

4-3 研修効果測定

4-3-1 研修対象技術者の現況

KADCで実施している研修コースは農業機械、稲作、畑作及び灌漑・排水の4コースが正規の研修となっており、昭和57年第1回農業機械研修が開始されて以来、昭和60年10月現在で総計257名の受講者を教えている(表16参照)。この中農民に対する研修は稲作コースのみで、他の3コースはすべて政府機関の職員、備人となっている。

キリマンジャロ州農業開発局長(RADO)の統括のもと、農業関係職員は5つの県(DISTRCT)の県農業開発部長(DADO)の指揮下でそれぞれの業務を遂行している。(「2.農業普及活動の現況」参照)

県段階のDADOはさらに8課に分れている。即ち作物生産、園芸、灌漑、農業機械化、土地利用・土壌保全、植物防疫、農民教育、農業統計の各課である。県段階の職員は専門別にそれぞれの課に配属されて、企画、立案及び村段階の普及員の指導援助を担当している。

村、部落段階には農業全般について農民を指導する農業普及員(AFO)が配置されている。目標は1部落1普及員の配置であるが、現状は362部落に対し、県段階の職員を含めて244名が配置されているに過ぎない状況である。

農業関係政府職員の職階は今年度若干の修正が行われたが、基本的には学歴を基礎として定められている。州及び県の所属長は半数以上が大学卒で、Degreeの資格を持った者であり、Agricultural Officer(AO)と称される。高校卒後2年間の研修を農業省農業研修所(MATI)で受けてDiplomaの資格を取った者、及び中等学校(Secondary school)卒後2年間の研修をMATIで受けてCertificateの資格を取った者でなければ農業普及員(Agricultural Field Officer=AFO)として採用されないことになっている。小学校卒の学歴しか持っていない者は農業普及補助員(Agricultural Field Auxiliary=AFA)として採用される。

キリマンジャロ州各県の職階別人員は表15に示す通りである。

KADCの稲作、畑作、灌漑・排水の研修対象となる政府職員はRADO管轄下のAFO及びAFAである。

農業機械関係の研修対象は各県の農業機械課のAFOでトラクターのスーパーバイザーとして機能している職員と、トラクター・ハイヤーサービス(THS)に所属し、郡または村段階に配備されたトラクターを保管し、賃耕サービスに従事するオペレーターである。オペレーターの身分はAFAよりも1階級低い格付けとなっている。

現行の職階と学校制度の関係につき図示すると次の如くである。

小学校	Primary School	7年	} AFAU
中学校	Secondary School	4年	
	→ 農業省研修所	2年…Certificate	} AFO
高等学校	High School	2年	
	→ 農業省研修所	2年…Diploma	
大学	University	3年…Degree	AO

トラクターのオペレーターはTHSで現在雇用している人員は54名、整備関係16名であるが、身分が比較的低いことや運転技術を身につけていることなどにより転職の機会が多く、研修終了者の中、現在THSに従事している者は70%となっている。すでに日本の援助でさらに205台のトラクターが供与されており、オペレーター整備士の数は倍増が早急に望まれる状況にある。

一方、政府職員のAFO及びAFAの増員は早急には困難とみられ、重点は現在のAFO及びAFAの技術水準の向上にむけられることとなろう。

4-3-2 研修実績の整理

1982年10月から1985年10月までに農業機械コース5回、受講者86名、稲作コース5回、受講者86名、畑作コース3回、受講者53名、灌漑・排水コース3回、32名、計16コース、受講者257名の研修が行われており、年次別コース別受講者数内訳は表-16に示す通りである。

表-16 研修受講者数一覧

年	農業機械	稲作	畑作	灌漑・排水	計
1982	16	-	-		16
1983	22	52	22	14	110
1984	38	29	16	12	95
1985	10	5	15	6	36
計	86 ⁽¹⁾	86 ⁽²⁾	53	32	257

(1) 農民5人を含む

(2) 普及員6名を含む

また県別コース別受講者数は以下の通りである。

	Moshi	Hai	Same	Mwanga	Rombo	転・退職 その他	計
農業機械 ⁽¹⁾	17	8	28	3	13	12	81
稲作 ⁽¹⁾	2	2	2	—	—	—	6
畑作	2	13	15	7	9	7	53
灌漑・排水	8	9	8	5	2	—	32
合計	29	32	53	15	24	19	172

(1) 受講農民を除く

4-3-3 研修効果測定

これまでに実施した研修の効果を測定するため、次の4種類のアンケート調査を実施した。

- a 受講者の直属上司へのインタビュー調査
- b 受講者へのインタビュー調査
- c 受講農民へのインタビュー調査
- d 受講していない農民へのインタビュー調査(比較参考のため)

調査はKADO派遣専門家及びカウンターパートの協力を得て、10月10日から17日まで行われた。それぞれの調査結果は以下に要約する通りである。

a 受講者の直属上司へのインタビュー調査

トラクター・オペレーター、整備士についてはTHISの整備部長、運転部長、及び各県のスーパーバイザーを、また農業普及員については各県のDADO、灌漑・排水については各県の灌漑担当又は土地利用計画担当の課長をそれぞれ対象として表-17の質問票を用いて各直属上司に記入して貰い回収した。インタビューした直属上司の氏名、所属、地位、対象研修者数は以下の表の通りである。

	氏名	所属	地位	対象 研修者数
1.	PETER Y. B ASSENGA	MOSHI	IRRIGATION TECHNICIAN	3
2.	C. A. MOSHI	ROMBO	DISTRICT IRRIGATION ENGINEER	2
3.	MICHAEL J. KISAKA	ROMBO	DAD OFFICER	9
4.	AISHA S. MUSHY	MOSHI	DAD OFFICER	5
5.	A. SABUNI	THIS	HEAD OF WORKSHOP	54
6.	ANTHONY A. ASSENGA	MOSHI	AFO IN CHARGE OF IRRIGATION	3
7.	RAPHAEL K. C. KIVIA	SAME	DAD OFFICER	11
8.	A. J. MHANGUO	MWANGA	DAD OFFICER	5
9.	P. M. NJAU	HAI	ASSISTANT DADO	14

氏名	所属	地位	対象研修者数
10. ENIRISHA MAGOHE	SAMB-DADO	ASSISTANT DISTRICT PROJECT MANAGER	8
11. MDINDA	T.H.S	PROJECT MANAGER	54
12. MASSY M. MATHEW	MWANGA-DADO	DISTRICT TRACTOR SUPERVISOR	2
13. WILLY MMBAGA	T.H.S	HEAD OF FIELD OPERATION	54

調査結果は各設問毎に次の通りであった。

問1 研修は受講者の業務に有益であったと思いますか？

例外なく全員が有益であったと解答している。

問2 あなたの部下をまたセンターに送りたいと思いますか？

全員が送りたいと答えているのは問1の解答を裏付けている。

問3 これまでの研修コースの内容又は教課内容について御意見をお聞かせ下さい。

13人中6人(約46%)の上司が研修内容について承知していないと答えている。解答したのも具体的な指適はほとんどなく、「受講生及び県にとって有益だったと思う」とか「誠に結構でした」と言ったものが多く、「トラクターの管理、運転について非常な進歩があった」と言う解答がやや具体的と言え言えるかも知れない程度であった。なかには「内容は充分だが期間が短い」といった次の設問に関する解答もあり、上司で充分研修内容を承知して研修に部下を派遣したケースは極めて少いと思われる。

問4 研修計画を改善するためどんなことでもお気づきの点があったらお聞かせ下さい。

- もっと実習に重点を置くべきだ
- もっと研修期間を長くすべきだ(5)
- 取水堰の設計及び建設が非常に重要である
- 灌漑の一部として農学の教課を増す必要がある
- 研修計画改善のためには園芸作物だけに特定しないで他の作物も含めるべきだと考える。
- T.H.Sのスーパーバイザーも研修対象に含めてほしい。
- 灌漑コース中に得た知識は極く限られているように思われるので、理論と実際の両面を重視してほしい。
- とうもろこし、黍、稲、綿、コーヒー、豆類等地域で栽培されている作物を重点とすべきである。
- 土地利用や土壌保全の原理が必要と思う。
- 圃場及び貯蔵中の病害防除の原理を教えて貰いたい。
- 地方の小ダムや水路のための灌漑の原理に重点を置いて欲しい。

- センターの職員は農村の現場がどうなっているかを知るため視察すべきである。
- 県の責任者もセンターでどんなことが行われているかを知るため、センターを訪問すべきである。

-センターの研修資機材の整備と同様、事前に通知を出すことは非常に重要である。

以上の通り、センターでの研修効果は全員が認めているが、今後の運営、教課内容については汲むべき貴重な意見もかなりあり、それだけ関心を持ち、注目を払っていると言えよう。

表-17 受講者直屬上司への質問票

1) Questionnaire to the chief of ex-trainees

Please encircle the proper number and fill the blanks.

1. Your Name:

2. Your Position:

3. How many ex-trainees are still working in your office?

4. Was the training beneficial to their duties?

5. Do you want to send your officials to the Center again?

1) Yes 2) No

6. How do you find the contents/curriculum of the past courses?

7. For improvement of the training program, please make your comments/suggestions on any matter of the Center.

b 受講者へのインタビュー調査

受講者に対する調査は各県の農業開発部 (DADO) に事前に連絡し、調査訪問日に研修受講者を集められるだけ集めてもらい、それぞれに対し表-18 の調査票を利用してインタビュー調査を実施した。但し、トラクターのオペレーターについては小雨期の耕起がすでに開始されていたため、派遣先の村、部落を訪ねてインタビューを行った。研修コース別、県別調査対象者数内訳は以下の通りであった。

研修コース	MOSHI	ROMBO	SAME	MWANGA	HAI	TOTAL
農業機械	4	2	1	1	4	12
オペレーター	4	2	1	-	2	9
AFA	-	-	-	-	1	1
AFO	-	-	-	1	1	2
畑作	-	4	5	2	2	13
AFA	-	3	3	-	1	7
AFO	-	1	2	2	1	6
灌漑・排水	2	1	2	1	2	8
AFA	1	1	-	1	1	4
AFO	1	-	2	-	1	4
合計	6	7	8	4	8	33
オペレーター	4	2	1	-	2	9
AFA	1	4	3	1	3	12
AFO	1	1	4	3	3	12

以上の調査対象者の中、農業機械コースの研修を2回受講した者が2名、灌漑・排水コースと畑作コースの両研修を受けた者が1名、畑作コースの研修を2回受講した者が2名、畑作コースと灌漑・排水コースの両研修を受講した者が1名含まれていた。

調査結果を各設問毎に見ると以下の通りである。

問1 名前, 年齢, 性別

問2 参加した研修コース

名前は省略し研修コース別、年齢別人数は次表の通りとなっている。性別では畑作コースの1人を除いてはすべて男性であった。

年 令	農業機械	畑 作	灌漑・排水	計
24才以下	1	—	—	1
25～29	1	5	3	9
30～34	3	3	2	8
35～39	4	3	2	9
40～44	2	—	—	2
45～49	—	1	1	2
50才以上	1	1	—	2
計	12	13	8	33

問3 現在の職階と在職期間

在職期間	農業機械	畑 作	灌漑・排水	計
1年未満	1	1	—	2
1年	—	—	1	1
2年	—	3	2	5
3年	1	3	2	6
4年	3	1	—	4
5年	1	—	—	1
6年	3	—	—	3
7～14年	2	2	—	4
15年以上	1	3	2	6
計	12	13	7	32

(1人不明)

問4 現在の職務

省略

問5 あなたが参加した研修コースについて予め十分に説明を受けましたか？

解 答	農業機械	畑 作	灌漑・排水	計
YES	11	12	6	29
N O	1	1	2	4
計	12	13	8	33

NOと解答したものは僅か4人で、90%の人はYESと答えている。大部分の受講者は事前に十分な準備をして参加したものと思われ、研修に対する受講者の期待も大きかったと考えられる。

問6 参加した研修コースについてのコメント

a) 期間

解答	農業機械	畑 作	灌漑・排水	計
短 い	9	10	6	25
適 当	3	3	2	8
長すぎる	0	0	0	0
計	12	13	8	33

3/4以上の受講者は短いと解答している。それぞれのコースの研修期日は次のようになっている。回を重ねる毎に期間は延長されてきているが、それでも長すぎると解答した者は皆無であった。

	農業機械	畑 作	灌漑・排水
1982年	31日	—	—
1983年	55日	44日	28日
1984年	44/45日	54日	33日
1985年	48日	52日	32日

b) 研修範囲

解答	農業機械	畑 作	灌漑・排水	計
不 充 分	6	7	5	18
充 分	5	5	2	12
広過ぎる	1	1	1	3
計	12	13	8	33

いずれのコースとも半数以上がもついろいろなことを学習したい希望を持っている。広過ぎると解答した者はそれぞれのコースにそれぞれ1人ずつあり、大多数は若干もの足りないがほぼ満足していると言えよう。

c) 研修水準

解答	農業機械	畑 作	灌漑・排水	計
高 い	1	0	1	2
適 当	11	11	7	29
初歩的	0	2	0	2
計	12	13	8	33

大部分の受講者は適当な研修水準であったと感じていると言える。当初は学歴差を分けずに同一研修を受講させたケースもあったが、その後の研修コースでは受講者を等質化する努力が払われたため研修水準も各コース毎に一定化させるこ

とができた結果が示されていると思われる。

問7 研修期間に行われた次の項目の中で、よかったと思うものに丸をつけて下さい。

- 1) 講義 2) 研修教材(解説, スライド等) 3) 実習
4) 見学/視察

解 答	農業機械			畑 作			灌漑・排水			計		
	1	2	3	1	2	3	1	2	3	1	2	3
講 義	5	4	0	8	1	0	3	2	2	16	7	2
研 修 教 材	2	1	1	2	1	3	2	1	0	6	3	4
実 習	5	6	2	3	5	4	3	0	3	11	11	9
見学/視察	0	0	6	0	5	3	0	5	1	0	10	10
計	12	11	9	13	12	10	8	8	6	33	31	25

よかったものの第1位に挙げられた中で講義が一番多く約半数近くを占めている。これは研修コースの違いによって若干異っている。農業機械コース、灌漑・排水コースでは講義と実習それぞれを第1位に挙げた数は同数であるが、畑作コースでは第1位に挙げられたものの中では講義が6割以上を占めている。見学/視察については、よかったものの第1位に挙げた者は皆無であるが、2位、3位によかったとする者が圧倒的に多いのは、その性格からみて、適正に評価していると言えよう。

問8 研修はあなたの業務遂行に役立ったか?

解 答	農業機械	畑 作	灌漑・排水	計
YES	12	13	8	33
NO	0	0	0	0
計	12	13	8	33

研修コースが異っても全員が役立っていると解答している。その理由は毎日の業務がある程度自信を持って遂行できる。今までは分らなかったり、知らなかった多くのことが分った。仕事が効果的に遂行できるようになった。農民を指導するのに役立つ技術を習った。研修後より農民に接して栽培法を指導することができるようになった等、それぞれの業務と結びつけて評価している。

問9 同僚にセンターでの研修コースを受講するよう推奨しますか?

解 答	農業機械	畑 作	灌漑・排水	計
YES	12	13	8	33
NO	0	0	0	0
計	12	13	8	33

設問8のばあいと同様、全員がYESと解答している。このことは受講者全員がセンターでの研修を高く評価している結果であるとみることができ、研修は一応の成果をおさめていると言える。

問10 研修計画を改善するうえで役立つと思われることなら、研修コースやセンターに関するどんなことでも結構ですからあなたの意見をお聞かせ下さい。

農業機械コース

- 研修期間を3ヶ月間に延長すること。特にエンジン修理技術の習得のため…10
- 食事を改善すること …… 2
- 受講者が若干の生活用品を準備できるよう前もって連絡すること …… 1

畑作コース

- 期間が短か過ぎる。播種から収穫までみられるよう3月～6月延長すること …… 10
- 開始前の研修準備を十分に、コース開始前に苗床に播種しておくこと …… 2
- 受講者の教育水準に適した研修をすること …… 1
- 食事を改善すること …… 2
- 作業着を貸与すること …… 1
- 受講普及員全員に種子、除草剤、噴霧器等を供与すること …… 2

灌漑・排水コース

- 期間が短か過ぎる、長期研修とすること …… 7
- 期間延長が困難なら、課題を2～3にしぼって深く研修すること …… 1
- 研修内容は灌漑だけでなく農業機械、稲作、畑作等も含めること …… 1
- 個々の能力に応じた研修をすること …… 1
- 実習にもっと重点を入れること …… 1
- 見学はできるなら外国（特に日本）も含めること …… 2

問11 どのような技術的フォローアップをセンターに望みますか？

農業機械コース

- 受講者の活動地区へ任意に巡回指導して欲しい …… 9
- エンジン、ギヤボックス、油圧系統について追加補充研修をして欲しい …… 1
- テキストブックを作成送付して欲しい …… 2
- 1～2年後に再研修をして欲しい …… 1

畑作コース

- 各受講者のその後を尋ね相談に応ずるとともに展示圃選定の助言が欲しい… 5
- 防疫法についてフォローアップして欲しい …… 1

ー野菜及び果樹についてフォローアップして欲しい	…… 1
灌漑・排水コース	
ー受講者のいる県へ巡回指導に来て欲しい	…… 4
ー再研修を実施して欲しい	…… 2
ー灌漑に関する新技術情報を送って欲しい	…… 1
ー気象情報を送って欲しい	…… 1
ー設計のやり方について指導を受けたい	…… 1
ー調査、観測機器を供与して欲しい	…… 1
ー研修で習ったことを実施している地区でセミナーを開いて欲しい	…… 1

表-18 受講者への質問票

Questionnaire to ex-trainees/trainees

Please encircle the proper number and fill the blanks

1. (a) Name:(b) Age:
(c) Sex:
2. Training course in which you participated: (kind of course)
(1) Agricultural Machinery (2) Rice Cultivation
(3) Upland Crop (4) Irrigation
Year Period: From to
3. Present Post and period in the post held:
.....
4. Your present duties:
5. Were you fully informed in advance about the training course in which you participated?
1) Yes 2) No.
6. Comments on the training course attended:
a) Duration 1) Short 2) Medium 3) Long
b) Subject coverage: 1) Insufficient 2) Enough 3) Too wide
c) Level: 1) Advanced 2) Medium 3) Elementary
d) Other comments if there is:
7. Please select the components/facilities of the course which satisfied you during the training course:-
1) Lecture
2) Training materials (Notes, Slides, etc.)
3) Practices
4) Study tours/field observation.

c. 受講農民に対する追跡調査

① 調査方法

KADCの研修コースの中で、直接農民を対象として行われたのは稲作コースだけである。それも特にローブ・モン灌漑計画との関連を重視し、その受益地域である MOSHI 県の Mabogini, Rauyakati, Chekereni 及び Oria の各部落内の稲作開発の拠点農家と見られる 81 名の農家を対象として 1983 年から現在に至るまでに、4 回に亘り稲作コースによる研修が行われた。ただし第 1 回研修コースには例外的に農業普及員 6 名が参加している。

この稲作コースを受講した農民が、その後、研修で習得したどのような新しい技術を自己の経営内に取り入れたかを追跡し、研修の直接効果を測定することを第 1 の目的として調査票（表-19）を作成した。また受講者の近隣の農家と比べて、そこに大きな差があるのか、あるいは受講した農民を拠点として新しい稲作技術が近隣農家へも波及しているのかをとらえたいという目的で同じ部落の中で受講しなかった農民にもほぼ同じ調査票を用いてインタビュー調査を行った。

また MOSHI 県以外では、稲作、畑作、灌漑・排水の各コースを受講した普及員の指導が農民の新技术導入にどのように機能しているのか、言わば研修内容の地域的拡大普及の影響を確認する目的で、各県数農家を任意に選定して同じ調査票を用いてインタビュー調査を行った。

インタビュー調査に KADC のカウンターパートに通訳と調査票への記入を依頼し、各県で受講した普及員に道案内を依頼して、任意に数名の農家を選定するという方法で行われた。

② 調査結果

(i) 調査対象農家の概要

調査対象農家数は総計 32 戸であったがその内訳は次の通りである。

県 部 落	受講農民	非受講農民	部 族				
			Sandawi	Chaga	Pare	Zigua	Trag
MOSHI MABOGINI	3	2	1	1	3	—	—
RAUYAKATI	3	2	—	3	2	—	—
CHEKERENI	3	2	—	2	2	1	—
ORIA	2	3	—	2	2	1	—
ROMBO MAHARO	—	3	—	3	—	—	—
SAME KISIWARI	—	3	—	—	2	—	1
MVANJA KWAKOA	1	2	—	—	3	—	—
HAI RUNDUOAI	—	3	—	—	3	—	—
計	12	20	1	11	17	2	1

面接した対象農家の中9戸が主婦で23戸が家長(男性)であった。また宗教別ではキリスト教が6割強の20戸、イスラム教が12戸であった。年齢別では31才未満が5人、31才から41才未満が7人、41才から51才未満が10人、51才以上が10人で、最高年齢者は83才であった。家族数はかなり多く平均8.7人、最高18人であったが、高地地域であるRomboでは年寄夫婦だけという世帯もあり、家族の分散化が進み低位地域に入植定住する傾向が急速に進展しているようであった。

家族数	5人以下	5~6人	7~8人	9~10人	11~15人	16人以上	計	1戸平均
戸数	4	5	7	8	6	2	32	8.66

部落別調査対象農家保有面積別戸数

県部落	1ha以下	1.0~1.4	1.5~1.9	2.0~2.4	2.5~2.9	3.0~3.9	4.0~4.9	5ha以上	1戸平均(ha)
MOSHI MABOGINI				1		1	2	1	7.0 ^{<1} (3.4)
RAUYAKATI				2		2		1	5.7 ^{<2} (2.8)
CHEKERENI			4	1					1.8
ORIA		1		3			1		2.2
ROMBO MAHARO		2		1					1.6
SAME KISIWARI	1			2					1.7
MVANGA KWAKOVA					1	1		1	3.9
HAI RUNDUGAI				1		1	1		3.2
計	1	3	4	11	1	5	4	3	3.6(2.5)

部落別調査対象農家保有面積別戸数を示したものが上表である。保有面積がとび離れて多い農家はMABOGINIの21.6haとRAUYAKATIの17.6haの農家2戸だけで、この2戸を除いた平均保有面積は2.5haとなっている。この保有面積の中灌漑されている耕地面積をみた内訳が以下の表である。

部落別調査対象農家灌漑耕地面積別戸数

	0	0.5ha以下	0.5~0.9	1.0~1.4	1.5~1.9	2.0~2.9	3.0~4.9	5ha以上	1戸平均
MOSHI MABOGINI	1				1	2		1	5.6 ^{<1} (2.1 ^{<3})
RAUYAKATI		1		1		2	1		1.9
CHEKERENI		5							0.3
ORIA	5								-
ROMBO MAHARO	3								-
SAME KISIWARI			1		1	1			1.7
MVANGA KWAKOVA		1	1	1					0.7
HAI RUNDUGAI	3 ^{<2}								-
計	12	7	2	2	2	5	1	1	2.0(1.3 ^{<3})

- <1 灌漑耕地を保有していない者を除く
- <2 洪水灌漑で稲作年1回可能地
- <3 16haの灌漑地を保有している者を除いた場合の平均

ローア・モン灌漑計画受益地域ではあるが、現在まだ水が来ていない農家が6戸あった。SAME, MWANGA, HAIの各県では、特に稲作をやっている部落を選定したのでそれぞれの県の代表的営農類型の農家とは言えない。

全調査対象農家の平均保有面積2.5haのうち現在、灌漑されている耕地面積はその52%, 1.3haとなっている。

次に作物別栽培面積についてみる。

- a) 水稻栽培面積については、現在のところ灌漑耕地面積及び洪水灌漑耕地面積47.8haのうち2.2haとなっている。これは灌漑耕地の4.6%に相当する。部落別調査対象農家の水稻栽培面積は下表の通りである。この中にはRauyakatiの4人の農家が行った2期作栽培の面積が含まれている。

部落別調査対象農家水稻栽培面積別戸数

県 部 落	0	0.5ha以下	0.5~0.9	1.0~1.4	1.5~1.9	2.0~2.9	3.0~4.9	5ha以上	1戸平均
MOSHI MABOGINI	1	2				1	1		1.7
RAUYAKATI		2		1	1	1			1.5
CHEKERENI		5							0.3
ORIA	5								-
ROMBO MAHARO	3								-
SAME KISIWARI		1	2						0.5
MWANJA KWAKOVA		2	1						0.5
HAI RUNDUGAI			1	1	1				1.2
計	9	12	4	1	2	2	2		0.96

調査農家32戸の中、水稻栽培を行っている農家は23戸、平均1.3haの灌漑面積のうち水稻栽培面積は0.96haであった。

- b) とりもろこし栽培面積別調査農家数の内訳は次表の通りである。

調査農家全員がとりもろこしの栽培を行っている。二期栽培を行っている農家は7戸あった。豆類との混播もかなり見られるが、単作の方が多いようである。

県 部 落	0	0.5ha以下	0.5~0.9	1.0~1.4	1.5~1.9	2.0~2.9	3.0~4.9	5ha以上	平 均
MOSHI MABOGINI			1	1	1	1		1	2.3
RAUYAKATI		1	1	1	1		1		1.4
CHEKERENI				3	2				1.4
ORIA			2	2		1			1.2
ROMBO MAHARO		3							0.4
SAME KISIWARI			1	2					1.0
MVANGA KWAKOWA				1	1		1		2.2
HAI RUNDUGAI				1	2				1.5
計		4	5	11	7	2	2	1	1.45

c) 豆類(いんげん豆)栽培面積別調査農家数の内訳は次表の通りである。

県 部 落	0	0.2ha以下	0.2~0.4	0.5~0.7	0.8~1.0	1.1~1.5	1.5ha以上	平 均
MOSHI MABOGINI	2		1	1	1			0.5
RAUYAKATI	1		2	1	1			0.5
CHEKERENI	3	1	1					0.2
ORIA	3			2				0.6
ROMBO MAHARO			3					0.3
SAME KISIWARI			2			1		0.6
MVANGA KWAKOWA			2	1				0.4
HAI RUNDUGAI	2						1	1.6
計	11	1	11	5	2	1	1	0.45

調査対象農家の66%に当る21戸の農家が豆の栽培を行っているが、栽培面積は平均僅か0.4haとなっている。

d) その他の作物については地域的かたよりが大きい調査農家が栽培している作物の多い順から現況を示すと次のようになる。

作物	県	調査栽培農家	総栽培面積	平均1戸当り
バナナ	MOSHI	7	7.7ha	1.1ha
	ROMBO	3	1.1	0.4
	SAME	2	0.6	0.3
	MWANGA	1	0.7	0.7
Finger Millet	MOSHI	5	2.8	0.6
	ROMBO	2	0.3	0.15
コーヒー	ROMBO	3	1.1	0.4
	SAME	1	0.4	0.4
キャッサバ	SAME	2	0.3	0.15
	MWANGA	2	0.4	0.2

(2) 水稲の収量

受講農民と非受講農民とに分けて単位収量を比較してみると次の表の通りとなる。

	受講農民	非受講農民
MOSHI MABOGINI	t/ha	t/ha
	4.8	1.5
	5.3	2.6
RAUYAKATI	4.7	
	3.4	1.5
	7.3	2.5
CHEKERENI	2.6	
	5.0	4.0
	5.5	2.5
県平均	4.5	
	4.8	2.4
SAME		0.8
		0.3
		1.3
MWANGA	3.5	2.6
		2.1
		0.9
HAI		3.9
		2.5
3 県平均	3.5	1.8
総平均	4.7	2.1

ローア・モシ灌漑計画の受益地域の中で受講した農民の平均単位収量は、受講しなかった農民のその2倍、48/haとなっている。このことは研修の効果が極めて顕著に現われたものと考えられる。

(3) 研修後導入した技術

a) ローア・モシ灌漑計画受益地域受講農民

問 2.2 センターの研修に参加して何が一番関心がありましたか？

問 2.3 研修後農業改善のために導入した技術がありますか？ あればそれは何ですか？

について聴取りを行った結果は以下の通りである。

関心を持った内容はその多い順番から言えば(1)施肥技術-9, (2)正条植え-7, (3)病虫害防除-5, (4)苗床造り-4, (5)種子選定-2, (6)改良品種-2となっており, その他新しい水稲栽培法, 水田耕起法, 種子生産と貯蔵法, 作付体系, 栽植密度, 農業機械それぞれ1となっている。

導入した技術については

改良品種の導入	6 (67 %)
適正な施肥	6 (67 %)
正条植え	5 (56 %)
病虫害防除	3 (33 %)
新苗代	2 (22 %)
種子選定	2 (22 %)
手押し除草機	1 (11 %)
作付体系の改善	1 (11 %)

となっている。

受講農民が非受講農民よりも平均単位収量で2倍の増収を挙げているのは半数以上の受講農民が改良品種を導入し, 施肥を行い, 正条植えを励行している結果と見ることができ, これらの技術の導入と, 増収は直接的研修効果と言えるであろう。

b) MOSHI 県以外の農民に対しては設問を若干変更し, 「農業普及員から助言をうけて導入した技術がありますか？ あればそれは何ですか？」という質問とした。全員がYESと解答している。

導入した技術については

適正な施肥	10 (83 %)
病虫害防除	10 (83 %)

縄を使った正条植	3 (25 %)
コーヒーの栽培法の改善	3 (25 %)
灌漑技術	2 (17 %)
改良品種の導入	1 (8 %)
種子の選定法	1 (8 %)
水田の区画整備	1 (8 %)

となっている。

コーヒーの栽培法の改善以外は、センターのいずれかの研修コースの中でとり上げられている教課であり、特に適正な施肥及び病害虫防除については、研修で習得した普及員の技術が直ちに農民へ伝えられその8割がその技術を導入しているという点で、センターの研修の間接効果も極めて高く満足すべきことと言えよう。

(4) 農民の今後の改善意向

現在最も望んでいる改善事項については次のような結果になっている。

	農民数	比率%
a) 灌漑水の獲得	16	50.0
b) 余剰水の排水	0	—
c) 病害虫の防除	2	6.3
d) 農業の機械化	4	12.5
e) 高収量品種の導入	7	21.9
f) 適期、適量の施肥	2	6.3
g) 農産物輸送のための農道建設	1	3.0
計	32	100.0

50%の農民が灌漑水の獲得を、22%の農民が高収量品種の導入を、そして12.5%の農民が農業の機械化を最も強く望んでいると言えよう。

表-19 受講農民への質問票

Questionnaire to the farmer by enumerator

Enumerator's Name:..... Date of Survey:.....

1. General

- 1.1 Name of Farmer: Age: Sex: M, F
 Tribe Religion.....
- 1.2 Name of head of family Relation:
- 1.3 Address: VillageWardDivision..... District.....
- 1.4 No. of family: >14 _____ M <14 _____ F >14 _____ F <14 _____ Total _____
- 1.5 Are you a member of Ujamaa? Yes, / No.) only
)Chekerer
- 1.6 Are you cultivating a crop inside of Pilot Farm? Yes, / No.)
- 1.7 Total holding area ha
 Irrigated area ha Rainfed area ha
- 1.8 Cultivated crops during latest one year

Crops	Main Season		Off Season	
	Planted Area	Production	Planted Area	Production
Paddy				
Maize				
Beans				
Finger Millet				
Cotton				
Coffee				
Cassava				
Banana				
Tomato				
Onion				
Cabbage				
Water Melon				
OtherVegetables				
Others				

1.9 What crop do you intend to increase in future?

2. Training

2.1 Did you participate in the training course held at the Center?

Yes / No.

2.2 If yes, please answer following questions.

What were the most interesting matters which you had during your attending the training at the Center?

2.3 Do you have a matter which you have adopted to improve your farming after your training at the Center?

Yes / No

If yes, which is it?

3. Farm Management

3.1 Which item do you wish most to improve upon the present farm management? Select from the following items by each crop season.

- a) To aquire irrigation water
- b) To drain out excess water
- c) To control pests and diseases
- d) To introduce mechanization for increase production
- e) To get improved high yielding variety seeds
- f) To get adequate fertilizer at right time
- g) To provide farm road for transportation of farm products.

4-3-4 測定結果に基づく今後の研修方針の改善について

KADCは州全体の農業開発のための技術センターという性格を持っており、その中で研修は大きな柱となっている。しかし農業省農業研修所のように農業関係技術者の一般的技術水準の向上を目的とした施設とは若干性格を異にしている。KADCのTrial Farm及びPilot Farmで地域に適した新しく確立された技術体系を普及する手段として研修が位置づけられているところに特徴があると言える。したがってTrial FarmやPilot Farmで実施されている試みがそのまま研修教材であり、実習場である。いままで研修を受けた普及職員や農民も、農場での実践活動を通じて多くの新しい技術を修得し、この点からセンターを高く評価し、研修期間の延長や再研修を要望する声大きい。今後ますます受講希望者は増加しKADCの研修的役割は定着していくものと思われる。しかし当センターの研修計画とその実施は、やっとならぬばかりであり、今後より改善・充実に図っていく必要があると考えられる。その主なものを提案すれば次の通りである。

(1) 研修内容

受講者のアンケートに示されているように各研修コースとも受講者の水準を充分考慮して実施されており、研修水準は妥当なものと言える。研修範囲については研修期間との関連で判断しなければならないが、現行期間を前提とすれば妥当なものである。

(2) 研修期間

KADCの現在の陣容からみて、受講者数が現在と変わらないとすれば、それぞれの研修コース毎にそれぞれ期間を延長することは困難であろう。延長することにより研修は充実にされるであろうが肝心のTrial FarmやPilot Farmの運営に支障を来たすおそれがある。

(3) 研修対象

農業機械コースは対象をTHISのオペレーター及び整備工というように明確にし、それぞれの受講者を予め経験年数又は技能習熟度等により同質化し、それぞれのグループ毎に研修コースを設定するか、同一コースでも組を別にするようにすべきである。受講者が運転経験皆無であれば、研修目標はトラクターの基礎運転ができるようになることとし、期間は約2ヶ月程度としてカリキュラムを編成すべきである。しかし、要求が今後のローア・モン水田地域で各種農作業が充分にこなせるようになることであれば、研修期間は最低1ケ年は必要であり、現在の施設を前提とすれば、研修人員は5～10人程度としなければならぬ。

灌漑・排水コースについても、研修対象を各県で灌漑部門を担当しているAFOとするのか、将来ローア・モン農業開発計画地区で実際に灌漑施設の運営、維持管理に従事する政府職員、指導的農民、ゲート・オペレーター等とするのかによって、研修内容や

研修期間、研修方法等全く異ってくる。これは稲作コースについても同様で、農民だけを研修しても片手落ちとなろう。また畑作コースに関してはKADCで実施できる研修はTrial Farmなり、Pilot Farmで栽培されている作物に限られるため、研修対象は明確に限定する必要がある。

(4) その他

KADCの研修は、KADCの活動の一部でありそれも独立分離した一部ではなく、有機的に結びついた部分として運営されるところに特徴があると言えよう。したがって今後の研修に当って最も考慮すべきことは、KADCの当面の基本戦略の樹立である。

KADCとしての当面灌漑稲作技術の開発指導を1つの柱とするならば、その戦略的重点指導地域を設定し重点指導地域に対する農業改善計画を樹立する必要がある。この計画には、これまでのTrial FarmやPilot Farmの成果を充分に取り入れ、現地の実態に則してどのような技術改善を行っていくかが明確にされるとともに、残された問題でTrial FarmやPilot Farmで試験、試作すべき課題が明示される。また改善計画は年間を通じ、月別重点課題として指導内容が整理されるとともに、指導の拠点となる展示圃の位置や拠点農家の数、その地区を担当する職員（普及員を含む）等の計画が含まれる。

KADCの研修は上記基本戦略に準拠して樹立された長期研修計画に基いて実施されるべきであろう。長期研修計画には必要研修対象、人数等が明示され、年々の研修対象、人数はこの計画と研修実績を基に決定される。

戦略的重点指導地域を設定してのKADCの活動が展開されるならば、KADCの研修は、現行の研修コースを設定して一定期間、集合研修を実施するという方式を改め、最低1ヶ年間、KADCの重点指導地域における実践活動及びTrial FarmやPilot Farmでの年間活動に直接参加して、新しい技術を総合的に体得させる—言わば農場の実習生的研修方式とすることを提言したい。

付 属 資 料

1. 合同エバリュエーションレポート
2. 閉長レター
3. 当初 R / D 及び T S I
4. 延長 R / D 及び T S I

SUMMARY REPORT
OF THE JOINT EVALUATION ON THE
KILIMANJARO AGRICULTURAL DEVELOPMENT CENTER PROJECT

1. INTRODUCTION

The Kilimanjaro Agricultural Development Center (hereinafter referred to as "the Project") started in accordance with the Record of Discussions between the Government of Japan and the Government of the United Republic of Tanzania signed on September 13, 1978. After the extension of the Record of Discussions in August 23, 1982 for another term of three and half years until March 12, 1986, the Project has so far been implemented for over seven years.

The objective of the Project is to contribute to the development of Kilimanjaro Region through the introduction of agricultural technique and land improvement methods for increasing agricultural productivity.

As major activities, the Project has carried out a lot of experiments to establish appropriate cultivation technique and training farmers to extend the techniques on cultivation, irrigation and drainage and agricultural machinery.

Since March 1986 will be the end of the Current Technical Cooperation, the Government of Japan through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), dispatched the Evaluation Team for the technical cooperation of the Project to Tanzania.

Correspondingly, the Government of the United Republic of Tanzania formed a team (composed of officials concerned) to jointly evaluate the Project with the Japanese Team.

The results of the evaluation will be reported to both Governments respectively.

2. METHOD OF EVALUATION

Evaluation was conducted based on the Record of Discussions (hereinafter referred to as "R/D") and Tentative Implementation Program (hereinafter referred to as "TIP") focusing on the Project's performance during the extended period as follows:

- 1) Reviewing the objectives as set in the Record of Discussions
- 2) Visiting and Evaluating the activities of the Project, i.e., establishment of Trial Farm and Pilot Farms, training in KADC and technical advice and supervision in the Kilimanjaro Region.
- 3) Conducting series of discussions on project implementation, i.e. dispatch of Japanese experts, training of Tanzanian counterparts in Japan, supply of equipment and machineries and countermeasures taken by the Tanzanian side.

3. RESULTS OF THE EVALUATION

3-1 Technical Advice and Supervision

Technical advice and supervision to conduct survey for surface water resources has been carried for Lower Moshi and Mkomazi valley and feasibility studies have been made for Lower Moshi Irrigation Project and Mkomazi Valley Project. However, surveys have not been carried out in other areas of Kilimanjaro Region. Technical advice and supervision to conduct surveys for underground water has not yet been provided.

3-2 Activities in Trial Farm

Test for applicability of the improved farming techniques have mainly been carried out in Trial Farm. An effective irrigation system in relation to various types of crops including water management techniques, crop rotation etc. has been successful for paddy, maize and beans. However study on an effective irrigation system for vegetables is in progress. Field practices for training are mentioned 3-4.

3-2-1 Upland Crop

Experiments were carried out concerning with the selection of appropriate crops, method of fertilizer application, insect and disease control and seedling time of the crops. Promising crops in the region were maize, sweetpotato, kidney beans, soybeans, watermelon and chinese cabbage. As for maize, which is a staple food in Tanzania, variety test and nitrogenous fertilizer application test were carried out. As a result, maize yield was increased from 1 ton/ha to 5 ton/ha by urea application of 50 kg/ha.

The data for method of fertilizer application and seeding time for watermelon, sweetmelon and chinese cabage were collected. The data for other crops such as soybeans are now being collected.

The counterparts have learned design of experiment, planning and practice of farm work, data collection and analysis of the experiment results. However, insect and disease control is still not implemented at an appropriate time for application during the cropping season. Year-round cultivation and crop rotation system in Lower Moshi area should be established based on the data and knowledge obtained. Some of the proven research findings for upland crops have been demonstrated to farmers through training in Trial Farm and Pilot Farm. Also the center has produced some vegetable seeds.

3-2-2 Paddy

The experiments were carried out as follows:

- (1) Experiment on nursery days and seedling rate to the nursery bed
- (2) Variety test
- (3) Experiment on planting density
- (4) Experiment on amount of nitrogenous fertilizer application
- (5) Experiment on method of nitrogenous fertilizer application.

Besides these experiments, verification trials were carried out for local and improved varieties based on the results of the above mentioned experiments. Seeds were also multiplied for local variety, improved variety (mainly IRRI) and Japanese varieties. Verification trial on irrigation, transplanting and mechanized cultivation for paddy were also carried out. As for the improved varieties, yields tends to be higher by increasing of plant density and it was presumed that appropriate density be 16-25 hills/m² considering labour requirement for transplanting.

Although the counterparts have not yet mastered the design of experiment and analysis of the results, they almost understand improved

cultivation method through the experiments. It would be recognized that the counterparts are to a certain degree able to instruct farmers how to cultivate paddy.

The data for the establishment of field husbandry were collected. It is expected that data for improving the field husbandry will be collected after more experiments on weed and pest control, bird injury and relation between climatic condition and yield.

3-2-3 Agricultural Machinery

Performance test on combine harvester, harrow for small-size tractor and rotary for large-size tractor were mainly carried out in Trial Farm. Performance test on rice processing plant were carried out in the Center. Based on the test results on rice processing plant, rice milling was improved for the Indica type variety. Consequently, the rate of broken rice was reduced from 25.4% to 18.1%.

The counterparts have learned both theoretical and practical techniques of the effective use of agricultural machinery, especially tractor attachments. As to the rice processing plant, two counterparts have been able to operate it but more training is required for maintenance and repair.

3-3 Activities in Pilot Farm

Construction of first phase (paddy field 9 ha, upland field 35 ha) was completed on March, 1982 by the Japanese contribution and construction of second phase (paddy field 9.9 ha, upland field 16.8 ha) was completed on January, 1983 by the Tanzanian side as scheduled. In addition to the said works, drainage canal (5,373m length) were constructed and a part of linings of the canals were implemented. Although there are some places where land levelling were not done very well, it is expected that the land would be leveled through farmings in the future.

The purpose of the activity in Pilot Farm is to test the results of improved farming techniques from Trial Farm. For development of most effective irrigation system, it was mentioned in 3-2. Field practices for training are mentioned in 3-4.

3-3-1 Extension of Improved Agricultural Technique

(1) Irrigation and drainage

Water management and facility maintenance of Pilot Farm is being performed by the Center through ten leading farmers working under the Center's instruction and supervision for 24 hours water management in accordance with irrigation calendar formulated by the center. This performance will be the basic activities for operation and maintenance of Lower Moshi Project.

(2) Paddy

The purpose of the cultivation of paddy in Pilot Farm was to carry out verification trial based on the results of the experiments in Trial Farm and to train and advice farmers in Lower Moshi Area. Cultivation of paddy started in 10 plots in December, 1982, and increased to 61 plots by 1985. Farmers trained by the Center are playing a leading role in paddy cultivation in the area. All varieties cultivated were prepared by the Center and verification trial of yielding ability was carried out in Trial Farm. It is conceived that farming groups have almost learned the techniques of paddy cultivation. Many high yielding varieties have been introduced, but due to unstable weather conditions, it is recommended that more trials should be conducted for selection of suitable variety.

(3) Upland Crops

The following crops mainly maize and vegetables were introduced in Pilot Farm after Trials. In addition Watermelon and Sweetmelon (both Japanese varieties) were cultivated by five (5) selected farmers. Good yields were obtained for the above mentioned crops with exception of Sweetmelon due to damage by insects and other diseases. From the above trials it has been found that high quality Watermelon and Sweetmelon could be produced in the region provided that farmers were also taught on how to control pests by the use of chemicals.

(4) Agricultural Machinery

The effective mechanized cultivation, seeding and weed control of various crops were demonstrated. Land consolidation was also done by using bulldozer.

The following techniques were extended to the farmers in the Chekereni village.

- (a) Use of maize planter
- (b) Method of weed control by small-size tiller
- (c) Use of attachments (disk plow, disk harrow, ridger, etc.)-

3-4 Training in KADC

3-4-1 Irrigation and Drainage

Training of irrigation and drainage course was aimed at

- (1) Upgrading of basic knowledge of agricultural extension staff
- (2) Upgrading of technique and knowledge of agricultural extension staff in charge of irrigation planning and design.

Three courses have so far been conducted. First course was conducted as basic course. The second and third courses were divided into basic and advanced course. In reviewing the activities of the trainees several months after finishing the course, it was found that the

basic techniques e.g. measurement of current velocity and estimation of concrete materials, were well used in their works. However the techniques obtained by the trainees were not imparted successfully to farmers due to shortage of equipments and materials.

Regarding irrigation and drainage courses, the counterparts are gradually learning how to prepare the training curriculums. It is hoped that the counterparts will be able to manage the training course by themselves in the future.

3-4-2 Paddy

Training courses (5 months course) started in 1982 and as of in October in 1985, the fifth training course is being conducted. Techniques of paddy cultivation, i.e. from seeding to harvesting, were lectured and carried out in practice in the field. Main participants were farmers who live in four villages (Mabogini, Upper Mabogini, Rau ya Kati and Chekereni) in Lower Moshi area. To date 86 trainees have attended and finished training courses. Besides 5 months courses, long-term (1 year) training course was started in 1984 for trainees who had finished 5 months course with excellent achievement and deserve to be key farmers in the area.

The ripple effect of local verification plots is remarkable, and it was observed that farmers who participated in long-term course instructed other farmers. However, there are some difficulties about transplanting time and fertilizer application method. It is necessary that the counterparts do regular advise and supervision to the farmers. Preparation of guides such as paddy cultivation handbook etc., should be prepared and made available to the farmers for use.

3-4-3 Upland crop

In order to train extension staff and farmers from all five districts in Kilimanjaro Region, three training courses were conducted as follows:

Term	participants	no. of participants	contents
1 1.5 months	extension staff	22	mainly, lecture
2 2.0 months	extension staff	16)	lecture, field prac-
3 2.0 months	extension staff	15)	ticals, study tour

The courses were conducted mainly through lectures and field practices by experts and Tanzanian counterparts. However, it is hoped that in future counterparts will be able to conduct whole training courses by themselves. The basic concepts of field management such as design of fertilizer application etc. were emphasized. Study tours were made within the country so as to learn cultivation techniques of upland crops.

Also, the trainees have learned individual technique, especially data recording.

3-4-4 Agricultural Machinery

Agricultural machinery courses were conducted to train tractor operators and mechanics as follows:

- (1) Training for tractor operators (THC) ... 4 times
- (2) Training for tractor operators (Chekereni Village) 2 times
- (3) Special training for MATI trainees 2 times
- (4) Training for farmers in Lower Moshi Area
- (5) Training on plant operating for counterparts
- (6) Training on repair and maintenance for counterparts and staff.

Through these courses 86 tractor operators and 2 rice plant operators were trained. In addition, repairing techniques of tractor were transferred to counterparts and trainees. It is recommended that timely training of Tractor Hire Service Center operators is very important from the view point of smooth implementation of the Lower Moshi Project.

3-4-5 Agricultural Extension

Agricultural extension service was conducted through training of extension staff and farmers in Trial Farm, Pilot Farm and farmers' demonstration plots in other parts of Lower Moshi. Seminars were held four times at the Center as follows:

- (1) Furrow irrigation Irrigation section
- (2) Nitrogenous fertilizer application for maize upland crop section
- (3) Proper maintenance of battery agricultural machinery section
- (4) Working efficiency of rotary tiller agricultural machinery section.

As a part of extension, activities and results of KADC were demonstrated at farmer's day in 1984 (SABASABA).

Audio-visual equipments were effectively used for introducing of the Center's activities in the region. As to the organization for extension, it is recommended that the extension activities should be strengthened, especially establishment of Water User Association (WUA) in the Lower Moshi Project.

3-5 Dispatch of Japanese Experts

Ten (10) experts have been sent on long-term assignments, while nine (9) experts have been sent on short-term assignments. Although the dispatch of experts at the beginning of the Project was behind schedule, it was recognized that dispatch was implemented as scheduled during the extended period and experts have contributed much to the implementation of the Project.

3-6 Training of Tanzanian Counterparts in Japan

Eight (8) counterparts for a study tour and eight (8) counterparts for technical training were sent to Japan. It is recognized that all counterparts were sent for adequate training to Japan as planned. The counterparts have acquired deeper knowledge and technique in each fields and the result of the training are now very helpful to their works in the Project.

3-7 Supply of Equipments, and Machinery

Many kinds of equipments and machineries have been supplied for seven years valued at about 356 million yen, not including those which will be provided in the 1985 fiscal year (see Annex). It is strongly recommended that these equipments and machineries should be well managed and maintained by counterparts in the future.

3-8 Measures taken by Tanzanian side

The Tanzanian side has assigned counterparts to Japanese Experts and provided 9,633 thousand Tanzanian shillings as a counter budget (recurrent budget and development budget) in accordance with the R/D.

4. RECOMMENDATION

The objective of the Project is to contribute to the development of Kilimanjaro Region through the introduction of agricultural techniques and land improvement for increasing agricultural productivity. As a result of the joint evaluation, the Team recognised that the activities based on the R/D and TIP have mostly been achieved.

1. Technical advice and supervision to conduct surveys for surface and underground water resources has been carried out successfully in some areas. However more technical advice and supervision is required to conduct surveys for the remaining lower areas of Hai, Rombo, Same and Mwanga districts.
2. The activities in the Trial and Pilot Farms have been carried out successfully although more trials and research should be conducted so as to come out with acceptable recommendations.
3. The transfer of technology to Tanzanian counterparts, extension staff and farmers has fairly been successful. However more training is required to fully achieve the transfer of technology.
4. The implementation of the Lower Moshi Agricultural Development Project has started. It is therefore essential to give advice and guidance on water management and also to apply cultivation techniques established in the KADC Project to the Lower Moshi Agricultural Development Project.
5. For the smooth operation of the Tractor Hire Service, it is recommended that timely training of tractor operators should be conducted in KADC.

Taking these aspects into consideration both teams jointly recommend to their respective governments to start a new technical cooperation as soon as possible.

ANNEX 1

LIST OF MEMBERS
OF THE JOINT EVALUATION TEAM

ASSIGNMENT	NAME	PRESENT POSITION
Japanes Team		
1. Team Leader	Toshishiro KURITA	Managing Director, Japan Plant Protection Association
2. Sub-leader, Irrigation and Drainage	Toru Mase	Chief Planner, Agricultural Design Div., Agriculture and Fishery Dep., Hokkaido Development Bureau
3. Cultivation	Shinichi KOTAKA	Chief, Fourth Paddy Lab., First Crop Div., Hokkaido National Agricultural Experiment Station, MAFF
4. Agricultural Machinery	Tokushi SATO	Chief Engineer, Design Div., Agricultural Structure Improvement Bureau, MAFF
5. Evaluation of Training	Masashi SHONO	Director, Overseas Consulting Administration Nippon Koei Comany Limited
6. Coordination	Takeaki SATO	Technical Cooperation Div., Agricultural Development Cooperation Dep., JICA
Tanzanian Team		
1. Team Leader	S. K. Masinde	Regional Development Director Kilimanjaro.
2. Member	J.J. Mpiza	Regional Planning Officer Kilimanjaro.
3. Member	J. Mbena	Ministry of Finance Dar es Salaam
4. Member	P.S. Mkomoya	Prime Minister's Office Dodoma
5. Member	R.B. Tenga	Zonal Irrigation Office Moshi
6. Member	E.E. Kasyanju	Ministry of Agriculture and Live- stock Development - Moshi
7. Member	G.R. Moshi	Director KADC Moshi

ANNEX 2

ITINERARY OF THE JOINT EVALUATION TEAM

- OCT 20 (Sun) - Arrival in Moshi and discussion on a method of evaluation.
- 21 (Mon) - Courtesy call to Regional Development Director Office
Observation of KADC, Trial Farm and Pilot Farm.
- 22 (Tue) - Observation of Lower Moshi Agricultural Development
Project.
- Meeting with the Tanzanian Counterparts in KADC
- 23 (Wed) - Joint Evaluation Meeting
- 24 (Thu) - Joint Evaluation Meeting
Discussions with Tanzanian Team in the future
role of KADC
- 25 (Fri) - Signing the Joint Evaluation Report and Submitting
to RDD.
- 26 (Sat) - Meeting with the Japanese Experts
- 27 (Sun) - Visit to local farmer's house and field
- 28 (Mon) - Meeting with the Tanzanian Counterparts in KADC
- 29 (Tue) - Meeting with the Japanese Experts
- 30 (Wed) - Move to Dar es Salaam
- 31 (Thu) - Courtesy call on Embassy to Japan
Visit to JICA Dar es Salaam Office
- NOV 1 (Fri) - Courtesy call on Ministry of Agriculture and Livestock
Development, Ministry of Finance and Prime Minister's
Office.
- 2 (Sat) - Leave Dar es Salaam

ANNEX 3

LIST OF JAPANESE EXPERTS

1. LONG TERM EXPERTS

(1) Team Leader	Mr. Junji INOUE	1982.3.25 - 1986.3.24
(2) Coordinator	Mr. Akira SATO	1982.2.23 - 1986.3.12
(3) Cultivation	Mr. Shigeharu MORINAGA	1981.2.26 - 1984.2.25
	Mr. Kiyoshi MASUBUCHI	1982.2.23 - 1986.3.12
	Dr. Mitsuya NEZU	1984.2.15 - 1986.2.14
(4) Irrigation and Drainage	Mr. Hisatsugu TOYODA	1981.6.18 - 1983.6.17
	Mr. Toshiaki NAMBA	1983.6.16 - 1986.3.12
(5) Agricultural Machinery	Mr. Toshiyuki TSUJIMOTO	1981.3.15 - 1983.6.14
	Mr. Yoshimi KABAMOTO	1983.8.4 - 1986.3.12
	Mr. Nobuo OGAMI	1983.10.26 - 1985.10.25

2. SHORT TERM EXPERTS

(1) Land Consolidation	Mr. Katsumi YOSHIOKA	1981.6.11 - 1981.11.16
	Mr. Kazuo WATANABE	1981.6.11 - 1982.3.31
	Mr. Janji KIDO	1981.6.11 - 1982.3.31
	Mr. Suke MURAKAMI	1981.11.13 - 1982.3.31
	Mr. Shinya HIRANO	1982.7.30 - 1982.11.26
	Mr. Kazuo WATANABE	1982.7.30 - 1982.12.31
(2) Agricultural Extension	Mr. Takashi OGAKI	1983.9.22 - 1983.12.21
(3) Insect and Pest Control	Ms. Isoko HATTORI	1983.12.14 - 1984.1.31
(4) Water Balance Survey	Mr. Jiro NOZAKA	1984.7.14 - 1984.12.20
(5) Agricultural Machinery	Mr. Masao TAKASU	1984.12.20 - 1985.1.27

LIST OF PARTICIPANTS IN COUNTERPART TRAINING IN JAPAN

NAME	TRAINING OBJECTIVE	POSITION (WHEN TRAINED)	DURATION
1980	Mr. N.S. WERAKYASA Mr. Z.K. SARAKIKYA Mr. A.E. LYAMUYA	Study Tour Cultivation Study Tour	1981.2.4 - 1981.3.4 1981.3.27 - 1982.1.25 1981.11.28 - 1981.12.23
	Mr. G.R. MOSHI	Kilimanjaro Region Counterpart, KADC	1981.3.19 - 1981.11.23
1981	Mr. EXAUD MATOWO Mr. J.M. LUTASHOBYA Mr. F.J. KIMARYO	Irrigation and Drainage Study Tour Study Tour Rice Production Mechanization	1982.2.17 - 1982.3.17 1982.2.17 - 1982.3.17 1982.3.17 - 1982.12.14
1982	Mr. R. MIAGAMA Mr. A.N. MCHAU Mr. G.W. CHONJO	Planning Officer, KRDO Agricultural Development Officer Counterpart, KADC	1982.10.23 - 1982.11.15 1982.10.23 - 1982.11.15 1983.2.25 - 1983.12.14
1983	Mr. S.R. CHAYOA Mr. J.J. MFIZA	Counterpart, KADC Planning Officer, KRDO	1983.8.30 - 1983.11.28 1983.11.5 - 1983.11.30
1984	Mr. D.R. KIMICHO Mr. I. MZIMBIRI Mrs. L.M. CHIHONGO	Irrigation and Drainage Rice Cultivation Vegetable Crops Production	1985.2.7 - 1985.11.30 1985.7.3 - 1985.10.11 1985.3.24 - 1986.8.24
1985	Mr. G.R. MOSHI	Director, KADC	1985.7.3 - 1985.7.31

LIST OF EQUIPMENTS AND MACHINERY

Fiscal Year	Major Item	Total Price (thousand yen)
1979	- Vehicles (Station Wagon 1, 4 Wheel Drive Jeep 1)	65,285
1980	- Agricultural Machinery (Thresher, Balance, Bottom Plow, Generator Submersible Pump, Sprinkler Set, Pipeline Set, etc.) - Construction Machinery (Back hoe, Trencher, Angle Dozer) - Office Equipment (Copy Machine, Stationery) - Others	
1981	- Vehicles (3t Truck 1, 4 Wheel Drive Jeep 2) - Agricultural Machinery (Tractor, Cultivator, Dryer, Tiller, Mower, Seeder, Cut Model Engine, Sprinkler Set, etc.) - Experimental Equipment (Microscope, Refrigerator pH Meter, Moisture Tester, Soil Hardness Tester, Tensiometer, Poly.Pot, etc.) - Construction Machinery (Grader, Auto Level etc.) - Office Equipment (Stationery, Slide Projector, 16mm Projector etc.) - Others (Slide Film, 16mm Film, Chemicals, etc.)	27,562
1982	- Vehicles (4 Wheel Drive Jeep 2, Station Wagon 1, Micro Bus 1) - Agricultural Machinery (Tractor, Ridger, Disk Harrow, etc.) - Experimental Equipment (Hook Gage, Evaporimeter, etc.) - Office Equipment (Copy Machine, Video Set, Camera, Stationery, etc.) - Others (Fence Set, Chemicals, Seeds, Tools etc.)	125,553

1983	<ul style="list-style-type: none"> - Vehicles (4 Wheel Drive Jeep 2, Tank Lorry 1, Dump Truck 1, Station Wagon 1) - Agricultural Machinery (Tractor, Disk Plow, Disk Harrow, Tooth Harrow, Cultivator, Ridger, Mower, Dryer, Bird Protection Net, Pipe Set for Sprinkler, etc.) - Others (Fence Set, Motorcycle, Tools, etc.) 	76.810
1984	<ul style="list-style-type: none"> - Vehicles (Micro Bus 1, 4 Wheel Drive Jeep 1) - Agricultural Machinery (Rotary Cutter, Disk Harrow, Sprinkler Set, Paddy Wheel, etc.) - Construction Machinery (Concrete Mixer, Monocycle, etc.) - Experimental Machinery (Tensio Meter, Current Meter, Tape, Water Level Recorder, Planimeter Aggregate Test Siering Apparatus, etc.) - Office Equipment (Copy Machine, Shelving, Stationary, etc.) - Others (Stabilizer, Vise, Chemicals, etc.) 	61.133
1985	<ul style="list-style-type: none"> - In process procurement 	((60.000)

GRAND TOTAL

356.343

October, 25 1985

Mr. S. K. Masinde
Regional Development Director
Kilimanjaro Region.

Dear Mr. Masinde,

The Japanese Evaluation Team (hereinafter referred to as "the Team") organized by the Japan-International Cooperation Agency, and headed by Mr. Toshishiro Kurita visited the United Republic of Tanzania from October 20 to November 1, 1985 to make evaluation survey and discuss the future plan of the Kilimanjaro Agricultural Development Center Project (hereinafter referred to as "the Project"). During its stay in Tanzania, the team had a series of discussions with the Tanzanian members concerned and Japanese Experts team.

Thanks to fruitful discussions, the Team was able to formulate the provisional framework of the Project in the future as attached.

I would like to express our sincere gratitude for your kind cooperation during our stay in Tanzania and I take note of your Team's suggestion that the new project should aim at furthering the agricultural development in the whole Region as per your paper presented to us.

Yours sincerely

Toshishiro Kurita

Leader

The Japanese Evaluation Team

PROVISIONAL FRAMEWORK OF THE FUTURE PROJECT

Based on the results of surveys and discussions, a possible plan for the Project is as follows:

1. Name of the Project

Kilimanjaro Agricultural Development Center Project

2. Scope of Cooperation

Regarding KADC as a base for development of agricultural technique, extension and training of counterparts, extension staff and farmers in Kilimanjaro Region, focusing in the Lower Moshi Agricultural Development Project, technical cooperation is to implement the activities of KADC.

3. Activities of the Project

Possible activities of the Project are as follows:

3-1 Kilimanjaro Region, focusing in the Lower Moshi Area

(1) Paddy

- a) Selection of appropriate varieties
- b) Establishment of cultivation techniques
- c) Demonstration and extension of cultivation techniques
- d) Training of counterparts, extension staff and farmers.

(2) Upland crops

- a) Establishment of cultivation techniques (vegetable, soybean etc.).
- b) Demonstration and extension of cultivation techniques
- c) Training of counterparts, extension staff and farmers.

(3) Water Management

- a) Establishment and extension of water management techniques
- b) Training of counterparts, extension staff and farmers
- c) Technical advice for operation and maintenance

(4) Agricultural Machinery

- a) Adaptability test, technical advice for maintenance of agricultural machinery and operation and maintenance of equipments
- b) Training of counterparts, extension staff and farmers

3-2 Kilimanjaro Region

Advice and suggestions on the agricultural development in the Region

4. Term of cooperation

Five years

5. Tentative schedule for implementation

- (1) The official proposal for the Project should be submitted by the Government of the United Republic of Tanzania to the Government of Japan by the end of January, 1986.
- (2) An implementation Survey Team will be dispatched to sign R/D after receiving official proposal.

PROVISIONAL FRAMEWORK OF THE FUTURE PROJECT

In pursuance of the recommendation of the joint evaluation mission, for the need to have a new technical cooperation the following should be the framework for the future project.

1. NAME OF THE PROJECT

The new project should be known as the "Kilimanjaro Agricultural Development Centre Project".

2. MAIN OBJECTIVE OF THE PROJECT

The new project should aim "on cooperation through technical advice and suggestions on the future and further agricultural development in Kilimanjaro Region".

3. SCOPE OF COOPERATION

In order to achieve the above main objective, the future scope of cooperation should be as follows:

3-1 In connection with Lower Moshi Agricultural Project

- Soil and Water management
- Crop husbandry
- Training & Extension
- Technical advice on Use and maintenance of agricultural machinery and equipments.

3-2 In connection with other areas outside Lower Moshi

- Study of surface and underground water resources for agricultural development.
- Establishment of smallscale rural agricultural development projects.
- transfer of techniques and experiences from KADC activities to other areas of Kilimanjaro region.

4. Term of cooperation

Five years

5. Tentative schedule for implementation

- (1) The official proposal for the Project should be submitted by the Government of the United Republic of Tanzania to the Government of Japan by the end of January, 1986.
- (2) An implementation Survey Team will be dispatched to sign R/D after receiving official proposal.

THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE IMPLEMENTATION SURVEY TEAM (NEGOTIATION TEAM) AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE UNITED REPUBLIC OF TANZANIA ON THE JAPANESE TECHNICAL COOPERATION FOR THE IMPLEMENTATION OF KILIMANJARO AGRICULTURAL DEVELOPMENT CENTER AND KILIMANJARO INDUSTRIAL DEVELOPMENT CENTER PROJECTS

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as JICA) and headed by Mr. Michimoto Goto, Director of the Planning Division, the Planning Department, Japan International Cooperation Agency, visited the United Republic of Tanzania from 27th August 1978 to 13th September 1978 for the purpose of working out the details of the technical cooperation program concerning Kilimanjaro Agricultural Development Center (hereinafter referred to as KADC) and Kilimanjaro Industrial Development Center (hereinafter referred to as KIDC) Projects in the United Republic of Tanzania.

During its stay in the United Republic of Tanzania, the Team exchanged views and had a series of discussions with the Tanzanian authorities concerned in respect of the necessary measures to be taken for the immediate implementation of the above-mentioned Projects.

As a result of the discussions, the Team and the Tanzanian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the United Republic of Tanzania will cooperate in implementing KADC and KIDC Projects (hereinafter referred to as "the Projects") for the purpose of contributing to the promotion of the regional development in Kilimanjaro Region through the agricultural development project which aims at the improvement of agricultural infrastructure and the increase in productivity and through the industrial development project which aims at the establishment of the industrial infrastructure and the promotion of industrialization.
2. (1) The Projects which will be implemented by the Government of Japan and the

Government of Tanzania will comprise of the completion of the buildings and facilities necessary for the implementation of the Projects as outlined in Annex I.

- (2) The Projects will be implemented in accordance with the annual work plan to be formulated by the Regional Management Team (hereinafter referred to as RMT).

II. DISPATCH OF EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense services of the Japanese experts as listed in Annex II through normal procedures under the Technical Cooperation Scheme of Japan and Tanzania.
2. The Japanese experts referred to in 1 above and their families will be granted in the United Republic of Tanzania the privileges, exemptions and benefits as listed in Annex III and normal privileges, exemptions and benefits given to the similar experts in Tanzania.

III. PROVISION OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Projects as listed in Annex IV, through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The articles referred to in 1 above will become the property of the Government of the United Republic of Tanzania upon being delivered c.i.f. to the Tanzanian authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for the implementation of the Projects.

IV. TRAINING OF TANZANIAN PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Tanzanian personnel connected with the Projects for technical training in Japan through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The Government of the United Republic of Tanzania will take necessary measures to ensure that the knowledge and experience acquired by the Tanzanian personnel from technical training in Japan will be utilized effectively for the implementation of the Projects.

V. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE UNITED REPUBLIC OF TANZANIA

1. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to provide at its own expense:
 - (1) Services of the Tanzanian counterpart personnel and administrative personnel as listed in Annex V;
 - (2) Land, temporary buildings and facilities necessary for the activities at the beginning of the Projects;
 - (3) Supply of replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Projects other than those provided through JICA under III above;
 - (4) Whenever necessary, transportation facilities and travel allowance for the Japanese experts for the official travel within the United Republic of Tanzania;
 - (5) Suitably furnished accommodation for the Japanese experts and their families to the best of its capacities.

2. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to meet:
 - (1) Expenses necessary for the transportation within the United Republic of Tanzania of the articles referred to in III above as well as for the installation, operation and maintenance thereof;
 - (2) Customs duties, internal taxes and any other charges, imposed in the United Republic of Tanzania on the articles referred to in III above;
 - (3) All running expenses necessary for the implementation of the Projects.

VI. ADMINISTRATION OF THE PROJECTS

1. The Regional Development Director (hereinafter referred to as RDD) of Kilimanjaro Region, will bear overall responsibility for the implementation of the Projects under the supervision of Prime Minister's Office.
2. The Japanese experts will take the appropriate care on the technical matters and provide the advisory services on technical and managerial matters for the Projects in close collaboration with the Tanzanian counterpart personnel concerned.

3. The activities for the implementation of the Projects will be carried out by the Tanzanian counterparts personnel with an assistance of the Japanese Experts.
4. (1) A Regional Management Team shall be empowered to ensure successful and effective implementation of the Projects.
(2) The meeting of RMT, under the chairmanship of RDD, will be held regularly.
(3) Japanese experts will attend the meeting of RMT as advisors.

VII. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the United Republic of Tanzania undertakes to bear claims, if any arises against the Japanese experts engaged in the Projects resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the United Republic of Tanzania except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VIII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

IX. TERM OF COOPERATION

This Record of Discussions will be effective from the date of its signing and will be terminated after four (4) years from this date, or otherwise terminated or extended by mutual consultation.

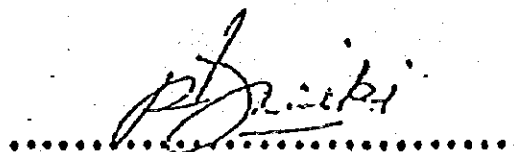
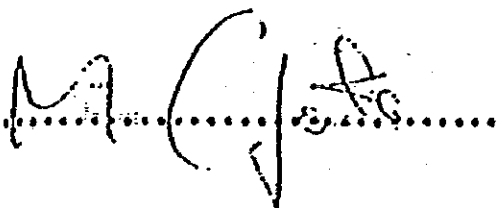
Dar es Salaam, September 13, 1978

FOR THE JAPANESE DELEGATION

Michimoto Goto
Director of the Planning Division
Planning Department
Japan International Cooperation Agency

FOR THE TANZANIAN DELEGATION

Richard E. Mariki
Director of External Finance,
Ministry of Finance and Planning



ANNEX I. ACTIVITIES FOR THE PREPARATORY STAGE

During the preparatory Stage, the Projects will consist of the following functional activities:

A. Kilimanjaro Agricultural Development Centre Project

1. Activities for the Preparatory Stage

(1) Technical Advice and Supervisory Works

Technical advice and supervisory works will be provided to carry out the following activities;

- To conduct planning and survey to improve agricultural infrastructure in Lower Moshi Area (about 3,000 ha) which includes pumping station, irrigation and drainage canal and farm road;
- To conduct surveys for water resources developemnt in Mt. Kilimanjaro area, Lower Hai area, Lower Rombo area, North Pare area, and West Pare area.
- To construct buildings and utilities of the KADC;
- To establish facilities of the Agricultural Mechanical Center.

(2) Establishment of Trial Farm

A trial farm (10 ha) will be constructed in Chekereni and Mtakuja villages. Follow- ing activiteis will be carried out;

- To conduct studies and designing for a traial farm;
- To construct the traial farm;
- To cultivate rice and vegetables in the trial farm;
- To test the cultivation techniques for rice and vegetables to apply to other areas in Lower Moshi.

(3) Extension Services

Extension services will be conducted to farmers by mobile units in order to improve the technique of;

- Cultivation for rice and vegetables;
 - Agricultural machinery with spare parts provided in Section III above for better use and repair.
- (4) Training of Manpower
- On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
 - Appropriate Tanzanian counterpart personnel will be trained in Japan.
- (5) Planning and Coordination
- Detailed implementation programme will be made up in consultation with the Tanzanian counterpart personnel.
 - Coordination among various functional activities and programmes will be made in consultation with Tanzanian counterpart personnel.

B. Kilimanjaro Industrial Development Center Project

1. Activities for the Preparatory Stage

(1) Studies and Surveys

- Surveys will be conducted to establish feasible workshops (foundry, forging, mechanical engineering and testing facilities) and pilot factories (ceramic and briquet) on raw materials, supplementary goods, order-made products to be produced.
- Feasibility studies will be conducted to identify the potential industries for investment.

(2) Technical Advice and Supervisory Works

Technical advice and supervisory works will be provided to carry out the following activities;

- To construct buildings and utilities of the KIDC and its annexes;
- To establish common facilities and pilot factories in the Moshi Industrial Estate, and other facilities in the extensional service stations (Rombo and Pare Industrial Stations) and unit (Moshi Exhibition Unit) of the KIDC;

- To select and make specifications of machines and equipment to be installed in the factories in the Moshi Industrial Estate.
- (3) Industrial Promotion Services
- Industrial Promotion services will be provided by mobile units on technological matters, marketing methods, management methods, new investments, etc.;
- (4) Training of Manpower
- On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
 - Appropriate Tanzanian counterpart personnel will be trained in Japan.
- (5) Planning and Coordination
- Organization of the KIDC will be set up in accordance with the normal Government machinery in this Region.
 - Detailed implementation programmes will be made up in consultation with the Tanzanian counterpart personnel.
 - Coordination among various functional activities and programmes will be made in consultation with the Tanzanian counterpart personnel.

ANNEX II JAPANESE EXPERTS

1. Project Manager

(A.) Agricultural Team

2. Team Leader

3. Experts in the fields of;

Irrigation and Drainage
Land Consolidation
Water Resources
Agronomy
Agricultural Machinery
Extension

(B.) Industrial Team

4. Team Leader

5. Experts in the fields of;

Management
Mechanical Engineering
Electroplating
Foundry
Forging
Eathenware
Briquet

- Notes:
1. Agricultural or Industrial Team Leader may assume the post of Project Manager concurrently.
 2. If necessary, short term experts will be dispatched.
 3. Above Annex II is subject to change by mutual consultation between the two Governments.

ANNEX III PRIVILEGES, EXEMPTIONS, AND BENEFITS

1. Exemptions from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemptions from import and export duties and any other charge in respect of personal and household effects, including one motor vehicle per family, which may be brought into the United Republic of Tanzania from abroad.
3. Free medical services and facilities to the Japanese experts and their families.

ANNEX IV. LIST OF MACHINERY AND EQUIPMENT

A. Kilimanjaro Agricultural Development Centre Project

1. Construction machinery and equipment, including pumps and their accessories, and their spare parts
2. Agricultural machinery and implements and their spare parts
3. Machines and tools for repair work
4. Equipment and materials for public utilities
5. Vehicles

B. Kilimanjaro Industrial Development Centre Project

1. Mobile units with tools and equipment for industrial extension services
2. Machines and tools for training purposes
3. Machines and tools for repair work
4. Vehicles

Note: Other necessary machines, equipment, tools and materials to be mutually agreed upon the implementation of the Project.

ANNEX V LIST OF TANZANIAN PERSONNEL

A. Kilimanjaro Agricultural Development Centre Project

1. Project Director
2. Engineer
3. Staff
4. Worker
5. Driver

B. Kilimanjaro Industrial Development Centre Project

1. Project Director
2. Department Manager
3. Engineer
4. Staff (Qualified and Non-qualified)
5. Worker
6. Secretary
7. Driver

Note: Above Annex V is subject to change by mutual consultation between the two Governments.

- (2) タンザニア・キリマンジャロ州農業開発及び工業開発センター
プロジェクト討議議事録に関する暫定実施計画

TENTATIVE IMPLEMENTATION PROGRAM
FOR THE
KILIMANJARO AGRICULTURAL DEVELOPMENT CENTER
AND
KILIMANJARO INDUSTRIAL DEVELOPMENT CENTER

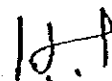
Within the scope of the Record of Discussions signed on September 13, 1978, the representatives of Japan International Cooperation Agency and Kilimanjaro Regional Development Director's Office have jointly formulated the Tentative Implementation Program for the implementation of Kilimanjaro Agricultural Development Center and Kilimanjaro Industrial Development Center Projects.

This Tentative Implementation Program is subject to change in accordance with the progress of implementation of the Projects.

November 25, 1978


KANEHIDE HISEKIKAWA

Representative
Japan International
Cooperation Agency
in Tanzania


HORACE KOJIMA
Principal Secretary
Prime Minister's Office

I. Kilimanjaro Agricultural Development Center Project

1. Objectives

Kilimanjaro Agricultural Development Center Project (hereinafter referred to as KADC) aims at contributing to the promotion of agricultural development in Kilimanjaro region through the improvement of agricultural infra-structure, cultivation techniques and mechanized agriculture and their extension.

2. Functions and Facilities

KADC has the following functions and facilities to achieve its objectives:

- (1) To plan and supervise construction of agricultural infra-structure such as irrigation canals and farm roads

Facilities: Office Rooms with Design Equipment

- (2) To improve cultivation techniques for agricultural development in Lower Noshi Area

Facilities: Trial Farm (10ha)

Experimental Facilities

- (3) To diffuse agricultural techniques by extension services

Facilities: Agricultural Mechanical Service Center

Mobile Unit

Garage

- (4) To train manpower

Facilities: KADC

- (5) To plan and coordinate the activities of KADC

Facilities: Office Room

Meeting Room

Car Park

3. Programs

(1) Program for the Activities of KADC

Chart 1 shows the tentative program for the activities of KADC by function for four years stipulated in the Record of Discussions.

(2) Program for the Dispatch of Japanese Experts

Chart 2 shows the tentative program for the Japanese Experts to be dispatched to KADC.

(3) Program for the Training of Tanzanian Personnel

Chart 3 shows the tentative program for the training of Tanzanian personnel in Japan.

(4) Special Support by the Japanese Side

Japan International Cooperation Agency provides the following special support to the KADC by dispatching experts teams wherever necessary;

Technical Support Team

Evaluation Team

4. Organization

(1) Staffing

Chart 4 shows the organization and staffing plan of the KADC during four years stipulated in the Record of Discussions.

(2) Job Description of the Staff

A. Japanese Experts

a. Team Leader

- (i) To advise and assist the Tanzanian Project Director for programming, operation and administration of the project.
- (ii) To coordinate the activities of Japanese Experts attached to the Project as the head of the Japanese team.
- (iii) To represent Japanese Experts in KADC and KIDC as necessity arises.

b. Experts

- (i) To advise and assist Tanzanian counterparts in their respective fields.
- (ii) To provide farmers with technical guidance in their respective fields.

c. Liaison Officer

- (i) To support the Japanese Team Leader and Experts for programming and administration of the Project.
- (ii) To conduct accounts work and others in accordance with the regulations in force in Japan and to take charge of contract business concerning construction of Trial Farm.
- (iii) To prepare the progress reports on the achievement of targets of the Project which are to be submitted to both Tanzanian and Japanese authorities concerned.

B. Tanzanian Counterparts

a. Project Director

- (i) To manage and coordinate all the operational activities for the implementation of the Project.
- (ii) To manage all the Tanzanian personnel engaged in the Project.

b. Technical Staff

- (i) To prepare and implement the detailed action programs in their respective fields.
- (ii) To submit progress report to the Project Director in their respective fields.

5. The Government of Japan will consider the construction of buildings and equipment of KADC as will be agreed between the two Governments.

6. The Government of Tanzania will take necessary measures to enable the Government of Japan to expedite the construction of buildings of KADC as follows;

- (1) To secure the land necessary for the construction of buildings of KADC and to readjust it.
- (2) To prepare for facilities such as electric supply, water supply, drainage and other incidental facilities outside the site if necessary.

7. Temporary Facilities

For the Preparatory Stage, the following facilities are temporarily secured by the Tanzanian side;

Office room , Meeting room , Garage, Others

8. Machinery and Equipment

Following machinery and equipment will be provided by the Japanese side;

Furniture

Equipment for documentation

Audio-visual aids

Vehicle

Refrigerator

Machinery and equipment with attachment for soil preparation

Machinery and equipment with attachment for cultivation and processing

Experimental equipment

Agricultural tool

Construction machinery and equipment for trial farm

Machine and tool for repair work

Equipment for survey

Boring machine with attachment for well

Equipment for water supply on trial farm

Fertilizer and pesticide

Others

Chart 1. Program for the Activities of KADC

Activities	Contents	Section in charge	Schedule
<p>1 Establishment of Trial Farm</p>	<p>A. Design of Trial Farm</p> <p>B. Construction of Trial Farm</p> <p>C. Test for applicability of the improved farming techniques</p> <p>D. Field practice for training</p>	<p>A. Survey and Planning Sec.</p> <p>A. Improvement of Farming Technique Sec.</p> <p>A. Training and Extension Sec.</p> <p>B. Construction Sec.</p> <p>C. Improvement of Farming Technique Sec.</p> <p>D. Training and Extension Sec.</p>	<p>A. Early in 1979</p> <p>B. Late in 1979</p> <p>C. 1980 ~</p> <p>D. 1980 ~</p>
<p>2 Training in KADC</p> <p>Trainees will be selected in Lower Moshi Area, but those in other areas in Kilimanjaro region also attend the training by permission of R.D.D.</p>	<p>In KADC, following training courses will be conducted during four years stipulated in the Record of Discussions.</p> <p>A. Cultivation Course Lecture : At Site Office of KADC Practice : At Trial Farm</p> <p>B. Agricultural Machinery Course Lecture : At Site Office of KADC Practice : Repair work at Agricultural Mechanical Center Netter use work at Trial Farm</p> <p>C. Agricultural Extension Course Lecture : At Site Office of KADC Practice : At Trial Farm and Farmfield in this area</p>	<p>A. Training and Extension Sec.</p> <p>A. Improvement of Farming Technique Sec.</p> <p>B. Training and Extension Sec.</p> <p>C. Training and Extension Sec.</p>	<p>A. Immediately after completion of KADC facilities</p> <p>B. -do-</p> <p>C. -do-</p>
<p>3 Technical Advice and Supervisory works</p>	<p>A. A series of basic studies for following matters :</p> <p>a. Improvement works agricultural infrastructure in Lower Moshi Area (about 3000 ha)</p> <p>b. Water resource development in Kilimanjaro region</p> <p>D. Construction works of agricultural infrastructure in Lower Moshi Area</p>	<p>A. Survey and Planning Sec.</p> <p>b. -do-</p> <p>B. Construction Sec.</p>	<p>a. 1979 ~</p> <p>b. ~do-</p>

Foot Note : 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the " Record of Discussions".

Chart 2. Program for the Dispatch of Japanese Experts

Field	Fiscal Year	1978	1979	1980	1981	1982
(Construction of Buildings and Facilities)		Site Design	Detail Design 5%	Construction		
1 Team Leader						
2 Irrigation and Drainage						
3 Land Consolidation						
4 Water Resources						
5 Agronomy (two persons)						
6 Agricultural Machinery						
7 Extension						
8 Liaison Officer						

Foot Note : 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the " Record of Discussions " .

3 Tanzanian side suggested to have one Liaison Officer for KADC and KIDC.

Chart 3. Program for the Training of Tanzanian Personnel

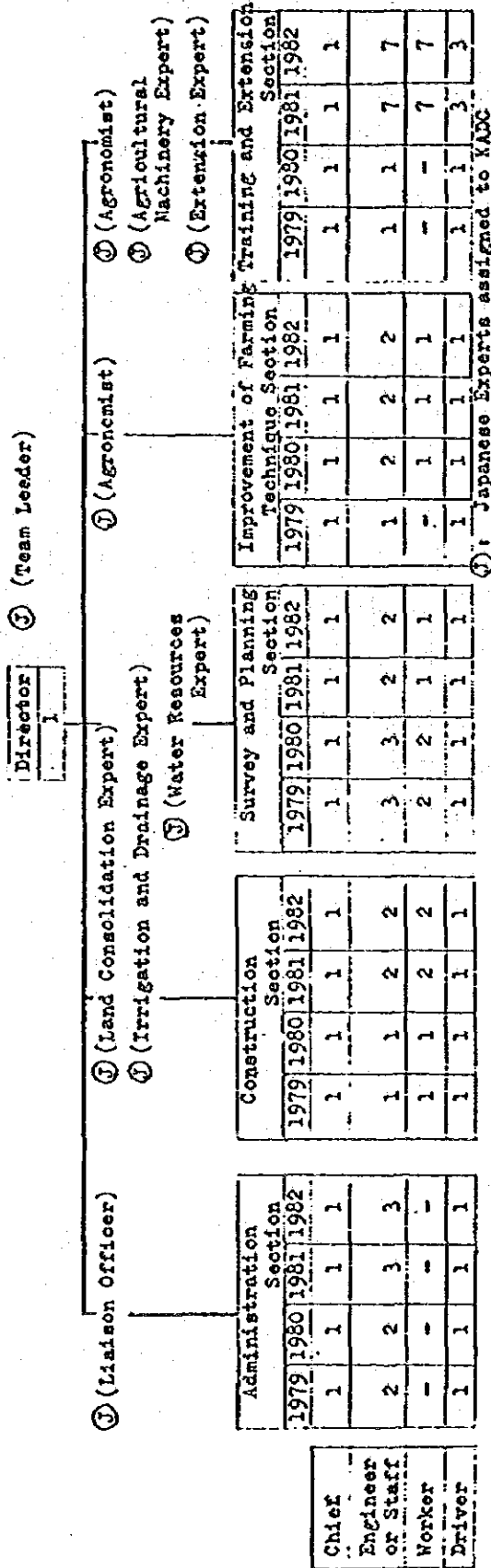
Fiscal Year	(Unit : Person)				
	1978	1979	1980	1981	1982
Field					
1 Study Tour (about 3 weeks)		2 (2)	(2)		2 (0)
2 Training					
(1) Irrigation and Drainage		1 (3)	1 (1)	1 (1)	
(2) Land Consolidation		(2)	1 (1)		1 (1)
(3) Water Resources		(2)	1 (1)	1 (1)	
(4) Agronomy		1 (1)		1 (1)	1 (1)
(5) Agricultural Machinery		(2)	1 (1)	2 (1)	1 (1)
(6) Extension				1 (1)	1 (1)
Total		4 (12)	4 (6)	5 (5)	6 (4)

() is requested by Tanzanian side.

Foot Note : 1. This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2. This scope Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the " Record of Discussions ".

Chart 4. Organization and Staffing Plan of KADC



Tanzanian Annual Staffing Plan

	1979	1980	1981	1982
Director	1	1	1	1
Chief	3	3	2	3
Engineer or Staff	8	9	16	16
Worker	3	4	11	11
Driver	5	5	7	7
Total	22	24	40	40

Foot Note: 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions".

3 Number of part time labourers and watchmen is excluded from the figures.

4 Agricultural Mechanical Service Center is one of the facilities of Training and Extension Section.

II. Kilimanjaro Industrial Development Center Project

1. Objectives

This Project aims at establishing Kilimanjaro Industrial Development Center (hereinafter referred to as KIDC) as a regional organization, which will develop small scale industries in Kilimanjaro region by providing technical assistance, extension services and manpower training as well as conducting programming and coordination of the activities on the basis of research and development to be undertaken by KIDC.

2. Functions and Facilities

KIDC has the following functions and facilities to achieve its objectives:

(1) Functions

a. Development of Appropriate Technologies in;

- * Repair and Maintenance
- * New Production Technology
- * Inspection and Testing
- * Product Development
- * Quality Control

b. Promotion of Appropriate Technologies in;

- * Establishment of New Industries
- * Extension Service
- * Consultancy and Information Service
- * Marketing Assistance

c. Training of Manpower;

- * Staff Training (in Japan and Tanzania)
- * Participants Training (Group training in Tanzania)
- * Workers Training in New Industries (On -the- job training in Tanzania)

d. Programming and Coordination;

- * Feasibility Studies
- * Investment Planning
- * Preparation of Detailed Programs of Activities
- * Coordination of Activities

(2) Facilities

a. Administration Building of KIDC

- * Office Room
- * Working Room
- * Meeting Room
- * Car Park

b. Accommodation

- * Dormitory for Trainees
- * Other Necessary Facilities

c. Workshops

- * Foundry Workshop
- * Forging Workshop
- * Mechanical Engineering Workshop
- * Testing and Inspection Facilities

d. Pilot Factories

- * Ceramic Factory
- * Briquet Factory

e. Other Instrumental Facilities

- * Rombo Industrial Promotion Station
- * Pare Industrial Promotion Station
- * Moshi Industrial Exhibition Unit

3. Programs

(1) Program for the Activities of KIDC

Chart 5 shows the tentative program for the activities of KIDC by function for four years.

(2) Program for the Assignment of Japanese Experts

Chart 6 shows the tentative program for the Japanese Experts to be assigned at KIDC.

(3) Program for the Training of Manpower

Chart 7 shows the tentative program for the training of Tanzanian personnel.

- a. Staff training is conducted in Japan and Tanzania for those who are expected to become chiefs and/or instructors of KIDC.
- b. Participants training is conducted for would-be skilled workers in specific industries.
- c. Workers training is conducted for the factory workers in new industries.

(4) Special Support by the Japanese Side

Japan International Cooperation Agency provides the following special support to KIDC by dispatching experts teams wherever necessary;

Installation Experts Team

Technical Support Team

Evaluation Team

4. Organization

(1) Staffing

Chart 8 shows the organization and staffing plan of the KIDC during the Preparatory Stage.

(2) Job Description of the Staff

A. Japanese Experts

a. Team Leader

- (i) To advise and assist the Tanzanian Project Director for programming, operation and administration of the Project.
- (ii) To coordinate the activities of Japanese Experts attached to the Project as the head of the Japanese team.
- (iii) To represent Japanese Experts in KADC and KIDC as necessity arises.

b. Experts

- (i) To advise and assist Tanzanian counterparts in their respective fields.
- (ii) To provide existing industries with technical guidance in their respective fields.

c. Liaison Officer

- (i) To support the Japanese Team Leader and Experts for programming and administration of the Project.

(ii) To conduct accounts work and others in accordance with the regulations in force in Japan and to take charge of contract business.

(iii) To prepare the progress reports on the achievement of targets of the Project which are to be submitted to both Tanzanian and Japanese authorities concerned.

B. Tanzanian Counterparts

a. Project Director

(i) To manage and coordinate all the operational activities for the implementation of the Project.

(ii) To manage all the Tanzanian personnel engaged in the Project.

b. Technical Staff

(i) To prepare and implement the detailed action programs in their respective fields.

(ii) To submit progress report to the Project Director in their respective fields.

5. The Government of Japan will consider the construction of buildings and equipment of KIDC as will be agreed between the two Governments.

6. The Government of Tanzania will take necessary measures to enable the Government of Japan to expedite the construction of buildings of KIDC as follows;

(1) To secure the land necessary for the construction of buildings of KIDC and to readjust it;

(2) To prepare for facilities such as electric supply, water supply, and other incidental facilities outside the site if necessary.

7. Temporary Facilities

For the Preparatory Stage, the following facilities are temporarily secured by the Tanzanian side;

Office room, Meeting room, Workshop, Garage and Others.

8. Machinery and Equipment

Following machinery and equipment will be provided by the Japanese side;

- * Cupola
- * Shot blast
- * Moulding machine
- * Air hammer
- * Oil furnace
- * Cutting machine
- * Engine lathe
- * Milling machine
- * Planer
- * Equipment for material testing
- * Crusher
- * Kiln and furnace
- * Dryer
- * Carbonization furnace
- * Drilling machine
- * Tool
- * Machinery and equipment of new industries for leasing purpose;
 - Drawing pin
 - Chisels and carpentry tool
 - Sheet metal fabrication
 - Hand sprayer

Sensitized paper

Oil extraction

Scrap metal sorting and treatment

U-type cement block

Oil revitalization

Wheel barrow

- * Equipment for documentation
- * Audio-visual aids
- * Furniture
- * Refrigerator
- * Mobile unit
- * Vehicle
- * Others

Chart 5. Program for the Activities of XIDC

Functions	Functional Activities	1979	1980	Immediately after the Completion of XIDC Activities
(1) Development of Appropriate Technology	Repair and Maintenance New Production Technology Inspection and Testing Quality Control Product Development	<ul style="list-style-type: none"> Research on the needs of sub-materials, availability of raw materials, energy and tools 	<ul style="list-style-type: none"> Research continued Installation and test-run of machinery and equipment 	<ul style="list-style-type: none"> Production of spare parts, tools, and order-made products Testing and analysis of raw materials and products Trial production of new products Improvement of design of products
(2) Promotion of Appropriate Technology	Establishment of new Industries Extension Service Consultancy and Information Services Marketing Assistance	<ul style="list-style-type: none"> Establishment of new industries Extension service by mobile unit Market research Consultancy on technological problems 	<ul style="list-style-type: none"> Establishment of new industries Extension service by Rombo and Pare Station added Consultancy and Information service continued Marketing promoted 	<ul style="list-style-type: none"> Establishment of new industries Extension service continued Consultancy and Information service continued Marketing promotion continued
(3) Training of Manpower	Staff Training Participants Training Workers Training in New Industries	<ul style="list-style-type: none"> Staff training in Japan 	<ul style="list-style-type: none"> Staff training in Japan and Tanzania Workers training for four months 	<ul style="list-style-type: none"> Staff training in Tanzania Workers training Participants training in 6 Beginners courses
(4) Programming and Coordination	Feasibility Studies Investment Planning Programming of Activities Coordination of Activities	<ul style="list-style-type: none"> Studies on new industries Action program making for the Preparatory Stage Organizational set-up 	<ul style="list-style-type: none"> Studies and planning continued Programming for Phase Organizational set-up Coordination 	<ul style="list-style-type: none"> Studies and planning continued Programming continued Coordination continued

Foot Note: 1. This program is subject to conditions that necessary budget will be acquired for the implementation of the project.
 2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

Chart 6. Program for the Assignment of Japanese Experts to KIDC

Items	Fiscal Year	1978	1979	1980	1981	1982
(Construction of Buildings & Facilities)		Basic Design	E/N Detail Budget	Construction		
	Team Leader		1	1	1	1
	Mechanical Engineer		1	1	1	1
	Machining Expert					
	Foundry Expert		1	1	1	1
	Forging Expert in Forming		1	1	1	1
	Heat Treatment Expert					
	Management Expert		1	1	1	1
	Ceramic Expert			1	1	1
	Briquet Expert			1	1	1
Japanese Experts	Wood Pattern Expert			1	1	1
	Installation Experts			1	1	1
	Short Term Experts			1	1	1
	New Industries			1	1	1
Liaison Officer			1	1	1	

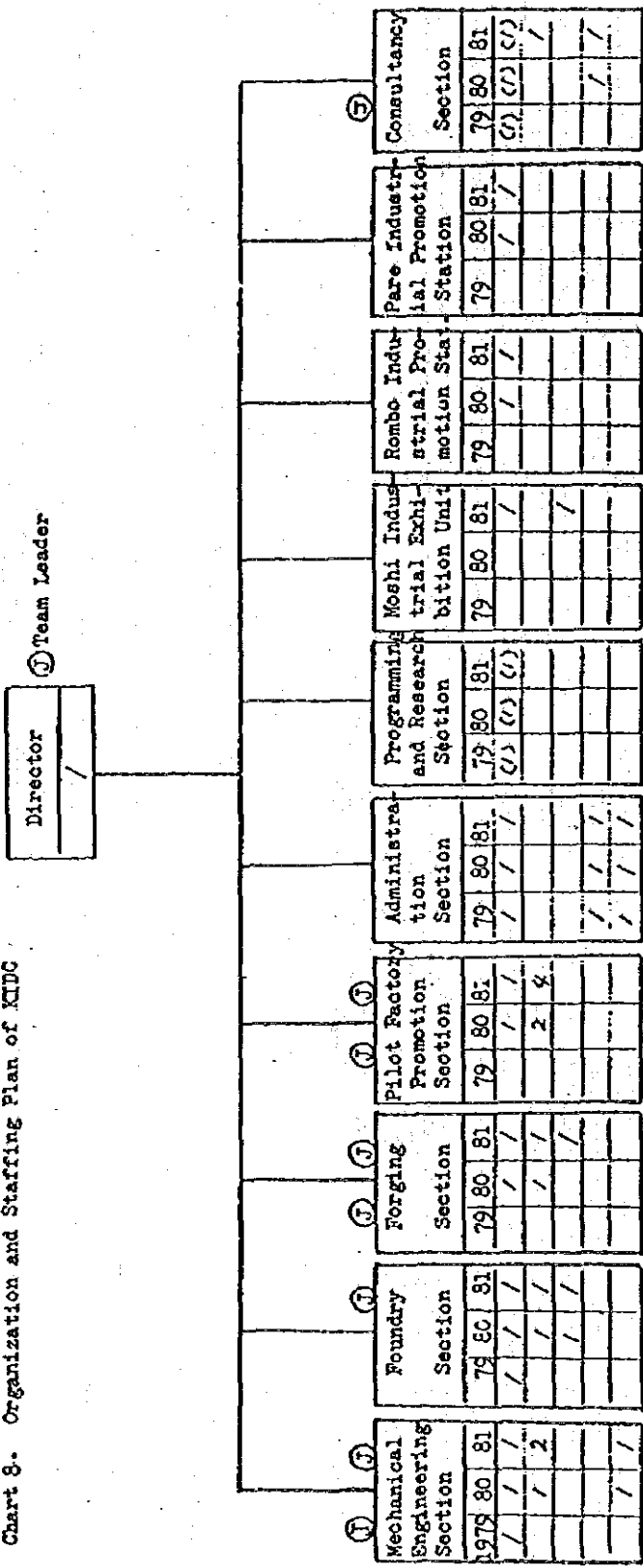
Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.
 2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."
 3. Tanzanian side suggested to have one Liaison Officer for KAT and KIDC.

Chart 7. Program for the Training of Tanzanian Personnel

Trainings	Fields of Training	1979	1980	1981	1982
Staff Training	A: Training in Japan	A-(1)		A-(1)	A-(1) → B-(1)
	B: On-the-job training in Tanzania	A-(1) → B-(1)	A-(1) → B-(1)	A-(1) → B-(1)	A-(1) → B-(1)
	C: Skilled worker	A-(1) → B-(1)	A-(1) → B-(1)	A-(1) → B-(1)	A-(1) → B-(1)
	(): Number of persons				
Participants Training	Small Enterprise Development				
	Foundry				
	Metal Working in General				
	Forging				
	Mechanical Engineering				
	Ceramic Engineering				
	Briquet Engineering				
	Management				
	Foundry				
	Forging				
Training New Industries	Mechanical Engineering				
	Ceramics				
	Briquet				
	Marketing & Management				
	1st Group	47			
	2nd Group		47		
	3rd Group			47	

Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.
 2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

Chart 8. Organization and Staffing Plan of KIDC



Tokyo-Kidco Annual Staffing Plan

Ab.	Staff	1979	1980	1981	1982
C	Director	/	/	/	/
SK	Chief	3	7	8	8
NSK	Skilled Worker		5	9	9
S	Non-skilled W.		/	3	3
D	Secretary	/	2	2	2
	Driver	/	2	2	2
	Total	6	18	25	25

Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.

2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

(J): Japanese Experts assigned to KIDC

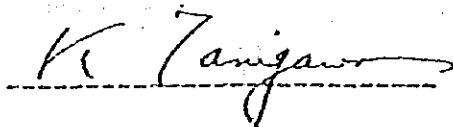
NSK; Number of part-time laborers and watchmen is excluded from the figures.

THE RECORD OF DISCUSSIONS ON THE
JAPANESE TECHNICAL COOPERATION FOR
KADC AND KIDC PROJECTS

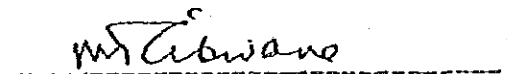
Following the visits of the Japanese Technical Advisory Team and the Japanese Evaluation Team organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. A. Kawamata (KADC) and Mr. M. Nakamura (KIDC) respectively, which stayed in the United Republic of Tanzania from July 2, 1982 to July 24, 1982, the Resident Representative of JICA Dar es Salaam Office had a series of discussions with the Tanzanian authorities concerned on the evaluation of the achievements obtained from this technical cooperation as well as the possible extension of the period of technical cooperation from September 13, 1982 with respect to KADC and KIDC Projects in the United Republic of Tanzania.

As a result of the discussions, both sides agreed to recommend to their respective Governments that the period of the technical cooperation mentioned in the Record of Discussions signed on September 13, 1978 will be extended until March 12, 1986 and that the technical cooperation will be carried out in accordance with the Attached Document of Technical Cooperation for KADC and KIDC Projects in order to fully achieve its initial objectives.

Dar es Salaam, August 23, 1982



KAZUO TANIGAWA
President Representative
JICA Dar es Salaam Office
Japan



M. T. KIBWANA
Commissioner for External
Finance and Technical Cooperation
Ministry of Finance
The United Republic of Tanzania

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the United Republic of Tanzania will continue to cooperate with each other in implementing KADC and KIDC Projects (hereinafter referred to as "the Projects") for the purpose of contributing to the promotion of regional development in Kilimanjaro Region through the Agricultural Development Project which aims at the improvement of agricultural infrastructure and the increase in productivity and through the Industrial Development Project which aims at the establishment of the industrial infrastructure and the promotion of industrialization.
2. (1) The Projects will be implemented by the Government of Japan and the Government of Tanzania as outlined in Annex I.
(2) The Projects will be implemented in accordance with the annual work plan to be formulated by the Regional Development Committee (hereinafter referred to as RDC).

II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense services of the Japanese experts as listed in Annex II through the normal procedures under the Technical Cooperation Scheme of Japan and Tanzania.
2. The Japanese experts referred to in I above and their families will be granted in the United Republic in Tanzania the privileges, exemptions and benefits given to similar experts in Tanzania.

III. PROVISION OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Projects as

listed in Annex IV, through the normal procedures under the Technical Cooperation Scheme of Japan.

2. The articles referred to in I above will become the property of the Government of the United Republic of Tanzania upon being delivered c.i.f. to the Tanzanian authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for the implementation of the Projects.

IV. TRAINING OF TANZANIAN PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Tanzanian personnel connected with the Projects for technical training in Japan through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The Government of the United Republic of Tanzania will take necessary measures to ensure that the knowledge and experience acquired by the Tanzanian personnel from technical training in Japan will be utilized effectively for the implementation of the Projects.

V. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE UNITED REPUBLIC OF TANZANIA

1. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to provide at its own expense:
 - (1) Services of the Tanzanian counterpart personnel and administrative personnel as listed in Annex V;
 - (2) Land, buildings and facilities necessary for the activities of the Projects;
 - (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Projects other than those provided through JICA under III above;

- (4) Whenever necessary, transportation facilities and travel allowance for the Japanese experts for the official travel within the United Republic of Tanzania;
 - (5) Suitably furnished accommodation for the Japanese experts and their families to the best of its ability.
2. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to meet:
 - (1) Expense necessary for the transportation within the United Republic of Tanzania of the articles referred to in III above as well as for the operation and maintenance thereof;
 - (2) Customs duties, internal taxes and any other charges, imposed in the United Republic of Tanzania on the articles referred to in III above;
 - (3) All running expenses necessary for the implementation of the Projects.

VI. ADMINISTRATION OF THE PROJECTS

1. The Regional Development Director (hereinafter referred to "RDD") of Kilimanjaro Region, will bear overall responsibility for the implementation of the Projects under the supervision of the Prime Minister's Office.
2. The Japanese experts will take appropriate care on the technical matters and provide the advisory services on technical and managerial matters for the Projects in close collaboration with the Tanzanian counterpart personnel concerned.
3. The implementation of the Projects will be carried out by the Tanzanian counterpart personnel with assistance from the Japanese experts.
4. (1) A Regional Development Committee shall be empowered to ensure successful and effective implementation of the Projects.

- (2) EMT meetings will be held regularly, and Japanese experts will attend as advisors.

VII. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the United Republic of Tanzania undertakes to bear claims, if any arises against the Japanese experts engaged in the Projects resulting from, occurring in the course of, or otherwise connected with the discharges of their official functions in the United Republic of Tanzania except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VIII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

IX. TERM OF COOPERATION

This Record of Discussions will be effective from September 13, 1982 and will be terminated after three and a half (3-1/2) years from the above date, or otherwise terminated or extended by mutual consultation.

ANNEX I - ACTIVITIES OF KADC AND KIDC

A. Kilimanjaro Agricultural Development Center Project

1. Technical Advice and Supervision

- Technical advice will be provided to conduct surveys for surface and underground water resources for irrigation development in Kilimanjaro Region.

2. Activities of Trial Farm and Pilot Farm

- To develop most effective irrigation system
- To recommend suitable crop husbandry
- To demonstrate proven research findings
- To produce some seeds of varieties recommended by the Center

3. Extension Services

Extension Services will be provided to farmers in order to ensure that:-

- Findings from research and trials at the Center are effectively transferred to farmers.
- Information is provided to the farmers on the availability of inputs and equipment.

4. Training

- On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
- Appropriate Tanzanian personnel will be trained in Japan.
- Short courses will be conducted at the Center for Extension workers.
- Short courses will be conducted at the Center for selected farmers from various villages of the Region.

5. Planning and Coordination

- Detailed implementation programme will be made up in consultation with the Tanzanian counterpart personnel.
- Coordination among various functional activities and programmes will be made in consultation with the Tanzanian counterpart personnel.

B. Kilimanjaro Industrial Development Center Project

1. Studies and Surveys

- Surveys will be conducted to establish feasible small scale industries in urban and rural areas, to ascertain availability of needed raw materials, supplementary goods and to establish markets for such Industrial Products.
- Feasibility Studies will be conducted to identify potential industries for investment in the Region.

2. Technical Advice and Supervisory Works

- Technical advice will be provided to establish common facilities in the Industrial Promotion Stations of Rombo and Same, and the Moshi Exhibition Unit.
- To select and make specifications of machines and equipment to be installed in the Rombo and Same Industrial Promotion Stations and the Pilot Factories attached to them.

3. Industrial Promotion Services

To assist in the establishment of small scale industries in the Region.

- Industrial Promotion Services will be provided by mobile units on technological matters, marketing methods, management methods, new investments, etc.

4. Training of Manpower

- On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
- Appropriate Tanzanian counterpart personnel will be trained in Japan.
- Courses for selected field craftsmen and artisans will be conducted at the Center.

5. Planning and Coordination

- Detailed implementation programmes will be made up in consultation with the Tanzanian counterpart personnel.
- Coordination among various functional activities and programmes will be made in consultation with the Tanzanian counterpart personnel.

ANNEX II - JAPANESE EXPERTS

A. Agricultural Team

- (1) Team Leader
- (2) Experts in the field of:
 - Irrigation and Drainage
 - Water Resources
 - Agronomy
 - Agricultural Machinery
 - Extension
 - Research
- (3) Liaison Officer

B. Industrial Team

- (1) Team Leader
- (2) Experts in the field of:
 - Management
 - Machining
 - Foundry
 - Forging
 - Ceramics
 - Electroplating
 - Briquette
- (3) Liaison Officer

Note: 1. If necessary, short term experts will be dispatched.

2. Above Annex II is subject to change by mutual consultation between the two Governments.

ANNEX III - PRIVILEGES, EXEMPTIONS AND BENEFITS

1. Exemptions from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemptions from import and export duties and any other charges in respect of personal and household effects, including one motor vehicle per family, which may be brought into the United Republic of Tanzania from abroad.
3. Free medical services and facilities to the Japanese experts and their families.

ANNEX IV - LIST OF MACHINERY AND EQUIPMENT

A. Kilimanjaro Agricultural Development Center Project

1. Construction machinery and equipment, including pumps and their accessories, and their spare parts
2. Agricultural machinery and implements and their spare parts
3. Machines and tools for repair work
4. Equipment and materials for public utilities
5. Vehicles

B. Kilimanjaro Industrial Development Center Project

1. Mobile units with tools and equipment for industrial extension services
2. Machines and tools for training purposes
3. Machines and tools for repair work
4. Vehicles

Note: Other necessary machines, equipment, tools and materials to be mutually agreed upon the implementation of the Projects.

ANNEX V - LIST OF TANZANIAN PERSONNEL

A. Kilimanjaro Agricultural Development Center Project

1. Project Manager
2. Counterpart Personnel in the fields of:
 - Irrigation and Drainage
 - Water Resources
 - Agronomy
 - Agricultural Machinery
 - Extension
 - Research
3. Other staff:
 - Secretary/Typist
 - Accounts Clerks
 - Drivers
 - Labourers
 - Cooks/Kitchen Attendants

(2) 暫定実施計画 (延長期間)

TENTATIVE IMPLEMENTATION PROGRAM
FOR
THE KILIMANJARO AGRICULTURAL DEVELOPMENT CENTER

Within the scope of the Record of Discussions signed on August 23 1982, the representatives of Japan International Cooperation Agency and Kilimanjaro Regional Development Director's Office have jointly formulated the Tentative Implementation Program for the smooth implementation of Kilimanjaro Agricultural Development Center Project.

This Tentative Implementation Program is subject to change in accordance with necessity arising in future, within the scope of the provisions given in the "Record of Discussions", and also subject to conditions that necessary budget will be acquired for the implementation of the KADC Project.

December 14th, 1982

T. Murata
TOSHIHISA MURATA
DIRECTOR

AGRICULTURAL DEVELOPMENT
COOPERATION DEPARTMENT
JAPAN INTERNATIONAL
COOPERATION AGENCY.

S. Mwakanga
SIZOMON CORNEL MWAKANGATA

AG. REGIONAL DEVELOPMENT DIRECTOR
KILIMANJARO REGION.

REGIONAL DEVELOPMENT DIRECTOR
KILIMANJARO

PROGRAM FOR THE DISPATCH OF JAPANESE EXPERTS & TRAINING OF TANZANIAN PERSONNEL IN JAPAN

Items	1982	1983	1984	1985	1986	Remarks
1. Dispatch of experts Team Leader	March		March		March	
Irrigation & Drainage Engineer		June				The expert is also in-charge of water re-sources.
Agronomy (Paddy crop)	Feb.		Feb.			
Agronomy (Upland crop)		Feb.				The experts are also in charge of extension.
Machinery Engineer (Operation)		March				
Machinery Engineer (Work Shop)						
Liaison Officer	Feb.		Feb.			
Short-term experts						Several in accordance with necessity.
2. Training of Tanzanian Personnel in Japan						Several each year
						Performance Extension or Anticipation

PROGRAM FOR THE ACTIVITIES OF KADC

Activities	Contents	Section in charge	Schedule					
			1982	1983	1984	1985	1986	
Establishment of Trial Farm	A. Test for applicability of the improved farming techniques.	A. Machinery and Agronomy Section						March
	B. Field practice for training.	B. All of Sections						
Establishment of Pilot Farm	A. Construction of the facilities for Pilot Farm.	A. Irrigation and Drainage Section		Jan. (from 1981)				
	B. Extension of test results of the improved farming techniques.	B. Machinery and Agronomy Section	Nov.					
	C. Field practice for training.	C. All of Sections		May				
Training in KADC	A. Cultivation Course	A. Agronomy Section		Feb.				
	B. Agricultural Machinery Course.	B. Machinery Section	Oct.					
	C. Agricultural Extension Course.	C. Machinery and Agronomy Section		Feb.				
	D. Irrigation and Drainage Course.	D. Irrigation and Drainage Section		May				
Technical advice and Supervision	Water resources development survey in Kilimanjaro Region.	Irrigation and Drainage Section		June				

RESPONSIBILITY OF GOVERNMENT OF TANZANIA

Items	1982	1983	1984	1985	1986	Remarks
1. Organization & Staffing Plan of KADC						
Project Manager				Mach	Project Manager in 1982 is acting.
Administration Section						
Irrigation & Drainage Section Tanzanian Counterparts						
Agronomy Section Tanzanian Counterparts						
Agricultural Machinery Section Tanzanian Counterparts						
2. Arrangement of Infra- structure						Between Moshi and KADC
Electricity		Oct.				
Improvement of Road						Under Lower Moshi Project
Telephone						
3. Running Expenses						

JICA