

社会開発協力部報告書

ケニア・N Y S 技術学院 巡回指導調査団報告書

平成 3 年 4 月

国際協力事業団

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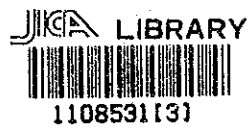
ケニア・N Y S 技術学院巡回指導調査団報告書

平成三年四月

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ケニア・NYS 技術学院
巡回指導調査団報告書



平成3年4月

国際協力事業団

国際協力事業団

25439

序 文

ケニア国は、第5次国家開発5カ年計画（1984—1988）において、地域開発及び人材の育成に力を入れることを基本政策として掲げ、同政策の一環として、人的資源及び機械の供給センターとしての機能を有する国家青年奉仕隊（National Youth Service-NYS）の拡充計画を計画した。

本拡充計画では、従来より実施してきた技能者育成訓練（Artisan Grade I, II, IIIレベル）より上位のテクニシャン（Technician Part I及びII）の養成・訓練を主たる目的としており、その中でも特に社会的需要から見て優先度が極めて高い、電気、電子、機械、建設機械及び自動車工学の各分野における協力（無償資金協力及び技術協力）を我が国に対し要請してきた。

本要請を受け、当事業団は昭和59年11月の予備調査団及び昭和60年2月の事前調査団の調査結果を踏まえ、昭和62年4月実施協議調査団を派遣し、R/Dに署名した。この結果昭和63年1月1日より5年間の協力が開始されるに至った。

本プロジェクトは、ケニア国の教育制度改革の一環として位置づけられており、現行制度による電気科、電子科、機械科、自動車整備科、建設機械整備科の5科について各科20名、3年間（合計300名）のテクニシャンコース（I、II、III）が開設され、平成元年には新教育制度による初めての中等教育修了者を迎える。このため、同年からはこれに合わせて改定された技術教育制度によりディプロマコースへと移行し、技術者の養成を図る計画で進行している。

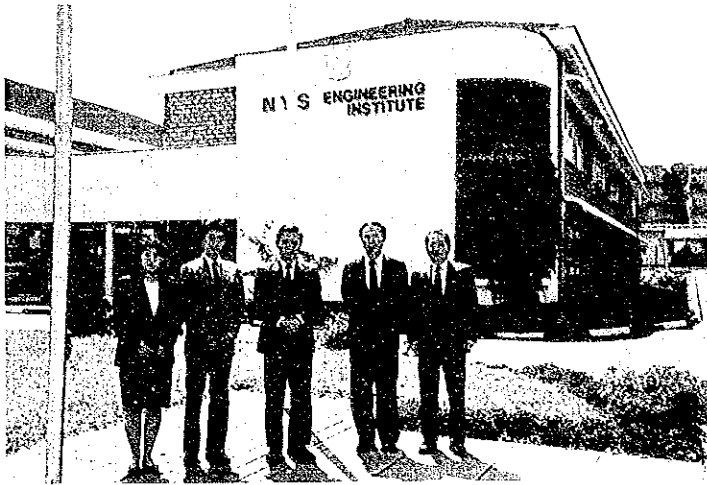
本調査は、右技術者養成の進捗状況等を調査し、今後のより効率的・効果的なプロジェクトの実施に資するため先方関係者と協議を行うことを目的に、平成2年12月7日から同月21日までの間派遣した巡回指導調査団の調査及び協議結果を取り纏めたものである。

ここに、本調査の任に当たられた調査団員の方々、並びにご協力頂いた外務省、労働省、在ケニア国日本大使館及び内外関係機関の方々にこの機会を借りて深甚なる謝意を表すと共に、今後のご支援をお願いするつもりである。

平成3年4月

国際協力事業団
社会開発協力部長

中 村 信



NYS技術学院前にて

右から

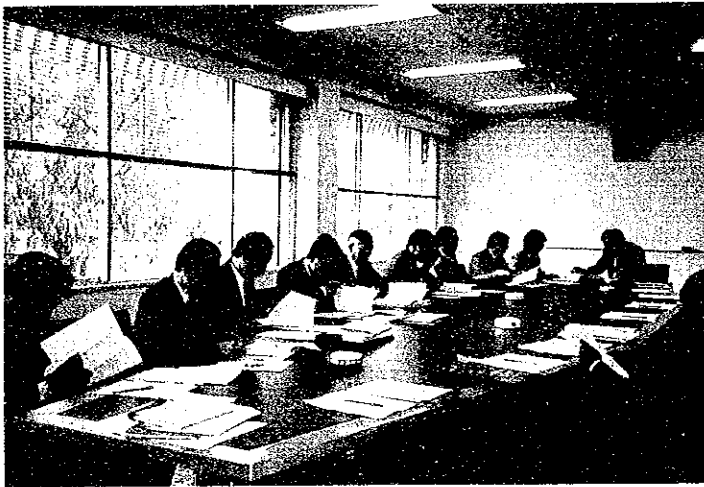
柿栖団員

海前団員

林 団長

升本団員

藤沢団員

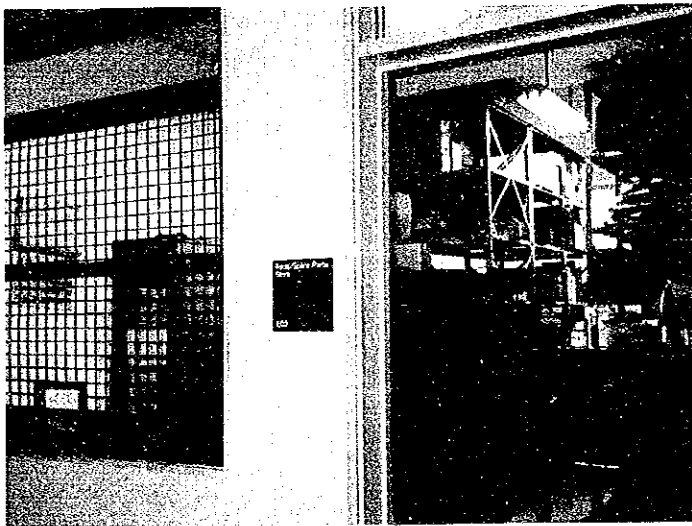


合同会議



C/Pからのヒアリング

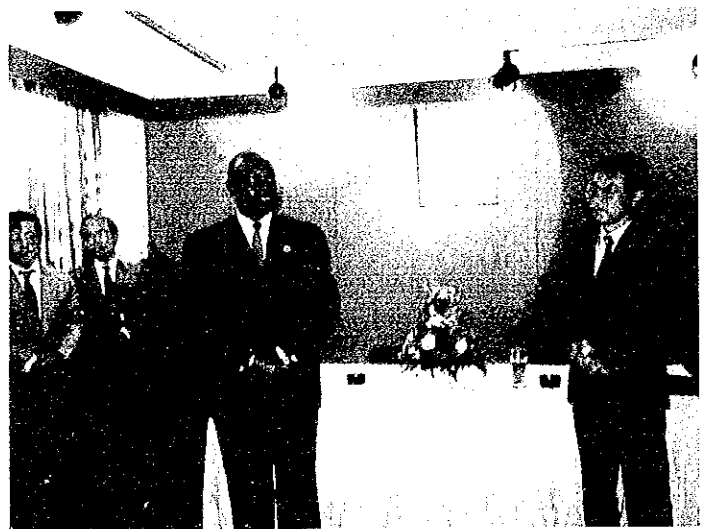
実習風景



ストアルーム

ストアマンが配置され、左下の小窓から、部品を渡す。

調査団主催パーティー



目 次

序 文	
写 真	
1. 巡回指導調査団の派遣	1
1-1 調査団派遣の目的	1
1-2 調査団の構成	1
1-3 調査日程	2
1-4 主要面談者	3
2. 調査協議結果要約	6
2-1 プロジェクトの一般状況	6
2-2 調査協議結果の概要	6
3. プロジェクトの進捗状況	8
3-1 訓練の実施状況	8
3-2 技術移転状況	9
3-3 カウンターパート育成状況調査	10
3-4 教材開発	10
3-5 供与機材の活用状況	10
3-6 カウンターパートからのヒアリング	10
4. プロジェクトの実施運営上の問題点	12
4-1 理教科教育	12
4-2 教育制度の改革	14
5. ミニッツ	17
6. NYS技術学院1990年度年次報告	25
付属資料	51

1. 巡回指導調査団の派遣

1-1 調査団派遣の目的

- (1) プロジェクト実施体制、実施の現況について調査・把握し、実施状況の問題点を整理し、日本人専門家チーム及び『ケニア』側との協議を通じて、その解決を図る。
- (2) 各部門の技術上の支援、問題点の解決を併せ行う。
- (3) 上記ふまえ、今後の日本側投入計画についても検討を行う。

1-2 調査団の構成

総括	はやし 林 のりのぶ 典伸	JICA 社会開発協力部 社会開発協力第2課課長
訓練計画	うみまへ 海前 よしあき 嘉明	労働省 職業能力開発局 海外協力課海外訓練協力官
教材開発	かきす 柿栖 のぼる 昇	雇用促進事業団 職業開発企画部 国際協力課海外協力技術専門役
理数科教育	まけもと 升本 きよし 潔	JICA 国際総合研究所 調査研究課職員
協力企画	ふじさわ 藤沢ひろみ	JICA 社会開発協力部 社会開発協力第2課職員

1-3 調査日程

日順	日付	行程	午前	午後
1	12/7(金)	東京 → アムステルダム	移動	移動
2	8(土)	アムステルダム → ナイロビ	移動	移動
3	9(日)			リーダー、調整員と打ち合わせ
4	10(月)		JICA表敬 日本大使館表敬 JICA主催懇談会	NYS技術学院訪問 校長表敬 施設見学 プロジェクト懇談会
5	11(火)		NYS 長官表敬	専門家との意見交換
6	12(水)	ジャムフリデー	資料整理	資料整理
7	13(木)		C/Pとの意見交換	校長、学科長との意見交換
8	14(金)		合同委員会	NYS長官主催懇談会 ミニッツ準備
9	15(土)		資料整理	資料整理
10	16(日)		資料整理	資料整理
11	17(月)		ミニッツ準備	ミニッツ署名 団主催懇談会
12	18(火)	ナイロビ	大使館帰国報告 JICA事務所帰国報告	JKUCAT視察
13	19(水)	ナイロビ → パリ	移動	移動
14	20(木)	パリ	移動	移動
15	21(金)	パリ → 東京	移動	

1-4 主要面談者

ケニア側

- 1 . Mr. M. H. K. Arap Lang'at -Director
National Youth Service
- 2 . Mr. N. M. Wambora -Chairman
Deputy Secretary
Office of the President
- 3 . Mr. B. A. Awinda -Assistant Director
Directorate of Personnel
Management
- 4 . Mr. C. T. Waweru -Assistant Director
National Youth Service
- 5 . Eng. G. K. Munuku -Acting Principal
NYS Engineering Institute
- 6 . Mr. F. O. Namanya -Senior Assistant Secretary
Office of the President
- 7 . Mr. C. I. Shakaba -Senior Assistant Secretary
Ministry OF Finance
- 8 . Mr. B. J. Murokih -Directorate of Industrial
Training
- 9 . Mr. S. B. Otieno -Commandent
NYS Engineering Institute
10. Mr. Mathew N. Muraguri -H. O. D
NYS Engineering Institute
11. Mr. Joseph K. Ruto -Assitant Lecturer
NYS Engineering Institute
12. Mr. Joseph D. O. Mung'oma -Assitant Lecturer
NYS Engineering Institute
13. Mr. Fredric K. Wanyoke -H. O. D (代行)
NYS Engineering Institute
14. Mr. Charles N. Asford -H. O. D
NYS Engineering Institute
15. Mr. Kamau Waria -Assitant Lecturer
NYS Engineering Institute

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|-----------------------------|--|
| 16. Mr. Peter kingundu Ikua | — Assitant Lecturer
NYS Engineering Institute |
| 17. Mr. J. K. Charo | — H. O. D
NYS Engineering Institute |
| 18. Mr. Stenry M. Kamau | — Lecturer
NYS Engineering Institute |
| 19. Mr. Joseph Okeeno | — Assitant Lecturer
NYS Engineering Institute |
| 20. Mr. Moses Otieno Okongo | — Assitant Lecturer
NYS Engineering Institute |
| 21. Mr. Stephen J. N. Nyaga | — H. O. D
NYS Engineering Institute |
| 22. Mr. Samuel K. Bitoc | — Assitant Lecturer
NYS Engineering Institute |
| 23. Nrs. Ann W. Mwaura | — Lecturer
NYS Engineering Institute |
| 24. Mr. Milan N. Mirembo | — Lecturer
NYS Engineering Institute |
| 25. Mr. John B. Magiri | — Lecturer
NYS Engineering Institute |
| 26. Mr. Henry Waite Kurumbu | — Lecturer
NYS Engineering Institute |

日本側

- | | |
|----------|--------------------|
| 1. 熊倉直博 | — ケニア共和国日本大使 |
| 2. 有安敬 | — ケニア共和国日本大使館一等書記官 |
| 3. 熊岸健二 | — JICAケニア事務所長 |
| 4. 高畑恒雄 | — JICAケニア事務所次長 |
| 5. 松永龍児 | — JICAケニア事務所所員 |
| 6. 松崎孝雄 | — NYS技術学院チーフアドバイザー |
| 7. 川喜田英博 | — NYS技術学院調整員 |
| 8. 橋口悦夫 | — NYS技術学院専門家 |
| 9. 岸照泰 | — NYS技術学院専門家 |
| 10. 田嶋豊七 | — NYS技術学院専門家 |

- | | |
|-------------|-------------|
| 11. 平 出 貞 夫 | -NYS技術学院専門家 |
| 12. 一之瀬 藤 雄 | -NYS技術学院専門家 |
| 13. 井 上 善次郎 | -NYS技術学院専門家 |
| 14. 金 子 正 彦 | -NYS技術学院専門家 |
| 15. 八 田 久 夫 | -NYS技術学院専門家 |

2. 調査協議結果要約

2-1 プロジェクトの一般状況等

- (1) プロジェクトの運営及び管理の概要（組織、各科別学生の状況、各科別カウンターパートの配置状況、予算、学科運営状況）は付属資料1. プロジェクトの運営及び管理の概要のとおりである。
- (2) 本プロジェクトを円滑に実施するには、単にNYS技術学院の運営管理の面にとどまることなく、NYS技術学院のおかれている立場を十分に認識した上で押し進めていくことが肝要である。
 - ア. NYS技術学院の組織・運営（文官と制服組〈予算、会計、文書〉）
 - イ. 教官の質、人数
 - ウ. NYS本部との関係
 - エ. 大統領府、人事院との関係
- (3) 日本側専門家チームは本プロジェクトを取りまく厳しい状況の中、専門家各々の立場で工夫をこらし、本プロジェクトの所期目標を達成すべく努力している。
- (4) 本プロジェクトの進捗状況はケニア側の事情により、当初の実施スケジュールに対し、若干の遅れがみられる。

2-2 調査協議結果の概要

(1) カウンターパートの採用・配置

C.P.の配置状況（計画・実績）は付属資料1(3)C/Pの配置状況（計画・実績）のとおりである。

当初計画の半数程度であり、プロジェクト実施上、支障を起こしているため、早期採用・配置を「ケ」側に強く申し入れた。

ア. 配置計画 : 91. 1 8人採用（レクチャラー）

その後2人（レクチャラー）、6人（アシスタント・レクチャラー）を
採用予定

イ. リクルート方法 : 新聞による公募

ウ. ジョブ・グループ:

エ. スタッフ・ハウスの建設

オ. 能力開発

(2) ケニア側予算

90/91年度予算は89/90年度予算にくらべ約55%増となっている。特に図書購入費（72,000ケニアポンド）、訓練費（67,500ケニアポンド）が90/91年度予算で新たに確保出来たことは

「ケ」側の努力を評価出来る。

「ケ」側予算の増加は、本プロジェクトを円滑に実施する上で重要な要素となるので、「ケ」側に継続的な努力を申し入れた。なお獲得した予算をいかに執行していくかをわが方として今後、注視していく必要がある。

(3) その他

- ア. 理数科専門家の派遣
- イ. 協力期間の延長
- ウ. その他

3. プロジェクトの進捗状況

3-1 訓練実施状況

(1) テクニシャン・コース1期生

① 入学等：1989年8月入学 オリエンテーション 9月11日から開講

② 入学者数：書類選考の結果 101名合格 入学者94名

科別入学者数等は次のとおり。(90年12月現在)

	入学者	退校者	在籍者	備考(退校理由)
電気工学	18 (6)		18 (6)	
電子工学	20 (8)	1 (1)	19 (7)	一身上の都合
機械工学	19 (1)		19 (1)	
自動車工学	19 (1)	2	17 (1)	①規律違反
建機工学	18		18	②一身上の都合
計	94(16)	3 (1)	91(15)	

③ パート1修了者

ア. 修了試験は90年7月に実施され、結果は91年1月に公表された。

イ. 受験者92名中、合格の「良」及び「可」の合計は70名。76.1%の合格率

また、これらに「再試験」を加えると86名で全受験者の93.5%の合格率

ウ. KNEC (ケニア国家試験委員会) はケニア・ポリテクニクをはじめ他の同種の学校に比べて、本学院の試験結果が良好であったとのコメントをした。

エ. 科別試験結果は次のとおり。

	良	可	再試験	不可	計
電気工学	5	6	6	1	18
電子工学	6	9	2	2	19
機械工学	14	5	0	0	19
自動車工学	2	10	3	3	18
建機工学	2	11	5	0	18
計	29	41	16	6	92

・機械工学は全員が合格。当科は開講前から科長が唯一配置されていた。

その後のスタッフの配置も良かった。

オ. 「再試験」及び「不可」の結果となった学科は次のとおり。

	数 学	物 理 等	製 図	建機技術	動力・駆動
電 気 工 学	7	2	1	—	—
電 子 工 学	4	2	—	—	—
自 動 車 工 学	1	2	5	—	1
建 機 工 学	0	1	3	2	—
計	12	7	9	2	1

・数学、物理、製図の各科共通科目のできが悪かった。

・各科専門科目での不可は極く少なかった。

カ. パートⅠ合格者及び再試験を含む85名（自動車工学科の1名は、12月で退学）が、91年1月から始まるパートⅡに進級。不可の6名については、NYS等での進路が決定しだい本学院を退校することとなっている。

(2) ディプロマ・コース第Ⅰ期生

8・4を修了した者を対象とした当該コースは91年1月から開講する予定。

各科別予定数は次のとおり。

	現在数	不適性・調整中	最終予定者
電 気 工 学	18 (5)	1	17 (5)
電 子 工 学	17 (6)	1 (1)	16 (5)
機 械 工 学	16 (1)	2	14 (1)
自 動 車 工 学	16 (2)	2	14 (2)
建 機 工 学	16	2	14
計	83(14)	8 (1)	75(13)

*ディプロマ・コース=「予備課程(1年)」+「本課程(3年)」

()は女子

3-2 技術移転状況

各科ともカウンターパートが授業を担当する時間に追われ、技術移転を行うための時間を取ることが困難な状況にある。しかし、各カウンターパートの理論的レベルは高く、学科を指導するための知識は現在持っているものでも充分に対応可能であるが、実験や実習の分野になると全般的に技量は低く、専門家からの技術移転が必須となっている。このような状況のもとで、各専門家が技術移転計画を立ててカウンターパート指導に当たっている。

技術移転計画・実績表及び訓練細目別技術移転状況を以下に示す。

資料 (6科分)

3-3 カウンターパート育成状況調査

各専門家からのヒヤリング調査によるカウンターパートの育成状況によると、機械工学科、電気工学科及び電子工学科においては現時点ではほぼ習得しており、建設機械工学科と自動車工学科ではR/D終了時までには習得可能とのことであった。

カウンターパート育成状況評価を以下に示す。

資料（5科分）

3-4 教材開発

専門家とカウンターパートが協力して教材（教科書、OHP等）を開発するのが基本的ではあるが、技術協力の開発当時は各科とも、カウンターパートは授業を担当するのが教師の主業務であり、教材を開発するのは自分達の業務ではない、との考え方を強く持っており、専門家が中心となって日本の教科書やマニュアルを英語に翻訳したり、ケニアで購入可能な英文教科書から必要な部分を抜粋するなどして教材開発を行っていた。しかし技術協力が進展するに従い、日本人専門家がまとめる教科書やOHPの内容が新鮮であり、また、訓練用機材にマッチした内容であるので授業に使いやすいとの認識がカウンターパートに芽生え、現在では専門家とカウンターパートが資料の収集から編集までを共同で行うようになってきている。カウンターパート不足で教材開発の一部に遅れが見受けられるが、専門家グループの見解としては、早急にカウンターパートが補充されれば、その遅れはプロジェクト協力期間中に取り戻せるとのことであった。

教材開発計画及び実績表を以下に示す。

資料（6科分）

3-5 供与機材の活用状況

主要機材のほとんどは無償資金協力により調達されたものであるが、一部の機材は専門家の携行機材として、あるいは供与機材として調達されたものである。供与機材の管理については、専門の倉庫係が配置されており、その管理のもとで厳格に保管されており、紛失等の事故はない。活用状況は良好であり、現在使用されていない機材についてはすべて、今後のカリキュラムのなかで使用するようになるものである。操作についても、基本操作は完全に習得されており、今後は応用操作について専門家の指導がなされる予定である。

主要供与機材活用状況を以下に示す。

資料（6科分）

3-6 カウンターパートからのヒヤリング

電気工学科4名、電子工学科3名、建設機械工学科4名、自動車工学科3名、機械工学科2名のカウンターパートに対してヒヤリング調査を行った。主な意見を次に示す。

(1) 訓練内容について

Q. 現在の訓練内容は社会ニーズに合致していると思うか？

- ・工場実習（4、5カ月を2回）を行っているので、訓練生が企業経験（実務面と労働価値）を習得できるので企業ニーズに合っていると思う。
- ・基本を指導している。応用は工場実習で習得させるようにしている。

Q. 改善点はあるか？

- ・以前は電気科と電子科が分離していたが、現在は共通化されたので良い。

Q. 訓練計画に無理はないか？

- ・一部のトピックの時間が多すぎるので変更することになっている。

Q. その他

- ・ブリッジング・コースのシラバスは準備してある。

(2) 技術移転進捗状況について

Q. 技術移転達成度

- ・専門家が優秀なので移転は容易に出来ていると思う。

Q. 技術移転方法

- ・訓練生にも専門家が直接指導した方が効果的だと思う。
- ・専門家が忙しいので数を増やして欲しい。

Q. その他

- ・日本の技術移転方式を理解していないカウンターパートがいる。

(3) 日本における研修

Q. 研修内容及び期間

- ・職業訓練セミナーに参加したが、講義内容は良かった。少し時間が足りなかったように思うが、全員が受けるべきと考えている。

Q. 研修成果及び成果の活用状況

Q. その他

(4) 一般的評価

Q. 第三国実施プロジェクトとの比較

Q. その他

4. プロジェクト実施運営上の問題点

4-1 理数科教育

(1) 概要

平成元年12月に当地に派遣された計画打ち合わせ調査チーム、及び平成2年5月から6月にかけて派遣されたケニア国理数科教育事情調査団からの報告にもある通り、テクニシャン Part I の開始段階から、当学院における生徒の基礎学力、特に理数科の学力の不足が強く指摘されてきた。数学、理科（物理）は、Part I、Part II の国家試験科目として重要であるだけでなく、各専門学科の理解の基礎となるものでもあり、当学院における理数科教育の充実が急務であろう。

(2) 現状と課題

本学院の生徒はNYSの訓練生から選抜されてきているが、NYS入隊するということは、セカンダリースクール卒業者であっても、大学、あるいはポリテクニクに入学できなかったということであり、その基礎学力はそれらの学校の生徒に比べて一般に低いと考えられる。実際、専門家が実施した基礎学力テスト及び授業を進める過程で、生徒の理数科能力の不足、バラツキが指摘されている。一方、テクニシャン・コースのシラバスでは、日本の高校3年生レベルにも相当する。かなり高度な数学、物理の知識が要求されており、そのギャップは極めて大きいといわざるをえない。また上述のように、機械、電気といった専門学科を理解するためには、数学、理科の基礎知識は不可欠であり、理数科の能力不足が専門科目の理解不足につながっているという指摘もある。

ケニアでは、独立以来多額の政府予算を教育に振り向け、その拡充に力を注いできたが、こと地方の小中学校に関するかぎり、教師の不足・質の低さ、或は教材・教具の著しい不足といった諸問題が山積みとなっている。さらに、生徒を取り巻く非近代的農村社会という生活環境を合わせて考えれば、これらの地域出身の生徒の理数科能力の不足はやむを得ない側面もある。しかし、これを逆に考えれば、十分な教材と適切な指導により、生徒の潜在的な能力が開花する可能性があるということであり、当学院における基礎教育（特に理数科）重視の方向は適切であると考えられる。

当学院においては、生徒の理数科能力向上のために、これらの教科について、シラバスで指定されている時間数以上の授業を行っている。また、本年度から実施されるディプロマのブリッジング・コースにおいても、シラバスには記載されていない数学、物理の授業を行う予定になっている。現在当学院に在籍している理数科の教師は計3名（全てレクチャラー、数学1名、物理1名、兼任1名）であるが、専門学科の講師陣に比べて高学歴であり、いずれもセカンダリースクール（Aレベル）あるいは職業訓練学校（クラフトレベル）での教育経験を有し、その資質は高いものと考えられる。

しかし一方で、彼らにはテクニシャン、ディプロマレベルでの教師経験がないということ、他の学科で積極的に進めている視聴覚機材等教材開発の遅れ、当学院の有している物理実験機材の有効活用の遅れ、講師及びサポーター・スタッフの不足（現在0人）、教科書の不足、他の専門学科に比べて重視されていないという不満（たとえば、共通学科の講師用の部屋がない）等さまざまな問題がある。

(3) 対策（理数科の専門家の派遣）

以下の観点から、今後当学院においてより効果的な技術協力活動を行う上で、ケニア側からも要請のあった、理数科の専門家（数学及び物理を担当）の派遣を前向きに検討することが望まれる。

専門家の役割、望ましい要件等は以下の通り。

[専門家の役割]

- ・訓練計画の作成指導：シラバスに基づき、学科訓練計画、年間・学期間訓練計画の作成（テクニシャン、ブリッジング、ディプロマ・コース）指導。特に、各コースで異なっているシラバスの整理が必要。
- ・教材作成・訓練技法：当学院の状況にあった教材をC/Pとともに選定あるいは開発。訓練の指導 技法の移転（たとえばOHPの利用）。
- ・実験器具・機材の活：実験器具の操作、活用法の指導。実験器具・一般機材の管理のシステム化。

[派遣期間]

- ・2年間（訓練はすでに始まっており、派遣時期は早いほど良い。）

[派遣人数]

- ・1～2名（理数科教師の人数・質、教科の内容、必要実験機材の数量・取り扱い難易度等を勘案すれば、当面は1名で良いと考えられる。特に、物理においては、必要に応じ他の専門家の協力も期待できる（力学、電気等）。

[専門家の要件]

<必要条件>

- ・理数科教員資格の保有者。
- ・2年ないしそれ以上の、（日本における）高校以上の教員経験があること。
- ・十分な英語力を有していること。

<望ましい条件>

- ・教育部門の大学院レベルの教育を受けた者。
- ・JOCV等による途上国での教育経験者。

4-2 教育制度の改革

(1) 概 要

ケニアでは、1985年にそれまでの7-4-2-3制から8-4-4制へと大幅な教育改革を実施した。この改革の主眼は技能・職業教育の重視であり、初・中等教育において、家政、農業、技術等の科目が導入された。これと同時に、技術系の教育制度の改革がなされ、従来袋小路型であったアーティザン、クラフト、テクニシャンの資格取得者が、より上位の資格を取るための流れが確立された(表5-2)。

(2) NYSEIにおける変化

上記の教育制度改革にともない、これまでのテクニシャン・コースPart I～Ⅲが廃止され、新たにディプロマ・コースが設置されることになった。本コースは3年間のコースであるが、一般教育ルートからの入学者に対しては、技術訓練の不足を補うという目的で1年間のブリッジング・コースが実施される。NYSEIにおいては、第2期生を対象に、明年(91年)1月からブリッジング・コースが実施されることになっている。なお、第1期生については当初の予定通り、テクニシャン・コースPart II、Part IIIへと進級し、それぞれの国家試験を受験する。

(3) 問題点

ア. 公定シラバスの公表の遅れ

ディプロマ・コース及びその前段のブリッジング・コースのシラバスは、KIE (Kenya Institute of Education) により、作成・公表されることになっているが、翌1月から実施されるブリッジング・コースにおいても、電気・電子学科を除き、いまだ公表されていない。ケニア・ポリテクニク等一部の有力校では自力でシラバスを開発、所属官庁(技術訓練・応用技術省)、KIEから認可を受け実施するということであるが、当学院は開校以来日も浅く、自力開発は難しいことから、電気・電子学科については、公定シラバスに基づき授業を実施するが、他学科においては、テクニシャンPart Iの内容、あるいは上記有力校で開発したシラバスを参照しつつ授業を運営し、公定シラバスの公開を待つということであった。なお、92年から実施予定のディプロマ・コースのシラバスについては、91年の中頃に公表予定である。

また、テクニシャン・コースとブリッジング、ディプロマ・コースの授業内容の差異によっては、テクニシャン・コースで使用した、あるいは使用予定の教科書・教材等がディプロマ・コースの授業には不相当である可能性もあり、その場合は、教科書等の買い替え、教材の修整、再開発が必要となろう。

イ. 施設の収容能力

当学院の施設は、5学科3学年、計15クラス、300名の生徒を収容するという計画で建設されているが、新制度下では、ディプロマの3年コースの他、1年間のブリッジング・コースを実施するため、合計4学年20クラスとなる。このため、クラス・ルームの不足は確実であ

り、同様に講師の増員、講師室の拡張、また1クラスの生徒数を現状通り（20名）とすると、生徒の宿泊施設の拡張も必要となる。これらの問題は、第2期生がディプロマの3年に進級する95年までに解決する必要があるが、校長代行のムヌク氏がいうように、91年の9月に第3期生が入学するとすれば、93年の9月以降一時的にこれらの問題が顕在化する（表5-1）。派遣専門家によれば、この時期に一部の学年の生徒を工場実習に出すことにより、クラス・ルームの問題はしのげるということであったが、生徒の宿泊施設については何らかの施策が必要となろう。

表5-1 NYSEIにおける生徒数の推移（見込み）

	90.1	91.1	92.1	93.1	94.1
1989.12 入学*	←————→				
1991. 1 入学		←————→			
1991. 9 入学（未定）			←————→		
1992. 9 入学（未定）				←————→	
1993. 9 入学（未定）					←————→

*印のみテクニシャン・コース（3年）、他はディプロマ・コース（1+3年）
一部分は生徒数が400名の期間

ウ. 講師の資格

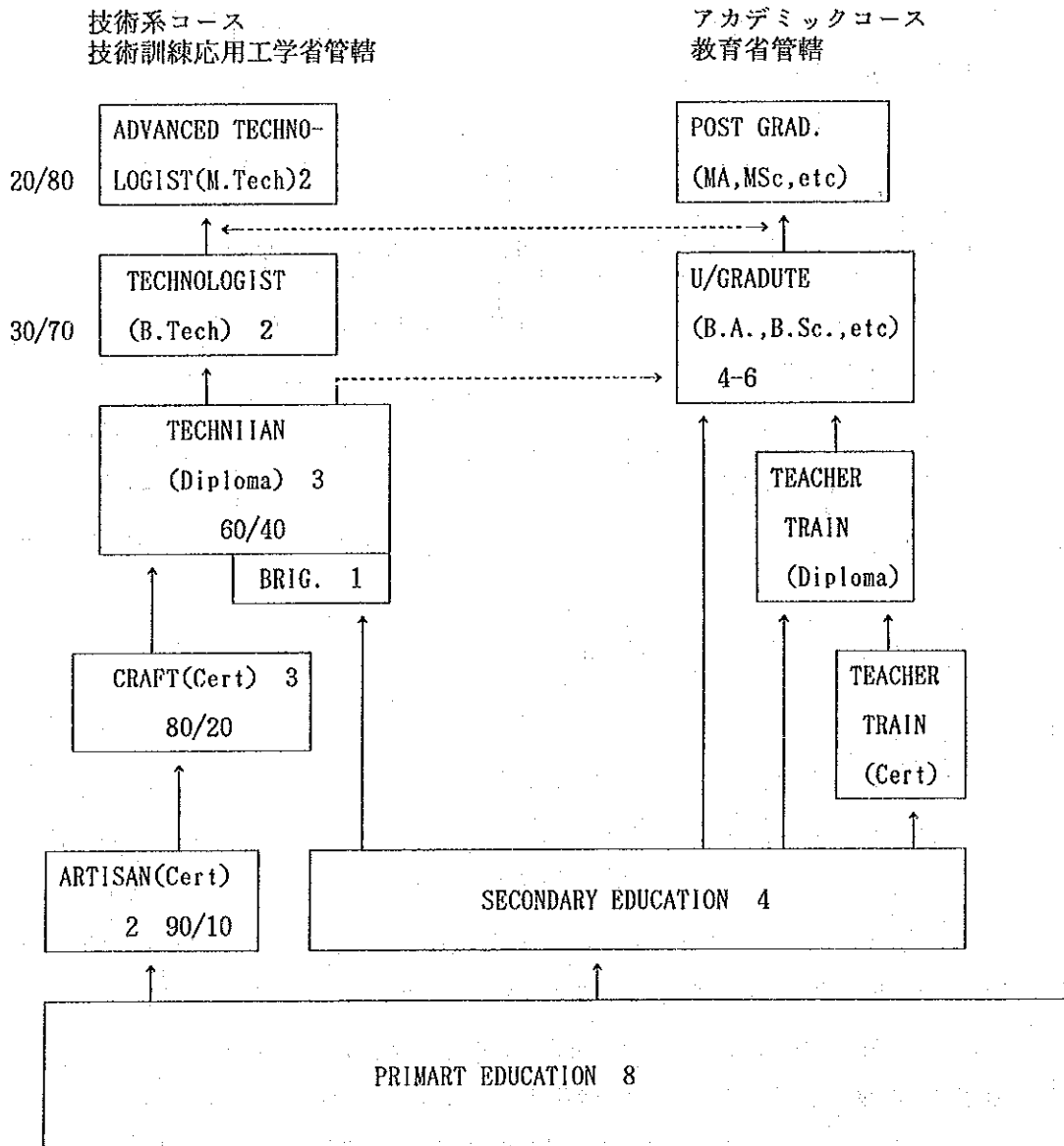
新制度下のディプロマ・コースは、現在のテクニシャン・コースに比べて、より高いレベルにあるという位置付けがなされている。一方で、現在NYSEIに在籍している講師（アシスタント・レクチャラー以上）14名の内、4名はテクニシャン・パートⅢの資格を持っているに過ぎず、ディプロマ・コースに対応するためには、より上位の資格（Bachelor/Higher Diploma）が必要ではないかという懸念がある。これに関し、校長代行のムヌク氏に質問したところ、特に問題はないという返答であった。しかし、専門家の中では、特にディプロマの3年生を教えるうえで、より下位の資格しか有していない上記の講師が授業を行うのは不都合ではないかという意見もある。本件は95年以降の問題であるが、講師の士気の問題もあり、ケニア側と密接な連絡を取りつつ、必要ならばケニア側に対して適正な資格を有する講師の配置を要請する必要がある。

エ. 協力期間

本プロジェクトに対する日本側の協力期間は、1988年1月1日～1992年12月31日であるが、上記表5-1からも分かるように、ディプロマ・コースの最初の卒業生が出るのは早くとも1994年の12月である。つまり、第2期生（ディプロマ1期生）がディプロマの1年次を修了

した時点で協力期間が終了することになり、ディプロマの2年次、3年次については全てケニア側に託されることになる。今回ケニア側（NYS長官）から協力期間の延長が要請されたが、これに対し、日本側は、次年度の巡回指導及びその翌年の評価調査の際に検討する旨返答した。

表5-2 ケニアの8-4-4教育制度と技術コース



注 ARTISAN 2 90/10 とは、教育期間が2年、カリキュラムの時間割合が実技90%、理論10%ということ。技術系コースの数値は以下同じ。

5. ミニッツ

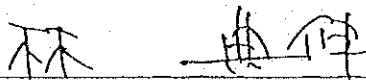
THE MINUTES OF 2ND MEETING
BETWEEN THE JAPANESE CONSULTATION TEAM
AND THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF KENYA
ON THE TECHNICAL CO-OPERATION PROGRAMME
FOR THE NYS ENGINEERING INSTITUTE PROGRAMME

The Japanese Consultation Team (herein after referred to as "the Team") organized by the Japan International Co-operation Agency (JICA), headed by Mr. Norinobu Hayashi (Director of Second Technical Co-operation Division, Social Development Department, JICA) has visited the Republic of Kenya from December 8th, 1990/for the purpose of promoting the progress on the implementation of the Japanese technical co-operation for the NYS Engineering Institute Project (herein after referred to as "the Project"). /to December, 18th, 1990

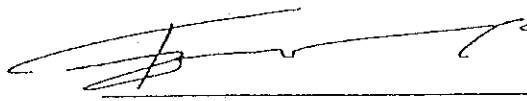
During its stay, the Team has exchanged views and had a series of discussions with the Kenyan authorities concerned in respect of implementation of the Technical Co-operation Programme for the Project.

As a result of the survey and discussion, both parties came to an understanding and agreement concerning the matters referred to in the attached document.

Nairobi, December 17th, 1990.



Mr. Norinobu Hayashi
Team Leader
Japanese Consultation Team
Japan International
Co-operation Agency, Japan.



Mr. N. M. Wambora
Chairman
Deputy Secretary
Office of the President
The Republic of Kenya.

18.12.90

The Attached Document

14th December, 1990

MINUTES OF THE SECOND JOINT COMMITTEE MEETING HELD AT CONFERENCE ROOM NYS ENGINEERING INSTITUTE ON 14TH DECEMBER, 1990 AT 10.00 A.M.

PRESENT

KENYAN SIDE

1. Mr. N. M. Wambora - Chairman
Deputy Secretary
Office of the President
2. Mr. B. A. Awinda - Assistant Director
Directorate of Personnel
Management
3. Mr. C. T. Waweru - Assistant Director
National Youth Service
4. Eng. G. K. Munuku - Acting Principal
NYS Engineering Institute
5. Mr. F. O. Namenya - Senior Assistant Secretary
Office of the President
6. Mr. C. I. Shakaba - Senior Assistant Secretary
Ministry of Finance
7. Mr. B. J. Murokih - Directorate of Industrial
Training
8. Mr. S. B. Otieno - Commandant
NYS Engineering Institute

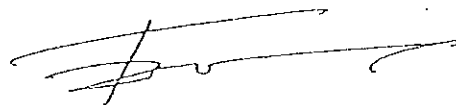
JAPANESE SIDE

1. Mr. N. Hayashi - Team Leader
Director of Second Technical
Division, Social Development
Co-operation Department
JICA Headquarters
2. Mr. Y. Umimae - Human Resources Development
Bureau, Ministry of Labour

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3. Mr. N. Kakisu - Human Resources Development
Planning Department,
Employment Promotion
Co-operation
4. Mr. K. Masumoto - Institute for International
Co-operation, JICA
5. Miss H. Fujisawa - Social Development
Co-operation Department
JICA Headquarters
6. Mr. T. Matsuzaki - Chief Advisor
NYS Engineering Institute
7. Mr. T. Kawakita - Co-ordinator
NYS Engineering Institute
8. Mr. T. Ariyasu - First Secretary
Embassy of Japan, Kenya
9. Mr. T. Takahata - Deputy
Resident Representative
JICA Kenya Office
10. Mr. R. Matsunaga - Assistant Resident
Representative
JICA Kenya Office
11. Mr. M. Suzuki - Development Expert
JICA Kenya Office

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The meeting opened with remarks from the Kenyan side expressing gratitude towards the assistance and co-operation of the ten Japanese experts led by the Chief Advisor, Mr. T. Matsuzaki.

After reviewing the last year's minutes of the Joint Committee Meeting held on December 11th, 1989 - (herein after referred to as "the 1st Meeting"), the Kenyan side submitted a "1990 Annual Report" on the Project and the Team appreciated the progress made by the Kenyan side.

Arising from the report and the agenda, both sides exchanged views and discussed matters pertaining to the smooth implementation of the Project.

1. Assignment of Kenyan Teaching Staff

The Kenyan side reviewed the progress of the recruitment and assignment of Kenyan teaching staff for the last one year after the 1st Meeting, reported on the present position showing the lists of the staff and also stated that they were still going on in filling up the vacancies.

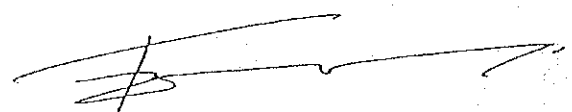
The Team appreciated the endeavour of the Kenyan side on the matter, however, stated that the delay of the assignment of Kenyan counterparts had been the most serious difficulty for the technical transfer. In this connection, the Team strongly requested the Kenyan side to hasten the recruitment of necessary numbers of teaching staff with such qualification as Bachelor of Science or Higher National Diploma in the relevant field of engineering as stipulated in the Record of Discussions.

The Chairman suggested that the Institute should try to advertise the teachers posts in all the local newspapers.

2. Budget of the Institute

Reviewing the progress and the estimates on the Institute's budget, the Kenyan side stated items of training and Library expenses, of which the Japanese side requested to provide enough amount to run the Project at the 1st Meeting, were allocated K£67,500 and K£72,000 respectively in the Kenyan fiscal year 1990/91.

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The Team appreciated the efforts made by the Institute so far, and repeatedly requested the Kenyan side to continue to try its best to meet the increasing needs of such items for smooth implementation of the Project.

3. Staff Development

The Team noted with concern the lack of staff development programme, and the lower grading of teaching staff as compared with other institutes of similar nature.

The Kenyan side responded by appreciating the training opportunity offered by the Government of Japan through J.I.C.A., both locally and in Japan.

The Kenyan side explained the problem the Institute was facing, lack of enough staff, and this had made it hard to have a clear concrete staff development programme. All the same, plans are at an advanced stage to have eight more lecturers. The Kenyan side also promised to take action and advertise the remaining two posts of lecturers and six posts of assistant lecturers in the local newspapers.

(a) Training of Kenyan Counterparts

As for the request of Kenyan side at the 1st Meeting, the Team stated that according to mutual consultations, in the Japanese fiscal year 1990/91, one of the Kenyan teaching staff had already been selected to be sent to K.T.T.C. - (Kenya Technical Teachers' Training College) for one year upgrading training supported by J.I.C.A.

The Kenyan side requested J.I.C.A. to consider training staff in post graduate courses, especially the ones who would be joining with Bachelors degree, to train for Masters degree as a long term staff development programme.

The Team responded that Masters studies were different from the target of Technical Co-operation and that the training programme for Kenyan Counterparts had been aiming at the technical transfer within the framework of the Record of Discussions, and therefore, emphasis should be put on the upgrading of technical training in Japan provided by JICA. Both sides agreed on this issue.

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In this connection, the Kenyan side stated that newly recruited eight lecturers would report shortly and five applicants among the existing teaching staff would be earmarked as J.I.C.A. training course participants allocated in the Japanese fiscal year 1990/91.

(b) Upgrading

/ta Since the issue of staff development and recruitment are tied up with staff upgrading, the Directorate of Personnel Management - (D.P.M.) representative requested the Institute to formally request D.P.M. to clarify under which scheme of service the Institute fell into and to be co-adapted. The NYS agreed to take the necessary action immediately.

4. Staff Housing

The Team asked the present status on staff housing. The Kenyan side explained that there had been a problem of the land ownership transfer, which is now almost finalised. It was also explained that the architectural and structural design has been finalised. The contractor appointed is ready to move in on site as soon as the transfer of land is completed.

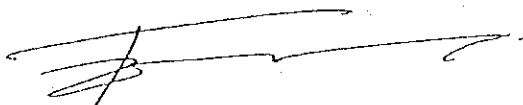
In this connection, the Team requested the Kenyan side to continue to make best efforts to resolve this problem, and start construction as soon as possible.

5. Science and Mathematics Education

The Kenyan side stated, although in the Record of Discussion nothing was mentioned about Science and Maths Education in the Institute, these fields formed the foundation of any technical training.

In this connection, the Kenyan side requested the despatch of Japanese experts in the fields of Science and Maths Education and more support equipment therein. The Team responded that the Japanese side had been ready to accept the request when it gets to J.I.C.A through the official channels in due course.

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6. Other Future Plans

Besides the Science and Mathematics Education, the Kenyan side proposed the following future plans to increase and expand training activities of the Institute:-

- (i) Computer course
- (ii) Printing & resource centre
- (iii) Library & text books
- (iv) Refrigeration and air conditioning course
- (v) Additional facilities for the increased number of students.

The Team advised the Kenyan side that various future plans were to be consulted with the Chief Advisor and J.I.C.A. Kenya Office.

7. Co-operation Period

The Kenyan side stated that due to the changes in education system going on, the Record of Discussions should be extended at least two years up to 1994, until the first students of the new Diploma Course would have been graduated.

The Team responded that the matter would be discussed with the J.I.C.A. Consultation Team in 1991 as well as with the Evaluation Team in 1992.

TK



6. NYS 技術学院1990年度年次報告

NATIONAL YOUTH SERVICE ENGINEERING INSTITUTE

1990 ANNUAL REPORT

<u>CONTENTS</u>		<u>PAGE NUMBER</u>
1.	Brief history	1
2.	Establishment and structure	2
3.	Training programme	
	(a) 1st intake	6
	(b) 2nd intake	7
4.	Budget	7
5.	Technical transfer	7(b)
6.	Staff recruitment, development and upgrading	
	(a) Recruitment	8
	(b) Staff development	9
	(c) Upgrading	10
7.	New developments	
	(a) Computer courses	10
	(b) Renovations	11
	(c) Standby firewood kitchen	11
	(d) Staff housing	11
8.	Future plans	
	(a) Library	11
	(b) Science education	11(b)
	(c) Textbooks	12
	(d) Printing and resource centre	12
	(e) Refrigeration and air conditioning course	12
	(f) Tools/spares production workshop	13
	(g) Despatch of volunteers	13
	(h) R.D. and co-operation period	14
9.	Annexes	15
	B - Budget allocation	
	C - Japanese team	
	D - Teaching staff	
	E - Staff listing	

NYS ENGINEERING INSTITUTE

BRIEF HISTORY

The NYS Engineering Institute is a joint venture project between Kenya and Japanese governments. The idea was conceived back in 1984 to mark the twenty years of Kenya's independence and the good friendly relationship which has been existing between the two governments.

The NYS was commenced immediately after Kenya attained her independence - (1st September, 1964), with the spirit of young men and women volunteering themselves to serve the nation in the task of nation building in various areas of development.

On the other hand, the government undertook the task of reciprocating by offering these young men and women vocational training so that they are well equipped to earn their daily living after leaving the National Youth Service.

The NYS has eight training institutions offering various courses at the artisan level. In addition, there are six other training institutions offering craft/certificate programmes.

The next level of training - thus Diploma/Technician, was lacking. When NYS Engineering Institute was realized, it was going to fill up the gap and meet the following objectives:-

- * To increase the capacity and diversity of courses within the National Youth Service,
- * To provide training at higher certificate level,
- * To provide high level skilled manpower to NYS and the outside industrial sector,
- * To be one of the sources for instructors of NYS vocational centres offering artisan and craft courses.

The feasibility study was done in 1984 and the basic design study mission was despatched in February, 1985, followed by the second mission in August, 1985.

Other missions were later despatched in accordance to J.I.C.A. grant aid programmes.

The main construction work started in July, 1986 and the buildings and training facilities were handed over to the Kenya government on 15th August, 1988. The institute was formally opened by our beloved president, His Excellency Daniel Toroitich Arap Moi on 8th December, 1988.

According to Record of Discussion (RD), the project is aimed at promoting technical transfer and co-operation between the two countries. This includes despatch of Japanese experts, supply of equipment by the Japanese government and despatch of Kenyan counterparts to Japan for technical training. Most of the equipment was supplied before the handing over of the project. However, as demand arises, new equipment are requested.

Most of the Japanese expatriates arrived between August, 1988 and March, 1989, while most of the Kenyan counterparts were recruited between May, 1989 and September, 1989.

The institute opened its gates to the first 96 students on 14th August, 1989 and the students joined five different training fields. These are:-

- Mechanical Engineering
- Motor Vehicle Engineering
- Construction Plant Engineering
- Electrical Installation Engineering
- Radio, T.V. and Electronics Engineering

The total grant aid provided by the Japanese government covering buildings and training equipment is ¥2,849,000,000 - an equivalent of Kshs.430,000,000.

The contribution from the government of Kenya to the project is about Kshs.25,900,000 which includes:-

- Kshs.14,700,000 for the acquisition of land
- Kshs.5,200,000 for fencing
- Kshs.1,000,000 for the furniture
- Kshs.2,000,000 for tarmacking of parade ground

Establishment and structure

The establishment for the institute was approved on 7th December, 1988, and the post of Deputy Principal, Lecturers, Laboratory Technicians and Librarians were advertised in the Kenya Times newspaper. This was followed by selection of the qualified personnel to fill up the posts. However, not all the posts were filled and the recruitment is still going on. The present status of recruitment is explained on Page 8:

The following is the institute's present set-up:-

POST	JOB GROUP	APPROVED POSTS	RECRUITED POSTS	VACANT POSTS	REMARKS
Principal	N	1	0	1	D/Principa acting on the post
Deputy Principal	M	1	1	0	
Dean of students	M	1	0	1	
Senior Lecturers (H.O.D)	L	5	4	1	
Lecturers	K	15	5	10	
Assistant Lecturers	J	15	9	6	
Accountant II	J	1	1	0	
Laboratory Technicians	H	5	4	0	
Librarian III	H	1	0	1	
Supplies Officer II	H	1	0	1	
Supplies Assistant I	G	1	1	0	
Executive Assistant	G	1	1	0	
Accounts Assistant	G	1	0	1	
Senior Library Assistant	G	1	0	1	
Shorthand Typist I	G	1	0	1	
Plant Operator/Instructor	G	3	4	X	One used a Lab Tech. to Contr. Plant Dept

NYS Engineering Institute's set-up cont.....

POST	JOB GROUP	APPROVED POSTS	RECRUITED POSTS	VACANT POSTS	REMARKS
Catering Assistant	F	2	2	0	
Shorthand Typist II	F	1	1	0	
Senior Audio Visual Officer	F	1	0	1	
Audio Visual Assistant	E	1	0	1	
Senior Cook	E	1	0	1	
Cook	D	6	6	0	
Copy Typist II	D	3	4	X	
Storeman II	D	2	5	X	
Telephone Operator	D	2	2	0	
Boiler Attendant	D	3	3	0	
Driver	D/C	7	6	1	
Subordinate Staff	A/B	7	10		
TOTAL:		90	69	28	

KEY TO THE TABLE ON PAGES 3 & 4

X - The extra seconded personnel from NYS Headquarters.

Out of the approved establishment, 78 personnel have been recruited. This represents 88% which is about 10% increase of staff as compared with last year - December, 1989. As mentioned earlier, the recruitment exercise is still going on, and at present, arrangements to recruit eight lecturers is at an advanced stage.

Apart from the approved posts, the NYS Headquarters has seconded other extra personnel in order to ease the running of the institute. This is indicated overleaf.

The NYS Headquarters personnel seconded to the institute

POST	JOB GROUP	NUMBER	DUTIES
Commandant	K	1	
Senior Inspector (Buildings)	H	1	Maintenance/Repair of buildings
Senior Training Officer	J	1	
Senior Clerical Officer	F	1	
Section Commander	F	1	Security duties
Machinist	F	2	
Section Officer II	F	1	Company Commander for students servicemen
Section Officer II	F	1	Company Commander for students servicewomen
Electrician	F	1	
Higher Clerical Officer	E	1	
Plumber	E	1	
Clerical Officer	D	5	
TOTAL:		17	

TRAINING PROGRAMME

1ST INTAKE

The first group of students were selected in March/April, 1989. The candidates were from the old system of education and were required to have a minimum of second division of Kenya Certificate of Education or its equivalent with credits in Mathematics, English Language, Physical Science or Physics or Chemistry. These students have to undertake Technicians Certificate courses which last for three years and they have to sit national examinations at the end of each year.

The students who consisted of 15 servicewomen and 77 servicemen were admitted on 14th August, 1989 to undertake any of the five courses mentioned below. The breakdown is as follows:-

(1)	Construction Plant	-	18 students
(2)	Motor Vehicle	-	18 students
(3)	Mechanical	-	18 students
(4)	Electrical	-	18 students
(5)	Electronics	-	19 students
<hr/>			
	TOTAL:	-	91 students
<hr/>			

The students sat for the Kenya National Examinations Council (K.N.E.C) Part I for Technicians in June/July 1990.

Part of the training for technicians is to have industrial training and exposure. As such, we sent our students for Industrial Training Programme on 1st August, 1990 and ended on 30th November, 1990.

At present, the students are on their annual leave to join their families for christmas festivals.

The results of K.N.E.C. are not out yet and we expect them to be out soon. Those who will pass will join Part II of training course on 7th January, 1991.

2ND INTAKE

The second intake was expected to join the NYS Engineering Institute in September, 1990. However, a number of factors could not allow us to start the course as scheduled. Among these is the change in curriculum from 7-4-2-3 system of education to 8-4-4 system which was started back in 1985 at primary schools level. The first graduates of this system finished the 4 years secondary education in December, 1989 and this group in the new technical vocational training system are to undertake 4 years course, leading to Diploma Certificate.

Most of the syllabuses for technical courses were not ready by September, 1990.

The other problem was delayed national regular recruitment which resulted in basic NYS training ending on 7th December, 1990.

One hundred students have already been selected to join the Diploma course.

BUDGET FOR THE INSTITUTE

In 1989/90 fiscal year, the institute was allocated Kf226,300. This figure included staff salaries and allowances, telephone bills, electricity bills, purchase of stationery, etc. All the same, very little was allocated to items related to training and very important items like training and library expenses were omitted.

However, the institute negotiated with relevant authorities and small allocations were given to help run the institute. Also, the J.I.C.A. chipped in and the institute managed to go through the year.

In 1990/91 fiscal year, through discussions of the previous year, the institute has been allocated Kf541,848 and this year, items like training and library expenses were each allocated Kf67,500 and Kf72,000 respectively. This is going a long way to improve training, and arrangements are at an advanced stage to purchase training and library textbooks and raw materials for training.

Attached in the annex - B is the budget allocation from Kenya government and J.I.C.A. for 1989/90 and 1990/91.

Technical transfer

Apart from the despatch of experts and sending Kenyan counterparts to Japan for technical transfer, two other technical transfer programmes have taken place. The first programme was between NYS Engineering Institute and "Istanbul-Tuzla Vocational & Technical High School" of Turkey which took place on 17th February, 1990 to 22nd February, 1990. The programme was attended by the former acting Principal, the Chief Adviser Mr. Matsuzaki and J.I.C.A. Assistant Resident Representative Mr. Masunaga.

The second programme was between NYS Engineering Institute and "Centre De Formation Professionnelle et Technique" of Senegal on 17th November, 1990 to 25th November, 1990. The team consisted of the acting Principal Eng. Munuku, the Project Co-ordinator Mr. Kawakita, the H.O.D. (Electronics) Mr. Nyaga, the expert in Electronics Department Mr. Kaneko and the expert in Mechanical Department Mr. Hiraide.

The objectives of these programmes is to facilitate staff from J.I.C.A. projects share ideas, experiences and problems facing each project and looking into the ways each side is resolving these problems.

Staff recruitment, development and upgrading

Recruitment

As was mentioned earlier, the staff recruitment was started in May, 1989 and is still going on.

By December, 1989 - (last year joint committee meeting), training staff was as follows:-

Ag. Principal - 1

Deputy Principal - 1

	Mech.	Electrical	Electronics	Motor Vehicle	Const. Plant	Maths	Science	G/studies	Computer
H.O.D.	1	0	0	0	0	0	0	0	0
Lect.	0	1	1	0	0	1	1	1	1
Asst. Lect.	3	1	0	1	2	0	0	0	0
Instructor	0	0	1	1	0	0	0	0	0
Lab. Tech.	1	1	1	1	0	0	0	0	0
Machinist	1	0	0	0	0	0	0	0	0

Between last year and this year, we lost four lecturers and the librarian. These persons resigned and joined other firms. Also, during the same period, we recruited eight lecturers and assistant lecturers; and the present status of teaching staff is as follows:-

Present status of teaching staff

	Mech.	Electrical	Motor Vehicle	Const. Plant	Maths	Science	G/Studies	Electronic
H.O.D.	1	1	0	1	-	-	-	1
Lect.	0	1	0	0	2	1	1	0
Asst. Lect.	3	2	1	2	0	0	0	1
Instructor	0	0	1	1	0	0	0	1
Lab. Tech.	1	1	1	0	0	0	0	1
Machinist	2	0	0	0	0	0	0	0

The process of staff recruitment is still going on at present. We have shortlisted seven university graduates and one Higher National Diploma graduate to be appointed as lecturers Job Group "K". The department has also approached Teachers' Service Commission (T.S.C) in view to seconding two lecturers in Business Education and Computer Studies.

STAFF DEVELOPMENT

So far, we have not been able to intensify staff training and development scheme. This is mainly due to lack of enough staff, to be left running the courses. However, even in these stiff conditions, we have managed to send 2 assistant lecturers to Japan for technical training for a period of one year, and we have managed to send one H.O.D. (Electrical) for a two months' seminar to Japan. For next year, we have nominated four persons to go and train in Japan as soon as the eight new staff join the institute.

Also, during last year's (1989) Joint Committee, it was agreed that J.I.C.A. will help to train lecturers at local institutions to improve the level of education and teaching skills.

Next year, (1991), we intend to send one instructor to K.T.T.C. for teaching skill improvement. We are also having plans to send Assistant Lecturers to Mombasa and Kenya Polytechnics for Higher National Diploma courses to improve their level of education. However, the number of staff will be limited by J.I.C.A. funds and also the number of existing staff in a department. Here, we would also request J.I.C.A. to look into ways of sponsoring some of the lecturers for post graduate courses, so as to arm them with high level of knowledge to be able to teach diploma level and may be beyond in future.

UPGRADING

As can be seen from the approved posts, the Job Groups of our establishment for the teaching staff is one scale lower than those of similar institutions.

The Teachers' Scheme of Service under TSC Ref. TSC/ADM/192A/Vol.V/79 circular No. TSC/Circular No. 9/88 dated 15th August, 1988 which was effected on 1st July, 1988, places a senior lecturer at Job Group "M" and a lecturer at Job Group "L" and an assistant lecturer at Job Group "K".

The scheme of service for the trainers under the Directorate of Personnel Management Ref. DPM/PA/4/62(15) dated 28th March, 1988, puts a lecturer at Job Group "L", Lecturer II equivalent to Assistant Lecturer Job Group "K".

This issue was discussed during the last joint consultations and the representative from D.P.M. promised to take up the issue. We have approached the Directorate of Personnel Management and we were advised that the upgrading will be done after all the posts are filled.

NEW DEVELOPMENTS

Computer courses

During last year's joint committee, a request for a computer course and resource centre were requested. Though no discussion and formal request have been carried out with J.I.C.A., a courses in Computer Studies (subject in both electrical and electronics in Part II) is being developed.

Japan government through J.I.C.A. are giving us some few computers and they despatched a computer expert in August, 1990. While we are waiting for the machines, we are in the process of recruiting qualified persons to work with the expert.

Renovations

When the institute inherited the site, it retained some of the structures which were in usable situation. One of these structures has been leaking heavily, and at present, we are experiencing shortage of offices, stores and spacious library. A request was made to J.I.C.A. to give some aid to renovate the building so that it can be used to accommodate the staff, stores and temporary library for students. The J.I.C.A. approved the idea and the renovation will cost about ten million yen. The construction company took the building on 10th December, 1990.

Standby firewood kitchen

The institute uses gas for the preparation of food to servicemen/women. We have only gas container, though the gas is metered, at times when we call the supplier, they delay for some time and we are forced to make shift outside kitchen, which is usually cumbersome and very inconvenient to use. Plans are at an advanced stage and we are in the process of purchasing materials to make a modern firewood kitchen which uses firewood economically and also is easy to use.

Staff housing

Arrangements for the construction of few staff houses are still going on.

The Japanese government has given grant from counterpart fund. The amount will only accommodate few members of staff. An input from the Kenya government is necessary to make it possible to accommodate every member of staff. This will also work as an incentive to retain members of staff.

FUTURE PLANS

Library

The present library was planned for 40 students and it accommodates about 2,000 books. Considering that the institute is planned for 300 students and students require a lot of library services and facilities, especially in exams period, then it is a real necessity for the institute to have a library with sufficient books and enough area to accommodate 350 persons. This, we believe, was an oversight in the original plan and we think we should look into ways of providing a library and library facilities to the institute.

Science Education

Though in the Record of Discussion, nothing was mentioned about Science Education in the institute, this field forms the foundation of any technical training. At present, the institute is having three lecturers for Mathematics and Engineering Science subjects.

A team of Japanese experts visited Kenya to study the Science Education, and in our discussions, we pointed to them that there is a need for more co-operation in this field; mostly, in the despatch of experts and more support equipment in this field. So far, discussions with the J.I.C.A. on this issue has not taken place, but we are going to have discussions and formal requests forwarded.

Textbooks

This fiscal year, the government of Kenya has allocated money amounting to seventy two thousand Kenya pounds - (K£72,000.00) for the library expenses. Considering the high cost of technical textbooks, journals and other documents, this money will not be enough. At present, we have ordered textbooks estimated to cost fifty two thousand Kenya pounds.

This clearly shows that more funds are required and we will be grateful to get a helping hand in this area.

Printing and resource centre

Though we have talked of textbooks which can be used for course work and reference purposes, it is common that most of these books are not fit for actual course text.

It would be very helpful if the institute was in a position of preparing and producing training text easily, economically and in a more presentable manner.

Our idea of these type of facilities is to have some small scale printing machines and computer(s) which the staff can use and develop the materials - (desk top publishing sort of), and should be considered as part of the library. However, because of our limitations of proper library, this has not been discussed.

Refrigeration and air conditioning course

The aim of training in NYS is to arm the servicemen and servicewomen with enough skill for them to work in the industrial sector. However, the Kenyan government is encouraging most of young men and women to learn skills which will make them be self employed.

It has been noticed that the field of Refrigeration and Air conditioning is very marketable in both industries and in homes, offices, etc. As such, this would be the best time to train our servicemen and women in this area, which will enable them to do their own private jobs or be employed in industries. This should be an expansion of the already existing Mechanical Engineering Department in order to offer more relevant courses and diversity to the servicemen/women.

Tools/spares production workshop

The NYS as a whole consists of many units, farm units, transport units and training units. All these units use various tools which can easily be produced. To give our students a real technical orientation, it would be very useful to introduce tools/spares production workshop.

According to the syllabus, the students are to be attached for industrial training for a period not less than six months during the entire three years training period. This exercise is expensive since the students are transported daily to and from the industries/firms which are at various points in town.

This workshop would be used for attaching our students for industrial training and would be used to save National Youth Service a lot of money spent in purchasing of tools and simple machines and spares.

Considering that this institute is equipped with many and modern machinery, it would be an ideal place for the workshop to be constructed; and we request the Japanese government to help in the establishment of such a workshop.

Despatch of Japanese volunteers

Though our recruitment for teaching staff is still going on, it is a well known fact that Kenya is having a shortage of qualified technical personnel. Since it is well understood that it is quite expensive to send experts, it would be of great help if Japan government, through J.I.C.A. would despatch some volunteers to come and help in the teaching duties. This was not part of record of discussion but it should be of great help if considered.

R.D. and co-operation period

According to the Record of Discussion (RD), the entry qualifications, course programmes and periods, and the number of students per course, were all based on the 7-4-2-3, and Technician Certificate courses system of education.

Considering the present Kenya's system of education, we have to re-examine the R.D.

- * The entry point will not be based on the old scale of one to nine, but on the new scale of A to E.
- * The old system students were to undergo Technicians Certificate Programme of three years and the students had to sit for national examinations at the end of every year.
- * The new system students have to undergo Diploma Programme of four years' duration and the students have to sit for national examinations only once at the end of the four years.

The implication of these changes is that:-

- * The institute will be fully operational in 1994.
- * The institute can accommodate 300 students in the hostel. With the four year programme, the institute will be required to accommodate 400 students. This means extra accommodation for 100 students will be required, otherwise we will be forced to have 15 students per class. This will mean training facilities - (design for 20 students), will not be utilised fully.
- * There will be four classes in each department. This means one extra class will be required for each department, thus a total of five classes.
- * The co-operation period will have ended two years before the institute is fully operational, and J.I.C.A. will not have a chance of assessing the actual progress and success of the co-operation project.

Considering the above factors and coupled by the fact that the actual training programme started in August, 1989 - (about one and a half years after the start of co-operation period), we strongly feel that the co-operation period should be extended to a least 1994. This will give both parties the chance of monitoring and assessing the progress to a point where the institute is fully operational.

ANNEXES

B - Budget allocation

C - Japanese team

D - Teaching staff

E - Staff listing

ANNEX B

J. I. C. A. BUDGET

CONSUMABLES

YEAR	ITEM	APPLIED	APPROVED	USED
1988	MATERIAL	1202203	1202203	1202203
1989	MATERIAL	3000000	2942000	2836295
1989	CAR HIRE	2478000	2425000	2425000
1989	MATERIAL	2816107	2826000	2826000
1989	BOOKS	463680	463680	463680
1990	CAR HIRE/MATERIALS	6734000	6734000	4000000
1990	PHAMPHLETS/ADVERTISING	1500000	1500000	
1990	RENOLVATION	9997000	9853000	
1990	TECHNICAL EXCHANGE	1965000	1965000	

EQUIPMENT

YEAR	APPROVED	USED
1988	30000000	37360160
1989	10000000	9783000
1990	15000000	

Note

All the figures are in Japanese Yen

VOTE R01 OFFICE OF THE PRESIDENT - (Contd.)

II. RECURRENT EXPENDITURE ESTIMATES 1989/90				
HEAD	ITEM	TITLE	Approved Estimates 1988/89	Estimates 1989/90
			K£	K£
359-		359 N.Y.S. Engineering Institute, Ruaraka		
	000	Personal Emoluments	101,000	118,806
	050	House Allowance	7,000	50,000
	060	Other Personal Allowances	3,000	3,000
	080	Passage and Leave Expenses	4,000	4,000
	100	Transport Operating Expenses	13,000	17,000
	110	Travelling and Accommodation Expenses	3,000	5,000
	120	Postal and Telegrams Expenses	800	800
	121	Telephone Expenses	3,000	4,000
	140	Electricity, Water and Conservancy	30,000	45,000
	160	Purchase of Food and Rations	25,000	40,000
	172	Purchase of Uniforms and Clothing	10,000	10,500
	174	Purchase of Stationery	20,000	22,000
	175	Advertising and Publicity	6,000	6,000
	220	Purchase of Plant and Equipment	12,000	15,000
	250	Maintenance of Plant, Machinery and Equipment	2,000	2,000
		Net Expenditure Head 359	K£ 239,800	343,106

VOTE R01 OFFICE OF THE PRESIDENT - (Contd)

II. RECURRENT EXPENDITURE ESTIMATES 1990/91

II. Heads and Items under which this Vote will be accounted for by the Office of the President - (Contd.)

HEAD	ITEM	TITLE	Approved Estimates 1989/90	Estimates 1990/91
			K£	K£
359		359 N.Y.S. Engineering Institute, Ruaraka		
	000	Personal Emoluments	42,000	123,558
	050	House Allowance	12,000	50,000
	060	Other Personal Allowances	1,000	3,500
	080	Passage and Leave Expenses	4,000	6,050
	100	Transport Operating Expenses	17,000	22,500
	110	Travelling and Accommodation Expenses	5,000	4,590
	120	Postal and Telegrams Expenses	200	720
	121	Telephone Expenses	4,000	9,000
	140	Electricity, Water and Conservancy	45,000	45,000
	160	Purchase of Food and Rations	40,000	57,600
	172	Purchase of Uniforms and Clothing	10,500	9,900
	173	Library Expenses	-	77,000
	174	Purchase of Stationery	22,000	27,000
	175	Advertising and Publicity	6,000	5,580
	190	Miscellaneous Other Charges	-	1,350
	194	Training Expenses	-	67,500
	220	Purchase of Plant and Equipment	15,000	27,000
	250	Maintenance of Plant, Machinery and Equipment	2,000	4,500
	260	Maintenance of Buildings and Stations	-	4,500
		Net Expenditure Head 359	K£ 226,300	541,848

ANNEX C

JAPANESE TEAM

1	MR. TAKAO MATSUZAKI	CHIEF ADVISER
2	MR. TSUNEHIRO KAWAKITA	CO-ORDINATOR
3	MR. ETSNO HASHIGUCHI	CUNSTRUCTION PLANT
4	MR. SADA0 HIRAIDE	MECHANICAL
5	MR. MASAHIKO KANEKO	ELECTRONICS
6	MR. ZEN-ICHIRO INOLE	ELECTRICAL
7	MR. TOYOSHICHI TAJIMA	AUTOMOTIVE
8	MR. TERAYASU KISHI	AUTOMOTIVE
9	MR. HISAO YATSUDA	COMPUTER PROGRAMMING
10	MR. FUJIO ICHINOSE	MECHANICAL

TEACHING STAFF TABLE.

	MECHANICAL	CONSTRUCTION	AUTOMOTIVE	ELECTRICAL	ELECTRONIC	GENERAL	MATHS	SCIENCE	COMPUTER
	PLANT								
HOD	MURAGURI	ASHFORD		CHARO KAMAU	NYAGA	MWAURA			
LECTURER							NYOTA	MAGIRI WAITE	
ASST.LECT	RUTO MUNG'OMA MUSEMBI	WAIRIA IKUA	WANYOIKE	OKEENO OKONG'O	BITOK				
LAB/TECH.	NYAKUNDI		KINOTI	GITONGA	WAMBUGU MACHARIA				
INSTRUCTOR		KIDOI MUREITHI	MUIGA						

ANNEX E

NYS ENGINEERING INSTITUTE STAFF

	P/NO.	NAME	DESIGNATION	"JG"
1	395129	Eng. G.K.MUNUKU	AG. PRINCIPAL	N
2	395209	MR. JOHNSON KAHASO CHARO	H.O.D./SR LECTURER	L
3	392681	MR. MATHIEW NYAHORO MURAGURI	H.O.D./SR LECTURER	L
4	395228	MR STEPHEN J.N. NYAGA	H.O.D./SR LECTURER	L
5	395229	MR CHARLES NJOROGE ASHFORD	H.O.D./SR LECTURER	L
6	391453	MRS. ANN WAIRIMU MWAURA	SR LECTURER	L
7	395127	MR. MILAN NYOTA MIREMBO	LECTURER	K
8	395224	MR STANLEY MUNUHE KAMAU	LECTURER	K
9	395253	MR HENRY WAITE KURUMBU	LECTURER	K
10	395131	MR JOHN BUNDI MAGIRI	LECTURER	K
11	391377	MR. SILUANUS BEDA OTIENO	COMMANDANT	K
12	395128	MR ANDREW MUSAU MUSEMBI	ASSIST. LECTURER	J
13	394413	MR FREDRICK KIMANI WANYOIKE	ASSIST. LECTURER	J
14	395167	MR JOSEPH OKEENO ADBERO	ASSIST. LECTURER	J
15	394447	MR KAMAU WAIRIA	ASSIST. LECTURER	J
16	395168	MR. SAMUEL KIBET BITOK	ASSIST. LECTURER	J
17	395225	MR MOSES OTIENO OKONG'O	ASSIST. LECTURER	J
18	395166	MR PETER KIGUNDU IKUA	ASSIST. LECTURER	J
19	394443	MR. JOSEPH KIPKEMOI RUTO	ASSIST. LECTURER	J
20	395126	MR JACOB DICKENS OMONDI MUNG'OMA	ASSIST. LECTURER	J
21	220701	MR. BOAZ OCHIENG ACHOLA	ACCOUNTANT II	J
22	390627	KHALIF H. MOHAMED	SR TRAINING OFF	J
23	395134	MR. HALFORD GITONGA MWANGI	LAB/TECH.	H
24	394469	MR. DOUGLAS MAGETO NYAKUNDI	LAB/TECH.	H
25	394436	MR. PATRICK G. GITHINJI	S.I. BUILDINGS	H
26	395135	MR. JOSEPH NGURE WAMBUGU	LAB/TECH.	H
27	392627	MR. SIMON KINOTI	LAB/TECH.	H
28	394438	MR. CHARLES M. KIBOI	INSTRUCTOR	G
29	394696	MR. JOSEPH MUIGA MUGAMBI	INSTRUCTOR	G
30	395226	LUCY WAMBUI MACHARIA	TECHNCAL INSTRU III	G
31	392939	MR. DANIEL ONYANGO OKELLO	SUPPLIES ASSISTANT	G
32	395227	MR DAVID G. MUREITHI	TECHNCAL INSTRU III	G
33	392785	MR C.O.D. ONYANGO	EXECUTIVE ASSISTANT	G
34	394772	MR. BENJAMIN MATHENGE MATU	MECHANIST/TURNER	F
35	589837	MISS IRENE NJOKI MENENE	HOUSE KEEPER	F
36	393087	MISS JANE WAIRIMU MWAI	HOUSE KEEPER	F
37	391649	MR. JOSEPH KARIUKI NDEGWA	ARTISAN	F
38	395474	EUNICE ANYONJE LITUNYA	SR CLERICAL OFF	F
39	394036	MISS HELLEN AWUOR AMUGA	SHORT-HAND TYPIST	F
40	215689	MR GEORGE MWANIA	MACHINIST GENERAL	F
41	392127	MR. YOKANA MAKIGA	SECTION OFF. I	F
42	394466	MR. PETER MWANGI NJOGO	SECTION OFF. II	F
43	391745	MISS MARY WANJIRU KIMANI	DRIVER	F
44	394843	MR. OSMAN IBRAHIM ALI	DRIVER	F
45	392541	MR JOHN K. GATIBA	DRIVER	F
46	391368	MR ABDI D. KONE	SECTION OFF. II	F
47	394679	MR. LAWRENCE GITHINJI MBUGUA	STOREMAN II	F
48	392369	MISS RUTH NDTA KARANJA	SECTION OFF. II	F
49	153871	MR. ELIJAH MUMA BURUDI	HIGHER C. OFF	E
50	395151	MISS GRACE MUTHONI GITHINJI	COPY TYPIST I	E
51	395140	MR FRANCIS O. MUSHITA	PLUMBER	E
52	352103	MRS ANNE SIGANDA ONYANGO	COPY TYPIST	E

53	395152	MISS PRISCILLA NUNGARI MAINA	COPY TYPIST IIB	D
54	394952	ELIZABETH WAIRIMU	STOREMAN II	D
55	394724	MR. FRANCIS P. MITIRA	CLERICAL OFF.	D
56	393098	MR JOHN MAINA WALTHAKA	PHONE/OPERATOR	D
57	395170	JOHN MAINA WANYEKI	DRIVER	D
58	216112	MR SIMON MUTWII	PHONE/OPERATOR	D
59	394711	MISS REGINA MBITHI	COPY TYPIST IIB	D
60	394733	MISS JOICE NYANGATE	COOK	D
61	118344	MR. FRANCIS K.A. LANG'AT	COOK	D
62	394725	MR. SIMON KAARIA	CLERICAL OFF.	D
63	391621	MR. MARTIN KIRIMA MAGIRI	STOREMAN II	D
64	394723	MR. JOHN K. BOYKO	CLERICAL OFF.	D
65	394722	MR. CHARLES O. NCHORE	CLERICAL OFF.	D
66	392650	ZABLON M OMBOGI	STOREMAN II	D
67	395966	MISS ESTHER KARIUKO KAMAU	STOREMAN II	D
68	394732	MISS MARCELLA KANJIRU MBEBIA	STOREMAN II	D
69	394734	MISS MONICAH NJOKI	COOK	D
70	394972	MR PHILIP ALWAR CHACHA	CLERICAL OFF.	D
71	395305	MISS MARY ANYANGO OMOLLO	COOK III	C
72	392349	MISS AGNES WANGUI MAINA	COOK	C
73	392969	MISS TABITHA BURA AYUMA	COOK	C
74	394644	MISS JACINTA WINIK GACHANE (N.K.)	DRIVER	C
75	394743	MR. PETER NYAGA NJLE	DRIVER	C
76	394741	MISS JANE M. SHIKAMI	SR SUBORD STAFF	C
77	395157	MR ROBERT OBAE	SR SUBORD STAFF	C
78	391456	MR JACKSON MAINA KARIUKI	SURBODINATE STAFF	A
79	394740	MR ARTHUR MUSYOKI	SURBODINATE STAFF	A
80	392425	MR HARRISON MUCHIRI KARUMBA	SURBODINATE STAFF	A
81	220578	MR. JOSEPH I. MUTSI	SURBODINATE STAFF	A
82	394735	MISS CATHERINE HENFREY KITHIRU	SURBODINATE STAFF	A
83	394736	MR. JOSEPH M. MWANTHI	SURBODINATE STAFF	A
84	394737	MISS GRACE A. OMLANDO	SURBODINATE STAFF	A
85	394739	MISS VIRGINIA WAMBUI	SURBODINATE STAFF	A