Boys Centre

⑩ Agricultural Training Institutes

以下、これらの諸機関につき簡単に説明する。

① National Industrial Vocational Training Center (NIVTC)

(国立産業職業訓練センター)

これは労働省 (Ministry of Labor) 傘下の職業訓練校であり、その目的は[※]徒弟制技能工の養成であり、現在、ナイロビ モーバサ及びキスムの3センターがある。

※徒弟制技能工について旧英連邦系植民地であったところでは、1人前の技能工となるためには、ヨーロッパ系の徒弟制度が定着している。普通、徒弟期間は3~4年であり、昔は、職訓練校・工業高校に関係なく、1人前の技能工となるためには必ず技能工である親方の下で一定期間(3~5年)徒弟工として働かねばならなかったが、現在は、職訓練校卒業後、一部は技術学校在籍中に、この徒弟制を経験する事が出来るようになっている。

訓練は初年度12週間の座学後6ヶ月間の工場内実習訓練、第2年目と第3年目は6週間

TABLE 3: Manpower Survey

1 Selected Occupation Categories	2 Projected Stock of Manpower Jan. 1979	3 Additional Number re- quired p.a. 1972 - 1978	4 Projected Addi- tional Number required p.a. 1979 - 1983
<u>Semi-professional (technicians)</u>			
- physical science technicians	740	60	118
- draughtsmen and engineering technicians	7,517	540	1,200
- statistical and mathematical technicians	100	6	16
- secondary school teachers, technical	612	43	98
Total semi-professionals	8,969	649	1,432
<u>Skilled (equivalent of a Grade I or II Trade Test)</u>			
- production supervisors/toreman	3,491	223	560
- tailors/dressmakers, pattern makers, etc.	4,145	269	665
- blacksmiths	333	25	53
- machinists/fitters, etc.	3,117	268	500
- motor vehicle mechanics	3,748	258	600
- mechanics/repairmen	1,430	100	230
- electrical/electronics workers	2,778	197	445
- plumbers/pipe fitters	469	25	75
- welders and flame cutters	946	67	150
- sheetmetal and structural metal workers	416	33	66
- compositors and typesetters	556	42	90
- letterpress minders	425	32	68
- other printers etc.	609	46	97
- painters/signwriters	291	18	47
- carpenters and joiners	1,996	122	320
- stonemasons, bricklayers, etc.	1,844	112	295
Total skilled workers	26,594	1,837	4,261

Note: Column 2: If zero Kenyanization
 Sources: Column 1,2,3, UNDP, ILO - Towards a Long Term Planning for Industrial Training in Kenya
 by M. Godfrey, December 1975
 Column 4: Projections in Basis of the Development Plan Forecast of 16% Increase
 in Demand for Skilled Manpower.

の座学の後6ヶ月間の工場内実習訓練となっている。この3年間の訓練期間を無事終了すれば、「徒弟制度修了証明書」が発行され、そこで始めて本人は一人前の技能工として認められる事になるのである。

現状では徒弟工の受入先不足のため、1977年の登録済徒弟工は1,689人であった。現在では多くの中学校(Secondary Technical School)卒業者がこのセンターへ参加している。労働省職業訓練局次長の話によれば本来このNITVCは実習経験の少ない工業高校卒業者を一人前の技能工にするのを目的として設立された職訓センターであり、このため、座学は3年間で計24週間と極端に少なくし、その大部分の時間を工場内実習に当てているとの事である。

尚徒弟工受入先は、apprentice masterと呼ばれる徒弟工を教育訓練する親方を置く事が義務づけられており、少くも技術系ディプロマ取得後実務経験ある事が資格となっているので、このapprentice masterの確保が難かしいために徒弟工受入先が少ないのである。

又、このNITVCがTrade Grade Test(技能テスト)を実施する機関となっている。1978年には15万人が受験している(1974年には7,800人弱であった。)

② Polytechnics

ケニアには技術系単大であるポリテクニクはナイロビとモンバサにある。これは中学校(Secondary School)卒業者と産業界や商業界に就職後更に上級訓練を希望する者が進学する機関—技術系単科大学—である。

卒業者には、上級ディプロマ(単科系高等教育機関卒業者に授与される証書)若しくはFTC(Full Technical Certificate)といわれる技術系専門コース修了証書が与えられる。

この訓練定員は、ナイロビのKenya Polytechnicが4,500人、モンバサのPolytechnicが3,200人である。1979年の計画上の定員数は、ナイロビが2,140人、モンバサが1,142人となっている。

③ Kenya Industrial Training Institute(KITI)

この機関は、1969年に小規模企業訓練調査機関として設立されたもので、その目的は農村部産業化と職人クラスの訓練による技術の移転を目覚すものである。

④ National Youth Service(国家青年奉仕隊の職業訓練機関)

NYSは1964年に活動開始したが、その目的は1965年のNYS制定法に次のように明記されている。

この奉仕隊の役割は、ケニア国民である若者を国家建設に奉仕出来るよう訓練の上、国家建設に従事せしめることである。

従来、年間1,000人～2,000人の若者が退役されて来たが、1978年には3,200名が入隊した。

2年間の基本契約を結んで奉仕隊員となるのである。この訓練は次のようである。

初めの2年間は右の課程 となる	}	初め3ヶ月	基本訓練
		次の1年	地方現場の国家建設事業に労働力として 参加する
		次の3ヶ月	一般教育

更に、この最初の2年間終了時の適性検査合格者に対しては、1-2年の職業訓練（座学及び工場内実習訓練）の後に6ヶ月の実習が行なわれる。

上記訓練用機関として、次の諸訓練機関をその組織内に持っている。

- Gilgil : 男性基礎訓練, 一般訓練, 男性服仕立てコース, 女性服仕立てコース
- Naivasha : 女性用基礎訓練
- Mombasa : 技能工: 技能検定3級を目的とする技能工訓練
- Nairobi : 技能工: 技能検定2級以上を目的とする技能工訓練, 自動車運転学校, 秘書科, 家具装飾科他
- Turbo : 農村技能工訓練

以上、NYSの諸訓練機関中、技能工職業訓練機関と見なし得るものと、その定員は次の通りである。（表4参照）

- ④ Mombasa Vocational Training Center
訓練期間 15ヶ月間 定員400名
訓練コース 自動車整備, 機械工, 電気工他
- ⑤ Upholstery Training Center (ナイロビ)
訓練期間 12ヶ月 定員20名
訓練コース 家具装飾
- ⑥ Advanced Training School
訓練期間 8ヶ月 定員計160名
訓練コース 自動車整備, 機械工, 電気工他
- ⑦ Secretarial School (ナイロビ)
訓練期間 24ヶ月 定員80名
訓練コース 秘書科

⑥ Dressmaking and Tailoring School (ギルギル)

訓練期間 12ヶ月(3級) 定員140名

追加的 8ヶ月(2級)

訓練コース 男性服及び女性服仕立て

⑦ Driving School (ナイロビ)

訓練期間 3ヶ月 定員80名

訓練コース 自動車運転

TABLE 4: Regular Training Programme

Training Centres:	Place:	Programmes:	Duration:	Capacity:	Grades:	Directions:
Central Education Unit	Gilgil Training Unit (for women in Naivasha Women Training Unit)	Basic training Drill, Civics, First Aid, Sports, Agriculture	3 months	upto 1,500	Servicemen Servicewomen	Commandant Gilgil Training and Training Officers
	Gilgil Training Unit	General subjects; (according to prior education): Reading and Writing, English, Mathematics, Physics, Civics, Geography History, Health Education, Swahili	3 months	upto 400	Possibility to take the following exams: C.P.E. K.J.S.C. E.A.C.E. Illiteracy courses	Education Officer and Teachers
Mombasa Vocational Training Centre	Mombasa Vocational	Motor vehicle mechanics, welding, masonry, carpentry fitting, turning, electricity plumbing	15 months	upto 400	Government trade test Grade III	Senior Technical Instructor Number of instructors: 26 trainee-instructor proportion: 16:1
Upholstering Training Centre	Nairobi	Upholstery	12 months	upto 20	Grade III	Instructor in charge, 1 instructor

⑤ Harambee Institute of Science and Technology (HIT)

この機関は、中学校 (Secondary School) 卒業後も職のない者の増大に対処すべく、これら学卒者の有資格技能労働者への転換のため、各州内に設立されたものである。現在計画上の 15 校中、12 校が現在開校運営されており、機械工学、電気工学、建築関係、農学、家庭学、食品加工、灌漑、商業等の技能工レベルの訓練コースを持っている。

最終試験は、文部、労働両者の認められた課程に基づいて行われ、修了証書は、教育局長が発行することとなっている。1979 年及び 1983 年の計画上の入学者数は各 1621 名と 3859 名となっている。(表 5 参照)

TABLE : 5
PROJECTED ENROLMENTS OF H. I. T., 1979 & 1983

Institute	1979	1983
1. Kaimasi	168	216
2. Kiambu	441	513
3. Murang'a	240	312
4. Western College of Technology (WECO)	134	360
5. Ramogi Institute of Advanced Technology	67	192
6. Gusii	124	388
7. Sengalo	75	210
8. Kirinyaga	156	336
9. Kimathi	108	300
10. Rift Valley	48	288
11. Ukai		168
12. Embu		144
13. Meru		168
14. Coast	30	132
15. Taita	30	132
total	1621	3859

Source : Development Plan 1979-1983

⑥ Ministries and Parastatal Bodies

各省は、その省の必要とする技能者を訓練するコースを持っている。この内、Ministry of Works (公共事業省)が相当規模の技術訓練活動を行なっている。現行、次のコースを持っている。

Motor Vehicle Mechanics	自動車
Plant mechanics	機械工
Plant operators	産業機械操作員
Road overseers	道路工事士
Road inspectors	道路検査人

準政府企業体としては、ケニア鉄道があり、年間1,000人の訓練生を収容出来る訓練センターを持っている。

⑦ 民間企業 (Private Firms)

民間企業でも訓練センターを持っているところがある。1977年の訓練能力は年1,730人である。

政府は、民間部門訓練に関する法的整備を行うことにより、これへの側面的援助をおこなっている。

⑧ 工業学校 (Secondary Technical School)

1979年の工業高校在校生は7,056人であった。(普通高校 生は124,000人である) 1983年には、15の国立工業高校が技術教育校となる見込みである。開校コースは、基礎工学、基本建築及び農業機械である。この工業高校は、技術系科目について4年間十分な教育・訓練を実施しているが、何分実務経験が少ないため、卒業後直ちに就職するのは少数である。

従って、この卒業生は、その多くが、Polytechnic (技術系単大)へ進学し、テクニシャン(技術者)への教育訓練コースを進むか、或いは、技能工の訓練コースである National Industrial Training Centres 或いは Institute of Science and Technology コースへ進み、技能工的教育訓練を受けることとなる。1978年度の工業高校卒業生数は1,473人であった。

⑨ その他

① Christian Industrial Training Center

ナイロビ、モンバサ、及びティカにあり、年間150人の生徒を送り出している。女性

用としては、キスムに商業コースがあり、年間30名の定員である。

⑨ YWCA

Limuruの家政学は年30名の定員で活動し、Likoniの秘書科は年40名の定員で活動している。

⑩ YMCA

ナイロビの手工芸科は年30名の定員で活動している。

⑪ Limuruの少年センター

農業コースと産業機械エコース(共に2年)があり、年30名の小学校卒を受入れている。

⑫ Agriculture Training Institutes

① Egerton College

3年のディプロマコースで、定員215名/年である。いわゆる農業系単科大学である。

② Institute of Agriculture

2年の修了証書(Certificate)コースで、定員405名である。

③ Farmers Training Centers

1~2週間の農民啓発コースで、年間50,000人を受入れている。

2. NYS上級技術訓練センター(NYSAETC)の現況

本センターはNational Youth Service(国家青年奉仕隊)が隊員のために持つ各種職業訓練機関中最高位に位置する訓練所である。本センターは日本が技術協力した機械科、仕上げ科及び電気科の他に自動車備科も併せ持っている。1977年以來の予算の推移をNYS全体予算、NYS訓練機関関係予算、NYS上級技術訓練センターと対比してみると、本センターの予算はあまり伸びていない。(第6表NYS上級技術センター現況調査)

次に、現在の本センター機械科、仕上げ科、電気工事科の教官スタッフは、機械科2名、仕上げ科2名、電気科3名となっており、プロジェクト協力期間中よりも増員されている。

(第6-2表参照)

又受入中の訓練生は、上級コースで機械科14名、仕上げ科20名、電気科40名、労働省職訓センターからの委託徒弟生(第3年目)が機械科14名、仕上げ科20名となっており、これらは、プロジェクト協力期間中の各科5~10名当時に比べ数倍の増員となっている。そして、これらの訓練生は90%前後の高率で技能検定2級試験に合格しており、そのほとんどがケニア国内有力企業に就職し、数年後には、上級技能工として3,000ケニアシリングの高収入を得ている。1982年度これら卒業生の就職時給与が1,000ケニアシリング前後であることからして、本センター卒業生が如何に産業界で高評価され且つ、優遇されているかがわからう。(第6-4表参照)

① 訓練課程別定員募集入校状況について

現在のNYS 上級技能訓練センター(NYSAETC)では機械科、仕上げ科、電気工事科がそれぞれ3クラス編成となっていた。

Aクラス：従来通り資格試験Grade IIを目指すコース

Bクラス：資格試験Grade IIIを目指すコース(Basicコース)

Cクラス：労働省傘下の職業訓練校から派遣されているapprenticeshipの第3学年(最終学年)の訓練コース

上記の訓練コースで訓練が実施されていたが次会計年度から機械科、仕上げ科、電気工事科共に次の3クラス編成に変更されるとの事だった(1982年7月から)

Aクラス：従来通り資格試験Grade IIを目指すコース

Bクラス：資格試験Grade Iを目指すコース

Cクラス：労働省傘下の職業訓練校から派遣されているapprenticeshipの第3学年(最終学年)の訓練コース

∴ 定員募集入校状況は第7表のとおりである。

第 7 表

年 度	ク ラ ス 名	入 校 者 数			備 考
		機 械 科	仕 上 科	電 気 工 事 科	
1977	1 Aクラス	7	6		
	2 Aクラス	12	11		
1978	3 Aクラス	10	9		
	4 Aクラス	5	12		
1979	5 Aクラス	9	9	13	
	6 Aクラス	24	11	11	
1980	7 Aクラス	14	40	40	
	8 Aクラス	14	10	34	
	Cクラス	13	16		
1981	9 Aクラス	10	22	40	
	Bクラス	14	8	8	
	Cクラス	14	22		
	10 Aクラス	14	20	20	
	Cクラス	14	20	18	
1982	11 Aクラス	14	20	40	
	Cクラス	14	20		

Aクラス：資格試験 Grade II を目指すコース

Bクラス：資格試験 Grade III を目指すコース (Basic コース)

Cクラス：労働省傘下の職業訓練校から派遣されている apprenticeship の第3学年 (最終学年) の訓練コース

② 訓練計画及び訓練教材

訓練シラバス、カリキュラムは従来通り Grade II を目指す Advance class 用に日本人専門家が作成したものがそのまま使用されている。また訓練教材も同様に日本人専門家が作成したものに若干追加されて使用されている。AETC で作成された教材 (日本人専門家が作成した work sheets) が現在も訓練に活用されると同時に他のセンターの教材、指導技法等について相互に充分なコミュニケーションが行われており、AETC の教材は他のセンターでも活用されていた。又ここで、労働省傘下にある National Industrial Vocational Training Center から派遣されている徒弟生 (第3年目) を技術実習生としても受入れている。このように、現在ではこの AETC がケニアにおける上級技術訓練センターとしての中核的存在になってきているのである。

訓練シラバス、カリキュラムは表8-1のとおりである。

(1) 機械科

表8-1

学 科		実		備	考
科 目	時 間	科 目	時 間		
数 学	50 ^(h)	測 定 作 業	40 ^(h)	・ 総訓練時間 1,275 (h)	
電気工学大意	12	機 械 工 作 作 業	422		
機 械 材 料	20	安 全 作 業	9		
機 械 工 作 法	70	応 用 実 技	542		
機 械 工 学 大 意	20				
機 械 製 図	70				
(小 計)	242			・ 訓練期間 8ヶ月	
行 事	20				
計	262		1,013		

(ロ) 仕上科

表 8 - 2

学 科		実 技		備 考
科 目	時 間	科 目	時 間	
教 学	50 ^(h)	測 定 作 業	40 ^(h)	・ 総訓練時間 1,275 (h) ・ 訓練期間 8ヶ月
電気工学大意	12	機械工作作業	422	
機械材料	20	安全作業	9	
機械工作法	70	応用実技	542	
機械工学大意	20			
機械製図	70			
(小 計)	242			
行 事	20			
計	262		1,013	

(ハ) 電気工事科

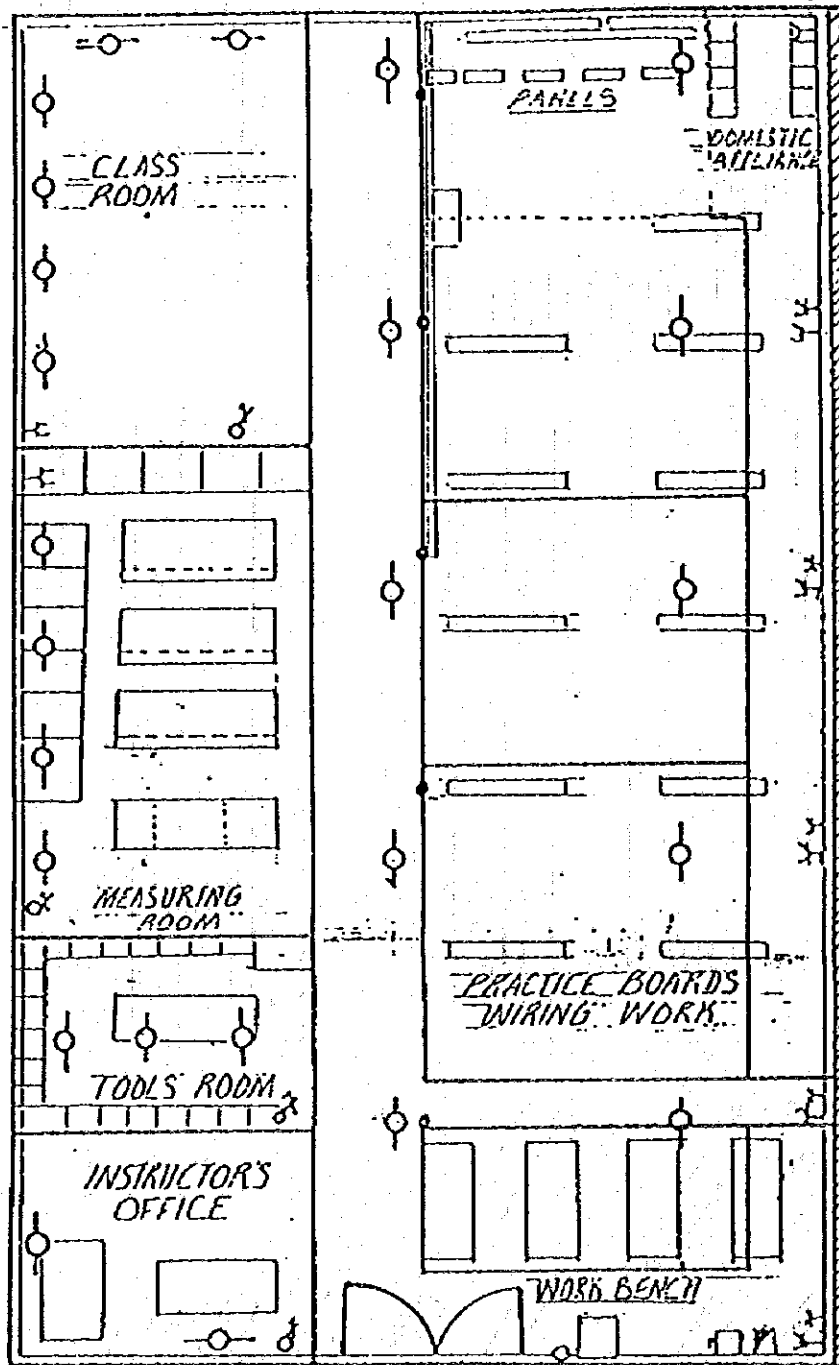
表 8 - 3

学 科		実 技		備 考
科 目	時 間	科 目	時 間	
電気理論	120 ^(h)	基本測定作業	100 ^(h)	・ 訓練総時間 1,275 (h) ・ 訓練期間 8ヶ月
電気機械	140	電気工事	130	
電気応用	50	電気機器修理	340	
電気測定	50	応用実技	285	
電気材料	40			
小 計	400			
行 事	20			
計	420		855	

③ 訓練修了者の技能検定合格率及び就職状況

1期生から10期生までの技能検定GradeⅡの合格率は平均して81%で(表(4)を参照)日本人専門家の在ケニア中の93%には及ばないにしても高い成果をあげている(また日本人専門家の在ケニア中はGradeⅠまでレベルアップしていたが帰国後はGradeⅡまでとなっていた)。ということは指導員の指導能力と教材の充実度があげられる。卒業生の就

電気工事科レイアウト



⑤ 供与機材の維持管理及び使用状況

(a) 機 材

日本側協定期間に於いて供与した機材は総額 114,069 千円余でその状況は表(6)とおりである。

供与機材は非常に良く維持管理され(毎年1回4月には数量チェックを実施し、その詳細が機材一覧表としてNYS本部へ報告されている)ている。機材のほとんどが順調に作動し、訓練に活用されているが、保守のうち交換部品(歯車)の調達がケニア国内では困難である。なお、主な機械器具の使用状況は、次表のとおりである。

第10表 主な機械器工具の使用状況

機械科及び仕上科				電気工事科			
主な機械・器具	使用度			主な機械・器具	使用度		
	a	b	c		a	b	c
旋 盤	○			パイプねじ切り器	○		
フ ラ イ ス 盤	○			油圧式管曲げ器	○		
形 削 盤	○			変 圧 器		○	
ポ ー ル 盤		○		誘 導 電 動 機	○		
平 面 研 削 盤	○			発 電 機	○		
円筒研削盤		○		実習用配電盤	○		
万能工具研削盤		○		測 定 器 類		○	
超硬工具研削	○			電 磁 制 御	○		
刃物研削(両頭 グラインダー)	○			家庭用電気機器類		○	
測 定 器 類	○			器 工 具 類	○		
試 験 器 類		○					
手仕上げ器工具類	○						

(注) a : 良い

b : 普通

c : 悪い

機材供与実績

第 11 表

年 度	金 額 (千円)	備 考
1975 (昭和 50 年)	49,542	機械, 仕上
1976 (昭和 51 年)	26,560	仕上, 共通
1977 (昭和 52 年)	20,207	電気工事
1978 (昭和 53 年)	17,754	機械, 仕上

総計 114,069 千円

(b) 修理機材及び故障状況

供与機材の故障状況としては大きなものはなく部品の交換で修理可能なものが多かった。このことは機材の取扱いに馴れた者が使用していた事を示すものであり同センターの指導員の指導レベル、訓練生の技能レベルが高いことを証明しているともいえる。表(2)に修理機材及び故障状況等について付記する。

修理機材及び故障状況

第 12 表

科 名	機 械 名	故 障 箇 所	備 考
機械及び仕上	両頭グラインダー	スイッチ	交換
	旋 盤	ベルト	追加
		デッドセッター-MT3	交換
	形 削 盤	参考 (1)	修理
	立てフライス盤	サドル前後, 上下セットスクリュ	修理
	横フライス盤	センターアーク	交換
	旋 盤	四ツ爪チャック用六角レンチボルト	追加
電 気 工 事	接 地 抵 抗 計	指針が作動しない) 電池不良のため, 電池交換を指示
	回 路 計	"	
	電 流 計	指針が作動しない	交換
共 用 機 器	O H P	レンズにきず	交換
	湿 式 コ ピ ー	ランプ	ランプ交換

3. NYS本部の日本に対する機材供与等要請について

a 訓練機材の供与

AETCの拡大(訓練コースの増設)にもなつて訓練機材の充足を計りたいNYSサイドからは、当然訓練生の定員から判断して新規の旋盤等が要求された。日本サイドからは、あくまでも当初の訓練コースに対しての援助であることを説明すると共に将来のAETC発展を考慮して供与機材の保守、メンテナンスに力を入れ、現在の機材の有効活用ということでミーティング持ち、協議の結果、供与済機材の修理用部品を中心に一部補完的機材の必要性が認められたので、ケニア側からA₁フォームによる正式要請があれば(双方で同意をみた、修理用機材を中心とする機材の要請)機材供与する用意のあることを説明した。

b 短期専門家の派遣

日本からの専門家追加派遣について機械科、仕上げ科、電気工事科にそれぞれ専門家の要請がケニア側からなされた、調査の結果日本からの新規機械供与についての技術指導と機械の保守メンテナンスについてのアドバイス、カウンターパートへの指導面での短期専門家の必要性が認められたので、ケニア側からA₁フォームの正式要請があれば次のように短期専門家を派遣する用意のあることを説明した。

機械と仕上げ科	短期専門家	3ヶ月1名
電気工事科	短期専門家	3ヶ月1名

調査の結論

1. NYS(国家青年奉仕隊)上級技術訓練センター(以下「AETC」)のための技術協力は、1979年5月に機械科と仕上げ科、1980年5月に電気工事科が、それぞれ討議議事録上の協力期間の終了に伴ないケニア側に引渡ぎを完了した。

初代ジョモ・ケニヤンタ大統領の唱えるハランバー精神(HALLANBEE)、即ち「建設精神、国造りのため汗を流して自分自身の手で土地を開墾して道を造り村をつくる」を実践しているNYSは、その参加青年男女に、一般教育と職業訓練を行い、国家の建設事業に奉仕せしめながら任務終了後はその習得した技能で就職の機会も与えるところであり、このような職業訓練により近代的な技能を身に付けた技能者の育成を計るケニア政府の労働力活用計画の一翼を担うものである。

2. AETCの訓練開始は1977年11月からであり、現在迄の5年6ヶ月の間に417名の訓練生が卒業した。1期生から、10期生までの訓練生のGrade Testの合格率は81%と高い成果をあげている。これら訓練生は、モンバサ技術訓練センターで基礎訓練(Grade III合格者)を受けたものが主であり、その質は高い。受講態度は熱心で、家庭事情による少数の中退者を除けば全員修了しており修了率は99%となっている。

卒業生に対する産業界の評価は表6-cから判るように政府関係から民間企業にと幅広く活躍しており卒業数年後には、Chief Inspector, Assistant Factory Mangerなどに昇格、給料も技術系単大卒者と同程度の給料を貰っている者が多く、企業の中堅クラスに成長しケニア産業界の中核となり社会的評価も非常に高い。

3. AETCの日本の協力終了後の運営状況は良好である。供与機材は非常に良く維持管理されており、毎年4月の棚卸により、機材リストとのチェックが行われ保守管理は充分なされている。予想に反し故障も大きなものはなく、部品の交換で修理可能なものが多かったことは、AETC指導員の指導能力の高さを証明したものだといえる。訓練サイドからは、AETCで作られた教材(日本人専門家が作成したワークシート)をフルに活用した訓練が行われ、他のセンターとも教材面での意見交換がなされ、AETCの教材が他のセンターでも活用されている。その結果本上級技術訓練センターへ他のセンターから入所して来る訓練生の質が向上してきている。訓練期間も日本人専門家の指導時代は1年であったが最近8ヶ月に短縮されており、それなりの成果をあげていることはAETCの訓練教材の充実と指導員の成長によるものといえよう。ケニア産業界の要請によりAETCも拡大され昔は機械科、仕上げ科、電気工専科がそれぞれ2シフト制の2コースであったのに対して、現在これら3科につきBasic training(基礎訓練)、Apprenticeship training(徒弟生訓練第3学年の訓練コース)、Advanced training(上級技能訓練)のコースが開発され、実習場はせましとばかりに訓練が行われていた。訓練シラバス、カリキュラムは、Advanced trainingコースに日本人専門家が残したものをそのまま使用していた。
4. カウンタパートの充足は十分なされていた、校長1名以下指導教官として機械科2人、仕上げ科2人、電気科3名が確保されている。カウンタパートの日本研修については、今までに4人が日本研修を受けているがその内の2人が転職(内1名はエネルギー省へ、1名は独立して会社設立)していたが、残る2名のカウンタパートは定着し訓練に従事していることは大変喜ばしかった。NYSは約2ヶ月前に政府機構改革により、従来の大統領府(Office of President)から地方開発、科学・技術省(Ministry of Regional Development, Science and Technology)の一部局へ移管されており、従来の2階建本部の隣に6階建の本部ビルを建築中であり、今後はケニアの地域開発のために益々発展するものと考えられる。このようにAETCは日本の技術協力終了後もナイロビにおける職業訓練の中核としてはもちろん、ケニアにおける上級技術訓練の一翼を十分に担っていることが認められた。
5. 以上のことからして、結論として本プロジェクトへのアフターケアのため、次の2点の協力を行うことが妥当且つ有効であると判断される。

- ① 機材修理のための部品を主とし、一部補完的機材を加え機材供与すること。
- ② 上記機材の修理用部品の到着時に合わせ短期専門家を派遣し、機材修理の監督指導、補完的機材の据付指導、カウンターパートへの技術指導を行うこと。

専門家派遣分野は、機械仕上げ分野1名、電気配線関係分野1名であり各数ヶ月間の派遣で充分と思われる。

尚この2点については、ケニア側とも充分協議済である。

M E M O R A N D U M

The Japanese Team organized by the Japan International Cooperation Agency, headed by Mr. Masashi Wakiyama visited the Republic of Kenya from June 15, 1982 to June 23, 1982 for the purpose of discussing with after-care of National Youth Service Advanced Engineering Training Center.

As a result of the discussion, the Japanese Team and the Kenya Authorities concerned agreed to the following matters:

1. The Kenya Government should make necessary arrangement for offering A1-Form concerning short-term period experts and A4-Form concerning donation of equipments for the National Youth Service Training Center through diplomatic channel as quickly as possible.
2. The Japanese Government should make necessary preparation for implementation according to the request of the Kenya Government.

Nairobi the 23rd June, 1982

Masashi Wakiyama

MASASHI WAKIYAMA
Head, Japanese Team.

Peter GAC. II

Professor Peter GAC. II
Permanent Secretary
Ministry of Rural Development
Science and Technology

(APPRENTICESHIP TRAINING IN KENYA)

All Technical training in Kenya is done under the auspices of Directorate of Industrial Training.

The Directorate of industrial training was created by an Act of Parliament.

It initially started as a Trade Testing Centre after the second world war; it was solely used for trade testing the skills of soldiers who used to do different trades while in the army. After that different courses were initiated for skill improvement for workers who were working in light industries.

In 1959, Training Ordinates was formulated, whereby all employers were forced to Register all apprentices with the centre and it became a by-law; that was also the first time when inspectors of apprentices were appointed and employed by Government with the duties of going around the industries to supervise the training of these apprentices.

In 1963, the International Labour Organization (I.L.O.) conducted a survey in the country regarding the requirements of industries as far as Technical personnel was concerned. The end result of the survey was that craftsmen were found to be greatest number needed by industries. After this survey, the training of craftsmen was greatly expanded.

In 1971, an Act of Parliament Cap 237 empowered the Directorate of Personnel Management to ensure that all employers carried out the following.

1. Provide training for personnel at all levels
2. Improve on the efficiency of training.
3. Employers to share equitably the training costs through levy system.

In 1975, another survey was conducted again with the purpose of trying to find once again the needs of industries.

The end result was that, skills which were being conducted at that time were to be improved. Another system of apprenticeship training was also introduced that is the "Technician apprenticeship scheme", and in 1976 the "Indentured Learners Scheme", was also introduced.

At the same time, the duration of training for all categories of trainees was formulated as follows.

1. Technicians 3-4 years
2. Craftsmen 3 - 4 years
3. Indentured Learners 6 months-2 years.

...../2

The training of technicians is carried out in the Directorate's Training Centre, Polytechnics either Mombasa or Kenya and within the employers' premises.

The same scheme applies to craftsmen except they don't attend the Polytechnics.

The Indentured learners never attend the training centre but are just trained within the company's premises.

Entry Requirements for various courses:

The scheme is mainly fed by students from Technical Schools in the country with a few coming from Grammar schools. The total output of trainees from technical schools in the country per year is approximately 2,000 out of this number, only about 50% are admitted for training under the scheme with D.I.T.

The academic entry requirement is as follows:

1. Technicians: Very good form IV O-level results at least with credit passes in Maths, Science, a Technical subject and English.
2. Craftsmen: Form IV O-level pass
3. Indentured Learners: Mainly primary school learners.

Procedure of Enrollment

When a trainee is admitted into the scheme, three contract forms are signed.

- (i) One is retained by the apprentice
- (ii) One is retained by the employer
- (iii) and one is retained by D.I.T.

Once the contract is signed, no party either the employer or the apprentice is allowed to break without the D.I.T.'s knowledge.

Working Regulations for apprentices are completely different from the ones of other regular employees within the same firm.

...../3

Since the 1971 act of Parliament cap 231 came about, the following numbers has passed out as craftsmen apprentices.

1972 - 134

1973 - 183

1974 - 464

1975 - 331

1976 - 466

1977 - 418

1978 - 718

1979 - 758

1981 - 825

Since the Technician scheme was started, it has been training about half the number of craftsmen.

The number for Indentured learners has almost remained 200 all year round.

In brief, the Department of Directorate of Industrial Training does the following:

- (1) Apprenticeship Training
- (2) Skill improvement courses (mainly for employees who are regarded as semi-skilled in their various fields).
- (3) Trade Testing (for people who are already working and some who are self-employed who do Grade 111, 11 and 1 in various fields).

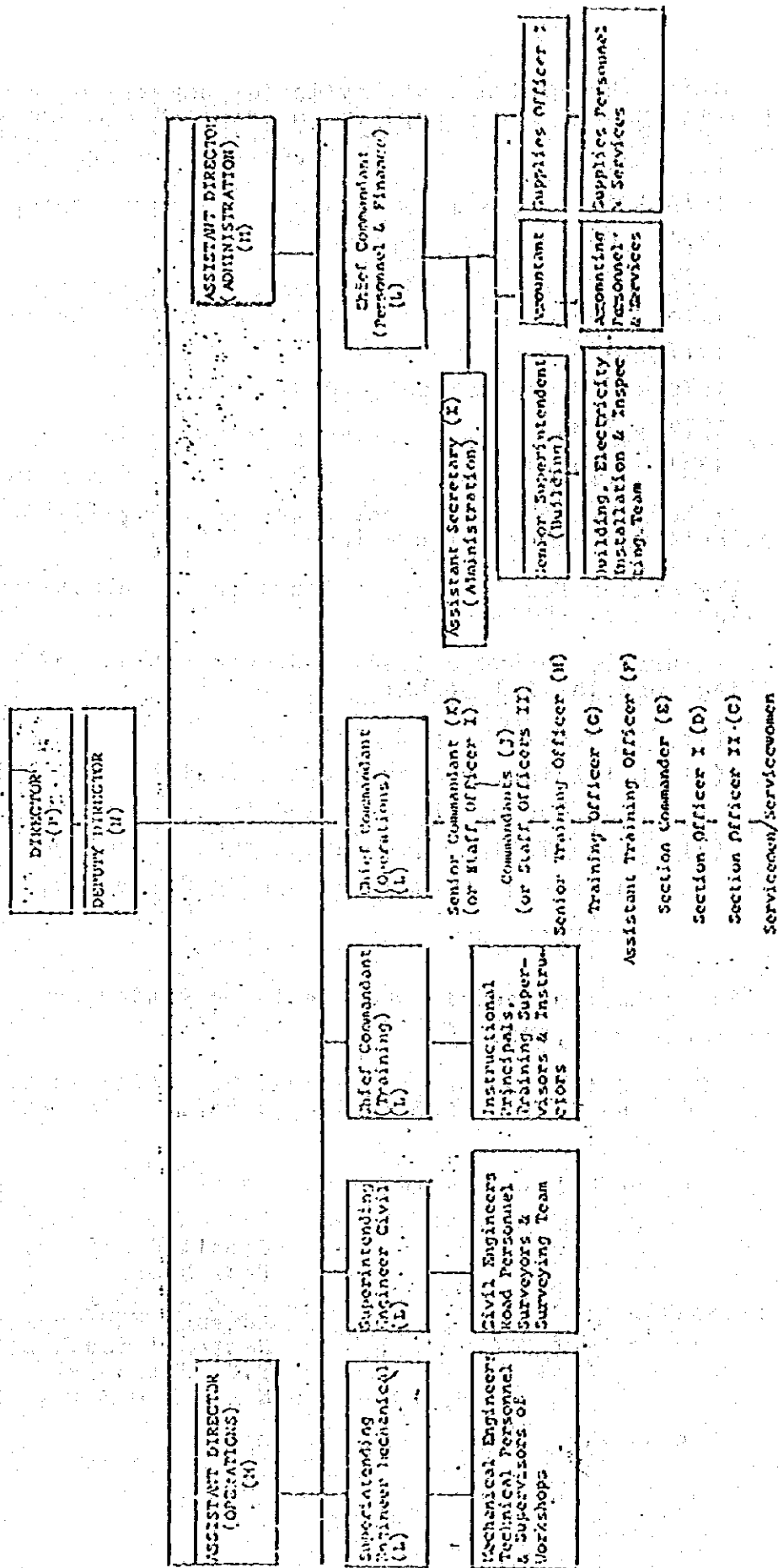
The number of people who are trade tested annually is approximately 20,000.

Out of this number, 50% pass, 20% fails to turn up for the tests, 20% don't get calling letters, 10% fails.

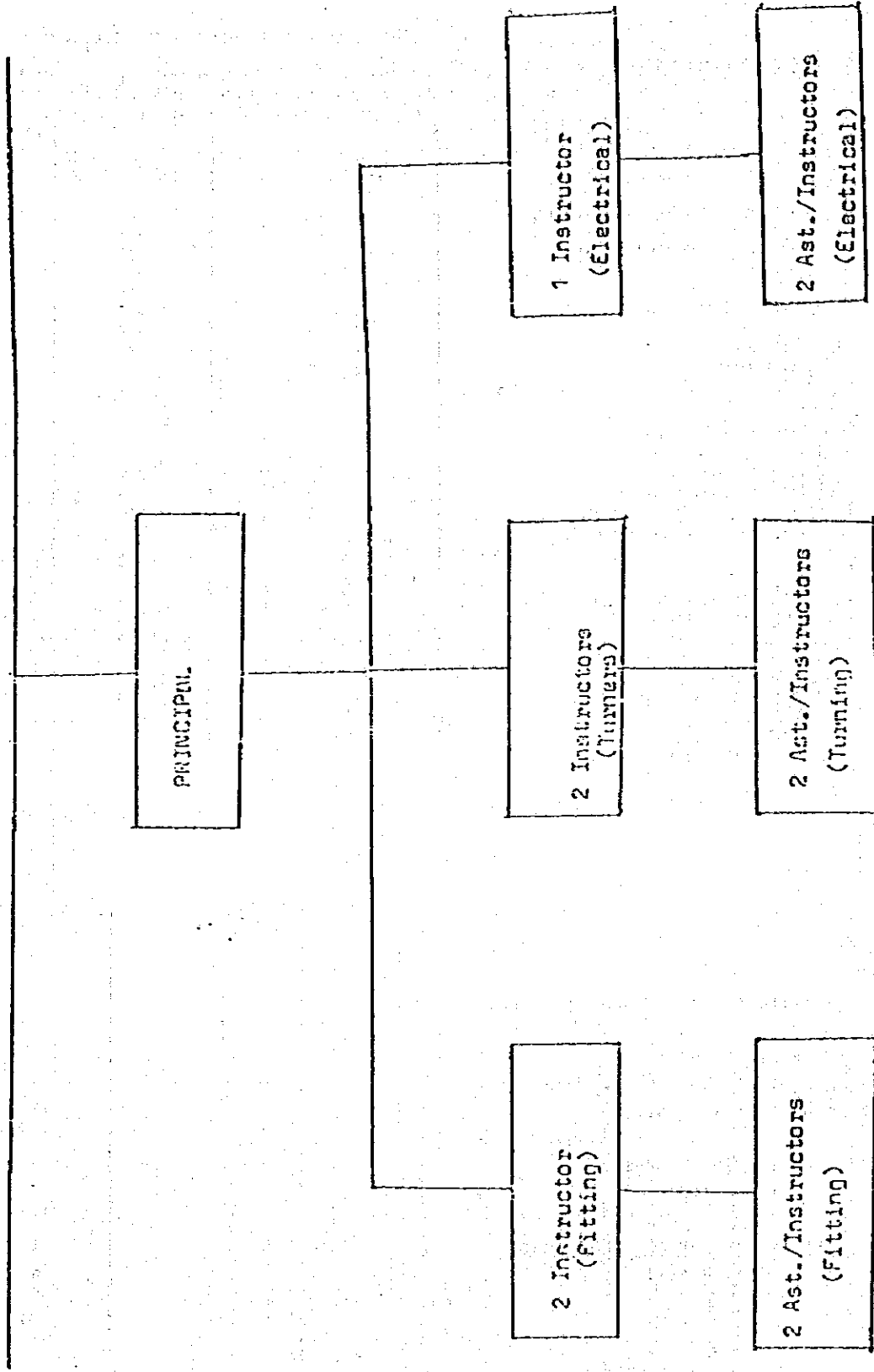
Compiled and written by
Paul Nyore
Principal
Advance Engineering Training Centre
National Youth Service
P.O. Box 30397
H A I R O B I .

別添資料 4-11 N Y S 全組織図

KENYA NATIONAL YOUTH SERVICE ORGANIZATIONAL STRUCTURE



NATIONAL YOUTH SERVICE ENGINEERING SCHOOL - N.Y.S.E.S.



KENYA NATIONAL YOUTH SERVICE TRAINING PROJECTIONS

別添資料 5. N.Y.S. 傘下 職業訓練機關

THE NUMBER OF TRAINEES IN THE FORMAL VOCATIONAL TRAINING COURSE AND ON-THE-JOB TRAINING BY UNITS AT ANY ONE TIME BASED ON THE AVERAGE OF 5,000 MEN/WOMEN (1981/82), 7,000 MEN/WOMEN (1982/83) AND 10,000 MEN/WOMEN (1983/84)

UNIT COURSES	5000 men/women (1981/82)	7000 Men/Women (1982/83)	10,000 Men/Women (1983/84)
1. MOMBASA VOCATIONAL TRAINING UNIT:			
(i) Motor Vehicle Mechanics	96	144	192
(ii) Motor Vehicle Electricians	NIL	48	48
(iii) Fitting/Turning	120	176	240
(iv) Carpentry	60	154	176
(v) Electrical Wiring	72	112	154
(vi) Masonry	60	154	176
(vii) Plumbing	0	24	24
(viii) Welding	0	24	24
TOTAL	408	644	874
2. NAIROBI LEARNING UNIT			
a) <u>Advanced Schools:</u>			
(i) Fitting/Turning	60	120	120
(ii) Electrical wiring	30	60	60
(iii) Motor Vehicle Mechanics	49	60	120
(iv) Motor Vehicle Electricians	21	60	60
TOTAL	166	240	360
b) <u>Secretarial Schools:</u>			
	93	192	240
c) <u>Upholstery schools:</u>			
	20	120	160
d) <u>Driving School:</u>			
	150 (Annually)	225 (Annually)	225 (Annually)
3. GILGIL TRAINING UNIT:			
Tailoring/Crossstitching School	200	320	320
4. TURBO FIELD UNIT:			
Rural Craft Training Centre	102	180	240
5. Domestic Science Training School Naivabha			
	NIL	80	160
6. YATTA FIELD UNIT:			
a) School of Plant Operator/Mechanics	96	180	240
b) School of Agriculture	72	140	240
7. APPRENTICESHIP COURSES:			
(All Units)	132	172	240
TRAINING ON-THE-JOB PROGRAMMES:			
(All Units)	400	600	800
GRAND TOTAL	1991	3401	4319

LIST OF EQUIPMENT FOR N.Y.S. ADVANCED ENGINEERING

TRAINING CENTER - FAIRPORT AT THE TIME OF HANDING OVER ON 2ND APRIL 1982

TURNING AND PLANING SECTION

No.	Description of Item	N.Y.S. No.	Quantity
I MACHINE TOOLS			
1.	Engine lathe (Takisawa model TSL-500)	1246	1
2.	Engine lathe (wasino) model LR-55A	1129	2
3.	Engine lathe (wasino) model L30-125A	1131	1
4.	Engine lathe (wasino) model L30-150A	-	2
5.	Upright drilling machine (kiwa) model KVD 550 with ACC	1255	1
6.	Shaping machine (mishitani) model WW-450 with ACC	-	3
7.	Shaping machine (Hokuetu) model MT4-65-1619 with ACC	-	1
8.	Shaping machine (step-toe) model with ACC	558	1
9.	Milling machine (seiki) type 2UL-T with ACC	1132	1
10.	Milling machine (seiki) type TS-V	1285	1
11.	Milling machine (Enshu) vertical type	-	1
12.	Milling machine (Enshu) horizontal type	-	1
13.	Power grinding machine (Hitachi) model CBT with ACC	1258	1
14.	Power grinder machines (Hitachi) model	1250-1261	4
15.	Power grinder with dust absorber 3 12SC	-	1
16.	Power grinder (chover denki) model SK-CKT with ACC	1262	1
17.	Universal tool grinder (wasino) model CAU/50BT with ACC	1262	1
18.	Hydraulic precision surface grinder (kuroda) model with ACC 301A	1263	1
19.	Carbide tool grinder (maida) model DT/55 with ACC	1	1
20.	Tool grinding machine (MAKINO) type C-40	1133	1
21.	Bench drilling machines model XBD-340 with ACC	-	4
22.	Bench grullotine (bench shears)	1986	1
23.	Electric drilling machine (hand) model SD-10A with ACC	-	1
24.	Electric drill (hand) model SD-13U with ACC	-	2
25.	Heating furnaces (Yamada Kikai) model RX with ACC	1275-1276	2
26.	Heat treatment tank (Yamada Kikai) model	1277 A B3	2
27.	Light pyrometers with ACC	-	1
28.	Chip brazer with ACC	-	1
29.	Portable grinder (mishitani) model PG-1254	1279	1
30.	Hardness tester with ACC (type tokyo shikkouki)	1280	1
31.	Hardness tester with ACC (shore) model RH No 30 type C-2	-	1

Handing over Officer: *[Signature]* 23/4/82
 Taking over Officer: *[Signature]* 23/4/82
 Witness: *[Signature]* 23/4/82

TRAINING CENTER - FAIRPORT AT THE TIME OF HANDING OVER ON 2ND APRIL 1982

No.	Description of Item	N.Y.S. No.	Quantity
32.	ITC AW-400T (drilling machine)	-	1
33.	Drill Thinning Machine	1287	1
34.	Tapper drilling machine	-	1
35.	Engine block boring machine	642	1
36.	Power Hooksaw	1128	1
37.	Hydraulic press	1286	1
38.	Car washer C-W 5/No. 2023	1917	1
39.	Arc welding plant (transformer)	1090	1
40.	Gas welding plant	-	1
II MACHINE TOOL ATTACHMENTS			
41.	Hitachi seiki model MS-76	-	2
42.	Quick change adapter and collect for milling machines	-	9
43.	Centre arbor for milling machine	-	3
44.	Circular table attachment with angular dividing head for Hitachi seiki model MS-V	-	2
45.	Drilling chucks	-	15
46.	Cast iron angle plates	-	12
47.	(1) 175 x 200 x 22 mm	-	1
48.	(2) 200 x 250 x 22mm	-	3
49.	Chuck arbor 13mm x MT3	-	19
50.	Work driving dogs (lathe dogs)	-	2
51.	Drill Sleeves	-	2
52.	(1) MT1 X MT2	-	9
53.	(2) MT2 X 3	-	7
54.	(3) MT3 X MT4	-	2
55.	(4) MT2 X MT4	-	3
56.	Drill sockets	-	2
57.	(1) MT1 X MT3	-	3
58.	(2) MT2 X MT4	-	2
59.	(3) MT3 X MT4	-	2
60.	Surface plate (B) 1000 x 1000 x 140 mm	-	5
61.	Vee-blocks	-	36 sets
62.	Box blocks with V groove X - 250mm	-	9
63.	Surface gauge 300mm	-	2
64.	Surface gauge 300mm (round) 300mm (sliding blocks)	-	48
65.	Outside calipers 150mm	-	12
66.	Handing over Officer: <i>[Signature]</i> 23/4/82 Taking over Officer: <i>[Signature]</i> 23/4/82 Witness: <i>[Signature]</i> 23/4/82	-	-

Nos.	Description of Item	Quantity
86.	Chamfering tool (Niken model SEA - 42)	1
87.	Precision surface plate A type. 400 x 400 x 110	2
<u>III AUDIOVISUAL AIDS</u>		
88.	Slides A.V.C.C.	1
	1. Educational training	1
	2. Machinery 1 (steel)	1
	3. Machinery 2 (parts)	1
	4. Machinery 3 (standard in the operation)	1
	5. Machinery 4 (druffing)	1
	6. Machinery 4 (measuring)	1
	7. Use of slide caliper	1
	8. Internal grinding and surface grinding	1
	9. A.B. C of cemented carbide cutting tool	1
	10. A.B. C of cemented carbide cutting tool 2	1
<u>IV MEASURING TOOLS</u>		
89.	Dial gauge 0.001 mm (107 type)	16
90.	Level type dial test indicator	2
91.	Magnetic base	9
92.	Inside micrometers	80
93.	Outside micrometers	74
94.	Micrometer stands	9
95.	Block gauges	1 set
96.	Block gauge accessories (set)	1 set
97.	Limit fit gauges 1.7, 8.9, 10.15, 20, 25, 30, 35, 40, 45, 50 each	1 set
98.	Inside micrometers sets 2" - 12"	7
99.	Cylinder gauges (various sizes)	6
100.	Angle sheet 1-45 (24x8 (18 sheets 14466))	
101.	Vernier calipers (others in tool boxes)	
	1. 150mm 0.05mm	17
	2. 200" "	1
	3. 300" "	1
102.	Vernier height gauge.	
	1. HA 11300mm	12
	2. 500mm	1
103.	Steel rule	
	1. 300mm	37
	2. 600mm	10

Nos.	Description of Item	Quantity
86.	Inside calipers 150mm	30
87.	One sided caliper 150mm (odd-leg calipers)	49
88.	Dividers 150mm	40
89.	Adjustable angle wrench	1
90.	Double open ended spanners (various sizes)	33
91.	Diagonal cutting nipper A - 175mm	
92.	Screw drivers	
	(1) star (various sizes)	84
	(2) Flat (various sizes)	160
93.	Paralle bench vices (various types with 33 broken ones)	99
94.	Machine vice for drilling machine (2 broken)	5
95.	Letter punches.	2 sets
96.	Number punches	4 sets
97.	Pin punches	67
98.	Centre punches	93
99.	Hammers (various weights) ball peen	152
100.	Cast iron swage block 300 x 300 x 150mm	4
101.	Cast iron anvil 100 kg	4
102.	Needle files (sets)	35 set
103.	Reeps with handle	18
104.	Scrapers (various types)	108
105.	Centre jack screw	60
106.	Adjustable hacksaw frames (tube)	11
107.	Tool shelves (nixon filling model 63 KOT-64)	4-9
108.	Handle for dressing wheels (dressers)	3
109.	Dressing wheels (spares)	19 pk
110.	Centre holder (niken model YS 52) with dial gauge	
111.	Tapper chuck (quick chuck) niken model S 3m 3-12	8
	model S 2m 4 - 24	
	model S 3m 4 - 38	
112.	Boring bar standard set niken model sama 50	9 pcs
113.	Swivel vice (niken model SM - 150)	1
114.	Rotary super index (niken model 2PI-200)	
115.	Tailstock niken model P - 150	1

Handing over Officer: *[Signature]* 23/4/82
 Taking over Officer: *[Signature]* 23/4/82
 Witness: *[Signature]*

No.	Description of Item	Quantity
105.	Ruler holder	12
106.	Thickness gauge No 65mm	1
107.	Radius gauge 272 m3 (various sizes)	19
108.	Centre pitch gauge	25
	1 55°	18
	2 60°	8
109.	Universal bevel protractor No (359) not complete)	9
110.	Precision squares with base	6
	1. 100 x 70 mm	3
	2. 200 x 130mm	2
	3. 300 x 200mm	2
112.	Flat type precision spirit level 150mm x 0.05mm	13
113.	Screw pitch gauge	1
114.	16mm movie films "AVCC" as follows	1
	1. series preparation of centering 1,2,3	1
	2. tapering	1
	3. threading	1
	4. metal cutting (3 rolls)	1
	5. principle of cutting	1
	6. machine mechanism	1
	7. drilling	1
	8 boring	1
	9 fine finishing	1
115.	16mm sound projector "EIKI" with standard accessories model EIKI RK 2.	1
116.	Rear screw "Elumo" with tripod model RT-60	1
117.	8mm sound projector "Elumo" model SR-800	1
118.	Slide Projector "Elumo" model AS 3000A with standard accessories	2
119.	Dark screens (2 x 1mm)	10
120.	Overhead projector "Elumo" model HP 300 with standard accessories	3

Handing over Officer: *[Signature]* 28/4/82
 Taking over Officer: *[Signature]* 28/4/82
 Witness: *[Signature]*

- 5 - (b)

No.	Description of Item	Quantity
121.	Screen with tripod 1.8 x 1.8 mm for sound projector	2
122.	Screen with tripod 1.5 x 1.5mm for overhead projector	1
123.	Image processor "Riso" model PX - 150	1
124.	Tape recorder "sony" model TC-105A	1
125.	Portable TV Camera "Matsuhita" model WY 3085E with standard accessories. <i>SA. GZ</i>	68
126.	Video tapes reel	1
127.	B/W 20" T.V. set (model 304 T.V. "Matsuhita" model TR 289 ED <i>SA. GZ</i>)	1
128.	Portable video tape recorder with standard accessories Model MV - 3085 <i>SA. GZ</i>	1
<u>DRAWING MATERIALS</u>		
129.	Drawing cabinet "ochida" model 874-7100 A1 size	6
130.	Cabinet stand model 304-00501	2
131.	Drawing boards "Ushida" model no 750 x 1050mm (one piece is with the training co-ordinator Mr Mugambi)	28
132.	Base for drawing cabinet model 304-0601	27
133.	Drawing table "MAX"	26
134.	Drafting machine "TUTC" model SAV 85	62
135.	Drafting chairs "MUTC" model 305	61
136.	Drawing instruments "TAKEDA" model 14-0070	22
137.	Wooden foot rulers	61
138.	T- squares	22
139.	Copenhage (french curves)	61
140.	Geometrical drawing instruments x (a) complete (b) incomplete	11
141.	Takenda set squares	24
	(a) 30° 60° 90°	24
	(b) 45° 45° 90°	
<u>OTHER ITEMS</u>		
142.	Toyota corona station wagon model RH16-JPF-engine 1587 cc Tyres 165 SR 13 (PK R) registration CK 824E	1
143.	Work benches	27
144.	Black boards	4
145.	Class room desks	70
146.	Class room chairs	29

Handing Over Officer: *[Signature]* 28/4/82
 Taking over Officer: *[Signature]* 28/4/82
 Witness: *[Signature]*

No.	Description of Item	Quantity
147.	Wooden cupboards	2
148.	Tronleys for carrying waste	2
149.	Bins for scrap metal	1
150.	Clock Kienzle	1
151.	Bell Kienzle	1
152.	Machine tool boxes	14
	<u>UNSERVICEABLE ITEMS</u>	
153.	Tool rocker	4
154.	Dial vernier calipers 300mm	
155.	Ruler stand with scale -300mm	
156.	Dial gauges	
	(a) peacock model } --- see page 4 No. 89	
	(b) citizen model }	
158.	Magnetic base	
	(a) type MB-3 } ... See page No. 4 - 89	
	(b) type NG }	
159.	Scale holder (Ruler holder)	
	(a) large size (See page 5(a) No. 105	
	(b) Medium size	
159.	Surface gauges (gubber blocks)	
	(a) with scriber } See page No. 4 - 91	
	(b) without scriber (See tool boxes.)	
160.	Screw drivers	
	(b) star (various sizes) } See Page No 63	
	(c) flat (various sizes) }	
161.	Files	6 sets
	(a) files in a set of 6	24
	(b) bastard files	77
	(c) smooth files 10"	27
	(d) hand files 10"	42
	(e) square files 10"	47
	(f) square files 10" (rough)	25
	(g) Rasp files 8"	31
	(h) half round files 10" smooth	39
	(j) half round files 10" rough	

Handing over Officer: *[Signature]* 28/4/82
 Witness: *[Signature]*
 Taking over Officer: *[Signature]* 28/4/82

No.	Description of Item	Quantity
	(j) Triangular files 10" rough	54
	(k) Round files 10" smooth	27
	(l) Round files 10" rough	71
162.	Knurling tools	12
163.	Spirit level	2
164.	Hand reamers various sizes	7
165.	Machine reamers (various sizes)	Mixed
166.	Set of H.S.S. twist drills (various sizes)	260
168.	Set of angle gauges	539
168.	Tool rocker with	2
	(a) Double ended ring spanners	19
	(b) fixed (open) spanners	5
	(c) single ended spanners (See page 10 No. 210)	
	(d) screw drivers	12
	(e) grip pliers	3
	(f) side cutting pliers	2
	(g) wheel (bearing) pullers	2
	(h) extension spanners (extensions)	12
	(i) box spanners handles	3
	(j) wheel spanner	2
	(k) long handle spanner	2
	(l) plastic handle screw driver	2
	(m) water pipe pliers	3
169.	Hacksaw frames } (38 broken)	49
170.	Wooden hammers (mallets)	36
171.	Metric taps (1mm etc)	46
	(1) M1 x 0.25	46
	(2) M1.6 x 0.35	44
	(3) M2 x 0.4	38
	(4) M2.5 x 0.45	37
	(5) M3 x 0.5	78
	(6) M3 x 5 x 0.6	36
	(7) M4 x 0.7	48
	(8) M4.5 x 0.75	

Handing over Officer: *[Signature]* 28/4/82
 Taking over Officer: *[Signature]* 28/4/82

No.	Description of Item	Quantity
	(19) M5 x 0.8	46
	(20) M6 x 1	21
	(21) M8.1.25	28
	(12) M8.5 x 0.6	5
	(13) M10 x 1.5	41
	(14) M16 x 2	12
	(15) M20 x 2.5	7
	(16) M20 x 2.5	2
	(17) M24 x 3	1
	(18) M27 x 3	2
	(19) M28 x 3	11
	(20) M38 x 4	10
	(21) M39 x 4	2
172	Top wrenches (Various sizes)	120
173	Metric dies:-	
	(1) M1 x 0.25	26
	(2) M1.6 x 0.35	53
	(3) M2 x 0.4	33
	(4) M2.5 x 0.40 or 0.45	43
	(5) M3 x 0.5	19
	(6) M3.5 x 0.6	47
	(7) M4 x 0.7	15
	(8) M4.5 x 0.75	19
	(9) M5 x 0.8	41
	(10) M6 x 1	29
	(11) M8 x 1.25 or 2.5	41
	(12) M10 x 1.5	37
	(13) x 1.6 x 2	8
	(14) M8 x 2.5	12
	(15) M20 x 2.5	12
	(16) M24 x 3	17
	(17) M27 x 3	1
	(18) M28 x 3	10
	(19) M31 x 4	2
	Heading over Officer- <i>[Signature]</i> 28/4/82	
	Taking over Officer- <i>[Signature]</i> 28/4/82	
	Witness- <i>[Signature]</i>	

No.	Description of Item	Quantity
	(20) M36 x 4	10
	(21) M39 x 4	2
174.	Die stocks (various sizes)	91
175.	Centre drills (various sizes)	10
176.	Shaping tools (various shapes)	170
177.	Flat chisels (various sizes)	139
178.	Gross cut chisels (various sizes)	141
	<u>TEXT BOOKS</u>	
179.	Technical Drawing for G.C.R. & C.S.E. - J. N. Green	43
180.	Mechanical Engineering Craft Practice Part I - C.C. Wall	10
181.	" " " " 2 " "	37
182.	Elementary W/Shop Calculation in S.I. Units - W.A.J. Chapman	13
183.	Finishing work OTCA-JICA	44
184.	Machine Manufacturing OTCA-JICA	37
185.	Casting	47
186.	Mechanics of cutting (a work book)	13
	(a) Instruction book Fests)	
	(b) Text book Fests)	
187.	Technical Drawing Metal:-	3
	(a) Part I)	
	(b) Part II)	4
188.	Table data formulae for engineers	
	A. Green & D. J. Mancos ?	3
189.	The designs of rolling bearing and mounting Peg Journals	3
190.	Peg standard programme	3
191.	Mounting and dismantling of ball and roller bearing journals	3
192.	Applied W/Shop calculations W.A. Chapman	1
193.	Geometrical and engineering drawing part 3 J.N. Green	1
194.	A second course of mechanics and properties of matter	1
195.	Technical drawing part I A. Yarwood	1
196.	" " II " T.J.P.Series	1
197.	1st year Engineering Drawing A.C. Parkinson	1
198.	Mechanists library by Andels	1
199.	Machine tool operation part II	1
	Heading over Officer- <i>[Signature]</i> 28/4/82	
	Taking over Officer- <i>[Signature]</i> 28/4/82	
	Witness- <i>[Signature]</i>	

Nos.	Description of Item	Quantity
200.	Strength of materials	1
201.	Electricity K.C. Jackson	1 borrowed
202.	An introduction to the mechanics of machines (J. L. M. Morrison)	1
203.	A guide to engineering drawing C.T. Shifter	1
204.	Metallurgy for engineers E.C. Rollason	1
205.	Mechanical engineering craft studies part I - by A Green and N.	1
206.	Technical drawing part one A Good	1
207.	Mechanical Engineering Craft Studies part II A Green and Howel	1
208.	Workshop Technology part one W.A.J. Chapman	2
209.	A first course in engineering science	1
210.	Workshop Technology part 2 W.A.J. Chapman	1
211.	Mathematics for Engineering Technicians M.G. Page	1
212.	Basic Electrical Principles K. Miller	1
213.	Workshop Processes Part II Pritchard	1
214.	Senior Engineering Craft Projects R. J. Rose	1
215.	Geometrical and Mechanical Drawing Book Part I	1
216.	Metal working J. Walker	1
217.	Machine Tool Operation Part I	1
218.	Diagnostic and revision test in drawing (Peeburry)	1
219.	Project work exercises for fitters, turners and fitters and electricians.	1
<u>OTHERS</u>		
220.	Single ended spanners (various sizes)	28
221.	Milling machine open spanners	8
222.	Scribers	36
223.	Grinding goggles	18
224.	Paint brushes	16
225.	Acetylene gas regulator	1
226.	Oxygen "	1
227.	Copper hammers	5
228.	Cast iron hammers with plastic leads (for use in shaping machine)	17
229.	Hand drills (-1 treest) etc	28
230.	Swage hammers (different types and sizes)	32
Handing over Officer: <i>[Signature]</i> 28/4/52 Taking over Officer: <i>[Signature]</i> 28/4/52 Witness: <i>[Signature]</i> 28/4/52		

Nos.	Description of Item	Quantity
231.	6" Clamps (4 " x 1")	2
232.	Drill chuck keys	14
233.	Try squares various sizes	11
234.	Senior workshop calculations (Chapman)	1
235.	Metalwork theory book 2	1
236.	" " " 3	1
237.	Toolbit stones	2
238.	Thermal stencil cutting machine RISO PX-150 with a transformer	1
239.	W/Shop Calculation Part III (Chapman)	1
240.	Modern metal work (John R. Waller)	1
241.	Metal work by (Keeley)	1
242.	Technical drawing comprehension exercises by Wilkinson	1
243.	Engineering drawing practice part 1 and 2	2
244.	Metric basic engineering course book 1,2 and 3	3
245.	Special motor truck service manual	2
246.	Letter punches	5 sets
247.	Tape measures (one of steel)	3
248.	Inspection lamps	2
249.	Plug gauges	12
250.	Vacuum tester	1
251.	New pick test gauges	5
252.	Wire hammers	8
253.	Drawing board set squares (A) 30°60°90°..... (b) 45°45°90°	2
262.	Drawing board protractors	2
263.	Drawing board compass	2
264.	Pencil sharpener	2
265.	Office chairs	7
266.	Office arm chairs (metal)	6
267.	Mathematical instruments (11 incomplete)	42
268.	Screw drivers	12
269.	Copier machine F-JW plus rack and transformer	1
270.	Ricoh photo copying machine B5 - 310 fancy	1
271.	Horri duplicating machine 3200	1
Handing over Officer: <i>[Signature]</i> 28/4/52 Taking over Officer: <i>[Signature]</i> 28/4/52 Witness: <i>[Signature]</i> 28/4/52		

Nos.	Description of Item	Quantity
305.	Teaching film reels for 16mm projector	18
306.	Mathematical tables	25
307.	General Science for Tropical Schools BK Four	1
308.	A pair of scissors	1

Nos.	Description of Item	Quantity
272.	Forging tongs (different types)	13
273.	Wooden mallets	36
274.	Spraying guns	4
275.	Grease pumps	4
276.	Iwata air compressor gauges	4
277.	Hand grinders type NPK MAC 2.	2
278.	Carbide tool grinder with accessories	1
279.	Pressure pipes	2
280.	Rockwell hardness tester type RM-JN	1
281.	Horn writing files	2
282.	Tracing pens (2 sets incomplete)	3 sets
283.	Precisite Dial gauges	3
284.	Side cutter	1
285.	Allen Keys (complete sets)	6
286.	Office arm chairs (wood)	3
287.	Office table (with drawers)	7
288.	Office tables (without drawers)	4
289.	Metal cupboards	8
290.	Metal book racks	6
291.	Table top small metal cabinets	5
292.	Paper punch lion	3
293.	H/K stapler	1
294.	Paper cutting machine	1
295.	Blackboard rule	2
296.	Vices (a) broken (b) in operation	33 sets 36 sets
297.	Coffee table	1
298.	Type writers	2
299.	Typists chair	1
300.	Tally filling cabine (marwa lion)	1
301.	Laboratory stools	18
302.	Slide projectors screen	1
303.	Tracing pens (rotting 2000) 8 in a set (included by min Abazulu (Q-1) on transfer on 10/1/82)	2 sets
304.	Palm on the history of N.Y.S. (on transfer on 10/1/82)	1

Handing over Officer.....
 Taking over Officer..... 2.8/14/82
 Witness.....

Handing over Officer.....
 Taking over Officer..... 2.8/14/82
 Witness.....

別添資料 7. N Y S 上級技術訓練センターにおける日本供与機材の保守管理について
Appendix D

The usage, maintenance and management of the equipment donated by the Japanese Government during the agreement period are summarised as follows:-

- (a) Usage: the equipment is used solely for training purposes catering for the trainees preparing for grades II; I and Final Proficiency Examinations in Turning, Fitting and Electrical Wiring trades.
- (b) Maintenance: This is done systematically by a programmed maintenance schedule covering:
- i. Major overalls, servicing and repairs - annually;
 - ii. Periodical servicing, cleaning and minor repairs on quarterly basis;
 - iii. Daily cleaning by trainees.
 - iv. Under (i) & (ii) above, lack of spares in the local markets present serious problems. This point has been discussed with the Japanese After Care Mission. The need for spares from Japan was stressed during the meetings.

(c) Management of equipment

The machines and tools in use at the Advanced Engineering Training Centre are properly managed under the supervision of the Centre Principal.

THE KENYA NATIONAL YOUTH SERVICE
A CONCEPTIONAL PAPER TOWARDS LONG TERM DEVELOPMENT
OF ITS VOCATIONAL TRAINING ACTIVITIES

Draft Paper

Presented by D.N. Mugambi and W.Haan

for the workshop "Training in the National Youth Service"

Nairobi

October 1979

TABLE 2: Present state of productive work opportunities and expected growth from 1979 - 1983

	1976	1978	1983	Annual Percentage Increase 1976-1983 %	Average Annual Increase 1978 - 1983 Number 1000's	Share %
	reported '000's	Estimated '000's	Target '000's			
<u>Labour Force:</u>						
1) population of productive Age (15 - 59)	6.600	7.070	8.400	3.5	266	
2) Labour Force (85%)	5.610	6.000	7.140	3.5	228	
<u>Employment</u>						
3) Modern Sector	915	1.000	1.250	4.6	50	22.2
4) Small-Scale Agriculture	2.665	2.810	3.210	2.7	80	35.6
5) Pastoralists	390	410	470	2.7	12	5.3
6) Rural Non-Farm	990	1.100	1.460	5.7	72	32.0
7) Urban Informal	125	140	195	6.5	11	4.9
8) Total Employment	5.085	5.460	6.585	3.8	225	100.00
9) Residual (Row 2 less Row 8)	525	540	555	0.1		
10) Residual as % of labour force	9.4	9.0	7.8			

Source: Development plan 1979 - 1983

c) Rural Development

From the foregoing figures it is evident that the major increase in employment opportunities will spring from rural development, the development of the people where they are.

Therefore, the majority of the rapidly growing population must find employment and self-employment in the rural areas. The development of arid and semi-arid lands will receive special attention. More than 20% of the population lives there, comprising 80% of the land in Kenya.

The Government will provide incentives for the dispersion of industries and rural non-farm activities in the informal sector will be accorded high priority. Developing technologies for small farm and non-farm activities in the rural areas is also given high priority. It is recognised that the currently available hand tools, like the hoe, are inefficient. On the other hand, imported farming machinery, like tractors, are either unobtainable or inappropriate for the majority of small scale farmers.

1.4. The National Youth Service - Functions and Development¹⁾

The creation of the National Youth Service was among the first acts of independent Kenya - the decision stemming from late 1963, the formation of the Directorate following in April 1964, and the initial recruits being taken in August 1964.

The general definition of the functions of the Service, later embodied in the National Youth Service Act of 1965, was as follows: 'The functions of the Service shall be the training of young citizens to serve the nation, and the employment of its members in tasks of national importance, and otherwise in the service of the nation.'

1) The Kenya National Youth Service, Ministry of Labour 1978

This being a very wide definition, capable of all sorts of interpretations, a number of decisions had to be made in order to arrive at a practical policy.

Firstly, it was agreed that the Service should be department of the Civil Service, not a political organization.

Secondly, it was decided that the Service must be a working force, carrying out projects of real economic significance too large or too difficult to be tackled by the people on a community development or self-help basis. These projects are financed by the various ministries concerned or by para-statal organisations.

Thirdly, it was recognised that there must be a basis of discipline if large bodies of men and women were to live together peacefully and work together efficiently. Since the people concerned were young adults, a school type of discipline was felt to be inappropriate, and the Service, although not armed, adopted a similar system to that of the Uniformed Forces. Service in the National Youth Service is voluntary.

Fourthly, the whole Service was envisaged as a training operation that would prepare its members for later employment or self-employment. Training, either formal or on-the-job, would be given at every Unit. In order to exist and perform its functions properly, it would be forced to train its members quickly, efficiently, and continuously.

Lastly, since Kenya's economy rests on agriculture, it was decided that the Service should be given land on which to farm and help to feed itself, thus exposing every member to some practical knowledge and experience of agriculture.

According to the financial situation, a number of 1.000 to 2.000 young men and women are recruited every year. They sign a two-year contract that can be extended for a third or even a fourth year, if they require more time to complete their training.

At the end of 1977, the Government resolved to considerably expand the activities of the NYS and to increase the number of its members, even to double its present intake.

Accordingly, in 1978 some 3.200 new recruits (2.960 men and 240 women) were absorbed, the total strength of the NYS at the end of 1978 came to 4.268 recruits¹⁾.

Each recruitment represents the entire population of Kenya. Each of the seven provinces (Nairobi counts as half a province) is given the same quota. The Provincial Authorities then decide on the allotment of this quota to the various districts. The NYS publishes a list with the dates on which the recruitment team will make the actual selection. Preference is given to the age group 18 to 22 years.

The health of the candidate is very important. A school certificate is not compulsory, but an advantage. Whereas in 1965 most of the recruits had not completed primary school or were illiterate, to-day the majority are primary school leavers, and the number of recruits with a secondary school certificate increases steadily. All recruits, men or women, are treated equally, immaterial of their education. Besides uniform, free board and accommodation, they receive a monthly allowance of Kshs.140,-, from which Kshs.50,- are put aside as savings until they leave the Service.

Basic training lasts ten weeks and is carried out at Gilgil for men and Naivasha for women. During this time the recruits are introduced to the NYS and prepared for their assignment in remote parts of Kenya. At the end of the tenth week they are sworn in and thereafter the servicemen and servicewomen are transferred to the various projects.

1) NYS - Annual Report 1978

As most of the NYS projects involve road and dam construction, the work of the volunteers is restricted mainly to manual labour such as bush clearing, construction of small bridges or water culverts.

Or the volunteers are moved to the various farms of the NYS, i.e. Turbo, in the Western Province where maize is grown, to Tumaini in Central Province, a farm with animal husbandry and growing wheat, barley, pyrethrum and vegetables, or Yatta in the Eastern Province, also with animal husbandry and cultivation of coffee and vegetables under irrigation. After eight to twelve months in the field, the servicemen are called back to Gilgil and the training programme, described in detail in the following (see enclosed table) begins.

By December 1978, 26.731¹⁾ young Kenyans had left the NYS. According to the NYS statistics, more than half of them were looking for jobs. Every year some 700 of them find employment directly through the NYS.

In May 1978, a Training Department was created, in order to administer the considerably growing training activities and to plan new training places according to the increased enrolment.

Since the beginning of this year, the NYS has been integrated in the Office of the President. This measure together with the Government's directive to double NYS enrolment, it seems that the Service's emphasis will be more and more towards practice oriented training, as one response to the growing school leavers problem.

The fourth Development plan~~x~~ expresses the following priorities for the NYS development over the next five years: 'The Service will direct its project work towards the development of marginal lands and rural development in general.

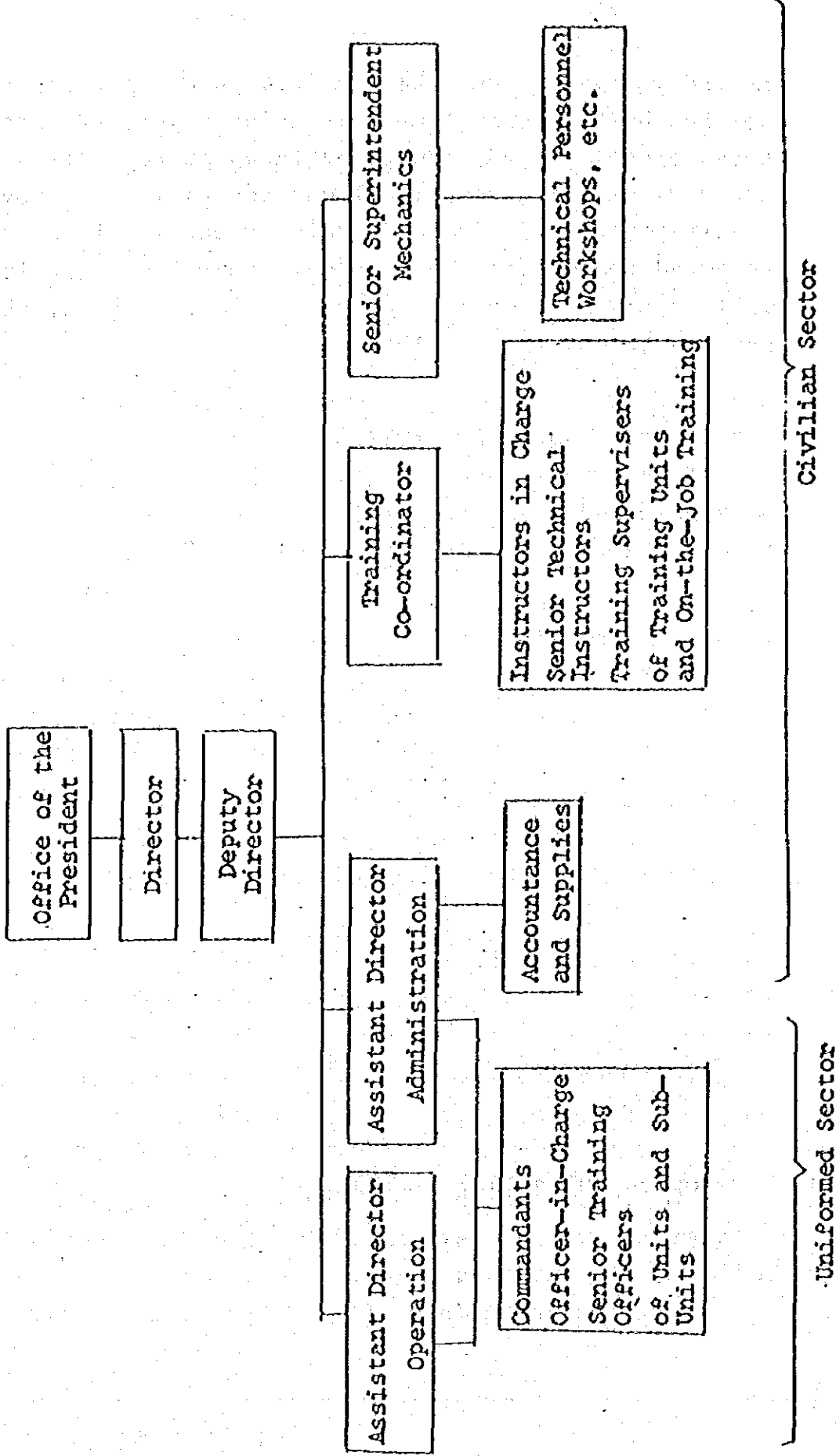
1) NYS, Annual Report 1978

Secondly the Service will continue to develop its farms, so that better agricultural training may be afforded to service members and also to build up appropriations-in-aid. Thirdly, existing vocational courses will be improved qualitatively and advanced training courses in certain selected trades will be started. Fourthly, recruitment will mainly be made from primary school leavers, aged between 15 and 25 years²⁾.

2) Development plan 1979 -- 1983

Table 3:

ORGANISATIONAL STRUCTURE OF THE NATIONAL YOUTH SERVICE



2. VOLUME, METHODS, RESULTS OF THE VOCATIONAL TRAINING UP TO DATE

2.1. National Youth Service

As can be seen from the functions mentioned under 1.4., the NYS is principally a labour service, able to realize projects of economic importance that are either too large or too difficult to be carried out by the population on a communal or self-help basis. Most of the projects involve infra-structural measures, such as road and dam construction.

These planned activities determine the priorities in the training programme of the NYS. The service tries to manage with a small core of paid officers and technicians. Therefore, the volunteers have to receive fast, thorough and progressive training. For example, the NYS owns approximately 600 vehicles and machines, but employs only about 160 drivers and mechanics respectively. More than 400 machines, amongst them large ground levelling machines, have to be attended by youths. The same applies also in the agricultural field.

This self-interest becomes even more evident from the list of training programmes:

TABLE 4: NYS -- Training Programmes

Drivers
Motor Vehicle Mechanics
Electricians
Fitters
Turners
Plant Mechanics
Panel Beaters
Motor Vehicle Electricians
Masons
Carpenters
Plumbers
Plant Operators
Tailors
Secretaries
Painters

Apart from professional training, which starts sometime during the second year, the NYS offers basic training and general education. Hence, the service period of the youths in the NYS can be divided as follows:

3 months	basic training
1 year	nation building(field work)
3 months	general education
1-2 years	Vocational training(formal and on-the-job)
6 months	practical work

For these training phases the NYS maintains the following training centres:

<u>Gilgil:</u>	basic training, general education, tailoring/dressmaking course
<u>Naiivasha:</u>	basic training for women
<u>Mombasa:</u>	Craftsmen training grade III
<u>Nairobi:</u>	Craftsmen training grade II, driving school, secretarial course, upholstery school
<u>Turbo:</u>	Rural craftsmen training

The table overleaf gives particulars of the training programmes, duration of training, the capacity of the training centres and the training grades to be achieved.

Participation in basic training and general education is obligatory for all members. The programme for general education in Gilgil is based on the educational requirements of that time, when the Service started, when most recruits were lacking basic formal education and even the illiteracy rate was very high. Table 6 shows the educational standard of NYS-recruits in early 1979:

TABLE 1: REGULAR TRAINING PROGRAMME

Training Centre:	Place:	Programme:	Duration:	Capacity:	Grade:	Direction:
Basic Training Unit	Gilgil Training Unit (for women in Naivasha Women Training Unit)	Basic training Drill, Civics, First Aid, Sports, Agriculture culture	3 months	upto 1,500	servicemen	Commandant Gilgil Training and Training Officers
Central Education Unit	Gilgil Training Unit	General subjects: (according to prior education) Reading and Writing, English, Mathematics, physics, Civics, Geography, History, Health Education, Swahili	3 months	upto 400	Possibility to take the following exams: C.P.S., K.J.S.C. E.A.C.B. Electricity courses	Education Officer and Teachers
Mombasa Vocational Training Centre	Mombasa Vocational Training Centre	motor vehicle mechanics, welding, masonry, carpentry fitting, turning, electricity plumbing	15 months	upto 400	Government trade test Grade III	Senior Technical Instructor Number of instructors: 26 trainee-instructor proportion: 16:1
Upholstering Training Centre	Nairobi	Upholstery	12 months	upto 20	Grade III	Instructor in charge, 1 instructor

Training Centre:	Place:	Programme:	Duration:	Capacity:	Grade:	Direction:
Advanced Training School	Central Workshops Nairobi	Further training in: motor vehicle mechanics, motor vehicle electricity turning, fitting electricity	8 months	upto 160	Government Trade Test II & I	Instructor in charge number of instructors: 10 trainee-instructor proportion: 17:1
Rural Craftsmen Training Centre	Turbo Field Unit	blacksmith, fitting, welding sheetmetal, project work <i>2:1:1 (teacher-instructor proportion)</i>	9 to 18 months (Grade III) plus 9 months (Grade II)	upto 90	Government Trade Tests III and II	Instructor in charge number of instructors: 5 trainee-instructor proportion: 15:1
Secretarial School Nairobi	Nairobi Holding Unit	Secretarial work	24 months	upto 80	E.A.C.E. Examination	Principal Number of teacher trainee-teacher proportion: 8:1
Dressmaking and Tailoring School	Gilgil Training Unit	Tailoring/dressmaking	12 months (grade III) plus 8 months (Grade II)	upto 140	Government Trade Tests III and II	Instructor in charge number of teachers: 6 trainee-instr. proportion: 20:1
Driving School	Nairobi Holding	drivers and lorry drivers	3 months	upto 80	Driving Licence Exams	Instructor in charge Number of teachers: 4 trainee-instructor proportion:

TABLE 6:

EDUCATIONAL STANDARD NYS RECRUITMENT 1979

Educational Level	Number	Share %
1. Illiterate	24	2.0
2. Standard 1	1	
3. Standard 2	2	
4. Standard 3	3	2.0
5. Standard 4	10	
6. Standard 5	8	
7. Standard 6	30	2.5
8. Standard 7	594	48.5
9. Form I	29	2.5
10. Form II	222	18.0
11. Form III	48	4.0
12. Form IV	253	20.5
13. Form V	1	-
Total	1,225	100.0

Source: NYS-Headquarter, July 1979

On completion of the general education in Gilgil all youths have to take an aptitude test, on the outcome of which recruitment for the various training programmes is made. Table 7 shows the number of NYS members who participated in vocational training programmes in July 1979.

TABLE 7: NUMBER OF NYS-trainees in different training programmes

Total Force	In-centre Training		(Apprentices)		On-the-job training		Total	
	number	%	Number	%	Number	%	Number	%
4.766	832	17.4	126	2.6	505	11.0	1463	31

Source: NYS-Headquarter, July 1979

From the above table it is obvious that only about every third candidate can be considered. Furthermore, the formal training capacity (in centre and apprenticeship) is only sufficient for about 20% of all the NYS members. The 11% falling under 'on-the-job-training' are assigned to the various projects of the NYS. Whether they will succeed in acquiring a basic knowledge in one or the other trade (on-the-job-training) will depend entirely on the ability to learn of the youths themselves. Table 8 gives a view of the different on-the-job-training activities.

Controlled on-the-job-training programmes exist only for motor vehicle mechanics. A correspondence course was developed to obtain the necessary theoretical knowledge to pass the Government Trade Test.

By looking at table 9 of those recruits who were found jobs by the NYS on leaving, an impression of the vocational training provided by the NYS can be obtained. In our experience, the actual figures may even be a bit higher, as some of the youths find jobs after returning to their home areas.

Besides these skilled labourers the NYS gets jobs for many of its leavers at the organizations mentioned below, where physical fitness, good health and excellent disciplinary conduct are the foremost requirements (Table 10)

TABLE 8: ON-THE-JOB TRAINING ACTIVITIES
NUMBER OF PARTICIPANTS (JULY 1979)

TRADES	Mairobi Hol ding Unit	Turbo Field Unit	Gilgil Training Unit	Naivasha Women Training Unit	Yatta Field Unit	Gariissa Road Construction Unit	Gariissa Road Construction Sub-Unit	Bura Field Unit	Total
Motor vehicle mechanics	36	5	9	10	16	7	47	21	151
Panel beating	6								6
Spray painting	2								2
Motor vehicle electricity	4						10	3	17
Driving	33								33
Welding	6					1	5	5	17
Plant Mechanic	5						18	2	25
Plant Operation						15	37	29	81
Road survey								7	7
Carpentry		19	7	5	7	1		1	40
Masonry	2	40	5	26	8	2		18	101
Plumbing		14	1	1	6				22
Painting						1			1
Radio Operator								2	2
Total	94	78	22	42	37	27	121	88	505

RESULTS OF THE VOCATIONAL TRAINING IN THE NATIONAL YOUTH SERVICE

Trade	1976			1977			1978		
	Trained a)	Employed	Employment Ratio	Trained a)	Employed	Employment Ratio	Trained a)	Employed	Employment Ratio
Vehicle Mechanic	170	52	31%	177	60	34%	203	101	50%
Vehicle Electricity	8	-	0	28	8	29%	55	6	11%
Welding	62	41	66%	77	47	61%	69	62	90%
Mechanic	4	-	0	7	6	86%	1	1	100%
Operators	3	-	0	17	1	6%	17	1	6%
Printing	41	18	44%	47	38	81%	79	69	87%
Electricity	69	12	17%	56	37	66%	56	30	54%
Welding	38	31	82%	72	20	28%	63	43	68%
Electricity	83	10	12%	78	37	47%	78	12	15%
Welding	55	35	64%	51	23	45%	51	22	43%
Electricity	10	2	20%	16	7	44%	16	6	38%
Welding	11	4	36%	6	3	50%	7	2	29%
Electricity	54	17	31%	56	30	54%	52	25	48%
Welding	3	-	0	8	6	75%	4	2	50%
Electricity	18	11	61%	7	1	14%	34	17	50%

Source: NYS - Headquarter

a) Passed Trade Test Grade III, II or I

b) Figures for some selected trades only

TABLE 10: General employment breakdown 1976 - 1978

	1976		1977		1978	
	M	F	M	F	M	F
Police Force	82	1	117	-	75	-
General Service Unit	1	-	114	-	59	-
Prison Service	14	3	2	3	2	-
Security Guards	203	-	68	4	67	12
Army	22	-	5	1	3	-
Others (i.e. unskilled)	51	8	46	6	128	22
Total	373	12	352	14	334	34
Total of skilled artisans	385		366		363	
	252	50	317	48	384	63
	302		365		447	
Grand Total	625	62	669	62	718	97
	687		731		815	

Source: NYS Headquarters, December 1978

The private sector of the Kenyan economy is the largest employer of NYS leavers. About 54% of the recruits who were found jobs through the NYS work in the private sector. This corresponds almost with the overall average in Kenya, where the public service provide approximately 40% of all working places (see table above).

The following picture results from listing the private sector according to number and location of the individual companies:

TABLE 11:

NUMBER AND LOCATION OF PRIVATE COMPANIES EMPLOYING SKILLED LABOURER FROM THE NYS ON A REGULAR BASIS

Nairobi	69
Thika	2
Kitale	1
Mombasa	1
Nakuru	1
Webuye	1
Eldoret	1
Lake Magadi	1
Kericho	1
total	<u>78</u>

Therefore, almost 90% of all NYS leavers contracted to companies in Nairobi.

A similar ratio applies in the public service.

2. Other Training Institutions

The following institutions are offering training programmes which are relevant to the NYS:

a) Training for the formal sector

- i) National Industrial Vocational Training Centres,
- ii) Polytechnics
- iii) Kenya Industrial Training Institutes
- iv) Harambee Institutes of Science and Technology
- v) Various Ministries (i.e. Ministry of Works)
- vi) Private firms
- vii) Secondary Technical Schools

b) Training for the informal sector

- i) Village Polytechnics

c) Agricultural training

- i) Egerton College
- ii) Institutes of Agriculture
- iii) Farmers Training Centres

2.2.1. Training for the formal sector

2.2.1.1. National Industrial Vocational Training Centres (NIVTC)

There are three NIVTCs in Kenya, one in Nairobi, one in Mombasa and one in Kisumu. Basically, they function as vocational training schools for apprentices, as intended by the Ministry of Labour for the training of craft apprentices at the NITC. The vocational tuition is carried out in blocks of six to twelve weeks and alters with an in-place training period of six months. Every apprentice must be employed and an apprenticeship contract has to be signed mutually by the apprentice and the employer. The training period lasts for 3 years.

On successful completion, a certificate of apprenticeship is issued, which recognises the holder as a qualified, skilled craftsman. The total trainee capacity in 1977 was 4,100 places¹⁾. But due to a lack of employers for apprentices, the number of registered apprentices in 1977 came to only 1,689²⁾. Due to this fact and the relatively high output of secondary technical school leavers, the apprenticeship training scheme is more or less open only to the latter.

Following a directive of the Ministry of Labour, it will now be possible for NYS members to undertake formal training at a National Industrial Training Centre. The number of NYS apprentices in 1978 was 126. This number could be increased if adequate in-plant training facilities were available.

In addition to the programme mentioned above the NITCs carry out skill improvement courses. Anyone with a two-year vocational training background can enter such a course. Persons who are already employed are given preference. The course offers three training categories according to Trade Tests Grade III, II and I. Government Trade Tests are also being taken at the NITCs. In 1978 the number of persons undergoing tests came to over 15,000 (as compared to 7,857 in 1974)³⁾.

2.2.1.2. Polytechnics

The Kenya Polytechnic in Nairobi and the Mombasa Polytechnic offer training courses for secondary school leavers, who are employed in the industrial or commercial sector and who seek further training in certain subjects.

The programmes lead to ordinary or higher diplomas or full technological certificates in the field of vocational training.

1) Development plan 1979 - 1983, Table 10.3

2) Mr. James Nyamweya, Minister of Labour, The Standard 12.12.1978

3) Ibidem

The training capacity in 1977 at the Kenya Polytechnic Nairobi was 4,500 places and in the Mombasa Polytechnic 3,200 places¹⁾

The projected trainee enrolment in 1979 is envisaged at 2,140 in Nairobi and 1,142 in Mombasa.²⁾

2.2.1.3. Kenya Industrial Training Institutes (KITI)

The Institute was started in 1964 as a small-scale industrial training and research centre. The purpose of the Institute was to promote rural industrialization and transfer of technology through training of artisans, who finally would get gainful employment or be self-employed. The Institute's tasks for the next five years will be as follows:

- i) training technicians for already established industries
- ii) training local artisans for self-employment especially in rural areas
- iii) carrying out research in industrial projects which involve products that could accelerate rural industrialization and
- iv) training middle managers for the industrial sector.

To avoid duplicating activities of existing training institutions more emphasis will be given to the training of technicians and potential entrepreneurs to meet the requirements of the Kenya Industrial Estate Programme.

2.2.1.4. Harambee Institutes of Science and Technology (HIT)

The high number of unemployed secondary school leavers and the demand for qualified workers initiated the set-up of non-governmental institutions in all the regions of Kenya.

Fifteen such institutes have been proposed. Twelve of them are already operational and the others will be developed during the next five years (see table 12). Most of the institutes will be following craft and technician courses for mechanical engineering, electrical engineering, building

1) Development Plan 1979 - 1983, Table 10.3

2) Ibidem

trades, agricultural engineering, home science, food processing, irrigation and business studies. Final examination will be based on syllabi approved by the Ministries of Education and Labour, and the certificates will be signed by the Director of Education.

TABLE 12:

PROJECTED ENROLMENTS OF H.I.T., 1979 & 1983

Institute	1979	1983
1. Kaimasi	168	216
2. Kiambu	441	513
3. Murang'a	240	312
4. Western College of Technology (WECO)	134	360
5. Ramogi Institute of Advanced Technology	67	192
6. Gusii	124	388
7. Sengalo	75	210
8. Kirinyaga	156	336
9. Kimathi	108	300
10. Rift Valley	48	288
11. Uka!		168
12. Embu		144
13. Meru		168
14. Coast	30	132
15. Taita	30	132
total	1,621	3,859

Source: Development Plan 1979 - 1983

2.2.1.6. Private Firms

There are a number of private firms, running their own training centres.

To ensure harmonization between the interests of industry, the requirements of the individual and the needs of the economy, the Government will give greater attention to regulations of private sector training.

The training capacity in this sector in 1977 was 1.730 places¹⁾.

2.2.1.7. Secondary Technical Schools

In 1979 there will be 7.056 pupils in secondary technical schools in comparison with more than 124.000 attending 'regular' secondary schools.

By 1983 a total of 15 Government aided secondary schools will be offering a full technical education programme.

There will be courses in basic engineering, basic building and agricultural mechanics.

The Secondary Technical Schools offer a four-yearly training on technical subjects. The pupils have little practical experience but a solid technical know-how. Therefore, the chances of finding employment immediately after graduating from school are very slim.

There are two training courses: building trade and mechanical engineering. During the fourth year specialization in the following trades is possible: mechanics, electrical engineering, motor vehicle mechanics, plant mechanics, carpentry, plumbing and masonry. Two courses in welding and technical drawing are being developed at present.

1). Development Plan 1979 - 1983, Table 10.3

Leavers have the possibility to seek a follow-up training as technicians at a polytechnic or as craftsmen at a National Industrial Training Centre or an Institute of Science and Technology.

TABLE 13:

PROJECTED ENROLMENT IN SECONDARY TECHNICAL EDUCATION
1979 TO 1983¹⁾

	1979	1983
Enrolments	7.056	8.424

The number of Secondary Technical School leavers at the end of 1978 was 1.473²⁾.

2.2.1.8. OTHERS

1. Christian Industrial Training Centre:

Vocational training in three towns (Nairobi, Mombasa and Thika), approximately 150 pupils per year.

Commercial school for girls in Kisumu, approximately 30 pupils per year.

2. Young Women Christian Association, YWCA:

School for home economics in Limuru, 30 pupils per year. Secretarial College in Likoni, 40 pupils per year.

3. Young Men Christian Association, YMCA:

Handicraft training in Nairobi, approximately 30 pupils per year.

4. Limuru Boys Centre

Two-year course in agricultural and plant mechanics for approximately 30 elementary school leavers per year.

1) Development plant 1979 -- 1983, Table 5.14

2) Mr. James Nyamweya, Minister of Labour, The Standard 12.12.1978

2.2.2. Training for the informal sector

2.2.2.1. Village Polytechnics

The Village Polytechnic Programme is based on three principles:

- the training of young people who shall not be separated from rural training by other programmes of formal or informal nature
- rural development, the generating and keeping of income in rural areas through productive work has to be part of the youth training
- to make a success of it, the training has to be carried out and supervised by local staff. It also has to be actively involved in the development of the village.

It is the function of a VP-programme to pass on to school leavers from a very confined area, ability, knowledge and ideas in certain crafts and so to enable them to participate in income-generating ventures in their villages, at the same time contributing to the rural development and economic betterment of their district.

The training or 'development of a young person' and the development of his village community are inseparable.

This last statement will have to be checked up very carefully with regards to the NYS project in Turbo (Rural Craftsmen Training Centre) because this centre attempts to train young people detached from their environment.

The number of Village Polytechnics increased from 20 in 1971 to 220 in 1978 with about 22.000 trainees and 1.200 instructors. During the next five years, the number of Village Polytechnics will increase to 370 and the enrolment will rise to 40.000¹⁾.

1) Development Plan 1979 - 1983

The following gives information on the whereabouts of VR-programme leavers: (all data from 1974¹⁾):

TABLE 14: Employment of V.P. leavers

<u>Employment rate</u>	%
Men	80
Women	16
<u>Self-employment</u>	
Men	8*
Women	8*
<u>Working field</u>	
In their village area	53
Outside their village area	47
men urban	46
women	13
men rural	54
women	87

* A government evaluation in 1973 yielded much higher figures: for men 46% and for women 45%. To the author the established 8% for 1974 seem much more realistic.

The village polytechnics are, up to now, the only institutions which offer regular training courses for the need in the informal sector. Moreover, there are several other organizations providing 'on-the-job' training for existing small-scale enterprises, i.e. the Rural Industrial Development Centres, Partnership for Productivity and National Christian Council of Kenya. V.P. are not interested in testing their leavers through the Government Trade Testing system because of inappropriateness to their training objectives.

1) Report on ILO/SIDA Eastern and Southern Africa Sub-Regional Seminar on Vocational Preparation of Rural Youth for Development, Geneva 1977, page 10.

2.3. Training Capacities

TABLE 16: shows the annual training capacity by training level and training institution

Training Level	Training Institution	Annual Capacity	Utilization factor
A) <u>TECHNICAL SKILLS:</u>			
1. Technicians	- Polytechnics	2.500	42%
2. Skilled Craftsmen	- N.I.T.C.	1.360	41%
	- Governmental and Parastatal Bodies		not avble
	- Private Firms	570	"
	- Harambee Institutes of Technology	540	" "
	- Others	310	" "
3. Artisans Grade III and Grade II	- National Youth Service	865	90%
4. Artisans for Rural Self-Employment	- Village Polytechnics	22.000	not avble
	- National Youth Service	15	100%
B) <u>AGRICULTURAL TRAINING:</u>			
5. Formal	- Egerton College	215	"
	- Institute of Agriculture	405	"
6. On-the-Job	- Farmers Training Centres	50.000	"

Notes: 1) Data for the annual capacity have been derived from the figures in chapter 2.1 and chapter 2.2 and calculated on the basis of the duration of the training programmes.

Example: N.I.T.C. have a total capacity of 4.100 places. Considering that training lasts for three years, there will be an annual output of $\frac{4100}{3} = 1.360$ (approximately) graduates per year.

2) The above listed training institutions represent only the most relevant training programmes in relation to the NYS.

3. MANPOWER DEMAND

3.1. Modern Sector

Concerning the need for a systematical and long term planning for industrial training the Ministry of Labour has expressed the following: 'The expansion of industrial training in Kenya has been directed by institutions and in respond to pressure from the industrial parties rather than by systematic analysis of requirements and weighting of different alternatives in relation to national growth priorities. This method for resource allocation may be justified in a situation of severe shortage of all sorts of skills, such as the case has been in Kenya during the first period after Independence. As the capacity of the training institutions grew, however, and the backlogs are covered in one area after the other, the risks increases that a purely intuitive and responsive mode of resource allocation will lead to misinvestment, either through overproduction of certain skills - particularly where the pressure for Kenyanization has been strong - or through neglecting skills which are not yet represented by organized interest groups' ¹⁾

Another important point with regards to the purpose of planning relates to the need for flexibility. Accurate forecasts of even short term trends in occupational demand seem to be unobtainable and consequently, the training provided should be no more specialized than forecast. This implies, that skills which are sufficiently flexible to be applied in different work institutions will make labour most marketable. ²⁾

In awareness of the situation, the Ministry of Labour in connection with UNDP and ILO prepared, on the basis of the Manpower Survey 1972, a projection on demand of manpower with different types of industrial skills. However, since the economical situation in Kenya changed considerably since 1972, these data can provide only a very rough

1) Ministry of Labour: Towards a long term plan for Industrial Training, August 1974

2) Skill formation and Rural Industrial Development, Brithe Mikkelson, University of Nairobi, IDS, Working paper 199.

idea about occupations for which the planned local training provision appears to be adequate. A new Manpower Survey which is under preparation at this time, will certainly provide more reliable figures. Table 17 shows for some selected occupation categories the projected number of skilled workers in January 1979 and the projected additional number of required manpower per year. It should be noted that 'skilled worker' means in this context at least the equivalent of a Grade I or II Trade Test. Figures for requirements of semi-skilled workers (that means Grade III or II) were not available.

At the time these data have been worked out (1975) Kenya was in the middle of an economic recession, with employers holding more workers than they needed rather than looking for new ones. With forecasted growth rates in the manufacturing industry of 9%¹⁾ the real demand for skilled manpower in the next five years will certainly be higher. It is estimated, that during the Development Plan period 1979 to 1983 the overall increase in demand for middle and high level manpower (craftsmen and technicians) will be approximately 16% per year²⁾. Again exact figures can only be derived from the forthcoming new Manpower Survey, expected to be published in mid 1980.

The other important source for employment of semi-skilled and skilled workers is the public sector. The Ministry of Water Development alone requires the following su-ordinate staff (patrol men, pump attendants, water operators, drivers, artisans for metal and wood work, clerks, storemen, water guards, mechanics as M.V.M., M.V.E., plant mechanics):

TABLE 18:

78/79	79/80	80/81	81/82	82/83
6.675	7.855	9.050	9.920	10.490

1) Development Plan 1979 - 1983, Page

2) Development Plan 1979 - 1983, Page 488

TABLE 2.7

1

2

3

4

Selected Occupation Categories	Projected Stock of Manpower Jan. 1979	Additional Number required P.a. 1972 - 1978	Projected Additional Number required P.a. 1979 - 1983
<u>Semi-professional (technicians)</u>			
- physical science technicians	740	60	118
- draughtsmen and engineering technicians	7517	540	1200
- statistical and mathematical technicians	100	6	16
- secondary school teachers, technical	612	43	98
Total semi-professionals	8969	649	1432
<u>Skilled</u>			
- production supervisors/foreman	3491	223	560
- tailors/dressmakers, pattern makers, etc.	4145	269	665
- blacksmiths	333	25	53
- machinists/fitters, etc.	3117	268	500
- motor vehicle mechanics	3748	258	600
- mechanics/repairmen	1430	100	230
- electrical/electronics workers	2778	197	445
- plumbers/pipe fitters	469	25	75
- welders and flame cutters	946	67	150
- sheetmetal and structural metal workers	416	33	66
- compositors and typesetters	556	42	90
- letterpress minders	425	32	68
- other printers etc.	609	46	97
- painters/signwriters	291	18	47
- carpenters and joiners	1996	122	320
- stonemasons, bricklayers, etc.	1844	112	295
Total skilled workers	26594	1837	4261

Note: Column 2: if zero Kenyanization

Sources: Column 1,2,3, UNDP, ILO = Towards a Long Term Planning for Kenya

by M. Godfrey, December 1975

Column 4: Projections in Basis of the Development Plan Forecast of 16% Increase in Demand for Skilled Manpower.

TABLE 19:

ESTIMATED EMPLOYMENT IN KENYA, 1969 AND 1978

Sector and Sub-Sector	Persons engaged ('000)		Growth Rate
	1969 ¹⁾	1978	
A) MODERN SECTOR			
- Agriculture/Forestry	179.0	189.0 ²⁾	5.6%
- Other Private Sector	211.0	320.1	51.7%
- Public Sector	237.0	390.0	64.6%
Total modern sector	627.0	899.1	43.4%
B) TRADITIONAL SECTOR			
- Small-scale Agriculture	1.950.0	2.810.0 ³⁾	44.1%
- Pastoralists	350.0	390.0	11.4%
Total traditional sector	2.300.0	3.200.0	39.1%
C) INFORMAL SECTOR			
-- Rural Non-Farm	190.0	1.100.0 ⁴⁾	47.9%
-- Urban Informal	100.0	113.9 ⁵⁾	13.9%
Total informal sector	290.0	1.213.9	31.8%
TOTAL EMPLOYMENT	3.200.0	5.313.0	66.0%

Sources: 1) All data from 1969: F.C. Child, Employment, Technology and Growth The Role of the Intermediate Sector in Kenya, IDS Occasional Paper no. 19

2) Economy Survey 1979, Page 47

3) Development Plan 1979 - 1983, Page 34

4) Ibidem

5) Informal Sector Survey, Ministry of Labour (unpublished)

The figures of growing potential of employment in the informal sector are self-explanatory. They underline the fact, that many members of the labour force have no alternative employment opportunities and therefore, are forced into informal sector activities.

Table 20 shows the size and growing rates for some selected urban informal activities, 1974 to 1978¹⁾:

TABLE 20:

Activity	Persons engaged		Growth Rate
	1974	1978	
1) Manufacturing			
- Wearing apparel	6.226	7.470	20%
- Footwear	192 ^{a)}	970	505%
- Wooden Furniture	2.395	3.711	55%
- Fabricated Metal Products	1.376	1.997	45%
2) Construction			
- Plumbers	15 ^{b)}	57	380%
- Painters and minor repairs	5 ^{a)}	130	2600%
3) Services			
- Repair of Footwear and other leather goods	2.363	2.781	18%
- Electrical Repair Shops	204	748	367%
- Repairs of Motor Vehicles and Motorcycles	3.238	3.944	22%
4) Trade (total)	51.915	80.037	54%

a) in 1975

b) in 1976

Source: Informal Sector Survey, 1978 - Ministry of Labour (unpublished)

- d) In every Unit, where on-the-job training takes place, there should be a qualified Training Instructor in-charge. In those units where formal training is also given, the Instructor in-Charge should be able to supervise both.
- e) Trainees for building trades, i.e. masonry, plumbing, carpentry, painting, etc. should be attached to a Building Team.
- f) A training log-book, in which training activities are to be recorded weekly, should be introduced.
- g) Trainees in all trades should receive regular lessons, such as offered only for motor mechanics.
- h) Every trainee should be provided with a basic tool-kit which will become his own property. This will also help him to find employment after training.
- i) Classrooms and training workshops with teaching aids should be established in every Unit.

4.3. Training for the Rural Sector

It has been stated in the previous chapters that Rural Development will have the first priority in the Government's development efforts.

The NYS has been assigned to play an important role in this field, especially through the development of new land and through training of its members on farms.

Therefore, and under consideration of the extraordinary possibilities of the NYS, the fact that most recruits origin from rural areas and the existence of large farms in all climatic zones of the country, the following recommendations are put forward:

4.3.1. Agricultural Sector

The NYS owns the following farms on which training can be developed:

-- Tumaini Harambee Farm	approx. size	650	acres
-- Turbo Agriculture Farm	"	450	"
-- Lambwe Valley	"	200	"
-- Yatta Agriculture Farm	"	10000	"
-- Hindi Development Unit	"	12000	"
-- Garissa Development Unit	"	600	"

As Kenya's agricultural sector, although seeking qualified farmers, is not prepared to pay adequate wages and furthermore because of limitation of adequate wage employment, a large scale vocational training in this field does not seem advisable. Therefore, the following recommendations are put forward.

4.3.1.1. Medium term strategy

Under special consideration of the aforesaid in chapter 4.3. it is recommended that all NYS members should undergo an obligatory agricultural training during their first year of recruitment.

In such a programme the respective origin of a servicemen/women has to be considered. For example: a serviceman from Western Province should go to Turbo Agriculture Farm to get familiarized with techniques such as applicable to the conditions in his home area.

The training contents are therefore, different according to regions.

General objectives of that training would be:

- to increase the production on small plots through better cultivation techniques and diversification of crops
- general knowledge about small farm management, commercialization, co-operatives, credit possibilities, etc.