ANNEX E

COLLECTED DATA

ANNEX E. COLLECTED DATA

In the courses of the phase-I, Phase-II and Phase-III field work, following data are collected by Study Team;

A. MAPS

- 1. Topographic Map, 1/250,000, Survey of Kenya
- 2. Topographic Map, 1/50,000, Survey of Kenya
- 3. Kenya Administrative Boundaries Map, 1/1,000,000, Survey of Kenya,
- 4. Agro-Ecological Zones in Highland Upland and Midland, 1/1,000,000, GTZ
- 5. Topographic Map of Model Areas, 1/5,000 prepared by JICA Study Team

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- 10. Mbeere District Development Plan, 1997-2001, OVP/MPND
- 11. Tharaka-Nithi District Development Plan, 1997-2001, OVP/MPND
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B-3 Ministry of Agriculture and Livestock Development (MOALD)

General

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- 6. A Guide to make Your Own Maendeleo One Pot Jiko, GTZ

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Water Resources

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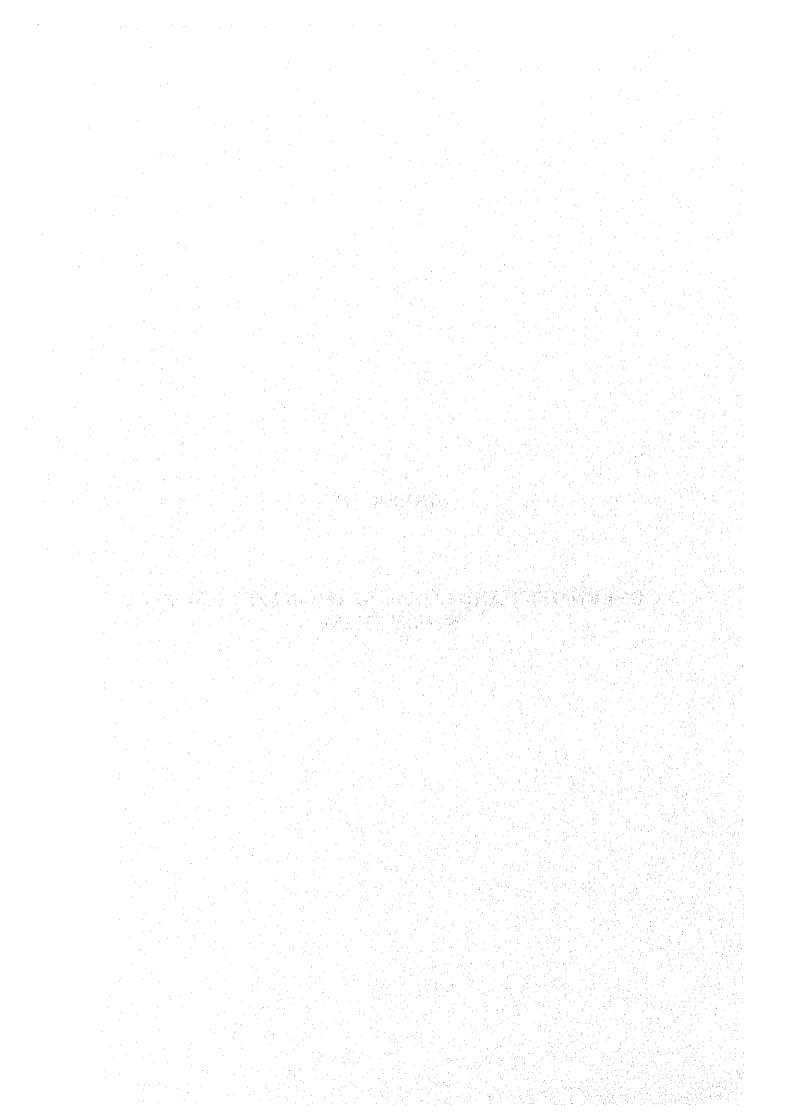
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ANNEX F

GOVERNMENT AND LOCAL STAFF INTERVIEWED BY STUDY TEAM



ANNEX F. GOVERNMENT AND LOCAL STAFF INTERVIEWED BY THE STUDY TEAM

Study Team interviewed the following Kenyan government and local staff in the courses of Phase-I, Phase-II and Phase-III field works.

	Name	Office Name/Position
Ā.	Central Government Office in Nairobi	
1)	Ministry of Finance	
±,	1. Mr. G. K. Arap Koech	Deputy Director
	2. Mr. J. K Kanithi	Desk Officer, Japanese Relation
	3. Mr. J. M. Nyanumba	Assistant Desk Officer, Japan Relation
2)	Office of the Vice-President Ministry	of Planning and National Development
44)	1. Mr. Peter Ochieng	Planning Officer in charge of IFAD Project
a >	25. 1	ok Development (MOALD)
3)	Ministry of Agriculture and Livesto	CK Development (WOALD)
	1. Prof. K. Mutahi	Permanent Secretary
	2. Mr. T. K. Tuei	Director of Agriculture
	3. Mr. Johnton Kinyua Kanjagua	Assistant Director of Agriculture/Horticultural Divsion
	4. Mr. C. M. Osoro	Deputy Director, Land Development Division
		(LDD)
	5. Dr. A. M. Muthee	Senior Advisor, MOALD
	6. Mr. H. K. Mwathe	Head, Irrigation and Drainage Branch (IDB),
	U. IIII. II. IX. III. III.	Land Development Division (LDD)
	7. Mr. N. R. Kamau	Senior Agricultural. Officer, IDB, LDD
	8. Ms. Zaweria Thuku	Agricultural Officer, Horticultural Division
	9. Mr. Mosoti Andama	Senior Agri. Officer, Project Development,
	9. WII. WOSOM AMAGAMA	Monitoring, Evaluation Division (PDMED)
	10. Mr. Ireoi Rashid	Economist, Development & Planning Division
	IV. WII. HEOF RASHIU	(DPD)
	11 M- D W Muchangi	Irrigation Engineer, IDB
	11. Mr. P. W. Muchangi	Irrigation Engineer, IDB
	12. Mr. J. O. Nyaguti	Head, Marketing Division
	13. Mr. Jacop Mutua	Marketing Officer, Marketing Division
	14. Mr. R. N. Rihanfa	Extension and Farmer's Organization Officer
	15. Mr. P. K. Ragwa	
	16. Ms IsabellaGaiti Nkonge	Crop Development Division
	17. Mr. Kenji Tsujishita	JICA Adviser, MOALD
	18. Mr. Manabu Kita	JICA Advisor, MOALD
	19. Ms. Teresa Ndingwa Muthui	Home Economic Branch, MOALD
4	Ministry of Land Reclamation, Region	nal and Water Development (MLRRWD)
,	1. Mr. S. M. Kioni	Hydrologist
	2. Mr. Katsuyoshi Kitagawa	JICA Adviser, MLRRWD
	3. Mr. S. M. Maina	Assistant Director, Construction of Water Supply
		MLRRWD
	4. J. R. Nyaoro	Head, Register water Right
5) Ministry of Public Works and Housin	g (MPWH)
~	1. Mr. P. Ilobi	Chief Superintending Engineer, Unpaved Roads,
	2. 2,22, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	

MPWH

2. Mr. C. F. Kiringa Senior Superintending Engineer, Unpaved Roads,

MPWH

3. Mr. Gabriel Mwangi Senior Superintending Engineer, Unpaved Roads,

MPWH

4. Mr. Patric Mwinzi Senior Superintending Engineer, East Kenya,

MPWH

Mr. F. D. Karanja Senior Superintending Engineer, Roads 2000,

MPWH

6) Ministry of Environment and Natural Resources (MENR)

1. Mr. Anthony M. Maina Conservator of Forests Monitoring & Evaluation,

Forestry Extension Services, Forestry Department

Head Ouarters

2. Ms. Elizabeth Mibey Head of EIA, National Environmental Secretariat

(NES)

3. Mr. Julius M. Muinde EIA, NES

4. Mr. Huniphrey M. Kiaburu Environment Officer, National Environment

Secretariat

7) Horticultural Crops Development Authority (HCDA)

1. Mr. Martin A. S. Mulandi Managing Director

2. Miss Margaret Nderitu Technical Officer

B. Provincial and District Office

B.1 Provincial Office

1) Eastern Province

Mr. Peter T. Ibeere
 Mr. B. K. Njoka
 Mr. Wai Thaka
 Provincial Irrigation Engineer
 Provincial Extension Coordinator

4. Mr. James Muoki Financial Officer, Provincial Local Government

5. Mr. Samuel Njuguna
 6. Mr. G. M. Maithya
 Provincial Crops Officer,
 Irrigation Engineer

7 Mr. Daniel K. Waithaka Extension Engineer

2) Central Province

1. Mr. F. M. Odok Provincial Director of Agriculture

Mr. J. K. Wairangu
 Provincial Director Office, Irrigation Engineer
 Mr J. K. Muracia
 Office in Charge, Provincial Irrigation Unit

4. Mr. P. Gatumu Provincial Water Officer

B.2 District Office

1) Nyeri District

District Office

1. Mr. J. G. Makumi

District Commissioner

District Agricultural Office

Mr. S. M. Kambo District Agricultural Officer

2. Ms. Tedesia Kinyungu Extension Coordinator

3. Mr. P. O Obimbo Irrigation Engineer,

Mr. Joseph K. Baru
 Mr. Joseph N. Mwangi
 Mr. Raymond M. Murunai
 Ms T. M. Irura

Crop Officer

District Horticultural Officer

Irrigation Officer

Irrigation Officer

District Water Office

1. Mr. Simon G. Mwangi
2. Mr. J. P. Ngugi
3. Mr. J. S. Mulika
4. Mr. John K. Mban
5. Mr. Joseph K. Mubea

District Water Enginee
Chemist II
Planning and Design
Water Bailiff
Assistant Hydrologist

District Public Work Office

1. Mr. S. M. Ntoiti
2. Mr. J. M. Mutury
3. Mr. Anthony K. Chira
4. Mr. J. M. Wery

District Works Officer
District Road Engineer, Road 2000,/Minor Road
District Road Engineer
Assistant Works Officer

<u>District Forest Office</u>

1. Mr. Mwanzia Jerome

Assistant District Forest Officer

. Mr. Eunice W. Maina Forest Extension Service Division,

District Health Office

1. Mr. Abok Samuel Awach
Environmental Health Officer, District
Public Health Officer

<u>District Information and Development Center</u>

1. Mr. Njogu Ngariama

District Development Officer

Kirinyaga District

District Agricultural Office

1. Mr. M. N. Nduru

2. Mr. S. Naati

3. Mr. J. W. Muriithi

4. Mr. D. M. Nguru

5. Mr. Geoge Kahuro

Mistrict Agricultural Officer

Manager, Kibirigwi Irrigation Scheme

Irrigation Officer,

District Soil Conservation Officer

Irrigation Engineer

Extension Coordinator

Mr. Geoge Kahuro
 Mr. D. G. Kibata
 Mr. Stephen K. Thathi
 Ms. Ann Njoki
 Extension Coordinator
 Irrigation Officer, Mwea Division
 District Crop Officer

9. Mr. Godfrey Mwangi Horticulture Crop Officer, Mwea Division
10. Mr. Peter Karanja Nduguin District Agricultural Extension Officer, Mwea

Div.
11. Ms. Glasys Wambura Wachira
Acting Divisional Socio-Development Assistant,

Mwea Division

12. Mr. Kariuki Warui Richard

13. Mr. J.M. Rukenya

14. Mr. John P. M. Kariuk

Mwea Division
Farm Management Officer, Mwea Division
Irrigation Engineer
Farm Management Officer,

14. Mr. John P. M. Kariuk

15. Mr. Jacob Chumbe

16. Mr. Henry M. Kiri

Mr. Henry M. Kiri

Mr. Henry M. Kiri

Mr. Henry M. Kiri

Management Officer

District Adaptive Research Officer,

District Water Office

1. Mr. James I. Simon

2. Mr. Thomas N. Kagiri

3. Mr. P. K. Gicheru

Senior Inspector (Water) for O&M
Water Engineer
District Water Engineer

4. Mr. Elind K. Wamwang

5. Mr. S. K. Kagwi

6. Mr. G. Mwona

Deputy Water Engineer

Water Bailiff

Assistant Hydrologist

District Public Work Office

Mr. J. M. Magondu
 Mr. Joseph Ndiritu

District Works Officer District Road Engineer

District Forest Office

1. Mr. Richard K. Mbusua

Assistant District Forest Officer

Ministry of Culture and Social Services

1. Ms. Eunice M. Njiru

Community Development Assistant

Kirinyaga County Council

1. Mr. Jeremiah Gateri

2. Mrs. Miano

3. Mr. Richard Maina

County Chairman

Clerk

Works Superintendent

3) Embu District

District Agricultural Office

1. Mr. D. M. Mwariki

2. Mr. Mwirigi Kirera

3. Mr. Leonard J. Njiru

4. Mr. G. W. Kahuro

5. Mr. Mary Njeri Mwaura

6. Mr. Lusigi Evance

7. Mr. Morris Makau

8. Mr. Francis N. Nthukuri

9. Mr. David Kaburu

District Agricultural Officer

Extension Coordinator

Irrigation and Drainage Officer

Irrigation Officer

Divisional Extension Officer,

Irrigation Engineer

Irrigation Engineer

Surveyor

Horticultural Officer, Manyatta division

District Water Office

1. Mr. C. N. Gitahi

2. Ms. J. Magara

3. Mr. J. M. Thakun

District Water Engineer

Water Bailiff

Water Bailiff

District Public Work Office

1. Mr. E. K. Kariuki

2. Mr. J. K. Wanyiri

3. Mr. C. G. Kagigi

District Works Officer District Road Engineer

DMI Engineer

District Forest Office

1. Mr. Anthony Mwangi

Assistant District Forest Officer

District Health Office

1. Mr. S. K. Muthinii

2. Mr. T. M. Omufwoko

District Public Health Officer

Deputy District Public Health Officer

District Land Office

1. Mr. Davis Gatumo

Provincial Survey Office, Ministry of Land

4) Mbeere District

District Agricultural Office

1. Mr. Jasper Nkanya

District Agricultural Officer

2. Mr. J. M. Kariuki 3. Mr. Mathuko

4. Mr. Anthony Mbuthia

Extension Coordinator, Irrigation Officer Divisional Agricultural Officer

District Water Office 1. Mr. J. M. Kamaru

District Water Engineer

District Public Work Office

District Works Officer 1. Ms Jane Ndirangu

District Forest Office

1. Mr. Fransis M. Mathinji District Forest Officer 2. Mr. Sinion M. Weru Assistant District Forest Officer

Tharaka-Nithi District District Agricultural Office

> 1. Mr. D. K. Mireri District Agricultural Officer District Irrigation Engineer 2. Mr. Froncis Mwangi Gichuhi

3. Mr. George M. K. Mwai Assistant Agricultural Extension Coordinator

District Water Office

Water Engineer 1. Mr. A. M. Gikanga Deputy Water Engineer 2. Mr. Daniel Muasta District Water Engineer 3. Mr. C. Ndegwa Senior Inspector, Ground water 4. Mr. Silas Rarama

Water Bailiff 5. Mrs. M. Gitari

District Public Work Office 1. Mr. S. K. Mwamba District Works Officer

District Forest Office

Mr. Gitonga J. M

Meru District

District Forest Officer,

District Agricultural Office 1. Mr. John Nthiga

2. Mr. Stanley M. Mboroki Surveyor 3. Mr. E. M Lusigi Irrigation Engineer, District Irrigation Unit

District Soil Conservation Officer 4. Mr. J. M. Thuo District Soil Conservation Officer 5. Mr. P. M. Nganga

6. Mr. Jamleek G. Mutegi Scheme Manager, Mitunguu Irrigation Scheme

District Agricultural Officer

7. Mr. David Kariuki Marketing Officer 8. Mr. Francis Muniki Irrigation Engineer 9. Mr. Lusigi Evance Irrigation Engineer

District Water Office

District Water Engineer 1. Mr. R. N. Gakubia 2. Mr. S. H. Mwangi Water Engineer Hydrologist 3. Mr. T. M. Mutie

Head, Planning & Design 4. Mr. Victory N. Njery Mr. C. Ndegwa Water Engineer 5. Water Bailiff 6. Mrs. Wanyoko

7. Miss Jacinta Wamu Assistant Water Bailiff District Public Work Office

1. Mr. D. M. Mutuku

2. Mr. J. K. Marang

District Works Officer

Road Engineer

District Forest Office

1. Mr. Franud Odhiaonozo

Assistant District Forest Officer

District Health Office

1. Mr. Isaac Gikuwda

Public Health Technician

Ministry of Culture and Social Services

1. Mr. Okach Achuudho

Social Development Officer

Meru County Council 1. Mr. Joel Muriuki

Works Superintendent

Nyambene District

District Agricultural Office

1. Mr. J. N. Pwanali

2. Mr. Marangu Colling

3. Mr. Gitonga Mbijiwe 4. Mr. Amos Gathecha

5. Mr. Reuben Ratemo

District Agricultural Officer

Horticulture Expert Irrigation Engineer

Divisional Officer

Divisional Officer

District Water Office

1. Dr. N. Shem Nderi

2. Mr. Nicholas Nyaga

District Water Engineer

Hydrologist

District Public Work Office

1. Mr. J. W. Wanyama

District Road Engineer

District Forest Office

1. Mr. G. M Anampiu

Assistant District Forest Officer,

Horticultural Crops Development Authority (HCDA)

1. Ms. Margaret Nderitu

Technical Officer

Non-Government Organizations (NGOs)

Smallholder Irrigation Scheme Development Organization (SISDO)

Mr. Cyprian Gabriel Kirimi

General Manager

Mr. Paul Githumbi Ndirity

Operation Manager

3. Mr. John Muthaura

Research, Monitoring and Extension Officer

4. Mr. Fred W. Khisah

Area Manager, Meru

Catholic Diocese of Embu

1. Mr. Fr Vincont Ireri

3. Mr. Justin N. Wamuru

2. Ms. Anastasia W. Kithinje

Development Co-ordinator Administrative Asssitant

Agricultural Programme Coordinator

Plan International 3)

1. Mr. R. Subramanian

Programme Support Manager

4) DIOCESS

1. Vicente G. Ireri

Development Coordinator, Diocese of Embu

D. Financial Agencies

1. Mr. David N. Thige

Bank of Kenya

2. Mr. A. N Malla

Manager, Small & Micro-Credit Unit, the Co-

Chief Manager, Public Relation, the Co-operative

operative Bank of Kenya

3. Ms. L. W. Murumba

Staff, Small & Micro-Credit Unit, the Co-

operative Bank of Kenya

4. Mr. J. M. Mwangi

Staff, ,Small & Micro-Credit Unit, the Co-

operative Bank of Kenya

5. Mr. Daniel Angweyi

Credit & Marketing Manager, Development Bank

of Kenya

6. Mr. Gideon K. Toroitich

7. Mr. Kogie V. N.

Managing Director, Agricultural Finance Agricultural Financial Corporation

E. United Nations Office for Project Services (UNOPS)

1. Mr. Ides Van der Doas de Willebois Project Management Officer, UNOPS

F. Others

1. Mr. Muteru Wathuta Njau-ini

Area worker, Kenya Wildlife Services, Embu

Area Partnership Officer, Kenya Wildlife Services,

Meru

3. Mr. Dadid Mason

2. Mr.M. K. Thondu

Senior Technical Advisor, ILO/ASSIST

4. Miss Annabel Chite

Information Officer, ILO Assistant

5. Dr. M. V. Eckert

Project Co-odinator, Integration of Tree Crops into

Farming System Project, GTZ

6. Mr. John W. Karuga

Director, Everest Enterprise Ltd.

Corporation

7. Mr. Hasit Shah

General Manger, Sunrise Ltd.

8. Mr. Kamande E. Wainaina

Scheme Manager, Ngandri-A Rural W/S System,

NWC&PC

G. Related Japanese Agencies

1) Embassy of Japan

Dr. Shinsuke Horiuchi
 Mr. Ryuji Uematsu

Ambassador of Japan

Second Secretary

2) Kenya JICA Office

1. Mr. Minoru Tagami

Resident Representative

2. Mr. Atsushi Matsumoto

Deputy Resident Representative

3. Mr. Atsushi Hanatani

Staff

4. Mr. Masaaki Miyagawa

Staff

3) The Overseas Economic Cooperation Fund (OECF) of Japan, Nairobi Office

1. Mr. Susumu Iwamoto

Chief Representative

ANNEX G

METEOROLOGY AND HYDROLOGY

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en de la composition La composition de la

Monthly Meteorological Data at Nyeri District Table G.1-1

9036288

Station Name Location

Nyeri Met. Station 0 26 S latitude

longitude 36 58 E

Period of Record:

1976-1980

1815 m Altitude

		Tempe	rature			Humidity	Daily	Daily	Daily	Monthly	Nos. of Raindays
Month	Daily Maximum	Daily Minimum	Extrem high	Extrem low	Daily Maximum	Daily Minimum	sunshine hours	wind run	Evapo- ration	mean rainfall	(days)
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm) 103	(unys)
Jan	24.7	10.3	28.8	5.7	76	54	7.3	88.5	127	68	
Feb	25.7	11.0	30.3	4.7	<i>7</i> 7	50	8.0	94.6	137		1
Mar	25.8	11.8	31.4	5.5	77	51	7.2	105.0	143	91	l.
	24.0	14.0	28.0	11.5	85	64	5.5	81.5	117	93	1.
Apr	22.6	14.1	26.2	9.5	88	65	6.7	81.8	123	213	1
May	21.2	12.5	24.0	8.7		65	5.6	72.5	94	41	
Jun Jul	20.0	11.9	24.5	8.3	90	66	3.9	72.3	79	20	
	20.6		25.3	6.3			4.3	<i>7</i> 7.5	94	31	
Aug	23.3		29.1	7.3			5.1	92.0	136	19	
Sep	23.3 24.5		27.4	8.0			7.1	89.6	161	120	1
Oct			27.0	6.7			5.8	55.9	109	152	ļ
Nov	23.0 23.5		28.8	4.1			6.7	68.4	118	72	1
Dec	23.3	11.7	20.0	***							
	270.0	146,7	330.8	86.3	990	712	73.2	979.6	1438	1023	11
Total	278.9						8.0	105.0	161	213	
Max.	25.8						3.9	55.9	79	19	
Min.	20.0					•	6.1	81.6	119	85	
Ave.	23.2	12.2	27.6	1.4							

Monthly Meteorological Data at Kirinyaga District Table G.1-2

Station No.

9037096

Station Name Location

Sagana Fish Cultural Farm 0 40 S

latitude longitude 37 12 E

Period of Record:

1971-1980 1220 m

Altitude

Nos. of Monthly Daily Daily Daily Relative Humidity Temperature Raindays Evapomean wind sunshine Extrem Daily Daily Daily Extrem Daily Month ration rainfall пun Maximum Minimum hours low high Maximum Minimum (days) (mm) (mm) (hrs) (km) (%) (degree) (degree) (degree) (degree) 62.2 7.6 9.8 27.6 14,3 32.6 Jan 165 46 3 66.0 67 45 8.2 14.9 31.9 9.0 28.6 Fcb 9 86 7.5 69.7 181 68 80 49 28.5 27.6 15.7 32.8 8.5 Mar 397 17 47.0 146 57 6.1 17.2 35.4 10.4 Apr 213 18 149 44.7 60 7.1 80 29.9 12.0 17.0 May 26.7 26 5,5 40.1 112 61 9.1 82 35.0 25.5 15.4 4 Jun 107 14 41.4 3.2 9.5 81 60 32.8 24.5 14.7 Jul 18 47.9 114 4.4 7.0 81 58 32.5 24.9 14.4 Aug 152 26 66.3 51 6.0 77 5.5 30.6 26.9 14.8 Sep 11 183 134 65.1 7.2 75 49 32.2 6.2 28.0 15.8 15 7 Oct 162 267 48.8 79 59 6.6 11.4 15.6 31.2 26.7 Nov 77 146 60.1 73 7.6 15.1 33.0 10.2 26.8 Dec 102 1340 1776 659.3 77.0 659 910 184.9 389.9 108.6 322.3 Total 397 18 183 8.2 69.7 82 67 61 17.2 35.4 12.0 Max. 28.6 3 14 107 45 3.2 40.1 29.9 5.5 14.3 24.5 Min. 8 148 111 6.4 32.5 26.9 Ave

Table G.1-3 Monthly Meteorological Data at Embu District

Station No. Station Name

9072023 Embu Met. Station latitude 0 30 S longitude 37 27 E 1977-1980 1508 m

Location

Period of Record:

Altitude

		Tempe	raturc		Relative	Humidity	Daily	Daily	Daily	Monthly	Nos. of
Month	Daily	Daily	Extrem	Extrem	Daily	Daily	sunshine	wind	Evapo-	mean	Raindays
	Maximum	Minimum	high	low	Maximum	Minimum	hours	run	ration	rainfall	
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	24.4	12.1	28.4	9.0	71	61	8.5	76.0	158	65	7
Fcb	26.0	13.1	29.7	7.9	74	54	9.0	89.3	159	60	4
Mar	26.3	14.0	31.4	10.5	78	52	8.1	87.4	163	111	11
Apr	24.8	15.4	29.3	12.7	88	68	6.6	69.5	143	322	20
May	23.7	14.9	27.5	11.2	85	63	6.2	57.1	131	189	15
Jun	22.2	13.3	25.8	9.5	86	60	4.3	63.6	. 96	25	. 4
Jul	20.8	12.6	25.0	9.4	85	64	2.4	77.1	77	38	. 9
Aug	21.7	12.1	25.8	8.5	88	61	3.8	71.5	93	44	10
Sep	24.7	12.7	28.9	8.6	83	46	5.4	64.5	128	40	. 4
Oct	25.8	13.9	29.5	9.4	82	48	7.1	65.6	146	157	12
Nov	23.6	13.6	26.4	8.5	83	66	6.9	85.7	134	259	17
Dec	23.8	12.8	26.9	8.7	75	65	8.4	73.9	145	54	10
Total	287.8	160.5	334.6	113.9	978	708	76.7	881.2	1573	1364	123
Max.	26.3	15.4	31.4	12.7	88	68	9.0	89.3	163	322	20
Min.	20.8	12.1	25.0	7.9	71	46	2.4	57.1	77	25	4
Ave.	24.0	13.4	27.9	9.5	81	- 59	- 6.4	73.4	131	113	: 10

Table G.1-4 Monthly Meteorological Data at Mbeere District

Station No. Station Name

8937035 Archer's Post

Location

0 37 N

latitude

Period of Record:

Altitude

longitude 37 40 E 1971-1980 872 m

		Tempe	rature		Relative	Humidity	Daily	Daily	Daily	Monthly	Nos. of
Month	Daily Maximum	Daily Minimum	Extrem high	Extrem low	Daily Maximum	Daily Minimum	sunshine hours	wind run	Evapo- ration	mean rainfall	Raindays
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	31.7	17.4	35.5	13.5	60	41	-	131.9	300	27	3
Feb	32.7	18.2	36.0	12.5	59	. 38	-	144.3	282	21	2
Mar	33.4	19.1	37.5	14.0	59	42		151.6	316	70	3
Apr.	33.0	19.8	36.5	14.0	65	45	-	127.3	255	53	6
May	32.9	20.0	36.5	17.0	60	46	-	139.0	262	10	6
Jun	32.4	19.0	34.5	16.8	58	41	-	162.0	279	. 8	. 2
Jul	31.7	19.0	35.5	16,0	55	40	_	170.8	287	7	2
Aug	32.2	19.2	36.7	12.0	55	38	_	181.4	290	30	1
Sep	33.2	19.7	36.0	17.5	55	38	-	170.8	305	63	. 2
Oct	33.3	19.6	36.5	16.5	- 58	38	- '	148.9	293	30	4
Nov	31.2	18.7	34.5	15.0	66	45	: -	122.6	236	. 63	6
Dec	30.8	17.9	34.0	14.0		45	-	127.6	270	30	3
Total	388.5	227.6	429.7	178.8	715	497	_	1778.2	3375	412	40
Max.	33.4	20.0	37.5	17.5	66	46	-	181.4	316	70	6
Min.	30.8	17.4	34.0	12.0	55	38		122.6	236	7	' 1
Avc.	32.4	19.0	35.8	14.9				148.2	281	34	3

Monthly Meteorological Data at Tharaka Nithi District Table G.1-5

Station No. Station Name Location

9037160 Marimanti Met. Station latitude 0 9 S longitude 37 59 E 1971-1980 587 m

Period of Record : Altitude

		Tempe	rature		Relative	Humidity	Daily	Daily	Daily	Monthly	Nos. of
Month	Daily	Daily	Extrem	Extrem	Daily	Daily	sunshine	wind	Evapo-	mean	Raindays
Michigan	Maximum	Minimum	high	low	Maximum	Minimum	hours	run	ration	rainfall	
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	31.9	18.4	36.9	13.9	75	52	_	53.3	159	50	4
Feb	33.8	19.8	37.4	12.6	72	49	-	68.0	1 <i>7</i> 7	21	3
Mar	34.6	20.9	38.2	17.0	71	46	-	69.8	225	68	4
Apr	33.1	21.4	37.8	17.4	75	59	_	55.5	181	272	12
May	32.2	20.8	39.5	17.0	74	54	-	56.4	166	112	6
Jun	31.7	19.2	35.6	14.5		46	-	67.1	168	7	2
Jul	31.0	19.4	35.5	14.5		. 44	_	84.9	180	4	2
	31.3	19.5	35.2	15.5		40	_	100.6	208	4	1
Aug	33.2		36.6	14.6		41	_	111.3	242	11	1
Sep	34.2		36.9	17.2	-	42	_	103.1	254	70	. 4
Oct	30,0		36.6	16.4		59	_	55.0	173	223	12
Nov Dec	30.9		35.1	14.1			-	50.8	154	. 5	6
Total	387.9	239.7	441.3	184.7	837	593	-	875.8	2287	847	57
Max.	34.6		39.5			61	-	111.3	254	272	12
Min.	30.0		35.1	12.6		40	_	50.8	154	. 4	,
Ave.	32.3						<u>-</u>	73.0	190	70	4

Table G.2.1-1 Meteorological Condition of Rupingazi Ngerwe Irrigation Scheme

9037202

Station Name

Embu Meteorological Station

Location:

latitude 0 30 S longitude 37 27 E

Period of Record:

Min.

1977-1980 1508 m

20.8

12.1

25.0

7.9

Altitude :

Nos. Daily Monthly Temperature Relative Humidity Daily Daily Daily Sunshine wind Evapomean of Daily Extrem Extrem Daily Daily maximum ration rainfall Raindays hours minimum high low maximum nın. maximum (days) (degree) (degree) (%) (%) (hrs) (km) (mm) (mm) (degree) (degree) 76.0 158 65 71 61 8.5 28.4 9.0 Jan 24.4 12.1 159 60 89.3 4 74 54 9.0 26.0 13.1 29.7 7.9 Feb 11 14.0 31.4 10.5 78 52 8.1 87.4 163 111 26.3 Маг 20 88 68 6.6 69.5 143 322 12.7 Apr 24.8 15.4 29.3 15 131 189 23.7 14.9 27.5 11.2 85 63 57.1 May 60 63.6 4 25.8 9.5 86 4.3 Jun 22.2 13.3 54 61 9 77 38 85 2.4 77.1 9.4 Jul 20.8 12.6 25.0 93 10 44 88 3.8 71.5 21.7 12.1 25.8 8.5 Aug 12.7 28.9 8.6 83 46 5.4 64.5 128 40 4 24.7 Sep 146 157 12 29.5 82 48 7.1 65.6 9.4 Oct 25.8 13.9 134 17 259 23.6 13.6 26.4 8.5 83 66 6.9 85.7 Nov 26.9 8.7 75 65 73.9 145 54 10 23.8 12.8 Dec 1573 1364 123 Total 89.3 20 88 9.0 163 322 15.4 31.4 12.7 68 26.3 Max.

71

46

2,4

57.1

25

114

77

4

10

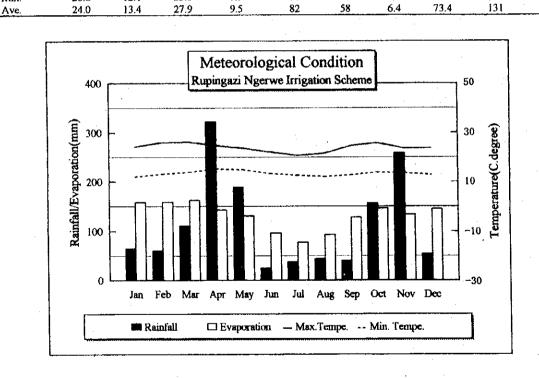


Table G.2.1-2 Monthly Minimum Runoff at RGS-4DC3

YEAR ITEM 1970 MINI 1971 MINI 1972 MINI 1973 MINI 1974 MINI 1975 MINI 1976 MINI 1976 MINI 1977 MINI 1977 MINI 1987 MINI 1984 MINI 1984 MINI 1987 MINI 1987 MINI 1987 MINI 1987 MINI 1987 MINI 1988 MINI 1988 MINI 1988 MINI 1989 MINI	М JAN 1.42 1.24 1.24 1.24 1.33 1.00 1.00 1.92	FEB 1.08 0.92 1.08 1.00 0.64 0.07 0.07	MAR	APR	MAY	NOL	JOL	AUG	SEP	OCT	NOV	DEC	ANNUAL
<u></u>		1.08 0.92 1.08 1.61 1.00 0.64 0.78	5		_								
<u></u>		1.08 1.09 1.00 1.00 0.64 0.07		202	\$ 0.5	3.24	2.48	1.71	2.60	2.25	2.60	1.61	1.00
<u></u>		1.08 1.00 1.00 0.64 0.07 0.07	3.0	70.7	4.03	3.24	3 04	2.91	2.25	2.02	2.08	1.92	0.78
		1.08 1.00 0.64 0.78 0.07	0,70	20.0	1 47	2.70	2 02	1 00	1.42	1.92	7.03	3.38	0.85
		1.00 1.00 0.64 0.78 0.07	9 5	1 00	1 2 1	3 3 6	2.36	2.36	2.25	2.02	2.25	2.13	1.8
		0.64 0.64 0.78 0.07	1.40	20.1	1 20	1 43	236	2.68	2.25	161	2.02	1.42	0.78
		0.64 0.78 0.07	6,7	1.55	1.47	100	200	2.48	1 02	1 52	1 42	1.33	0.58
		0.78 0.07	0.58	0.58	07.7	2.43	20.7	21.7	200	20.1	104	133	0.58
	-	0.07	0.58	0.58	9.	1.01	1.42	1.10	27.0	4.0	0.47	0.32	0.07
▊ ▃▋▃▋▃▋▃▋▃▊▃▋▃▋▃▋▃▋▃▋▃▋▃▋▃▋▃▋▃▋		1	10.0	0.10	0.23	0.32	0.23	۲ ا ۲	0.10	27.0	roo	12.0	0 13
 		0.13	0.19	0.27	1.01	1.15	1.02	0.89	0.77	8	75.0	· ·	20.0
		0.51	0.36	0.41	0.66	1.42	0.77	0.56	0.46	0.46	0.50	0.40	000
	l	0.20	0.00	0.20	0.83	0.56	. N	2.18	2.18	1.79	4.60	3.05	
	l	77.	1 28	5.03	695	6.14	3.99	3.80	3.23	2.60	3.80	2.69	1.28
	┪	75	9	25.0	\$ 68	6 14			3.41	3.60	7.19	4.40	
	-	9.50	CY F	200	800	6.60	4.83	3.70	2.69	3.26	5.35	3.99	1.28
	+	2.10	7	000	1 20	115	1 03	0.77	0.77	1.21	3.99	2.51	0.77
	-	1.00	70.1	1.40	7071	20.7	7.10	3 60	3.80	3.90	3.99	2.80	1.02
	_	1.42	1.02	2.35	5.	0.43	77.	2	5	3 5 6	3.41	234	0.66
 		1.02	0.68	0.66	5.57	9.60	3.99	7.80	707	200.7	7 6	1 20	
+++	_	1 02	0.61	0.56	1.55	4.40	2.51	2.18		1.51	1.41	1.40	-
++	_	0.56	0.46	1 24	10.14	. 09'9	5.39	5.03	6.85	5.24	7.93		
- †		250	218	232	5.24	6.37	5.68	5.46	4.81	4.40	8.18	5.91	
-	1	2 37	2 23	637	8 06	6.84	4.60	4.50	3.60	2.69	5.68	5.03	2.69
-	+	3.24	1.66	1 40	2,60	5 91	4 19	3.41	2.34	1.86	2.43	2.18	1.49
÷	-	1.00	0.5	1 08	2 4 2	3.80	3.23		2.18	2.77	4.19	3.99	_
÷	+	8.0	5 .	20.1	* * * *	6.60	5 91	4 60	2.51	1.86	2.18	1.86	1.56
-÷	+	2,30	1./1	20.1	¥7.05	8 8				2.86	12.67	6.95	,
÷	-	0.36	0.79	1.00	10.1	3			4 80	461	9.87	5.91	
<u>-</u>	3.99	2.86	2.18	45.2	8 5 5			-					
÷	-	3.E	75.7	7.10	2.10	,	00.0	2,64	251	2.28	412	2.78	2.65
_	_	1.35	1.05	1.36	4.29	97.4	3.00	5,7					

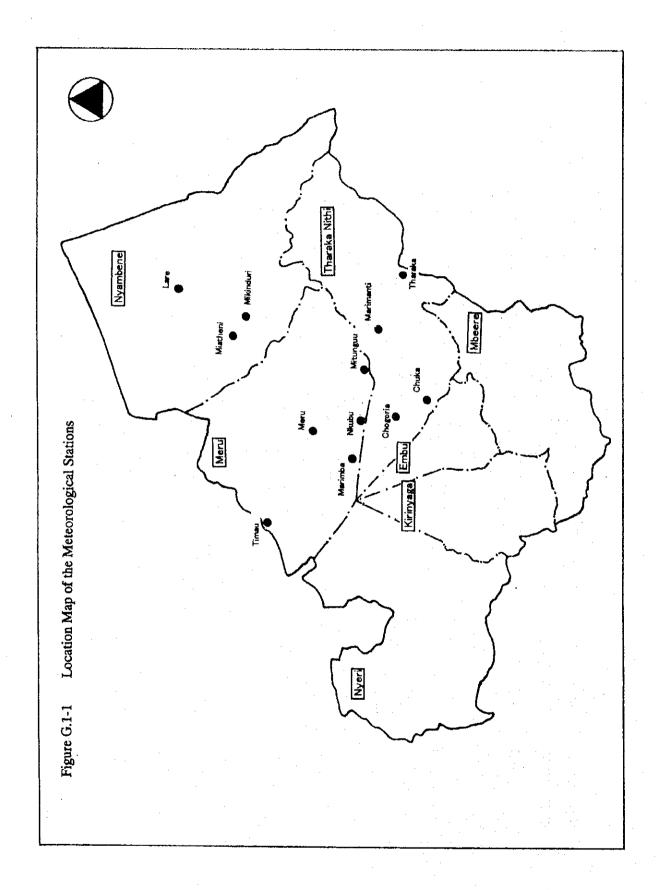
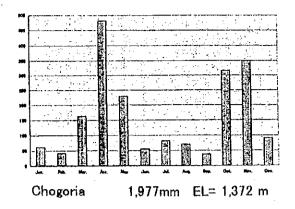
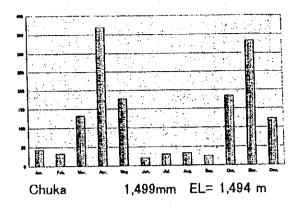
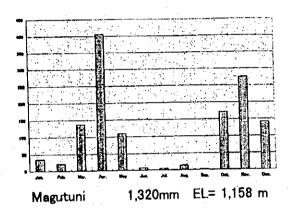
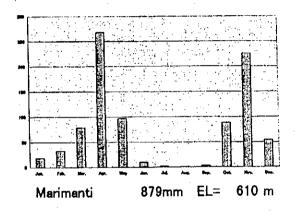


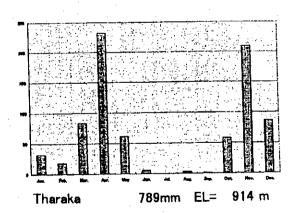
Figure G.1-2 Elevation and Annual Rainfall Pattern Thereka Nithi

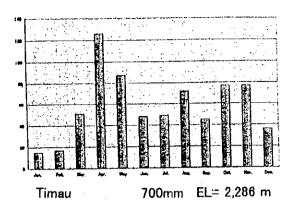


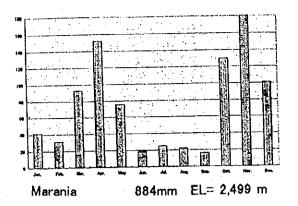


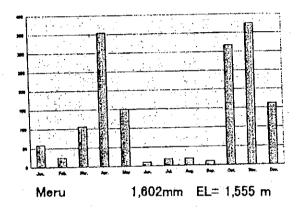


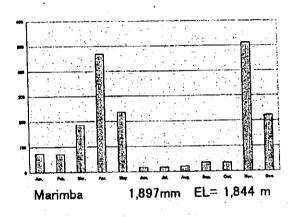


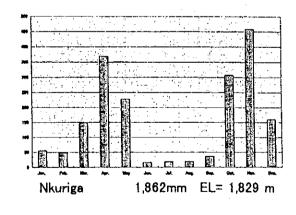


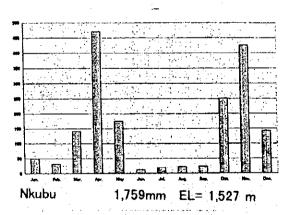


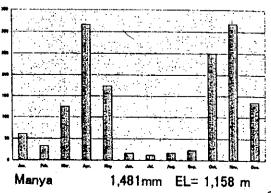


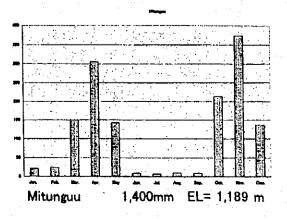






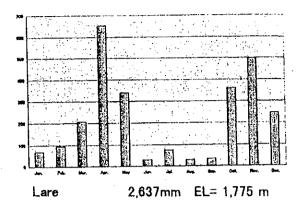


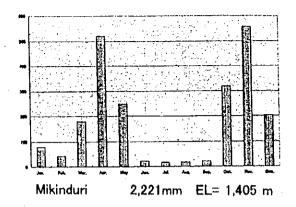


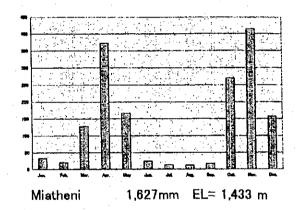


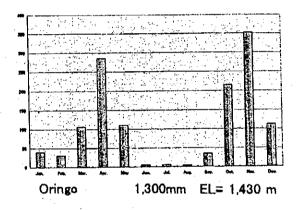
G-8

Nyambene









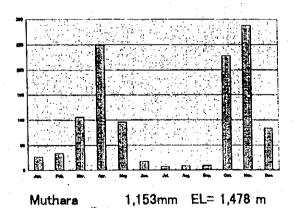


Table G.2.2-1 Meteorological Condition of Ngomano/Nyangati Water Furrow Project

Station Name: Location:

9037179 Tabere Cotton Research Station, Kirinyaga nautude 0 37 S longitude 37 20 E 1974-1980 1159 m

Period of Record :

Altitude :

		Temperati	re		Relative I	lumidity	Daily	Daily	Daily	Monthly	Nos.
	Daily	Daily	Extrem	Extrem	Daily	Daily	Sunshine	wind	Evapo-	mean	of
	maximum	minimum	high	low	maximum	maximum	hours	run	ration*	rainfall	Raindays
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	28.4	13.7	32.0	9.3	71	47	9.2	101.3	207	32	6
Feb	29.7	14.7	32.7	9.8	71	44	9.1	94.1	212	37	5
Mar	30.0	16.3	33.5	10.0	. 75	44	7.9	91.0	223	72	6
Арг	27.9	17.4	32.5	14.0	83	52	6.9	65.9	179	286	-15
May	26.8	16.9	30.0	13.0	80	57	7.0	49.0	149	122	9
Jun	25.5	15.8	28.5	10.5	77	53	5.4	5.0	132	36	5
Jul	24.3	15.3	28.5	9.0	78	54	4.0	59.4	121	43	5
Aug	24.9	15.1	29.7	9.5	78	51	4.0	68.4	143	15	4
Sep	27.5	15.5	32.5	10.5	73	43	6.1	81.7	186	27	4
Oct	28.8	16.3	32.0	8.0	76	44	7.5	72.9	214	85	6
Nov	26.9	16.1	30.5	11.0	82	55	7.0	72.8	158	218	13
Dec	26.9	14.7	30.5	11.0	76	55	8.5	81.1	179	41	7
Total	-	-	-	-	-	-	-		2103	1014	. 85
Max.	30.0	17.4	33.5	14.0	83	. 57	9.2	- 101.3	223	286	15
Min.	24.3	13.7	28.5	8.0	71	43	4.0	5:0	121	15	4
Ave.	27.3	15.7	31.1	10.5	77	50	6.9	70.2	175	85	7
te) * Mw	ea Experiment	al Station(19	955-1977)		······································						

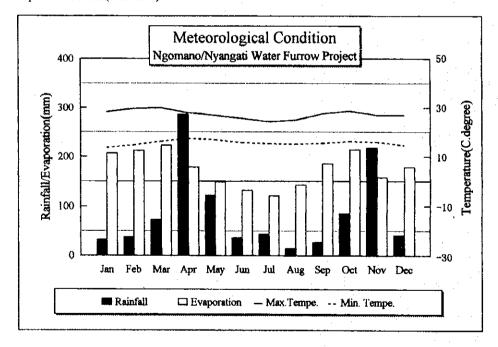


Table G.2.2-2 Monthly Minimum Runoff at RGS-4DA10

Fable G	2.2-2	Table G.2.2-2 Monthly Minimum Runott at RGS-4DA10	y Minin	oum Ku	noii al <u>f</u>	いながれ							(unit: m3/s	(3
VEAR	ITEM	IAN	FEB	MAR	APR	MAY	NOT	JOL	AUG	SEP	OCT	NOV	DEC	ANNUAL
						9		27.0	0 01	α π	7 45	6.30	4.54	3, 69
1970	MINI	4.11	3.90	3,69	5.85	24. 43	7 07	00 0	1500	G 42	5 28	4. 42	3.42	
1971	MINI	3.28	1.84	2.33) Q ()	60.0	20.0	2 2 2	2 28	25.86	12.93	2, 33
1972	MINI	2. 68	3.81	2, 50	2.33	3.81	00.01	0.42	00.00	7 68	7.74	6. 42	6.30	3.90
1973	MINI	8. 15	6, 53	4.32	3.90	7.08	55.93	9, 10	10.52	7.46	6.08	5.52	4.32	2.28
1974	MINI	3.90	3, 48	2.28	3.80	5. X5	00.0	2, 0,	7 60	5 74	63	4.32	3.69	1.90
1975	MINI	3.28	2.48	2.00	1.90	4.54	10.44	χ. υ. Ευ	(, 00 1 L	200	% % %	3.08	4.97	.35
1976	MINI	2, 19	1.90	1.35	1.72	2.68	5. 53	ວຸດ	7.45	77.	7 E	13 84	00	2.48
1977	MINI	4.32	2.68	2.68	2,48	19.94	10.58	ς τ τ	. to	2 0	77. 77	χ π	38	4.97
1978	MINI	6.30	4.97	6.30	7.22	18,61	7.91	X. 31	06.0	00.0	5 41	80 9	5 63	5.41
1979	KINI	5.74	7.91	6.08	6.30	11.74	17.63	10.87	0.00	00.0	4 29	g	7 91	. 53
1000	MINI	4 32	3.48	5.19	1 53	6. 76	7, 22	9 OS	5. 35	0 0	1. 00 1. 00	7 6	00 8	A 97
1001	VTNT	5 85	5.41	4, 97	8,38	8. 15	12.63	8 63	92.9	5. 53	ος Ο	16.7	21 15	7. 7.
1061	TITAL	22.5			4.32	11.75	15.39	12.03	3. 28	7.91	02.01	12.33	77.10	
1982	TATE		10	1 29	4 32	30.64	14.14	10.40	5.41	6.08	6.53	6.08	9.08	
1983	MINI	(. 45	67.0	4.06	DV 0	2 60	2 68	2.98	3, 48	3.48	3.48	5, 63	7.91	
1984	MINI	4.32	4.11	7.01	Q 1	20, 65	11 45	8, 8	6 84	5.41	5.41	6.08	6.53	
1985	MINI	5. 52	4. 22	3.90	5.03	75.40	10 62	α π	80 8	4 11	3.90	5.63	90.9	
1986	MINI	3.90	3,08	2.28	7.78	00 0	10.00	0, 10	2 6	7.62	3.62	3.08	3.28	2.28
1987	MINI	4.68	3, 28	2.28	2.28	5. 53	10.00	0.00	2	14 45	10 01	12.03	11.89	
1988	MINI	2.54	1.53	1.53	5.21	30.70	10. (2	66.0		4 T. 20	38	12 93	10.87	
1989	MINI	7.91	6.30	4, 75			12.03	3, 13	7.07	30.5	2 10	9 46	8.63	5, 19
1990	INIX	8, 38	6.30	6, 53	7.16	15.70	13. 23	ر در در		2	4 97	9.31	6.30	
1991	MINI	5.85	3.48	2, 87	3, 48	22.75	11.10	7 0.0	7 63	4.30	3 69	4.97	5.63	
1992	MINI	2.48	1.53	1.53		The distriction	10.01	T	200	2000	3 08	87 E	06 c.	3.08
1993	MINI	4.54	5. 78	3, 76		8.63	10.58	(.83	0.00	2 °	80.00	18 01		
1994	INIM	1.35	1.35	0.84		16.56				27.0	7 7	19.67		
1995	MINI		3, 69		1.53	14.76	10.58	2 2	0.50	0,0) -			
1996	INIM		4.11	4, 32		4 54	11. 05	27.0	07.3	808	5 54	8, 48	6.83	6.82
Average	MINI	4.74				12.67	11.19	8, 13	1	.1	.1			1

Table G.2.3-1 Meteorological Condition of Nkunjumo Water Project

Station Name:

8937065
Meru Meteorological Station, Meru latitude 0 05 N
longitude 37 39 E
1975-1980
1555 m

Location :

Period of Record : Altitude :

		Temperati	ıre	******	Relative I	lumidity	Daily	Daily	Daily	Monthly	Nos.
	Daily	Daily	Extrem	Extrem	Daily	Daily	Sunshine	wind	Evapo-	mean	of
	maximum	minimum	high	low	maximum	maximum	hours	nın	ration	rainfáll	Raindays
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	23.4	11.4	26.0	6.4	79	67	8.1	66.8	120	80	7
Feb	24.7	11.9	28.3	6.9	78	50	8.6	67.7	. 129	39	6
Mar	25.7	13.0	29.8	9.2	78	55	8.3	63.5	157	126	8
Apr	24,1	14.3	28.6	10.6	81	67	7.5	53.6	134	282	17
May	22.8	13.7	25.5	8.9	83	71	8.1	62.9	117	86	10
Jun	22.1	12.0	25.2	7.0	81	63	7.5	58.1	115	5	3
Jul	21.5	11.9	24.6	7.5	84	61	6.1	62.1	115	10	3
Aug	22.1	12.0	26.2	8.5	83	56	6.5	75.2	133	. 8	3
Sep	24.4	12.3	28.7	7.8	78	49	7.7	82.7	148	16	4
Oct	25.1	13.5	30.0	9.0	79	49	7.9	75.3	170	140	9
Nov	22.8	. 13.1	25.7	9.2	. 83	71	6.4	50.9	110	328	17
Dec	22.7	12.0	25,7	8.0	81	73	7.0	50.8	11	139	12
Total	-		-	-	-	-	-	-	1459	1259	99
Max.	25.7	14.3	30.0	10.6	· 84	73	8.6	: 82.7	170	328	17
Min.	21.5	11.4	24.6	6.4	78	49	6.1	50.8	- 11	5	3
Ave.	23.5	12.6	27.0	8.3	- 81	61	7.5	64.1	122	105	8

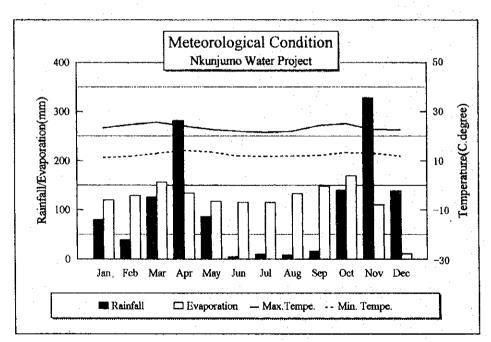


Table G.2.3-2 Monthly Minimum Runoff at RGS-4F5

rable C	Table G.2.3-2 Monthly Minimum	Month	ly Minin		Kunoii at Kun-4ru	けんり	า						(unit: m3/s)	
				DAAD	day	MAV	ZE	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
YEAR	LIEM	JAN	S I	¥¥	4	1177								:
						100		1 11		0.54	0.44	0.76		0, 44
1970	MINI	1. 24	1.19		1.33	£0.7		0000		0.44	0.40	0.59		0.40
1971	MINI	0.65	0.52		0.59	1.2		60.0	7 7	Z 2 0)		٠ دري	
1972	XINI	0.65	0.65	0.58	0.44	0.57	0.54	C 43		O				
1973	INIX	96 0	0, 76							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
1974	MINI	4,000,000	***************************************						00 0	0.75	1 73	1.77		
1980	MINI						7 7	91.	20.0	2 6	0 70	0.79	1.11	0. 70
1981	MINI	1.27	1.11	0.89	1.93	2.32	1.44	1.10	00.00	20,00	7.0	00 6		0.76
1982	MINI	1.27	1.03	0.76	1.00	2.44	1.44	2 .	0 20	2	0.76	1.5	1.5	
1983	MINI	1.27	1.27	0.65	0.96	1.44	1, 18	1.11	1.05	96 0	2.0	9.91		0.36
1984	INI	1.72	96 0	0.76	0 70	0, 70	U. 54	0.49	‡ 0	0.00	2 0	00		
1985	MINI	1, 18	96.0	0. 70	7. II	2.26	1.53	. 03	0.00	0 0	0.54	0. 70		
1986	INIM		0.83	0. 70	0.70	1.62	1. 13	0.03	2, 0	5 50	φ 7 0	0.49		0.49
1987	INIM	1.18	0.89	0. 70	0. 70	68.0	G (0.0	3 0	0 54	12	1, 53	0.54
1988	MINI	0.83	0.70	0.54	0.80	2.14	1.18	. US	0.03	200	0 70	1 48		0.59
1989	MINI	1.93	1, 44	0.65	1.18	ci i	S 6	80.0	0.0	0.00	5 5	60 c		0.54
1990	MINI	1. 62	1.39	1,31	3.38	2.44	1. (2	01.1	20.0	7.0	0.50	1.00		0.59
1991	MINI	1.67	1.18	0.76	1.03	. i.	1.444	1.10	200	5 5 6	0.52	2.10		0.52
1992	MINI	1.27	0.83	0.65	0.73	C .	1.05	7.00	ט כ צינ	0 49	0.44	0.93		
1993	MINI	3.03			1.15	1.82	1. 13		200	0.49				
1994	MINI		0. 70			70.1	1. 10	1.00	80	0 59	0.44	2.44	3.23	
1995	MINI		1.18	1 00	တ် ဝ	1. (5	1. 44	7.7	6.0					
1996	MINI	3,68	1,27	•			T .		0.70	ر برو	0.62	1.34	1.80	1.09
Average	MINI	1.46	0.99	0.74	1: 10	1.54	1.14	0. 20					1	

Table G.2.4-1 Meteorological Condition of Ruungu/Karocho Irrigation Project

Station Name:

9037160 Marimante Meteorological Station, Tharaka Nithi

Location:

latitude 0 09 S longitude 37 59 E

Period of Record:

Altitude :

1971-1980 587 m

		Temperati	ire		Relative I	lumidity	Daily	Daily	Daily	Monthly	Nos.
	Daily maximum	Daily minimum	Extrem high	Extrem low	Daily maximum	Daily maximum	Sunshine hours*	wind run	Evapo- ration	mean rainfall	of Raindays
	(degree)	(degree)	(degree)	(degree)	(%)	(%)	(hrs)	(km)	(mm)	(mm)	(days)
Jan	31.9	18.4	36.9	13.9	75	52	8.1	53.3	159	50	4
Feb	33.8	19.8	37.4	12.6	72	49	8.6	68.0	177	21	3
Mar	34.6	20.9	38.2	17.0	71	46	8.3	69.8	225	68	4
Apr	33.1	21.4	37.8	17.4	75	59	7.5	55.5	181	272	12
May	32.2	20.8	39.5	17.0	74	54	8.1	56.4	. 166	112	6
Jun	31.7	19.2	35.6	14.5	64	46	7.5	67.1	168	7	2
Jul	31.0	19.4	35.5	14.5	64	44	6.1	84.9	180	4	2
Aug	31.3	19.5	35.2	15.5	60	40	6.5	100.6	208	4	1
Sep	33.2	20.0	36.6	14.6	57	41	7.7	. 111.3	242	11	1
Oct	34.2	21.1	36.9	17.2	64	42	7.9	103.1	254	70	4
Nov	30.0	20.3	36.6	16.4	81	59	6.4	55.0	173	223	12
Dec	30.9	18.9	35.1	14.1	80	61	7.0	50.8	154	5	6
Total	•	-	•	-	· .	-		-	2287	847	57
Max.	34.6	21.4	39.5	17.4	81	61	8.6	111.3	254	272	12
Min.	30.0	18.4	35.1	12.6	57	40	6.1	50.8	154	4	1
Ave.	32.3	20.0	36.8	15.4	70	49	7.5	73.0	191	71	

Note) * Meru Meteorological Station(1975-1980)

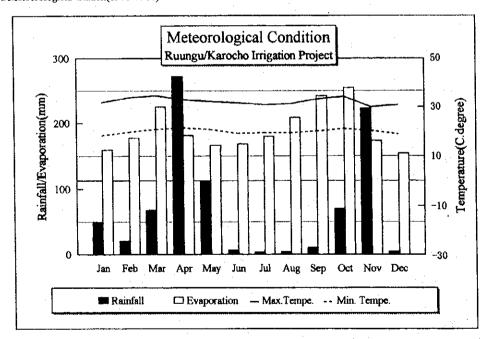


Table G.2.4-2 Monthly Minimum Runoff at RGS-4F17

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m 11 TT 1 OO	Same Strategies for Agricultural Development

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H.2 Feasibility Study

PRELIMINARY SOIL SURVEY FOR MODEL AREAS

Table H.1-1 Rainfall Data (mm.) from Various Stations in the Project Area, (Nyeri,Kirinyaga, Embu, Mbeere).

Kiandongoro 2,377 94 Naro Moru 2,057 38 Mweiga 1,890 65 Nyeri 1,829 51 Othaya 1,829 42 Karatina 1,814 31 Karugoya 1,570 32 Molinduko 1,378 26 Tebere 1,200 27 Muranga 1,219 25 Murubaru 1,219 18 Murubaru 1,58 38	8 1 1 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	50 99 107 111 52 70 16 68	` `	Ì	200	88 88		ŗ	77	170	205	107	1 795
2,377 2,057 1,890 1,829 1,814 2,012 2,438 1,570 1,219 1,219 1,219	8 1 2 3 4 5 1 8	_				00	×	×	-	Q/_		171) / · · ·
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	6				58	m	0	4	7	44	711	3.1	† † 0

Rainfall Data (mm.) from Various Stations in the Project Area, (Tharaka-Nithi, Meru, Nyambene). Table H.1-2

Station	Altitude	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Chogonia	1.372	61	41	163	482	229	55	82	71	37	315	350	91	1,979
Chuka	1,494	43	32	132	369	177	20	30	32	25	184	332	123	1,500
Magnitini	1.158	34	20	137	405	109	7	ς,	13	7	171	275	142	1,323
Marimanti	610	19	33	79	268	76	10	2	,	ĸ	88	225	54	879
Tharaka	914	35	18	83	232	61	5	0	3	1	58	209	87	787
Timan	2.286	15	17	51	126	87	48	49	72	45	11	11	36	869
Marania	2,499	41	31	93	152	75	18	25	22	16	130	180	101	884
Men	1,555	28	24	106	353	150	10	80 100	19	11	317	375	161	1,602
Marimba	1,844	75	72	187	469	236	8	18	21	35	34	511	221	2,208
Nkuriga	1.829	55	48	148	369	228	16	18	16	36	307	458	160	1,859
Nkubu	1,527	49	31	141	470	174	12	19	22	23	251	425	142	1,765
Manya	1,158	61	33	125	316	174	17	12	17	23	250	318	135	1,479
Mitunguu	1,189	21	24	149	305	142	6	7	10	6	213	374	137	1,401
Lare	1.775	69	46	207	653	340	30	75	30	35	361	498	245	2,640
Mikinduri	1,405	79	43	179	520	247	22	16	17	21	318	557	202	2,221
Miatheni	1,433	33	20	127	372	167	24	13	12	17	270	415	157	1,624
Oringo	1,430	9	31	106	285	110	S	9	m	35	215	352	112	1,300
Muthara	1,478	27	34	106	249	96	17	7	∞	6	228	288	8 4	1,164

Table H.1-3 Main Soil Categories Found in the Project Area

Soil Texture	Texture	Texture	O.M. Tonsoil	Drainage	Fertility	Water Holding	Remarks
Acrisols	Clay	Varies	Varies	Moderate	Low	Moderate	Acid (Utisols)
Andosols	Clay	Clay	Medium	Good	High	High	Volcanic ash soils
Arenosols Cambisols Ferralsols Nitosols	Sand Varies Clay Clay	Sand Varies Clay Clay	Low Varies Varies Medium	Good Moderate Good Good	Low Moderate Low Moderate	Low Varies Moderate Moderate	Sands Young soils (Oxisols) Kikuyu red Ioam
Phaeozems Clay Vertisols Clay	Clay	Varies Clay	High Low	Good	High Moderate	High High	Praire soils Black Cotton

FAO/Unesco, Kenya Soil Survey

Table H.1-4 Crop Area, Yields and Production, 1995: Nyeri District

Crop	Area (ha.)	% Cropped	Production	Average Yield
•	` '	Area	(tonne)	(kg/ha)
Coffee	13,805	15.7%	48,800	3,534 (cherry)
Pyrethrum	282	0.3%	169.2	600
Tobacco	42.5	<0.1%	416.5	9,800
French beans	90	0.1%	540	6,000
Snow peas	420	0.5%	1,470	3,500
Macadamia	124.5	0.1%	435	3,500
Wheat	5,500	6.2%	3,850	700
Maize	21,690	24.7%	26,028	1,200
Beans	23,754	27%	15,915	670
Irish Potatoes	15,450	17.6%	154,500	10,000
Cassava	14.5	<0.1%	203	14,000
Yam	8.5	<0.1%	127.5	15,000
Arrowroot	100	0.1%	1,000	10,000
Sweet Potato	320	0.4%	4,480	14,000
Field Peas	220	0.2%	1,144	5,200
Onions	312	0.4%	2,184	7,000
Tomatoes	780	0.9%	14,040	18,000
Cabbage	2,000	2.3%	36,000	18,000
Kale	260	0.3%	2,730	10,500
Carrots	400	0.5%	4,000	10,000
Peppers	45	<0.1%	270	6,000
Banana	1,417	1.6%	7,935	5,600
Mango	31.5	<0.1%	346.5	11,000
Avocado	680	0.8%	13,600	20,000
Passion fruit	25	<0.1%	250	10,000
Pineapples	25.5	<0.1%	216.75	8,500
Pawpaw	25	<0.1%	325	13,000
TOTAL	87,822 ha.	•	•	

Source: MOALM Annual Report 1995, Nyeri District.

Table H.1-5 Crop Area, Yields and Production, 1995: Kirinyaga District

Can	Area (ha.)	ields and product % Cropped	Production	Average Yield
Crop	Alca (lia.)	Area	(tonne)	(kg/ha)
Coffee 94	14,665	17.2%	51,460	3,509
Tea	4,607	5.4%	38,234	8,299
Tobacco	250	0.3%	250	1,000
French beans	1,150	1.3%	4,600	4,000
	16	<0.1%	72	4,500
Snow peas Macadamia	230	0.3%	641	2,787
Maize	25,596	30%	41,465	1,620
	5,820	6.8%	29,100	5,000
Rice	170	0.2%	91.8	540
Sorghum	140	0.2%	63	450
Millet	25,731	30.1%	11,579	450
Beans	185	0.2%	99.9	540
Grams	175	0.2%	78.75	450
Soybeans	230	0.3%	103.5	450
Cowpeas	180	0.2%	97.2	540
Chickpeas	230	0.3%	165.6	720
Pigeon Peas	and the second s	2%	11,725	7,000
Irish Potatoes	1,675	<0.1%	100	10,000
Cassava	10	<0.1%	450	10,000
Yams	45	0.1%	1,370	10,000
Arrowroot	137	0.3%	2,850	10,000
Sweet Potato	285	0.3%	3,120	12,000
Onions	260	1.6%	16,200	12,000
Tomatoes	1,350	0.2%	1,870	11,000
Cabbage	170	0.2%	3,360	12,000
Kale	280	<0.1%	280	8,000
Carrots	35	0.1%	580	4,000
Capsicums	145		13,640	10,000
Banana	1,364	1.6%	600	10,000
Mangoes	60	<0.1%	975	15,000
Avocado	65	<0.1%	975 495	11,000
Passion Fruit	45	<0.1%	845	13,000
PawPaw	65	<0.1%	047	13,000

TOTAL 85,366 ha.

Source: MOALM Annual Report 1995, Kirinyaga District. 1995 wet year, esp. 1st rains. Farm Management District Guidelines, 1995/96 Kirinyaga District-tea

Table H.1-6 Crop Area, Yields and Production, 1995: Old Embu District

STESSTEEN STATE OF S	Crop area, y	ields and product		
Crop	Area (ha.)	% Cropped	Production	Average Yield
***************************************	.,,	Area	(tonne)	(kg/ha)
Coffee	8,925	5.5%	42,000	4,706
Tea	4,580	2.8%	31,444	6,865
Cotton	800	0.5%	1,200	1,500
Tobacco	1,000	0.6%	800	800
Sunflower	140	<0.1%	168	1,080
Castor	140	<0.1%	84	5,000
French beans	85	<0.1%	652	7,670
Macadamia	603	0.4%	1,040	1,725
Brinjals	26	<0.1%	78	3,000
Okra	36	<0.1%	324	9,000
Karella	19	<0.1%	152	8,000
Others	25	<0.1%	176	7,000
Chillies	23	<0.1%	69	3,000
Maize	53,600	33%	62,712	1,170
Sorghum	17,400	10.7%	12,528	720
Millet	5,350	3.3%	3,852	720
Beans	29,700	18%	24,057	810
Grams	6,420	3.9%	4,045	630
Cowpeas	10,950	6.7%	6,899	630
Chickpeas	5,550	3.4%	3,996	720
Pigeon Peas	5,150	3.2%	3,708	720
Dolichos/Njahi	130	<0.1%	936	720
Irish Potatoes	2,670	1.6%	24,030	9,000
Cassava	895	0.5%	8,055	9,000
Yams	105	<0.1%	840	8,000
Arrowroot	131	<0.1%	1,048	8,000
Sweet Potato	1,095	0.6%	9,855	9,000
Onions	56	<0.1%	392	7,000
Tomatoes	132	<0.1%	1,056	8,000
Cabbage	94	<0.1%	1,410	15,000
Kale	285	0.2%	4,275	15,000
Carrots	48	<0.1%	384	8,000
Banana	4,267	2.6%	36,800	8,625
Mangoes	571	0.3%	4,570	8,000
Avocado	314	0.2%	3,100	8,873
Passion Fruit	161	0.1%	1,288	8,000
PawPaw	478	0.3%	3,690	7,720
Melons	13	<0.1%	104	8,000
TOTAL	161,967 ha.	Contaction and Contaction of the Contaction of t		en antigen de la companya de la comp

Source: MOALM Annual Report 1995, Embu District.

Table H.1-7 Crop Area, Yields and Production, 1994: Tharaka-Nithi District

	Crop area, yield	s and production	n, 1994: 1 naraka	-Mitui district
Crop	Area (ha.)	% Cropped	Production	Average Yield
•		Area	(tonne)	(kg/ha)
Coffee	9,252	8.5%	16,155	1,746
Tea	1,407	1.3%	484	343
Cotton	15,000	13.8%	4,500	300
Tobacco	1,740	1.6%	696	400
Sunflower	3,000	2.7%	540	180
French beans	25	<0.1%	100	4,000
Brinjals	6	<0.1%	36	6,000
Okra	6	<0.1%	36	6,000
Karella	10	<0.1%	25	2,500
Chillies	6	<0.1%	3.9	650
Karcade	2.5	<0.1%	3.75	1,500
Maize	24,000	22%	21,600	900
Sorghum	5,468	5%	3,445	630
Millet	16,231	15%	10,226	630
Beans	13,512	12.4%	5,472	400
Grams	6,837	6.3%	3,077	450
Cowpea	4,130	3.8%	1,115	270
Pigeon Pea	4,130	3.8%	1,673	405
Groundnut	370	0.3%	1,665	450
Njahi	523	0.4%	1,419	270
Irish Potatoes		0.5%	6,300	10,000
Cassava	138	0.1%	2,070	15,000
Yams	65	<0.1%	1,600	7,000
Arrowroot	75	<0.1%	600	8,000
Sweet Potato		0.2%	3,330	15,000
Onions	15	<0.1%	112.5	7,500
Tomatoes	55	<0.1%	550	10,000
Cabbage	16	<0.1%	135	8,437
Kale	160	0.1%	1,920	12,000
Carrots	2.5	<0.1%	17.5	7,000
Banana	865	12.8%	9,947	11,500
Mango	126	0.1%	1,191	9,500
Avocado	35	<0.1%	420	12,000
Passion Frui		<0.1%	78	6,000
PawPaw	60	<0.1%	300	5,000
Guavas	16.5	<0.1%	9.9	600
TOTAL	108,149 ha.	100%		

Source: MOALM Annual Report 1994, Tharaka Nithi District.

Table H.1-8 Crop Area, Yields and Production, 1995: Meru District

	Crop area, y	ields and produ	iction, 1995: Mer	u District
Crop	Area (ha.)	% Cropped	Production	Average Yield
		Area	(tonne)	(kg/ha)
Coffee	17,795	12.9%	38,739	2,177
Tea	3,043	2.2%	41,729	13,000
Pyrethrum	62	<0.1%	31	500
Cotton	2,824	2.0%	1,412	500
Tobacco	865	0.6%	1,038	1,200
Sunflower	1,466	1.0%	879	600
French beans	400	0.3%	800	2,000
Snow peas	180	0.1%	360	2,000
Macadamia	338	0.2%	1,690	5,000
Asian Vegs.	217	0.1%	1,640	av. 7,500
Chillies	54	<0.1%	216	4,000
Wheat	13,300	9.6%	35,910	2,700
Barley	3,305	2.4%	8,923	2,700
Maize	34,300	24.8%	61,740	1,800
Sorghum	4,160	3%	2,620	630
Millet	815	0.6%	513	630
Beans	33,850	24.5%	30,465	900
Grams	281	0.2%	152	540
Cowpea	644	0.4%	348	540
Pigeon Pea	781	0.6%	492	630
Groundnut	1,756	1.3%	2,107	1,200
Njahi	611	0.4%	439	720
Irish Potatoes	13,369	9.7%	133,690	10,000
Cassava	338	0.2%	2,704	8,000
Yams	350	0.2%	2,800	8,000
Arrowroot	337	0.2%	2,696	8,000
Sweet Potato	262	0.1%	2,620	10,000
Onions	200	0.1%	1,600	8,000
Tomatoes	300	0.2%	2,400	8,000
Cabbage	400	0.3%	4,000	10,000
Kale	123	<0.1%	246	2,000
Carrot	109	<0.1%	545	5,000
Garlic	98	<0.1%	686	7,000
Banana	650	0.5%	8,450	13,000
Mango	213	0.1%	1,917	9,000
Avocado	288	0.2%	4,608	16,000
Passion Fruit	88	<0.1%	440	5,000
PawPaw	165	0.1%	1,650	10,000
TOTAL	138,337 ha.	100%		

Source: MOALM Annual Report 1995, Meru District. Doesn't include 400 ha citrus.

Table H.1-9 Crop Area, Yields and Production, 1995: Nyambene District

	Crop arca, yr		ion, 1995: Nyamb	Selie District
Crop	Area (ha.)	% Cropped	Production	
		Area	tonne	·
Coffee	4,034	3.2 %	4,045	1,011
Tea	3,260	2.6 %	22,026	6,756
Cotton	2,500	2.0 %	1,000	400
Tobacco	1,280	1.0 %	5,120	4,000
Sunflower	60	<0.1%	60	1,000
Caster Seed	30	<0.1%	15	500
Macadamia	290	0.2 %	413.8	1,427
Brinjals	20	<0.1%	93	4,675
Okra	35	<0.1%	244	7,000
Karella	15	<0.1%	23	1,550
Turia	10	<0.1%	6	600
Chillies	70	<0.1%	192	2,750
Maize	50,100	39.7%	112,725	2,250
Sorghum	500	0.4 %	450	900
Millet	4,500	3.6 %	4,050	900
Beans	38,400	30.4%	34,560	900
Grams	3,000	2.4 %	2,160	720
Cowpea	1,900	1.5 %	1,539	810
Pigeon Pea	4,900	3.8 %	5,292	1,080
Groundnut	320	0.2 %	256	800
Njahi	3,500	2.8 %	1,890	540
Irish Potatoes	2,720	2.1 %	48,960	18,000
Cassava	782	0.6 %	14,076	18,000
Arrowroot	645	0.5 %	8,385	13,000
Sweet Potato	997	0.7 %	19,940	20,000
Onions	80	<0.1%	640	8,000
Tomatoes	100	<0.1%	2,000	20,000
Cabbage	100	<0.1%	3,000	30,000
Kale	120	<0.1%	3,600	30,000
Carrot	15	<0.1%	225	15,000
Banana	1,610	1.2 %	16,275	10,108
Mango	110	<0.1%	712.5	6,477
Avocado	35	<0.1%	225	6,428
	17	<0.1%	75	4,411
Passion Fruit			576	7,783

Source: MOALM Annual Report 1995, Nyambene District.

Table H.1-10 Areas under Different Crop Types in the Study Area

Crop type	Area in hectares	Total Area in %
Food	51,387	58.5%
Industrial	14,130	16.1%
Export Horticulture	635	0.7%
Irish Potatoes	15,450	17.6%
Bananas	1,417	1.6%
Other Vegetables	4,017	4.6%
Other Fruits	787	0.9%
Total	87,822 ha.	100%
Agricultural land use in Ki	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	d-au
Crop type	Area in hectares	Total Area in %
Food	58,934	69.0%
Industrial	19,522	22.9%
Export Horticulture	1,396	1.6%
Irish Potatoes	1,675	2.0%
Bananas	1,364	1.6%
Other Vegetables	2,240	2.6%
Other Fruits	235	0.3%
Total	85,366 ha.	100%
Agricultural land use in Ol		450000000000000000000000000000000000000
Crop type	Area in hectares	Total Area in %
Food	136,476	84.3%
	1	>
	15,585	9.6%
Export Horticulture	15,585 817	0.5%
Industrial Export Horticulture Irish Potatoes	15,585 817 2,670	0.5% 1.6%
Export Horticulture Irish Potatoes Bananas	15,585 817 2,670 4,267	0.5% 1.6% 2.6%
Export Horticulture Irish Potatoes Bananas Other Vegetables	15,585 817 2,670 4,267 615	0.5% 1.6% 2.6% 0.4%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits	15,585 817 2,670 4,267 615 1,537	0.5% 1.6% 2.6%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total	15,585 817 2,670 4,267 615 1,537 161,967 ha.	0.5% 1.6% 2.6% 0.4%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total	15,585 817 2,670 4,267 615 1,537	0.5% 1.6% 2.6% 0.4% 0.9%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th	15,585 817 2,670 4,267 615 1,537 161,967 ha. naraka Nithi District in 1994	0.5% 1.6% 2.6% 0.4% 0.9%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th	15,585 817 2,670 4,267 615 1,537 161,967 ha.	0.5% 1.6% 2.6% 0.4% 0.9%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th	15,585 817 2,670 4,267 615 1,537 161,967 ha. naraka Nithi District in 1994	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in %
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th Crop type Food Industrial Export Horticulture	15,585 817 2,670 4,267 615 1,537 161,967 ha. naraka Nithi District in 1994 Area in hectares 75,701	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in % 70.0%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th Crop type Food Industrial	15,585 817 2,670 4,267 615 1,537 161,967 ha. haraka Nithi District in 1994 Area in hectares 75,701 30,399 56 630	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in % 70.0% 28.1%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in The Crop type Food Industrial Export Horticulture Irish Potatoes Bananas	15,585 817 2,670 4,267 615 1,537 161,967 ha. naraka Nithi District in 1994 Area in hectares 75,701 30,399 56 630 865	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in % 70.0% 28.1% 0.1% 0.6% 0.8%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in Th Crop type Food Industrial Export Horticulture Irish Potatoes Bananas Other Vegetables	15,585 817 2,670 4,267 615 1,537 161,967 ha. haraka Nithi District in 1994 Area in hectares 75,701 30,399 56 630 865 249	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in % 70.0% 28.1% 0.1% 0.6%
Export Horticulture Irish Potatoes Bananas Other Vegetables Other Fruits Total Agricultural land use in The Crop type Food Industrial Export Horticulture Irish Potatoes Bananas	15,585 817 2,670 4,267 615 1,537 161,967 ha. naraka Nithi District in 1994 Area in hectares 75,701 30,399 56 630 865	0.5% 1.6% 2.6% 0.4% 0.9% 100% Total Area in % 70.0% 28.1% 0.1% 0.6% 0.8%

Source: Calculated from data provided by District Offices

Crop type	Area in hectares	Total Area in %
Food	95,090	68.7%
Industrial	26,055	18,8%
Export Horticulture	1,189	0.9%
Irish Potatoes	13,369	9.7%
Bananas	650	0.5%
Other Vegetables	1,230	0.9%
Other Fruits	754	0.5%
Total	138,337 ha.	100%
Agricultural land use in Ny	angunyaassa maanaasa saasa maanaa	Total Area in 9/
Crop type	Area in hectares	Total Area in %
Food	109,544	86.9%
Industrial	11,164	8.9%
Export Horticulture	440	0.3%
Irish Potatoes	2,720	2.2%
Bananas	1,610	1.3%
Other Vegetables	415	0.3%
Other Fruits	236	0.2%
Total	126,129 ha.	100%
Agricultural land use in the	e whole of the study area	
Crop type	Area in hectares	Total Area in %
Food	527,132	74.5%
Industrial	116,855	16.5%
Export Horticulture	4,532	0.6%
Irish Potatoes	36,514	5.2%
Bananas	10,173	1.4%
Other Vegetables	8,766	1.2%
Other Fruits	3,800	0.5%
Total	707,771 ha.	100%

Source: Calculated from data provided by District Offices

The crops have been grouped into food (wheat, maize, beans, root crops etc.), industrial (coffee, tea, pyrethrum, tobacco etc.), export horticulture (French beans, snow peas, macadamia, Asian vegetables, etc.) Irish potatoes, other vegetables, (onions, tomatoes, kale, cabbage, carrots etc.) bananas, and other fruit, (mangoes, avocado, pawpaw etc., but excluding citrus).

Table H.1-11 Farming Activities (District Nyeri)

	Crop	Coffee										
Activity	≥	February	March	Aprili	May	June	July	August	September October	October	November	November December
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Pest Control	0	a a	d d d	d d d	дод	ррр	dddd	d d d	a a	a a	a	О
Weeding	3	6 - i	3	w w	M M	*	3	*	3	≯	*	≯
Pruning	U U	o	ပ	v	o	3			٥			O
Harvest	i.e	E			٦ ٢	4444	hhhh	4444	4444	4 4 4	4 4 4	2 2 2 2
	1111	+				1111	tttt	1111	tttt	t t t t	ttt	ttt
		Maize and beans	beans									
Activity	2	February	March	April	May	June	July	August	September October	October	November	November December
reparation		1 1	-					1				
Sawing		S		SS					S			
Fertilizing		-	+	•					J.			
Pest Control			٥	a a	۵	۵			d		q	
Weeding			3		*	*	3		*	*	*	
Harvest	4	4	٩		£	£	H H	£	£	٠ د		
Transport			-		+	†	t t	1	t t	 		
	Crop	Irish Potatoes	\$90			:			,			
Activity	January	February	March	April	May	June	July	August	September October	October	November	November December
Land Preparation	<u> </u>	 -	-							-		
Sowing		S	2 5 5	S				ss ss	s s	ø		
Fertilizing		1	1 1						•	-		
Pest Control			d	рр	о О	Ω			d	a	۵	
Weeding	*		*	M M M	* *	*			3	*	*	≥
Harvest	£	£	£			£	ت د	-				_
Transport		+-	++			t t	ttt	+				+
	Crop	Cabbage										
Activity	January	February	March	April	May	June	-jaj	August	September October	October	November	November December
Land Preparation	-		_					-	-			
Sowing			S						s	s		
Ferdizing			1.1		f							
Weeding				* *	M M					*	}	
Harvest	<u>د</u>					£	h h	h h			e	£
Transport	t t					ţ	‡ t	,	†		+	٠.
Rainfall by month						-					,	
Tumu Tumu, 1814 m.	હ	8	7.4	275	251	37	8	32	38	138	*	æ :
Kagochi, 1981 m.	5	53	103	235	194	32	ဓ	ဗ္ဗ	32	465	189	40 (
Naro Moru, 2,134 m.	63	37	84	159	92	7		36	85	<u></u>	148	80

Table H.1-12 Farming Activities (District Kirinyaga)

					,							
	,				Farming Activities	Activities						
		Coffee			į		hite	Anoust	September	October	November December	December
Activity	January	February	March	April	May	dure	\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Jen R nU	*			
Fertilizina		•	4	f	-	-	-	-	-	- '		
Doct Control		0 0	α	a a	d d d	d d	Ь	a		-]
Manding	3	1 2	3	*	*	* *	3	×	≩	*		≯
Supple Su		1		U	Ü	O	၁		٥			ا د
Billinia.	2 2	ء ا	4	F	2	r L	ч ч	h h h	보 보 보	4 4 4	=	5).
Harvest	= +	•	-		•	-	1111	ttt	t t t t	tttt	t t t t	1111
I ransport	1		1									
	6	Maize and	and Deans	inco	No.	lishe	July	August	September	October	November December	December
Activity	January	reprusit			Cons.			-	 		-	
Land Preparation	_	-	-	-				U		S.	S	
Sowing		SS	8 8	S			2	η,				
Fertilying		•	4	ţ				*	-	,	•	
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rest coming	3	3	3	3	3	3	*	3	*	₹	≯	şĺ
Meeding	*	.			١.	غدا	2 2	ч ч	4	4	ч	e e
Harvest	د د	c c	E .		<u> </u>	•	+	1	-		+	**
Transport	+	+			-		- }	ı				
	Crop	Bananas						1	4000	John	Movember December	December
Activity	January	February	March	April	May	June	Ans	August	September		120001	
Fertilizing		f f							ł]		3
Weeding		м	* *	3				3	. [,		
Prining	ن	3	O	ပ	ပ ပ	ပ	၁	IJ	-	د	1	2
Harvest	ء د	ت د	4 4	r L	ت د	т. С	т ч	_1	_1	_1	= :	= :
Transport	+	1 1 1	1 1 1	t t	ttt	t t t	1 t t	 	1 1 1	2	1 1 1	ı
11deliano	Coo	Irish Potatoes	toes			:					November	November December
Activity	January	February	March	April	May	June	July	August	September	CCIODEI	TOO NOW	
I and Preparation		- - - -	_				-	_	_			
Seeding		s	S	S				7	s			
Fertilizing		J	ال ال	,				•-		-		
Post Control		a	о С	р					a	1		
Meeding		ì	3	3	*	3		3	> >	≩	≥	*
Service A	2	ء ا			٦	<u>-</u>	ч	<u>د</u>		ح	_	Е.
Transport	-	-			+	+-	+	++		 	- -	-
Deinfell by month									,	-	•	Ç
Morning 1219 m	25	59	141	281	179	8	€	-	7	7.5	757	ç ç
Tobom 1200 m	2	23	75	248	155	2	82	7	10	/11	4 5	D C
EDEID, 200 .	8 ;	6	80	237	182	7	<u></u>	5.	13	110	717	ત
Molinduko, 1,376 m.	3	, ,										

Table H.1-13 Farming Activities (District Embu)

		:										
					Farming Activities	Activities						
	900	Coffee				٠				,		1
Activity	January	February	March	April	May	June	July	August	September October	October	November December	Jacker Dec
Contiliano	_	•	•			g.	ŧ	.	•			
Control of the Control	. ε	6	0 0	Q	0 0	a a	d d	d d	d d d	a a	a	۵
Manage Collins	3	3	3		>		3	≯	M M	*	≯	3
Weeding	1 6	1	1	0	U		υ					
Pruning	- 1	-	Ι.	,	ء	4	2	<u>د</u>	ч ч	4 4	444	
Harvest			= •	•	-			}	ttt	1 1 1	t t t t	tttt
Transport	1 1 1	1 1 1	3 1		1	1			ļ			
	Crop	Maize and	and beans			•		***	in the contract of	Catcher	November	December
Activity	January	February	March	April	Мау	June	Alak	August	September Octobal		i ACAGIIICA	
l and Preparation	_		- ~		- -	-	-	-				
Courino		S	8 8		S	10 10	S 55 S	8 8	S			
7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-			+	ال الو	1 1	<u>.</u>				•
rentilizing		-		6	c		a	a	d d			
Pest Control			1	١,		3	3	3	* *	* * *		
Weeding			₹ .	*	*		: _		2	ء	2	2
Harvest	ب د د	E E	도 도 도		c	5 E	_ `	_ "	•	•	*	1
Transport	1 1	-	t t		-		1	1	-		1	
	go	Bananas					:			,	Mountain December	December
Activity	January	February	March	Aprii	Мау	June	Ank	August	September October	CCCCC	NOVELING!	2000
Fertilizing												-
Weeding	3	≥	*		*		*	*	≯		≥	
Paioina	U	O O		υ	O	ပ	υ υ	ပ	ان	u	ပ .	داد
1 to 1 to 1	4	£	и ч	r r	ב	u u u	h h	ь г	E E	e e		1
Transport	-	-	-	1 1	+	111	t t t	+ +	+ + +	+	+ +	1 1
	d C C	Tea						1	1	, 0, 10, 10	redmenon redmoner	Toda mond
Activity	January	February	March	April	May	June	Anc	August	September October	i conso	19ONELIDE	
Fertilizing			ł	•	•	•	-	-	-	-		٤
Pest Control							- [Ţ		,	2	1
Weeding	*	3	*		3	ž		*	\$	8		:
Pruning			U	o o	1	u.		4	1	1	1 2 1	ت د
Harvest	۲ ا	r L	E E	<u>۔</u> ج	۲ د	E E	ء د	= = =		ـ ا	= *	= *
Transport	+ +	•	1		t t	-	-	-	-	1		1
Rainfall by month												103
Embu Forest 1,936 m.	42				÷			07)			324	2
Runyejes, 1,478 m.	25		-		812	3 2	- 70		7 %	123		55
Embu, 1,433 m.	24	25	28	7/7								

Table H.1-14 Farming Activities (District Mbeere)

					Farming Activities	Activities						
		Cotton									,	
	des		March	And	May	June	July	August	September October	October	November December	December
ľ	January	reginaly	Maici		75		-	_	1	_		
Land Preparation								S	s S	SS		
Sowing	,	•	6	0 0 0	0 0 0	0 0	a					
Pest Control	2	2	-	١,	4			3	*	X X	≯	*
Weeding	*	≯	3		۽	٤	٤	_	£	4		
Harvest			= -				-	-	+-	4		
Transport			1		-							
	Crop	Millet		:		4 ! ! !		August	Sentember October	October	November	November December
Activity	January	February	March	April	Мау	onue	yuly	Sugar.	1			
eparation			_				ŀ	- • - •	- 3	. 0		
Sowing			s				0	1	, -	ļ		
Fertilizing	-											
Deet Control			a	۵	۵	a	م				ł	3
Wooding	3	3	3	*	*	*			₹	* *	\$	1
AAAAAIIIA	- 1	2	2		ء	F	ڃ		E			
Harvest	= · = ·	i	1		+	-	-		4			
Transport		-	-		-							
	Crop	Beans		:		9	200	Audist	September October	Coctober	November	November December
Activity	January	February	March	April	May	anne	, and	-	-	-		-
Land Preparation	_	-	_		-		- 6	- 0		5		
Sowing		s	S	*	S		,		, -	1		
Fertilizing				1];			3	3	3	*	*
Weeding	3	Į.	≯	≯	₹ .	* 4	4	c				۳
Harvest	도 도	도 도	_	₽.	c .	= ,	1+	1				
Transport	1 1 1	1 + +	-	-	1	-	- 1					
	Crop			;		91.	halte	Anonet	Sentemb	Sentember October	November	November December
Activity	January	February	March	April	May	2000	Z I	STATE L				
Fertilizing					}				-	 -		
Pest Control												
Weeding												
Pruning				-					-	-		
Havest												
Transport												
Rainfall by month									2			
Kanyuambora, 1,265 m.	27		161					·		55	244	19
Kiambere, 1,189 m.	43	3 26			0 4	٠						
Kindaruma, 793 m.	19		8	101								

Table H.1-15 Farming Activities (District Tharaka Nithi)

					Lorina	Activition						
					Lanning Activities	Sen vines						
	Crop	Coffee								,		,
Activity	January	February	March	April	May	June	July	August	September October	r October	November	December
Fertilizing	.	Ļ	 -	-	¥-	•	1	•	f	•-	ff	4
Pest Control	۵	Ω.	o o	o.	a.	d d	d d	۵	۵	a	<u>а</u>	a
Weeding	≯	* *	3	w w	w w	3	*	*	*	3	*	*
Pruning	U U	ს	ပ	o	၁	ပ	ပ	O	v	O	ů,	
Harvest	ح د	н Н		ب د	hhh	и И И	4 4 4	t	h h	ннн	т ч	т г
Transport	+	+		+	+ +	t t	1 1 1	1 t	1 1	t t t	ttt	ttt
	Crop	Maize and	and Beans									
Activity	January	February	March	April	May	June	July	August	September October	r October	November December	December
Land Preparation			 - -					-	_			
Sowing			S	S					s s	S		
Pest Control	a		•	۵					d	В		
Weeding	*		*	*	w w	* *			*	w w w	ww	w
Harvest	e e	r L	۲ ۲		۲	۲ د	도	ъ ъ		4		Ľ
Transport		+	+				+	+		1		,
	Crop	Bananas										
Activity	January	February	March	April	May	June	July	August	September October	r October	November December	December
Pruning	υ	၁၁	υ	S	၁	ပ	၁	Ų	O	U	ပ	ပ
Fertilizing			f	į.			b —	ل و لو		j		4-
Weeding	>	М		М	*	×	*	>		*	>	3
Harvest	т Т	ччч	ччч	4 4 4	hhh	ר ה	ь С	е Е	ب د د	다 다 다	ت د	ت د
Transport	1 1 1	111	111	t t t	ttt	ttt	111	+ +	t t t	t t	++	+ +
	Crop	Cotton			-			-				
Activity	January	February	March	April	May	June	July	August	September October	October	November December	December
Land Preparation								_	_			
Sowing								S	s s	S		
Fertilizing									•			
Weeding	*	*	*						*	≩	≩	
Harvest	æ	ď	c	٤	r	٩	Ļ	٦	ے			ع
Transport	: +-	+	+-	+-	ţ	ţ	1	1	ļ			
Rainfall by month												
Chuka, 1,494 m.	43		134			8	m	32	C4			123
Mitunguu, 1,189 m.	7	24	49	305	•	ர	7	₽.	თ	~		137
Tharaka, 914 m.	32		83		. 61	S.		ෆ		58	209	87
Marimanti, 610 m.	19		79			5						54

Table H.1-16 Farming Activities (District Meru)

					Farming Activities	ctivities						
	doy	Coffee					-		o de character o	Catobor	November December	December
Activity	≥	February	March	April	May	June	Zini	August	Septemos		Salling Association	,
Fedilizion		,	4-	1 1	. ,	ŧ	J.	•		-	- 1	-
Surgicial Control	. I	0 0	0 0	0 0 0	d d	0.0	0	d d	a a	a a a	괵	2
) 1	۱	3	5	3	*	*	*	*	*	≯	}
A SECTION AND A	E (ľ	4	0		o	υ υ	ပ	U	3	0
סמייות	ر ر د د	1	1	2	4 4	4	4 4	E	ч	עעע	도 도	444
Harvest	יי מי ני	= +	=	-	-	-	+ +	+	t t	+ + +	+-	+ + +
Iranspor												
	Crop	Bananas		Ţ		901	Pil.	August	September	October	November	November December
Activity	January	February	March	April	Mdy	2000		-	•			
Fertilizing			-					. 3	3	3	3	
Weeding		*	≱	*					:	ì	c	
Pruning		•		ပ ပ	1	-			-	2	2	ت د د
to de la	יי	ت د	모	ב	hhh	با د	u u	<u></u>	= -	-	= •	: +
Tronsact		-	+	1.1	t t t	ttt	t t	-	-	1	-	-
1000000	Croa	1 **	and Beans									4
	/deline	Zeiniar.	March	April	May	June	July	August	September	October	November	November Cecember
Activity	1	-	- -	 -			1	-	-			
	-	-		•			95	S	SSS	φ, φ,		
BUMOS	•		*		4			•	•	•		
Permising	- :		3	3	*	* *		3	*	* *	3	}
Weeding	≱ .	- 1	•	1	4	2	۲ د	<u>د</u>	E	u u	£	ے
Harvest	د . د .	= = =	_	= -	11	-	+	1	•		+	ţ
Transport	1 1	1 1 1	1	-								
	Crop	Irish Potatoes	5003	. :			4.4	August	Sentember October	October	November	November December
Activity	January	February	March	April	May	anne	ying.	ienano	200			
Land Preparation	-	_	-				-	٠,	U			
Sowing		s	50	87 (U			n	2 3	>			
Fertilizing			4	-		ì		-		0		
Pest Control				d d d	a	1				4 3	3	
Weeding		:	*	≩	≯	- }	ļ.	*	*	•		
Harvest	ב	E			e	<u>د</u>	د د د					
Transport	**	.			+	-	-			-		
Rainfall by month	-							75	45		11	
Timau, 2,286 m.	15			126						•		
Nkuriga, 1,829 m.	52	84	<u>*</u>		977	0 0	2 10					137
Mitunguu, 1,189 m.	2.											

Table H.1-17 Farming Activities (District Nyambene)

					Farming	Farming Activities						
					2011110	2010						
			Lord	in C	No.	ou i	Air	Alloust	September October	Cotober	November	November December
Activity	Saruery	<u>-</u>	Marcal		May		4 4	500	1	, ,		
Fertilizing	- 1	-					-		;	-	- ļ	
Weeding	* *	≯	3	}			*	*	*		2	,
Pruning		ပ			o o	O	0		أ	ا	ا،	اه
Harvest	4444	4444	4444	hhhh	hhhh	hhhh	ከከከከ	ч ч	۳ د د	4 4 4	חחה	חפת
Transport	1 1 1	1 1 1	1 1 1	1 1 1	ttt	t t t	t t t	+ +	t t	t t t	+ +	++
	Crop	Cabbage			· ·					,		
Activity	January	February	March	April	May	June	July	August	September October	Cctober	November	November December
Land Preparation	1	_	_		-	1		_		_		-
Sowing		s	s		S		s		S S S		s	
Fertilizing	ţ	•	ţ				ų,		<u>.</u>			
Weeding	*	3	*	M M	*	*	₩	*	*	*	*	
Harvest	r r	ت د	г	u u	นน	h h	h	£		r L		
Transport	+-	1 1 1	+	1 1	1	+	4	+		+		
	Crop	Maize and	Beans									
Activity	2	February March		April	May	June	July	August	September October	r October	November December	December
Land Preparation							_	_ _	_			
Sowing								S	S S S	s		
Fertilizing			Į	-					•-		- -	ŀ
Pest Control	d			a	а						a	
Weeding	*	*							3	* *	≩	*
Harvest	ᄕ	ц	모	r r	£	드	모	E E				
Transport	+	1 1	1 1	+		t t	+	++				
	Crop	irish Potatoes										
Activity	January	February	Æ	April	May	June	Ziniz Ziniz	August	September October	October	November	November December
Land Preparation		_	_	- 1			_	_				
Sowing		S	65	S			S	S	S			
Fertilizing		Ļ	<u>,</u>				•-	<u>.</u>	- [İ		
Pest Control	d		a a	дда	d d	۵]	ď	о о о	a a	۵	
Weeding			×	*	3 3	3		×	>	3	}	ļ
Harvest	£	Ч			r r	ح د	도				E E	£
Transport	totos	ţ			+	† †	t . t				+	+-
Rainfall by month												
Mikinduri, 1,405 m.	79	٠	179	220						<u> </u>		202
Miatheni, 1,433 m.	33	20	127	372	•	24	_		·-			157
Muthara, 1,478 m.	27		136	249	88		7	8	6	228	282	\$

Table H.1-18 Definitions of Soil Terms Used

Acrisols: Acid clay soils, argillic horizon less than 50% base saturated.

Ando-humic: dark in colour and rich in organic matter.

Andosols: dark, free-draining soils developed on volcanic ash.

Arenosols: soils developed in over 50 cm of loose sand, (not recent alluvium).

Cambisols: Slightly weathered soils with a changed B horizon.

Chromluvic: coloured soils with an illuvial clay layer.

Ferralic: high iron and aluminium (sesquioxide) content.

Ferralsols: Highly weathered soils, high in sesquioxides.

Mollic: good surface structure.

Nito-chromic: Bright coloured clays

Nito-rhodic: shining, red clay soils

Nitosols: clay soils developed from lava, with no plinthite within 125 cm of the surface.

Phaeozems: soils rich in organic matter with a well structured A horizon.

Vertisols: Swelling and shrinking soils, over 30% clay to 50cm

Verto-eutric: swelling/shrinking-fertile.

Table H.1-19 Horticultural Crops & Horticultural Cropping Pattern (Nyeri District)

1994 Area				ı				TADIE H. 19 (Shaet 2)	5	Nveri District	Data:	Horticultural crops	Sac		Ī
CROP Area linha frees inha 1996 Tool CROP Production Production Production Production Production Combinates Production Production Production Production Production Combinates Production Production Production Combinates Production Production Production Production Combinates Production Pr		Nyeri Dist	inct Data		13 COD	s		ישוני יי יישורי		ction in tonnes		Yields	Yields in tonnes/ha	ja 1	
CROP Area % 1996 RCOP Production CROP Area % Area % CROP Production CROP Area % Area Area % Area				Areas in ha					,	1005	1005	1994	1995	•	1996
CROP Area % Area % Area % CROP Production Production Production Production Production Controls Consider Trol 10.76% 7.00 2.00 2.00 2.00 3.00 Control Control 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 3.00 2.00 2.00 2.00 3.00 2.00 3.00 2.00 3.00		1004		1995		1996			488				5/0/2	Viely.	
Combage 1,1259 750 11,1259 750 11,1259 750 11,1259 750 11,1259 750 11,1259 750 11,1259 750 25,000 2,170 25,000 2,170 2,170 25,000 2,170 2,170 25,000 2,170 2,170 25,000 2,170	2000	000	%		%		-	CROP	Production	P 0	200	TIEN.	200	20	15.0
Cabbage 1,70 0.1772 2.00 2.00 2.00 0.10 0.	באסבי	7100	10 7697	780	11 32%	760	1 🔻	Tomato	9,940			0.1	500		ů,
Cabbage 1,527 2,000 <	Tomato	2	0.00	200	180	4 700	_	Cabbade	22,800		"	0.01	0.0		
Kale 250 319% 400 4100 4	Cabbage	1,520	23.03%	2,000	27.04.0	200	1	Kale	2,500			10.0	10.5		5 6
Carrot 410 6.21% 400 5.81% 380 3.63% 1.00 Bondon 580 6.21% 4.00 5.81% 4.80 3.63% 1.00 Field Pea 3.80 5.30% 2.20 3.18% 4.66 6.24% B.Onion 1.256 1.100 Field Pea 3.80 6.30% 2.20 3.18% 4.66 6.00% 2.60 3.60% 2.71 5.80% 4.017	Xale	250	3.79%		2	007	т	rain.	4 100		3,800	10.0	10.0		
BOnion 560 8 70% 312 4.55% 450 6.20% 1.70	Carrot	410	6.21%		5.81%	OBS.		Carlos	3 480		3,220	6.0	7.0		<u> </u>
Field Pea 350 5 30% 220 3 19% 185 186 74% Telef Pea 270 270 Peaples 31 0.47% 45 0.65% 26 0.39% Peaples 47,309 270 Peaples 31 0.47% 4,017 58% 3 711 55% Total Vegetables 44,309 60,324 270 Banena 1,415 21.44% 1477 20.57% 1,420 21.44% 1477 20.57% 20.44% Apples 20 326 346 Apples 20 346 Apples 30 346 346 <th>R.Onion</th> <th>580</th> <th>8.79%</th> <th>312</th> <th>4.53%</th> <th>450</th> <th></th> <th>a Care</th> <th>4 226</th> <th></th> <th>362</th> <th>3.5</th> <th>5.0</th> <th></th> <th>52</th>	R.Onion	580	8.79%	312	4.53%	450		a Care	4 226		362	3.5	5.0		52
Garlic - 0.00% - 0.00% - 0.00% - 0.00% Garlic - 264 270 Peppers 31 0.47% 4.5 0.65% 3.7 1.4 5.6 0.65% 7.2 2.0 0.00% <th>Field Des</th> <th>350</th> <th>5.30%</th> <th></th> <th>3.19%</th> <th>185</th> <th></th> <th>Fletd Pea</th> <th>77.</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Field Des	350	5.30%		3.19%	185		Fletd Pea	77.						
Page	SPL DIDL	,	%000		9.00.0	-		Garlic			224	8.5	6.0		85
Color A color 58% 4,017 58% 3,711 55% Total Vegetables 44,319 50,324 Banana Banana 1,415 21,44% 1,417 20,57% 1,420 21,64% Banana 3,785 395 Banana 1,415 21,44% 1,417 20,57% 1,420 21,64% Banana 3,255 346 Manage 31 0,47% 32 0,56% 22 0,05% Applea 20 1,44 Opplea 26 0,39% 24 0,55% 12 0,6% Christ 250 325 Pagewa 20 0,39% 26 0,37% 180 0,10% Phinas 260 325 Plums 20 0,39% 680 1,08% Avocado 12,201 20 20 Avocado 20 33% 2,237 32% 2,237 33% 10,46% Phinas 20 10,20% Plums 30 <	Democre	3.	0.47%		0.65%	26		Peppers	ē i	3	7.7				
Color of Sections 1,475 21,44% 1,417 20,57% 1,420 21,04% Banane 7,782 7,920 Bananea 1,31 0,47% 32 0,46% 38 0,56% Mango 20 1,420 20 1,420 20 0,63% Mango 20 0,64% 20 0,65% Mango 20 0,65% 1,20 0,16% Citrus 20 0,64% 25 0,65% 1,20 0,16% Citrus 20 0,36% 25 0,36% 25 0,36% 25 0,36% 26 0,37% Papers 50 36% 36 37% 10 36% 36 36% 37% 36 37% 36 37% 36 37% 36 37% 36 37% 36 37% 36 37% 36	Total Venetables	3 851	58%		58%	3,711	22%	Total Vegetables	44,308		5	5.5	5.6		5.5
Applea 31 0.47% 32 0.46% 38 0.56% Mange 20 340 140	Distance of the second	1 415	21 44%		20.57%	1,420	21.04%	Banana	78//	1	1	10.5	110		120
Maingle 3 0.04% 4 0.05% 2 0.03% Apples 50 60 Apples 25 0.36% 24 0.05% 12 0.16% Citrus 50 60 Othors 25 0.36% 25 0.36% 25 0.16% Passion Fruit 26 0.35% 25 0.36% 25 0.36% 26 0.35% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 27 0.36% 26 0.36% 27 0.36% 27 0.36% 27 0.36% 27 0.36%	Denier de	1	0.47%		0.46%		0.56%	Mango	375	1		0.8	4		4
Applee 5 0.34% 24 0.35% 12 0.16% Citrus 50 60 Applee 2 0.38% 24 0.35% 12 0.16% Citrus 50 325 Pages 20 0.37% 25 0.37% 26 0.37% 26 275 26 Passion Fruit 20 0.38% 25 0.36% 26 0.37% 12 0.10% 26 277 276 276 276 277 276 276 277 276 277 277 278 </th <th>Mango</th> <th>5</th> <th>800</th> <th></th> <th>70 USW</th> <th></th> <th>0.03%</th> <th>Apples</th> <th>×</th> <th></th> <th> </th> <th></th> <th>3 6</th> <th></th> <th>4</th>	Mango	5	800		70 USW		0.03%	Apples	×				3 6		4
Citure 25 0.36% 25 0.37% Papeya 260 325 Passion Fruit 20 0.36% 25 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.36% 26 0.37% Pineapple 27 27 27 27 27 27 27 27 27 27 27 27 27 27 27 27 <th>Apples</th> <td></td> <td>200</td> <td></td> <td>0.35%</td> <td></td> <td>0.18%</td> <th>Citrus</th> <td>50</td> <td></td> <td></td> <td>200</td> <td> </td> <td></td> <td>ļċ</td>	Apples		200		0.35%		0.18%	Citrus	50			200			ļċ
Papelya 20 0.30% 25 0.53% 31 0.46% Passion Fruit 255 250 Passion Fult 30 0.45% 25 0.35% 31 0.45% 25 250 Pleasion Fult 26 0.39% 26 0.37% 18 0.27% Pineapple 221 13.600 Pluns 26 0.39% 58 0.37% 680 10.08% Avocado 12.400 13.600 Pluns 20 0.09% 5 0.07% Pluns 21.33 22.767 Pluns 20 0.09% 2.231 32% 2.231 32% 2.231 32% 2.231 32% 2.231 32% 2.144 1.470 French Bean 70 1.06% 4.20 6.10% 5.00% French Bean 1.444 1.470 Snowpea 380 5.75% 4.20 6.10% 5.00% Marella 1.444 1.470 Snowpea - 0.00% <th>Citrus</th> <th>Ş</th> <th>0.36%</th> <th></th> <th>3</th> <th></th> <th>0.3784</th> <th>average average</th> <th>260</th> <th></th> <th></th> <th>13.0</th> <th></th> <th></th> <th></th>	Citrus	Ş	0.36%		3		0.3784	average average	260			13.0			
Passion Fruit 30 0.45% 25 0.35% 31 0.45% 71 1.00% 1.0	Papeya	2	0.30%		2000		20,00	Danelon Fruit	255			8.5)
Pineapple 26 0.39% 26 0.37% 18 0.07% Pineapple 12,400 13,600 Avocado 620 9.39% 680 9.87% 680 10.08% 10.08% 20.07% 10.09% Pinms 20	Passion Fruit	ဓ	0.45%		\$95 O		0.4078	100000	à		144	8.5			읾
Avocado 620 9.39% 680 987% 680 10.08% Avocado 20 20 Plums 5 0.07% 5 0.07% Flums 2 2 2 Plums 5 0.07% 5 0.07% Plums 2 2 Plums 6 0.00% 2	Pinespole	26	0.39%		0.37%		0.2/2	rineappie	12 40		13,600	20.0	20.0		킪
Plums 5 0.08% 5 0.07% Plums Melons Melons 0.00% - 0.00% - 0.00% - Total Fruit 2,175 33% 2,237 32% 2,231 33% Total Fruit 21,333 22,767 French Bean 70 1.06% 90 1.31% 180 2.67% French Bean 420 5.00 Snowpea 380 5,76% 420 6.10% 500 7.67% French Bean 1,444 1,470 Snowpea 380 5,76% 420 6.10% 500 7.67% French Bean 1,444 1,470 Brinjal 0.00% 0.00% 0.00% Dudhi 1,444 1,470 Karella 0.00% 0.00% 0.00% Dudhi 0.00% 0.00% Dudhi Okra 0.00% 0.00% 0.00% 0.00% Dudhi 439 435 Uillies 1.26 1.90% 0.00%	Avocado	620	9.39%		9.87%	8	10.08%	AVOCACIO	2			4.0	4.0		9
Melons 0.00% <t< th=""><th></th><th>5</th><th>0.08%</th><th></th><th>0.07%</th><th></th><th>0.07%</th><th>Plums</th><th>7</th><th></th><th>'</th><th></th><th>'</th><th></th><th>1</th></t<>		5	0.08%		0.07%		0.07%	Plums	7		'		'		1
Total Fruit 2,175 33% 2,237 32% 2,231 33% Total Fruit 21,333 22,101 French Bean 70 1,06% 90 1,31% 180 2,67% French Bean 420 540 French Bean 380 5,76% 420 6,10% 500 7,41% Snowpea 1,444 1,470 Snowpea 380 5,76% 420 6,10% 0,00% 1,444 1,470 Brinjal 0,00% 0,00% 0,00% 0,00% 0,00% 1,444 1,470 Dudhl 0,00% <th>_</th> <th>'</th> <th>%000</th> <th></th> <th>0.00%</th> <th></th> <th>0.00%</th> <th>Melons</th> <th></th> <th>3</th> <th>099 00</th> <th></th> <th></th> <th></th> <th>Ì</th>	_	'	%000		0.00%		0.00%	Melons		3	099 00				Ì
Pean C, 170 1,06% 90 1,31% 180 2,67% French Bean 420 540 Bean 70 1,06% 420 6,10% 500 7,41% Snowpea 1,444 1,470 Bean 380 5,76% 420 6,10% 0,00% 0,00% 1,444 1,470 Bean 380 5,76% 420 6,10% 0,00% 1,444 1,470 C,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% Initial 1,26 1,81% 1,26 1,86% Macadamia 439 435 Export Hort. 576 9% 6,348 4,00% 1,00% 0,00%	-	2175	33%		32%	2	33%	Total Fruit	٠.,١	77	7				8
Bean 70 1,05% 420 6,10% 500 7.41% Snowpea 1,444 1,470 ea 380 5.76% 420 6,10% 500 6,10% 1,444 1,470 ea 0.00% - 0.00% - 0.00% - 1,444 1,470 ea 0.00% - 0.00% - 0.00% - 1,444 1,470 ea 0.00% - 0.00% - 0.00% - - - e 0.00% - 0.00% Dudhi - - - e 0.00% - 0.00% Iuria - - - e 0.00	iotal Frun		300		1 21%		267%	French Bean	42(5 6		3
ast 350 3,70% 3,00% 0,00% 0,00% Marella 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00% 1 0,00% 0,00% 0,00% 0,00%	French Bean	0,0	8 20		401.9			Snowpea	1,44		1,500	3.5			'n
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Control Cont	Brinjal		800	,	200		%00 C	Karella	,	•	-	,	'		ا،
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0.00%	Dudhi	1	0.00%		800		78000	Civia			•	,			۱,
100% 100%	Okra	1	0.00%		8000	1	0.00%	Valore			1	1	1		١
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nia 126 125 181% 126 1.80% macadamia xport Hort. 576 9% 635 9% 806 12% Total Export Hort. 2,303 2,445 ops - 0.00% - 0.00% - - - ops - 0.00% - 7.48 100% TOTAL 67,945 85,536	Chilles	٠	0.00%		800		1	CHILLER	43		440	3.5	3.5		3.5
xport Hort. 576 9% 635 9% 806 12% Iotal Export Hort. 2,505 2,505 ops - 0.00% - 0.00% - - - ops - 0.00% - 7.00% - - -	Macadamia	126			-			Macadamia	C	6	3 020				
ops 0.00% 0.	Total Export Hort.	576	_				12%	Total Export Hon.	2,30	4		,	,		
000,00 (Ctc, 10 A) (11) (11) (11) (11) (11)	Other crops	,	0.00%		- 1	1	1	Other crops	67.04		77 092				
8 801 100% 0,746 100% 0,746 100%	14101	A BO1	400%	6.888	100%	6,748	100%	TOTAL	6'70						

TABLE H-19 (Sheet J) Minh Project Minh Projec				NVED! Dietric	TOTION to	ural Cropping	Pattern		
w/o Project W/or Project<	TABLE H-19 (Sheet 3)					X			
March Marc				Afith Designat		w/o Project	With Project	Г	With Project
Hectares				With Project		Viold kalden	Vield kn/dec	Prod tons	Prod. tons
to 13,540 27,74 1,020 42.% 1,772 1,700 11,783 17,783 28,600	CROP	1	-	7	ļ	1 000	500		177,320
too 1740 78% 1,713 1,850 29,800 37,7 age 1,740 7,8% 1,000 8,4% 1,713 1,850 29,800 3,67 4,43 2,144 2,144	Potato	13,540	8/ / SO	02,00	200 7	1 572			17,000
46 1,40 1,48 2.0 1,1% 2.0 2,143 2.2 4 397 1,48 360 1,1% 2.00 1,20 2,443 2.1 Pea 397 1,48 360 1,5% 1,00 1,20 3,967 4,1 Pea 250 1,1% 250 1,1% 435 550 1,09 1,1 Pea 0.0% 200 0.0% 200 0.0% 740 850 1,09 1,1 Pea 0.0% 200 0.0% 740 850 1,1	Tomato	06/	5.4%	000,	70V B	1 713			37,000
ten 237 1.8% 350 1.5% 4.00 1,200 3.967 4.3 Pea 252 1.1% 250 2.1% 650 2.1% 650 2.961 3.967 4.3 Pea 252 1.1% 250 1.1% 451 7.09 1.09	Cabbage	1,740	9,0,7	2,000	1 10%	906			
Paragetable 19,000 1,000	Kale	757	7007	250	1 50%	1 000			
getables 451 1.0% 250 1.1% 455 1.096 1.096 1.1% getables 25 1.1% 250 1.1% 435 550 1.096 1.1% getables 1.2 2.0 0.0% 2.0 0.0% 2.53 650 7.842 8.7 getables 1.4 2.0 0.0% 2.0% 6.53 600 7.842 8.7 1.4 0.2% 1.400 5.9% 5.25 600 7.842 8.7 1.4 0.2% 1.4 0.0% 2.49 300 7.1 1.2 1.2 1.4	Carrot	785	80.0		2 4%	657			3,750
ea 252 178 200 0.0%	B.Onion	451	4.0%		1 1%	435			
Segetables 10 U/Ns 30 U/Ns 30 U/Ns 30 U/Ns 740 U/Ns 262 U/Ns <	Fleid Pea	752	2.1%	007	7000				0
Specialises 19,400 87,278 20,500 86,6% 553 600 7,842 8,784 and all all all all all all all all all al	Gartic	ə ;	0.0%	08	0.0%	740			255
Period	Peppers	7 25	27.194	18	86.6%				
Name	Total Vegetables	19,400	A01.	1	5.9%	553		2	∞
Second Part	Banana	1,4	0.08		0 1%	-	-		425
National Paris Columbia Col	Mango	3 (2.00	1	0 0%				18
n Fruit 23 0.1% 20 0.1% 1.264 1,400 295 in Fruit 29 0.1% 30 0.1% 912 1,400 295 in Fruit 29 0.1% 30 0.1% 912 1,000 261 do 50 0.1% 837 950 194 do 50 0.1% 837 2,000 2.250 13,200 14 do 50 0.0% 2,000 2.250 13,200 14 s 0.0% 60 0.0% 467 500 13,200 14 s 0.0% 0.0% 0.0% 0.0 0.0 0.0 0.0 ruit 2,214 9.9% 2,172 9.2% 600 750 680 ruit 1,33 1.9% 750 3.2% 3.40 4.50 1,471 3.40 s 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	Apples	2 6	2.0		%0.0 0				0
ple 23 U.1% 20 U.1% U.	Citrus	200	2 2		0.00	-	-		280
ple 29 0.1% 30 0.1% 837 194 ple 23 0.1% 20 0.1% 837 194 so 30 0.1% 20 0.1% 837 13.200 14. so 660 3.0% 60 0.0% 0 0 0 0 rult 2,214 9.9% 2,172 9.2% 600 750 680 Bean 433 1.9% 7.50 3.2% 600 750 680 Bean 433 1.9% 7.50 3.2% 3.40 4.50 1.471 3. ea 0.0% 0 0.0% 0 0.0% 0 0 0 0.0% 0 0.0% 0 0.0% 0 0 0 0.0% 0 0.0% 0 0.0% 0 0 0 0.0% 0 0.0% 0 0.0% 0 0	Papaya	23	%		2 5		-		
ple 23 0.1% 20 0.1% 83/1 200 2.250 13.200 14.200 14.200 15.2	Passion Fruit	29	0.1%		2 2				190
io 660 3.0% 660 2.8% 2,000 2,250 15,250 <th< th=""><th>Pineapple</th><th>23</th><th>0.7%</th><th></th><th>0.1%</th><th>•</th><th>\$</th><th>5</th><th>14</th></th<>	Pineapple	23	0.7%		0.1%	•	\$	5	14
Full 5 0.0% 5 0.0% 4b/l 500 4b/l 500 4b/l 500 4b/l 500 4b/l 500 4b/l 500 600 7b/l 600 600 600 600 7b/l 600 600 7b/l 600 7b/l 600	Avocado	099	3.0%		2.8%	7	7	7,01	
tult 0 0.0% 0 0.0% 0	Plices	5	0.0		%0.0	40			
uit 2,214 9.9% 2,172 9.2% 600 750 680 Bean 413 0.5% 110 0.5% 600 750 680 is 433 1.9% 750 3.2% 600 750 680 is 433 1.9% 750 3.2% 600 0 0 is 0 0.0% 0 0.0% 0 0 0 is 0 0.0% 0 0 0 0 is 0 0 <th>Melone</th> <th>0</th> <th>0.0%</th> <th></th> <th>0.0%</th> <th></th> <th></th> <th></th> <th>2</th>	Melone	0	0.0%		0.0%				2
Bean 113 0.5% 110 0.5% 600 750 680 Bean 433 1.9% 750 3.2% 600 750 680 Bean 433 1.9% 750 3.2% 340 450 1,471 3. Bean 433 1.9% 750 3.2% 340 450 0 Color 0 0.0% 0 0.0% 0 0 0 Mala 125 0.6% 1,000 4.2% 0 0 0 Oppst 0 0.0% 0 0.0% 0 0 0 Color 0 0.0% 0 0.0% 0 0 0	Total Engl		9.6%	2	9.2%				
ia 433 1.9% 750 3.2% 340 450 1,471 3.3% ia 433 1.9% 750 3.2% 340 450 1,471 3.3% ia 0 0.0% 0 0.0% 0 0 0 ia 0.0% 0 0.0% 0 0.0% 0 0 ia 0.0% 0 0.0% 0 0 0 0 ia 0.0% 0 0.0% 0 0 0 0 ia 0.0% 0 0.0% 0 0 0 0 ia 125 0.6% 1,000 0.6% 350 0 0 ia 0 0.0% 0 0.0% 0 0 0 ia 0 0.0% 0 0 0 0 0 ia 0 0.0% 0 0 0 0 ia	Total Donn		0.5%		0.5%				
mia 0 0.0% 0 <th>rielich Dean</th> <th>433</th> <th>1.9%</th> <th></th> <th>3.2%</th> <th></th> <th></th> <th>1,47</th> <th></th>	rielich Dean	433	1.9%		3.2%			1,47	
Columna Columna <t< th=""><th>Sriowbea</th><th></th><th>%0.0</th><th></th><th>0.0%</th><th></th><th></th><th></th><th>0</th></t<>	Sriowbea		%0.0		0.0%				0
mia 67 0.0% 0.	Dringai	c	%00		0.0%				
mia 672 0.0% 0 0.0% 0 0 0 0 mia 125 0.0% 0 0.0% 0	Narchia 1		%O O		0.0%			- !	
mia 125 0.0% 0.0% 0 0 0 0 0 cops 0 0.0% 0 0.0% 0	Dudan	l	000		0.0%				
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mia 125 0.6% 1.000 0.0% 0.6% 4.2% 400 438 cport Hort. 672 3.0% 1.000 4.2% 0	Valore		200		%00				0
mla 125 0.6% 140 0.6% 3.50 400 438 sport Hort. 672 3.0% 1,000 4.2% 0 0 0 0 rops 22,286 100.0% 23,672 100.0% 0 0 0 0 232,257 272	Turia	5 0	200		%U C				0
Mart. 672 3.0% 1,000 4.2% 0 0 0 0 rops 22,286 100.0% 23,672 100.0% 0 0 0 0 0	Chilles		70.0		769 U				260
cport Hort. 6/2 3.0% 1,000 7.5% 0	Macadamia	122		۲	70C V				
rops 0 0.0% 0 0.0%<	Total Export Hort.		3.0%		4.2.7				0
22,286 100,0% 23,672 100,0%	Other crops	O	0.0%		%0.0 %0.0			22.05	
	TOTAL	22,286	100.0%	23,67	100.0%			502,20	-

Table H.1-20 Horticultural Crops & Horticultural Cropping Pattern (Kirinyaga District)

TARIFH 20	Kirinvans	District	Data . Ho	Kidovada District Data · Hodicultural crons	rons		TARI F H-20 (Sheet 2)	2	Kirinvaga District Data	strict Data	Horticultural crops	Sacrops	
			Areas In ha					1	Production in tennes		Yelds	Yields in tonnes/ha	
	1994		1895		1996			1994	1995	1996	1994	1995	1896
CROP	Area	%	Area	%	Area	*	CROP	Production	Production	Prod	Yield	Yield	Yield
Tomato	1,285	28.40%	1,350	25.78%	1,645	26.22%	Tomato	15,420		67	12.0		20.0
Cabbage	150	3.08%	170	3.25%	193	3.08%	Cabbage	2,250	2,550		15.0		15.0
Kale	230	4.72%	280	5.35%	360	5.74%	Kale	3,440		5	15.0		15.0
Carrot	30	0.62%	35	%29.0	37	0.59%	Carrot	300	350	370	10.0	10.0	10.0
B.Onlon	250	5.14%	760	4.97%	220	3.51%	B.Onion	3,000	3,120	3,300	12.0	12.0	15.0
Field Pea	O	0.00%	0	%00.0	0	%00.0	Field Pea	0	C	jo	0.0	0.0	0.0
Gartic	O	%00'0	0	0.00%	0	%00.0	Gartic	0	0	0	0.0		0.0
Peppers	140	2.88%	145	2.77%	0	%00.0	Peppers	0999	580	0	4.0	4.0	0.0
Total Vegetables	2.085	43%	2,240	43%	2,455	39%	Total Vegetables	24,970	27,000	44,865			
Banana	1,320	27.12%	1,364	26.05%	82	11.16%	Banana	13,200	13,640	10,500	10.0	10.0	15.0
Mango	9	1.23%	9	1.15%	90	%96.0	Mengo	009	009	900	10.01	10.0	10.0
Apples	o	0.00%	0	%00 .0	0	%00.0	Apples	0	0	0	0.0	0.0	0.0
Citrus	0	%00.0	0	%00 0	0	0.00%	Citrus	0	0	O	0.0		0.0
Papaya	65	1.34%	99	1.26%	0	%00.0	Papaya	845	858	0	13.0		0.0
Passion Fruit	45	0.92%	45	0.86%	50	0.80%	Passion Fruit	450	450	200	10.01	424	10.0
Pineapple	o	0.00%	0	%00.0	0	0.00%	Pineappie	0	0	0	0.0		0.0
Avocado	55	1.13%	65	1.24%	20	1.12%	Avocado	825	975	1,050	15.0	7-	15.0
Plums	0	0.00%	0	0.00%] 0	0.00%	Plums	0	0	0	0.0	0.0	0.0
Melons	0	0.00%	0	0.00%	0	0.00%	Melons	0	0	0	0.0	0.0	0.0
Total Fruit	1.545	32%	1,600	31%	880	14%	Total Fruit	15,920	16,523	12,650			
French Bean	1,000	20.54%	1,150	21.96%	2,940	46.85%	French Bean	8,000	9,200	23,520	8.0	8.0	8.0
Snowpea	18	0.37%	16	0.31%	0	0.00%	Snowpea	72	72	Ö	4.0	4.5	0.0
Brinjal	O	0.00%	0	%00.0	0	%00.0	Brinja	0	0	0	00		8
Karella	O	0.00%	0	0.00%	0	%00.0	Karella	0	0	0	0.0		0.0
Dudhi	a	0.00%	0	0.00%	0	%00.0	Dudhi	0	٥	0	0.0	0.0	0.0
Okra	0	%00.D	0	0.00%	0	0.00%	Okra	0	0	0	0.0	0.0	0.0
Valore	ā	%00.0	0	0.00%	0	0.00%	Valore	0	0	0	0.0	0.0	0.0
Turia	O	%00.0	0	0.00%	0	0.00%	Turia	0	0	o	0.0	0.0	0.0
Chillies	0	0.00%	0	9600.0	0	0.00%	Chillies	0	0	0	0.0	0.0	0.0
Macadamia	220	4.52%	230	4.39%	0	0.00%	Macademia	633	641	o	2.9	2.8	0.0
Total Export Hort.	1,238	25%	1,396	27%	2,940	47%	Total Export Hort.	8,705	9,913	23,520			
Other crops	0	0.00%	0	0.00%	0		Other crops	0	ō	O	0.0	0.0	0.0
TOTAL	4.868	100%	5,236	100%	6,275	100%	TOTAL	49,596	53,436	81,035			

				OVANION	Violiny A. C. District Hodicultural Cropping Pattern	Cultural Cropp	ing Pattern	
TABLE H-20 (Sheet 3)				OC NICE				
	1000		Vith Project		w/o Project	With Project	w/o Project	With Project
	Wo Fluett		Hortares	%	Yield ka/dec	Yield kg/dec	Prod. tons	Prod. tons
CROP	neciales /	1	1 700	2	700	800	11,725	
Potato	2/0,1	20.02		21.2%	1 200	1,700	17,120	2
Tomato	1,427	20.02	150	1 8%	1,500	1,850		
Cabbage		707 7	026	3 3%	1 498			4,725
Kale	287	7.0		0.4%		1,200		420
Carrot	200	2 4%	e.	3.6%			2,920	5,400
B.Onion	217	200		%00			0	0
Field Fea		800		%0.0				
Same	95	1 3%	38	1.2%	400	500	380	4/5
reppers	3 935	55.2%	4.300	52.2%				1
lotal vegetables	1 128	15.8%	_	17.6%	1,000	•	11,	18,
Danana	00	0.8%	09	0.7%	1,000	1,350	99	810
Mango	3 0	%0 U		%0.0	0			
Apples	c	%00	0	%0.0				
Citus	P	0.6%		0.2%	1,300		568	
rapaya	147	0.7%	150	1.8%	1,000	1,200		1,800
Passion Fruit	C	%0 O		%0.0				
Fineappie	58	%6 U		0.7%	1,500	1,75	95	1,050
Avocado	30	%00		0.0%	0			
Plums		200	4	0.5%		1,200		480
Meions	1 342	18.8%	1.7	21.6%		0		
lotal Fruit	1,697	23.8%	2	24.3%	800	1,	13,57	20,0
French Dean	-	0.2%		0.1%	424	450	4	45
Silow year	0	0.0%					0	
Dringal	0	0.0%						5 0
Narena D.: 45:	ō	0.0%	0					
Dugui		0.0%						
OKTA	0	%00			0			
Valore	lö	%0.0		%0.0				
200-		%U U			0		0	
Chilles	150	2 1%	15		283	300	0 425	450
Macadamia	1 858	26.0%	2.					
Total Export Hore.	200	%0.02	i			0		0
Other crops	7 43 5	100 0%	824	79.4%			67,305	100,205
IOIAL	221,							

Table H.1-21 Horticultural Crops & Horticultural Cropping Pattern (Mbeere District)

TAB: F 1. 24	Athoore	Macore District Date - Horticultural crons	TOT . a	ultural cre	SOC		TABLE H-21 (Sheet	2)	Mbeere District Data		Horticultural crops	crops	
	DIDOCIAL	5	A cri cri ha						Production in tonnes		Yields	Yields in tonnes/ha	
	,		AITES III IIA		1006			1994	1995	1896	1884	1995	1986
	1885		CA		1990		avav	Production	Produc	Production	Yield	Yield	Yield
CROP	Area	%		e e	Area	ا	CROT	1 020		4 2	12	7	O
Tomato	88	•	42	2.07%	ζ.		Office	C			0	ō	0
Cabbage			ō	0.00%	Ζ.	1	Cabbage	1 525	80		15	20	ō
Kale	198		g	6.45%	۷ ×		Naie Cerrot	000			0	o	O
Carrot	0		5	0.00	2 2		Carlot	C	12		0	80	O
B.Onion	0		18	1.38%	Z	1	D.C.				G	O	O
Field Pea	0		ō	0.00%	Ϋ́Z		Field Pea				c,	c	O
Garlic	٥	%00.0	ō	0.00%	Ϋ́Ζ		Garlic					Ö	C
Peopers	0	0.00%	0	0.00%	N.A.		Peppers				7	5)
Total Vocatables	188	L	88	11%	Z.A.		Total Vegetables	1,948	1,929				
Total vegetables	3 3	Ĭ	1 200	59 0R%	V Z		Barana	8,012	10,349	Y.A.	8	G	٥
Banana	2		207	700.00	2		Mango	770	880	Ϋ́Z	7	8	O
Mango	110		= c	2.42%	< Z		Select	C			0	0	O
Apples	0		5	0.00			2000	150	148		5	7	ō
Citrus	30		33	1.62%			Circus	2 142	-		6	80	O
Papaya	238	12.37%	238	11.72%	ď.		Papaya	741,72			٦	60	C
Passion Fruit	15	0.78%	-	0.10%	A.		Passion Fruit	121			\$		C
	4	0.21%	'n	0.25%	N.A.		Pineappie	4			2	۴	
Assessed	2	L	20	4.23%	A.Z		Avocado	195	18		2	<u> </u>	
-		L	c	%00 0	A Z	<u>-</u>	Plums	0			2	5	51
Figure	7	1	12	0.84%			Melons	168	104	N.A.	8	80	ा
Melons	7 200 7		1 620	7958	A Z		Total Fruit	10.034	12,860	A N			
Total Fruit	1,382		Š.	200	2 2		Control Days	659	514	X.X	5	6	O
French Bean	129		c c	2.71%		1	Cathorine Death				0	0	0
Snowpea	0		2 8	0.000		1	Drivial	120	7		3	6	0
Brinjal	40		8	07.0	2 2	1	X orași	430	1		\$	æ	O
Karefla	£3		2	2 2 2			D. O.	C		₹ Z	0	O	0
Dudhi	9		s le	0.00%			870	1 020	32	Ą.Z	15		0
Okra	69		g	0.30%		1	200	24			3		O
Valore	B		o	0.00%	Ž	1	Time				-		ō
Turia	2		4	0.00%	Ϋ́ .		1 UNB	202	4		6	3	0
Chillies	69		23	1.13%	Ϋ́ .		Chilles						C
Macadamia	0	0.00%	0	%D0 0	N.A.		Macadamia	,	(
Total Export Hort.	360	18%	169	%	Z.A.		Total Export Hort.	452		z	To the second se		C
Other crone	25		27	0.00%	Z		Other crops	204			۵	n	5
1015 E	1 055	ľ	1904	100%	Z		TOTAL	12,433	14,981	Z. A.			
Z	?	١	1										

TARI E H.21 (Sheet 3)				MBEER	MBEERE District Horticultural Cropping Pattern	ultural Croppil	ng Pattern	
								Affith Oroloat
	w/o Project		With Project		w/o Project	With Project	W/o Project	With Project
	Hortans	ર્જ	Hectares	%	Yield kg/dec	Yield kg/dec	Prod.	Prod.
CROP	Carpor				650	750	Ć.	
Potato	OCC	ľ	200	٥	-	1,100	099	2,475
Tomato	CO			Ŀ		0	О	0
Cabbage		\perp		┸	1 64	2,000	1,069	2,000
Kale	S	2,0%				0		0
Carrot	0				ď	650	8	195
B.Onion	8	\perp	73	\perp				O
Field Pea	0					750		38
Garlic	0			\bot		00.7		
Deprese	0			l				
Total Venetables	889	27.8%	985					ţ
lotal veyerables	1 072	L	1,750	47.5%	857	1,000	5	
Ownana	110	1			750	1,100	82	2,200
Wango	2	┸		L	0	0		0
Apples		200.7		%C C	473	850	149	
Citrus	75					1 000	1,990	2,300
Papaya	238	1	250	1			28	
Passion Fruit	80	0.3%		1	200			275
Pineapple	9	_		l.				
Avocado	21			1				
Of the		%0.0						00,
Figure	17	l _	 		800	1,200	130	
Meioris	1 501	L	2.2	62.1%				
lotal Fruit	0	Ļ.,		4.1%	638	006	587	1,350
French Bean		800			0		0	
Snowpea	2 6	L	4	L	300	450		
Brinjal	29	\perp				1,100	291	495
Karella		L					0	0
Dudhi		L	9		1,280	1,400	5 672	8
Okra	O	\perp					18	
Valore		1	1	L		100		3 10
Turia				L	6		138	3 248
Chillies	4	870						O
Macadamia				. 1				
Total Export Hort.	265		3			750	166	188
Other crops	2	26 1.0%		- 4	640		9	35
TOTAL	2,479	9 77 8%	3,685	5 100.0%	9		76'61	3
-5121								

Table H.1-22 Horticultural Crops & Horticultural Cropping Pattern (Embu District)

4		40.00	- [-	and a less the corporate			TABLE H-22 (Sheet 2)		Embu District	Data:	Horticultural crops	Sdc	
ABLE H-22	בוונים היאורים המו	מוכר כמום	4	5					Production in tonnes		Yields	Yields in tonnes/ha	١
			Areas at the		4006			1994	1885	1986	1884	1995	1996
	188		1880	à	٠,	8	CBOP	Production P	Production F	Production	Yield	Yield	Yield
CROP	+	8	Alea	7000	200	4 40%	Tomato	tö	756	1,016	8.4	8.4	12.4
Tometo	8	1.92%		246.	200	7.50%	Cabhade	1.080	1,353	36 2	14.8	14.4	15.3
Cabbage	73	% QC		24/	32,	2 100	7	2.470	3.672	2,590	14.8	14.4	14.8
Kale	167	3.56%	<u> </u>	6.73	7	2.197	Comme	186	364	152	7.5	7.8	7.6
Carrot	22	0.47%	1	0.89%	2 2	0.3078	S Onion	230	787	156	9.9	6.6	6.5
B.Onlon	35	0.75%	4	0.74%	47	2 2			6	c	0.0	0.0	0.0
Field Pea	0	0.00%		0.00%	٥١	0.00%	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		c	0	0.0	0.0	0.0
Garlic	0	0.00%		0.00%	3	0.00%	GETIK		6	6	00		0.0
Peppers	0	0.00%		98.0 %	o	0.00%	Peppers	202.4	700	A 876			
Total Vegetables	387	% 80	527	10%	364	%	lotal vegetables	30/1	0,400		a a	ď	0
Banana	2,800	29.66%	3,067	56.67%	3,192	58.18%	Banana	23, (80	0000	000	20.2	0 8	i c
Mango	347	7.39%	461	8.52%	488	8.89%	Mango	7,000	2000		000	c	C
Annies	0	%00.0	0	0.00%	0	0.00%	Apples	511	2 19	9 8	2		2.0
Citrus	33	0.70%	30	%55.0	25	0.48%	Citrus	လူ	050	١,	000		2 4
Donoth	160	3.41%	240	4.43%	280	5.10%	Papaya	1.440	1,833	006,7	0.00		0
December 1	130	277%		2.96%	159	2.89%	Passion Fruit	1,160	1,288	1,320	200		
Les Broth Clust	3	200		70000	0	%00.0	Pineapple	0	0	0	0.0	j J	0.0
Pineappie	2 6	200.0	۶	7 43%	311	5.67%	Avocado	2,704	2,903	2,800	9.7		0.0
Avocado	202	2 200		7800	c	%00.0	Pkims	0	0	0	0.0		0.0
Plums	٥١	0.00%		2000		2000	Melone	0	ō	0	0.0	0.0	0.0
Melons	0	%00.0					Toto: E2:1	31 AB7	36 318	43.060			
Total Fruit	3,750	80%	4,252		4,455		lotal Fruit	100,10		150	4.6	4.6	5.6
French Bean	8	0.72%	30	0.55%	27	0.49%	French Bean	8	200	3			0
Snownea	o	%00.0	0	%00.0	0	0.00%	Snowpea	5 6	> 0	5 0			0
Brinial	0	%00'0	0	0.00%	0	%00.0	Brinjai	5 6	0	5 6			0
Karella	0	%00.0	0	%00'0	o	0.00%	Karella	5 0	5	5 0	200		200
Dudhi	0	0.00%	0	%00.0	0	%00.0	Dudhi	5 0	5 6	3 0	2 0		5 6
Okra	0	%00.0	0	0.00%	0	%00.0	Okra	5	5 0	2 6	5 6		200
Valore	C	%00 0	0	%00'0	0	0.00%	Valore			5	9 0		5 6
T. T.	C	%00.0	0	0.00%	0	%00.0	Turia	0	9	5 (2 6		2 6
- Tale 10	C	%000		%00 0	0	%00.0	Chillies	0	0	٥	0.0	3 1	0.0
Culture	500	14 170%	B)	11 14%	641	11.68%	Macadamia	984	1,040	1,850	2. L	7:	2.2
Macadamia	277	1007			668	12%	Total Export Hort.	1,140	1,178	2,002			
lotal Export Hon.	000	2 200				%00 O	Other crops	0	Õ	0	0.0	0.0	6
Other crops	Э	0.00%		١.	207	800	TOTAL	27 533	43 905	49 938			
TOTAL	4,693	100%	5,414	₹	0,407	Ř	12.01						

CROP Cabage Cabbage Kale			With Project	w/o Project With Project		***** ********************************	w/o Droient	Mith Draight
CROP Potato Tomato Cabbage Kale			With Droing			A	_	
CROP Potato Tomato Cabbage Kale	w/o Project	:			w/o Project	With Project	т	אומו בוספרו
Potato Tomato Cabbage Kale	T	%	Hectares	%	Yield kg/dec	Yield kg/c	200	Prod. tons
Tonato Cabbage Kale	25	29 0%	2.150	26.1%	750		15	18,275
Cabbage	87	1 2%	06	1.1%	996			1,530
Kale	-	10%		1.8%	1,478	1,850		2,775
Naie -	661	2 7%		2.4%	1,463		2	3,500
	98	0.4%		0.4%	758	1,200	227	420
Carror	25.	5,58		0.4%		1,800		540
a.Crion	3	800			0			0
rieig rea	o c	%0 0		0.0%		0	0	ð
Carac	C	%0.0	0	%0.0			:	O
Tetal Veretables	2 551	34.8%	2.65					
lotal vegetables	3 020	41 2%	8	45.0%	905		27,246	44,406
Danara	CEP	7.0%		6.1%	850	1,350	3,673	6,750
Marigo		800			0			0
Applies	96	0.4%			443			
Circle	700	100 m	230		845		-	
ti-line ti-line	150	2 0%		1.8%	840	1,200	1,25	1,800
Passion Fruit		%0 C	0		0			
Avocado	295	4.0%	295		950	1,75	2,80	5,16
Direct	0	0.0%		%0'0				
Molecul	0	0.0%		%0.0	0	0	0	٥
Helolis Total Cast	4.152	56.7%	4,875	59.2%				
Lond Tutt		0.4%		1.2%	490	1,000	149	1,00
Chowness	0	0.0%		%0.0				
Brinial	O	i i	0					
Karalla	0	į .		%0 .0				
- Vareila	0	!	0	%0.0				
1000	0		0	%0'0			0	
Valora	0							
Years Train	0				0			
Chillion	0	L	0		0		0	
Monodomia	589	١.	009		219	300	1,291	1,835
Total Export Hort	619	<u> </u>	7007		9			
Other Crops	0	L_	0		0		0	3
Cure Crops	7 322	100 0%	8.230	100.0%			59,730	90,138

Table H.1-23 Horticultural Crops & Horticultural Cropping Pattern (Tharaka Nithi District)

TABLE H.23	Tharaka	Tharaka Nithi District Data	ict Data	Horticultural	ral crops		TABLE H-23 (Sheet	2) Th	araka Nit	Tharaka Nithi District Data		Horticultural crops	S
			Areas in ha		1			Production in tonnes	tonnes		Yields	Yields in tonnes/ha	
	1894		1995		1996			1994	1995	1996	1894	1895	1996
CROP	Area	%	Area	%	Area	8	CROP	Production Pro	Production	Production	Yield	Zieg Zieg	Yield
Tomato	45	2 85%	85	4 25%	1	3.57%	Tomato	250	029	250	10.0	7-	10.0
- Phase	9	1 12%	25	1.64%	35	2.27%	Cabbage	136	225	280	8.5		8.0
	180	11 20%	180	11 78%	160	10.39%	Kak	1,800	2,160	1,920	11.3		12.0
Carrot	3	0 18%	200	%000	0	0.00%	Carrot	18	0	0	7.0		0.0
	3.5	1 05%	20	131%	18	1 17%	B,Onion	113	140	126	7.5		0.7
Field Des	2 0	%00 0		0.00%	0	%00.0	Field Pea	0	0	0	0.0		0.0
Garlic		0.00%	0	%00.0	0	%00.0	Garlic	0	0	0	0.0		00
Peppers	0	0.00%	0	%00.0	0	0.00%	Peppers	0	ᅙ	0	0.0	00	0.0
Total Vegetables	249	17%	290	19%	268	17%	Total Vegetables	2,616	3,175	2,876			
D accorded	865	80.55%	880	57 57%	920	59 74%	Banana	10,320	10,560	11,040	11.9	12.0	12.0
Mana	126	8 82%		8 28%	132	8.57%	Mango	1,197	1,139	1,320	9.5	9.0	10.0
Annie	3 0	%00 o		0.00%	0	0.00%	Apples	0	0	0	0.0		0.0
Citate	9	0.63%		%000	0	0.00%	Citrus	0	0	0	0.0		0.0
	80	4 20%	9	4 19%	88	4.42%	Papaya	300	320	340	5.0	5.0	5.0
Passion Fruit	13	%180		2000	0	0.00%	Passion Fruit	78	0	0	6.0		0.0
Disconnie		%000	0	%00 a	0	0.00%	Pineapple	0	0	0	0.0		0.0
Avocado	35	2.45%		0.00%	0	9,00.0	Avocado	420	0	0	12.0		0.0
Gilavae	17	116%	0	%00.0	0	0.00%	Guavas	10	0	0	9.0		0.0
Molone	٥	%00 0		%00 O	0	%00.0	Melons	0	0	0	0.0	0.0	0.0
Total Fruit	1 125	79%	1 071	70%	1.120	73%	Total Fruit	12,325	12,019	12,700			
French Rear	3 %	1 75%	5	0.33%	6	0.19%	French Bean	100	15	6	0.0		3.0
Shownes	6	%00.0		X00.0	0	%D0.0	Snowpea	0	0	0	0.0		00
Brinial	6	0.42%	0	%00.0	0	%00.0	Brinjal	36	٥	0	0.0		99
Karella	10	%02.0	15	%86.0	101	0.65%	Karella	25	45	<u>ө</u>	0.0		8
1	0	%000	0	%00.0	0	%00.0	Dudhi	0	0	0	0.0		0:
6230	9	0.42%	100	6.54%	80	5.19%	Okra	36	900	480	0.9		0.9
Valore	6	%00.0	0	%00.0	0	%00.0	Valore	0	O	ō	0.0		0.0
Toria	6	%00 0	o	%00 o	0	%00.0	Turia	0	0	0	0.0		0.0
Chillian	9	0.42%	18	1 18%	28	1.82%	Chillies	7	13	20	0.0	0.0	0.0
Marcal	G	%000		%00.0	0	0.00%	Macadamia	0	0	0	0.0	0.0	0.0
Total Evnort Hort	53	4%	138	% 6	121	%8 8	Total Export Hort.	201	673	539			
Other crons	6	0.18%	99	1.96%	31	2.01%	Other crops	О	0	Ó	0.0	0.0	0.0
TOTAL	1 429	100%	1,529	-	1,540	100%	TOTAL	14,592	15,216	15,565			
	,			ı									

						lear the city of the	ad printing	#
TABLE H-23 (Sheet 3)				THAKAK	THARAKA NITHI DISGICI NOI UCUITUISI CLOPETISI CICLO			
							To ion C	Mith Droiport
	w/o Project		With Project		w/o Project	With Project	W/o Project	Will Figer.
	Hartares	ð	Hectares	%	Yield kg/dec	Yield kg/dec	90 9	0
CKOP	AEO		1 500	40.2%	750	920	4	12,
Potato	000		90	Ľ	1,000	1,500		8
Tomato	000		225		843	1,000	214	2,250
Cabbage	C7		175		7		1,960	2,450
Kate	101	20.0		L		0	9	0
Carrot	- 07		75	L	714	1,800	12	1,350
B.Onion	9 0	\perp	0	%0.0			0	
Field Pea		L	C	L	0	0		
Garric				L		O	0	0
Peppers	919		2.03	"'	·			
Total Vegetables	000	L		1.	1,198	1,250	10,640	15
Banana	900	_L		L	951	1,350	1,219	1,688
Mango	07	1		L		0	0	
Apples		2 5		L	2			
Citrus	7 6		١		50	950	320	618
Papaya	ŏ			30%			26	Ö
Passion Fruit	7 (0.470					0	0
Pineapple		L			120	0	140	0
Avocado	7	0,00) W			65	3	4
Guavas		\perp					0	0
Melons		┸	4 67					
Total Fruit	1,105	$^{\circ}$	1,0,1		97£	500	41	0
French Bean	11							0
Snowpea		\perp		2 6	8		12	٥
Brinjal	7	\perp	1,4	l				0
Karella		1					0	0
Dudhi		\perp	G		9	750	372	488
Okra	25	2.3%						0
Valore							0	0
Turia					Œ			0
Chillies	/1							0
Macadamia								
Total Export Hort.	104			4 2.6%				0
Other crops	21			- 1		5	90 C	38 124
TOTAL	2,149	9 100.0%	3,735	5 100.0%	9		40,30	3
10.01								

Table H.1-24 Horticultural Crops & Horticultural Cropping Pattern (Meru District)

10 1		Mann. Die	Mon. Dietriet Date .	Horticultura	Pursi crons	-	TAR! F H-24 (Sheet 2)	2)	Meru District Data:		Horticultural crops	s	
IABLE R-24			Asses in ha		_ i				Production in tonnes		Yields in	Yields in tonnes/ha	
	7007		AICAS #1 1:0		1996			1994	1995	1996	1994	1995	1896
	488			à		8	Caca	Production	Production	Production	Yield Y	Yield Y	Yield
CROP	Area	şe.	_	1007		- 1	D. C.	1 088			7.0	8.0	80
Tomato	787	6.36%	000	801.7	200	0.90%	Cohbago	5 190			10.0	0.0	10.0
Cabbage	519	11.63%		R 200		0.4370	Cabbaya	27.8			2.0	202	4
Kate	139	3.11%		K12.2		27.08	- Fare	344			0.4	5.0	8.0
Carrot	88	1.93%		2.58%	١	2.11%	Carrot	720 4	1 800	,	5.0	80	80
B.Onion	254	5.69%	8	4.73%	7	200	B.Onlon	0.75				0	00
Field Pea	0	%00.0	0	0.00%		%000	Field Pea	7		0	3	100	2 0
Gartic	18	0.40%	86	2.32%	18	2.34%	Garlic	(2)	20		2 6	5 6	5 6
Paranete	٥	0.00%	0	%00.0	0	%00.0	Peppers	- 1			0.0	3	3
Total Venetables	1 300	29%	1 230	29%	1,245	29%	Total Vegetables	9,142	0,	2			
A	2	14 36%		15.38%	617	14.44%	Benana	7,692			12.0	13.0	12.0
DAUGHIA Maria	5 8	7025		5 04%	228	5.34%	Mango	1,816	1,917	3,420	0.0	0.6	15.0
000	7	2000		7000	6	%000	Annies	0	0	o	0.0	0.0	0.0
Apples		0.00	15	0.479		9 25%	Citrus	2.807	2,400	2,370	0.7	0.9	6.0
Citrus	5	200		8 200	32.4	4 10%		1 600		2,450	10.0	10.0	14.0
Papaya	30,	3.59%	CQ.	2000		200%	Passion Fruit	648			8.0	5.0	6.0
Passion Fruit	80L	2.4.270		K.00.2		7000	Grande	C	0	O	0.0	0.0	0.0
= 1	7	0.03%		0.00%	000	4004	Avocado	4576	4.60	5.400	16.0	16.0	18.0
Avocado	286	6.41%	8	0.0278	300	70000	91:00				0.0	0.0	0.0
Plums	°	0.00%		0.00	5 6	0.00%	Figures				0.0	00	00
Melons	0	%00.0	P	%00.0	2	20.0	Melons	2000	3	ć			
Total Fruit	1,800	40%	1,806	43%	1,809	45%	Total Fruit	18,939	3,	7	90	2,0	,
French Been	900	13,45%	007	9.47%	380	8.90%	French Bean	1,500			200	200	200
Special	150	3 36%	180	4.26%	280	6.55%	Snowpea	300			0.2	2	0.0
Brinis	7.0	1.57%		1,35%	33	0.77%	Brinjal	455			6.5	75	200
Kare II	78	1.75%	87	2.06%	20	1.17%	Kareila	624		904	0.0		200
D.Ati	1	0.25%		0.43%	15	0.35%	Dudhi	150			13.6	0.5	0.00
	76	1 70%		1 02%	20	1.17%	Okra	480	366	-	6.3	6.5	O.6
ORTE	2 4	7970		0.28%	20	0.47%	Valore	75	848	100	5.0	0.4	5.0
Valore	2 0	7000		%000	0	%00.0	Turia	0	0		0.0	0.0	0.0
	7	7009 0	25	128%	50	1 17%	Chillies	93	216		3.0	0.4	0.4
	2 5	7 449%	ľ	8 00%	340	7.96%	Macadamia	1,660	1,690	2,040	5.0	20	6.0
Total Econt Los	1 262	310%	-	28%	1.218	29%	Total Export Hort.	5,337	4,547	5,724			
DIGIT EXPORT TOTAL	3	70000		7500		%00.0	Other crops	0	0	0	0.0	0.0	0.0
Other crops		2007	Ċ	40004	4.2	100%	TOTAL	31 430	31 089	34.672			
TOTAL	4,403	10078	1	3		1,7,7,7							

wice Project With Project<					MERU D	MERU District Horticultural Cropping Pattern	ural Cropping	Pattern	
Molecular Wole Project With With With With With With With With	IABLE H-24 (Sides 3)								
Heckares % Heckares % Yelld kg/dac Yield kg/dac Yelld kg/dac Yell		w/o Project		With Project		w/o Project	With Project	w/o Project	With Project
o 14,000 7,65% 1,000 1,050 1,050 1,050 1,050 1,000 1,050 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 2,75 6,260 2,75 6,260 2,75 6,260 2,75 6,260 2,75 6,260 1,000 1,250 2,75 6,260 1,000 1,250 2,75 6,260 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 2,75 6,260 1,000 <th>200</th> <th>1</th> <th>8</th> <th>Hectares</th> <th>%</th> <th>Yield kg/dec</th> <th>Yield kg/dec</th> <th>ğ</th> <th>Prod. tons</th>	200	1	8	Hectares	%	Yield kg/dec	Yield kg/dec	ğ	Prod. tons
Part	CROP	Īξ	78 49°	14	1	-	1,050	14	147,000
Part	Potato	1,000	, 90°				1,500		
Part	Tomato	361	2 30%		2	1 000	1,200	4	
12 1.2	Cabbage	1450	98			245			
pat 291 1,278 230 1,286 690 1,800 1,587 4,78 eat 0 0.0% 0 0 0 0 0 seat 72 0.4% 72 0.4% 72 0.0% 0 0 septables 72 0.4% 70 0 0 0 0 septables 15.268 83.3% 15.286 83.0% 0 0 0 0 pat 16.268 83.3% 700 3.8% 1,234 1,250 2,346 8.8 pole 16. 0.0% 0 0 0 0 0 pole 16. 0.9% 16. 0.0% 0 0 0 0 pole 291 1.6% 290 1.6% 0.0% 0 0 0 pole 291 1.6% 290 1.6% 0.0% 0 0 0 pole	Kale	713	200		1	565			*
n C31 1.3% C0 0.0%	Carrot	28.0	20.0		1 20%	069			
est 72 0.4% 75 0.4% 751 750 519 75 systables 15.268 83.3% 15.365 83.0% 1.234 1.250 7.845 8.10% epstables 15.268 83.3% 15.365 83.0% 1.234 1.250 7.846 8.10% epstables 15.268 83.0% 1.234 1.236 1.350 2.348 8.1 epstables 15.26 1.20% 1.00 0.0%	B.Onion	737	50.0		%00	0			0
egetables 15,286 83.3% 15,385 83.0% 0<	Field Pea		2 2		0 4%		750		563
periables 15.256 83.3% 15.345 83.0% 1.234 1.250 7.849 8.1 aggletables 636 3.5% 7.00 3.8% 1.234 1.250 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.318 2.328 2.399 2.2% 634 0	Garlic	7)	2 2		%0 C		0		0
Page labeles 1,200 2,100 3,8% 1,234 1,250 7,849 8 8 1,24 1,28 1,28 1,28 1,28 1,28 1,28 1,28 1,350 2,318 2,3 2,2% 634 0 2,526 2,318 2,3 2,2% 634 0 2,526 2,28 634 0 2,526 1,500	Peppers	4 A 2 2 B	20.0	15					
Full Full Full Full Full Full Full Ful	Total Vegetables	858	2 70%		<u>L</u>	1	,		α
Pruit Prui	Banana	244	Ì				,		
Fruit Part	Mango	7 14	ı						0
a 1599 2.270 1.500 1,140 1,200 1,1900	Appies				1				Ö
Fuit 167 0.5% 1.0% 1.147 2.0% 1.1% 2.0%	Citrus	889	\perp		ı	•			1,980
Pruit 97 0.5% 100 0.0% 0	Papaya	167			-				009
ple 1 0.0% 0.0	Passion Fruit	76	C.5		ļ				0
o 291 1.6% 290 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0% 1.147 2.0%	Pineapple	-	% O O		\perp		1	7	
vilt 0 0.0% 0 0.0% 0	Avocado	291	1.6%			20,1	-	2	
Lait 0 0.0% 0 0.0% 0	Plums	0			_				
Deam 1,805 9.9% 1,869 10.1% 249 500 1,147 2,147 2,148 249 500 1,147 2,147 2,148 249 500 1,147 2,147 2,148 2,149 2,148 2,149 2,149 2,148 2,149 2,149 2,148 2,149 2,149 2,149 2,149 2,149 2,149 2,149 2,149 2,149 2,149 2,148 2,149 2,149 2,149 2,149 2,149 2,149 2,149 2,149	Malone	0							
Bean 460 2.5% 450 2.4% 249 500 1,14f/ 2,6 Ba Boar 203 1.1% 250 1.3% 269 500 547 1,1 A 53 0.3% 45 0.2% 634 800 338 1,1 A 72 0.4% 75 0.4% 760 850 544 1,1 A 72 0.4% 76 850 544 1,54 1,54 B 56 0.3% 50 0.3% 767 950 432 B 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0 B 45 0.2% 45 0.2% 45 0.0% 0.0% 0.0% B 337 1.8% 340 1.8% 534 600 1.797 2 A 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	Total Carit	1,805		1					
Death 203 1.1% 250 1.3% 269 500 547 1.1 6a 53 0.3% 45 0.2% 634 800 338 1.1 72 0.4% 75 0.4% 760 850 544 1.54 800 6.3% 75 0.4% 760 850 544 1.54 800 6.3% 50 0.3% 767 950 432 432 800 6.0% 6.0% 6.0% 74 474 500 74 800 6.0% 6.0% 6.0% 6.0% 6.0% 74 700 800 74 750 750 750 770 700 74 800 74 750 750 750 750 750 750 750 800 74 750 750 750 750 750 750 750 750 800 750 <t< th=""><th>Total Tion</th><th>460</th><th></th><th></th><th></th><th></th><th></th><th></th><th>7</th></t<>	Total Tion	460							7
Feat Feat Feat 800 338 Feat Feat 800 338 338 Feat 72 0.4% 75 0.4% 760 850 544 Feat 72 0.4% 75 0.4% 760 850 544 Feat 76 0.3% 767 950 432 Feat 16 0.1% 15 0.1% 474 500 74 Feat 45 0.2% 45 0.2% 340 1.8% 534 600 1.797 2 Bamia 337 1.8% 5.9% 0.0% 0 0 0 0 xiport Hort. 1,257 6.9% 1,285 6.9% 0.0% 0 0 0 0 xiport Hort. 18,320 18,519 100.0% 0 0 0 0 0 0	French Dean	203							-
F 0.4% 75 0.4% 760 850 544 1 1 0.1% 1,050 1,100 154 5 0.1% 1,050 1,100 154 5 0.3% 50 0.3% 767 950 432 1 0.1% 15 0.1% 474 500 74 1 0.0% 0 0.0% 0 0 0 0 1 45 0.2% 45 0.2% 340 1.8% 534 600 1.797 2 1 1,257 6.9% 1,285 6.9% 0 0 0 0 1 0 0.0% 0 0.0% 0 0 0 0 1 0 0.0% 0 0.0% 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0	Showbea	53			L				
s 15 0.1% 15 0.1% 1050 1,100 154 56 0.3% 50 0.3% 767 950 432 5 0.3% 50 0.3% 767 950 74 5 0.1% 0.1% 474 500 74 5 0.0% 0 0 0 0 0 5 45 0.2% 45 0.2% 45 0.2% 170 170 8 337 1.8% 340 1.8% 534 600 1,797 2 Export Hort. 1,257 6.9% 1,285 6.9% 0.0% 0 0 0 crops 18,320 100.0% 18,519 100.0% 0 0 0 0 0 0	Grinjai	22							
s 0.3% 56 0.3% 767 950 432 s 16 0.1% 15 0.1% 474 500 74 s 0 0.0% 0 0 0 0 0 0 s 45 0.2% 45 0.2% 377 400 170 lamia 1,287 6.9% 1,285 6.9% 0 0 0 crops 18,320 100.0% 18,519 100.0% 0 0 0	ARTONIA	7	L		L	7	-		
16 0.1% 15 0.1% 474 500 74 10 10 10 10 10 10 10 1	Dugui	3	1		L				4
samis 337 1.257 6.9% 0	Okra	3	\perp						7
amia 45 0.2% 45 0.2% 377 400 170 sport Hort. 1,257 6.9% 1,285 6.9% 0.0% 0 0 0 rops 18,320 100.0% 18,519 100.0% 18,519 100.0% 175,000 190	Valore		_		L				0
amia 337 1.8% 340 1.8% 534 600 1,797 2 xport Hort. 1,257 6.9% 1,285 6.9% 0<	Turia		\perp		1				180
xport Hort. 1,257 6.9% 1,285 6.9% 0.0% 0.0% 0 <t< th=""><th>Chillies</th><th>0.4</th><th></th><th>•</th><th>1</th><th></th><th></th><th>_</th><th></th></t<>	Chillies	0.4		•	1			_	
xport Hort. 1,257 6.9% 1,285 6.5% 0.5% 0.0% 0 0 0 0 rops 18,320 100.0% 18,519 100.0% 0 0 175,000 190	Macadamia		$oldsymbol{\perp}$		┙				
rops 0 0.0% 18,519 100.0% 19,000 190 190	Total Export Hort.			-					0
18,320 100.0% 18,519 100.0%	Other crops	0			!				190 72
	TOTAL	18,320						20,0	?

Table H.1-25 Horticultural Crops & Horticultural Cropping Pattern (Nyambene District)

TABLE H.25		Nyamban	Nyambene District Data	ı	Horticultural crops	crops	TABLE H-25 (2)	Z	Nyambene District Data	istrict Data:	Horticultural crops	al crops	
			Areas in ha	•				Production	Production in tonnes		Yields in	Yields in tonnes/ha	
	1 994		1.995		1,996			1,994	1,995	1,996	1,994	1,995	1,896
CBOD		%	Area	%	Area	%	CROP	Production P	Production F	Production		نت	Yield
	96	3 11%	100	3.54%		6.47%	Tomato	1,710	2,000	3,500	18.0	20.0	17.5
O STATE OF THE O	170	5.56%	100	3.54%	100	3.24%	Cabbage	4,250	3,000	1,750	25.0	30.0	17.5
Page 2	500	16 36%	120	4 25%		6.47%	Xate	12,500	3,600	3,000	25.0	30.0	15.0
2000	88	0.88%		0.53%		0.81%	Carrot	450	225	430	15.0	15.0	17.2
Sie Co	47	1 54%		2 83%	20	1.62%	B.Onion	235	640	240	5.0	8.0	4.8
Dieno:	ř	7000		%00 O		%000	Field Pea	0	0	0	0.0	0.0	0.0
Lien rea) (0.00		%00 o	O	%00.0	Garlic	0	0	0	0.0	0.0	0.0
Design	, A	131%	7	2.48%	L (7)	1.62%	Peopers	22	72	92	0.6	0.4	1.3
Total Vocatables	RRS	20%	485	17%	9	20%	Total Vegetables	19,167	9,492	8,985			
Density Cyclesifes	1 550	50 72%	1,610	57.05%		55.00%	Banana	12,000	16,275	9,860	7.7	10.1	5.8
	3,5	3 11%		3 90%		3.69%	Mando	609	712	730	6.4	6.5	6.4
Apple	3 0	000%		0.00%		%00.0	Apples	0	0	0	0.0	0.0	0.0
Canada Cara) C	%00 O		%000		0.00%	Citrus	0	0	0	0.0	0.0	0.0
SPINO	2	200%	7/	262%		2.59%	Papava	420	576	096	6.6	7.8	12.0
Description in	12	%6E U		0.60%		%26.0	Passion Fruit	25	75	150	2.1	4.4	5.0
Discourie	16	0.65%		1 06%		1 29%	Pineapple	20	340	160	2.5	11.3	4.0
Avorado	300	0.98%		1.24%	45	1.46%	Avocado	180	225	200	0.9	6.4	4.4
Ones of the same o	2 2	0.33%		0.39%		0.39%	Guavas	40	75	90	0.4	6.8	5.0
Several Services)	9000		%00 0	O	%00.0	Melons	0	0	0	0.0	0.0	0.0
Total Englis	1 781	5.8%	1 887	67%	2 0	65%	Total Fruit	13,284	18,203	12,060			
Total Link		0.00%		%00.0		%00.0	French Bean	0	0	0	0.0	0.0	0.0
Country of	0	9000		%000		%00.0	Snowpea	0	0	0	0.0	0.0	0.0
Brinisi	30	%85 C		1.06%		1.13%	Brinjal	91	63	110	3.0	3.1	3.1
Xeretie	30	0.98%	25	0.89%	25	0.81%	Karella	21	23	20	0.7	0.0	0.8
ide. C		%000		%00.0		%00.0	Dudhi	0	0	0	0.0	0.0	00
2000	35	1 15%	95	1.77%	(')	%260	Okra	174	244	180	5.0	4.9	6.0
Valore		%00 0	0	0.00%		0.00%	Valore	0	0	0	0.0	0.0	0.0
Taria	15	0.49%	-	0.53%	10	0.32%	Turia	9	9	80	4.0	4.0	0.8
Chillins	25	0.82%	30	1.06%	30	%26.0	Chillies	09	65	70	2.4	2.2	2.3
Macadamia	250	8 18%	290	10.28%	2	9.38%	Macadamia	358	413	413	1.4	1.4	7
Total Export Hort	385	13%	440	16%		14%	Total Export Hort.	351	431	388			
Other crops	8	0.26%	10	0.35%	25	0.81%	Other crops	52	92	10	9.4	9.5	4.0
TOTAL	3.056		2 822	100%	3.091	100%	TOTAL	33,552	29,045	22,294			
10.01	2,212			ļ									

ABLE H-25 Street D ARBLE H-25 Street D Arburolect W/o Project W/o Project W/o Project Arburolect	100	é			Nyambene	District Hortic	ultural Croppir	ng Pattern	
Michaeled With Project With Pr	IABLE H-Z5 (Shet	(6.1)							
Hectaries W. Hect		100000		With Project		Г			With Project
Macraters				Color I DIAN				Prod. tons	Prod. tons
12	CROP	7	1	7	17 10%	1 000			31,625
132 2.3% 1.25 2.2% 2.402 2.400 2.2% 2.329 2.400 2.329 2.329 2.329 2.400 2.329 2.	Potato	2,72	47.970	2,730	2 20%	1 825	-		
Per Property 1/23 2.7% 1.2% 2.7% 2.329 2.400 Per Property 273 4.8% 276 4.7% 2.329 2.400 Per Property 273 4.8% 276 4.7% 2.329 2.400 Per Property 29 1.0% 0.0% <	Tomato	132	2.370		2.2.0				3 250
Columbia Cabbage	123	2.1%	125	2.2%					
Column C	Kale	273	4.8%	275	4.7%			7	
National Process National P	Carrot	23	0.4%		0.3%				
ables 0 0.0% 0 0.0% 0 0 ables 3.414 59.5% 3.455 59.6% 71 350 ables 3.414 59.5% 3.455 59.6% 71 350 1050 1.620 28.2% 1.600 27.6% 643 650 106 1.9% 0.0% 0 0.0% 0 0 106 0.0% 0 0.0% 0 0.0% 0 0 11 20 0.0% 0 0.0% 0 0.0% 0 0 11 20 0.0% 0 0.0% 0 0 0 0 11 20 0.0% 0 0.0% 0 0.0% 0 0 11 0.0% 0 0.0% 0 0.0% 0 0 0 11 0.0% 0 0.0% 0 0.0% 0 0 11	Doing B	59	1.0%		1.4%				000
abies 0 0.0% 25 0.4% 0 750 abies 3.414 59.5% 3.455 59.6% 71 350 abies 3.414 59.5% 3.455 59.6% 71 350 abies 3.414 59.5% 3.455 59.6% 78 1,000 100 1.08 1.09 0.0% 0 0 0 100 0.0% 0 0.0% 0 0 0 11 2.0 0.0% 0 0.0% 0 0 11 2.0 0.5% 30 0.5% 650 250 11 0.2% 35 0.6% 650 550 550 11 0.0% 0 0.0% 0 0.0% 0 0 11 0.0% 0 0.0% 0 0.0% 0 0 11 0.0% 0 0.0% 0 0.0% 0 0	Ciold Des	0	%0.0			0	0		
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1,620 28.2% 1,600 27.6% 785 1,000 106	Total Venetables	3.414	59.5%						
uit 1.9% 100 1.7% 643 650 0 0.0% 0 0.0% 0	Daniel edened	1,620	28.2%					12,	9
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an 0 0.0% 0 <th>Guavas</th> <th></th> <th>0.2%</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Guavas		0.2%						
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ea 0 0.0% 0 0.0% 0<	French Bean	0	%0.0						
Signature	Snownea	0	0.0%						
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s 0 0.0% 0 0.0% 0 </th <th>Karalla</th> <th>27</th> <th>0.5%</th> <th></th> <th></th> <th></th> <th></th> <th>7</th> <th>71</th>	Karalla	27	0.5%					7	71
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Amia 277 4.8% 300 5.2% 143 150 xport Hort. 415 7.2% 435 7.5% 412 500 rops 5,740 100.0% 5,796 100.0% 5,796 100.0%	- una	80	0.5%						
Axport Hort. 415 7.2% 435 7.5% 412 500 srops 14 0.2% 35 0.6% 412 500 srops 5,796 100.0% 5,796 100.0%	Cullies	776	% K	C					450
xport Hon. 413 7.2% 35 0.6% 412 500 rops 5,740 100.0% 5,796 100.0%	Macadamia								
srops 14 0.2% 33 0.0% 1.00.0% 5.796 100.0%	Total Export Hor								175
5,740 100.0% 5,750 100.0%	Other crops	14	١		1				64,727
	TOTAL	3,740	١		١				