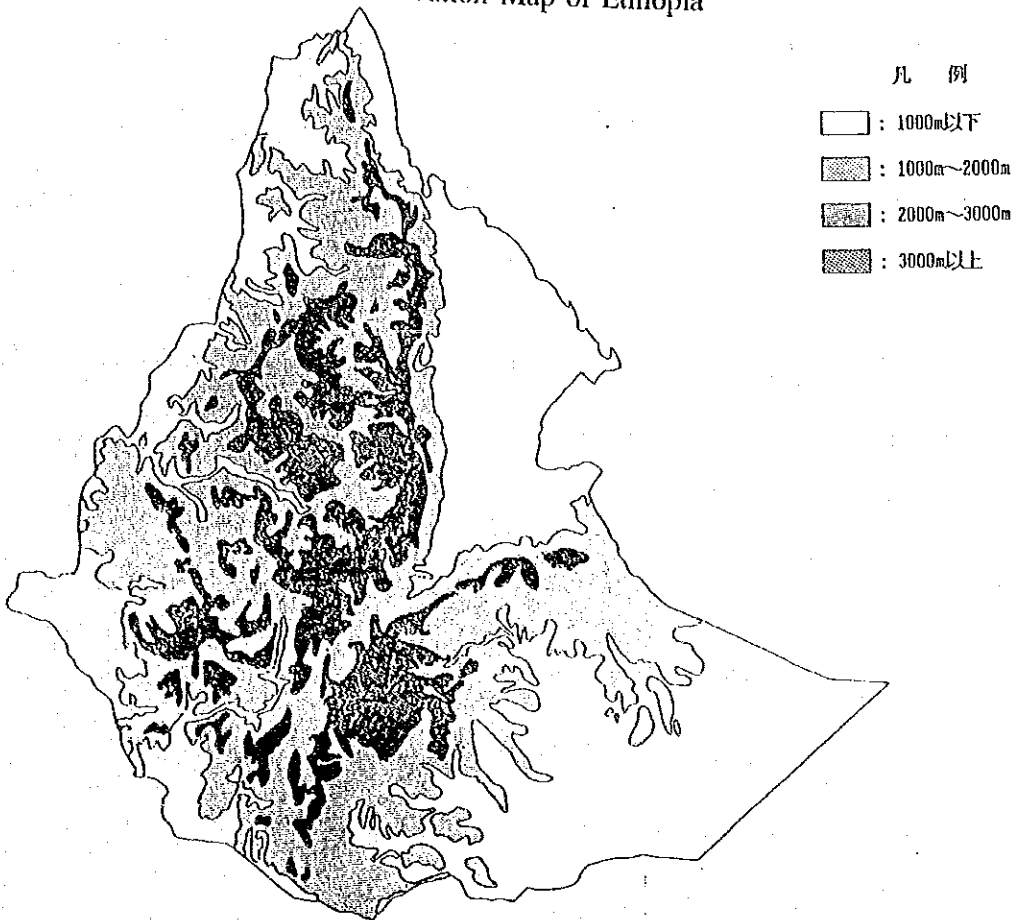
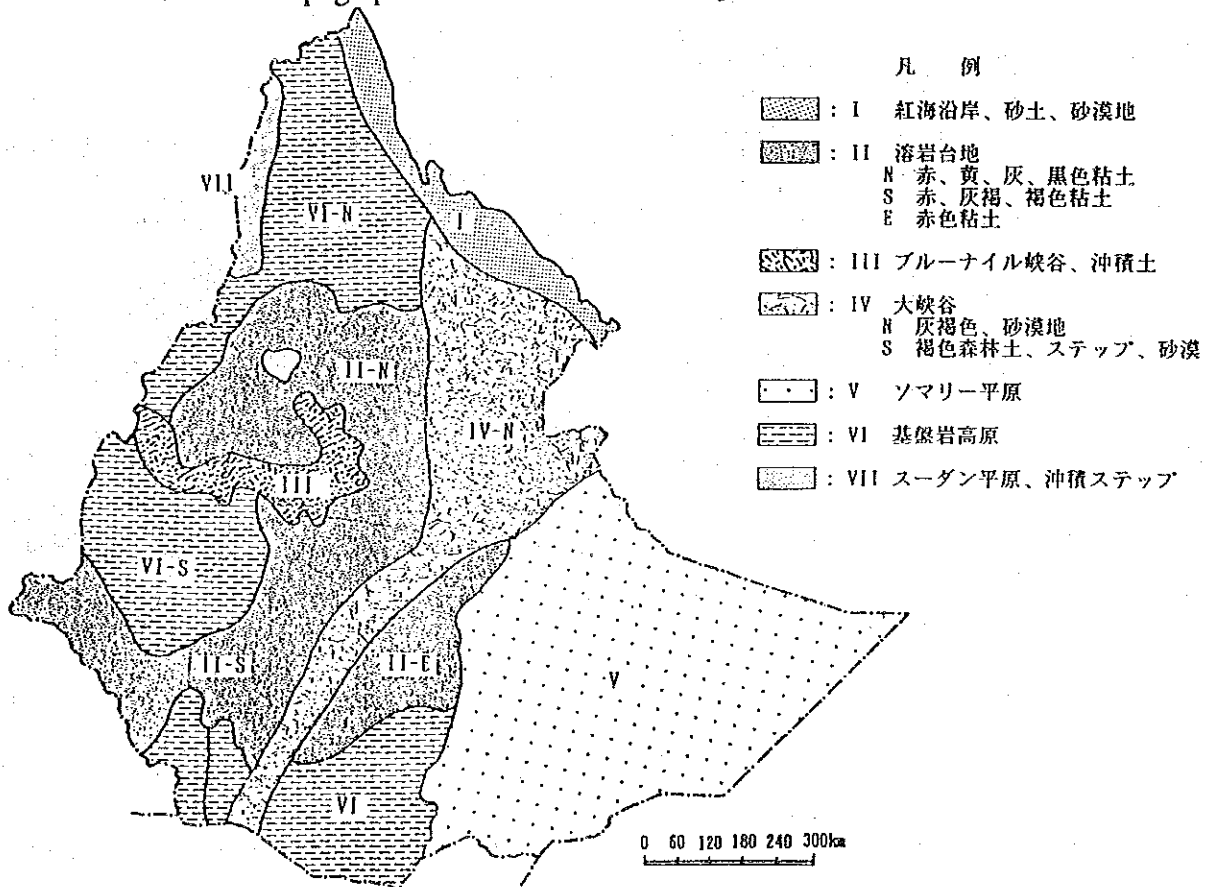


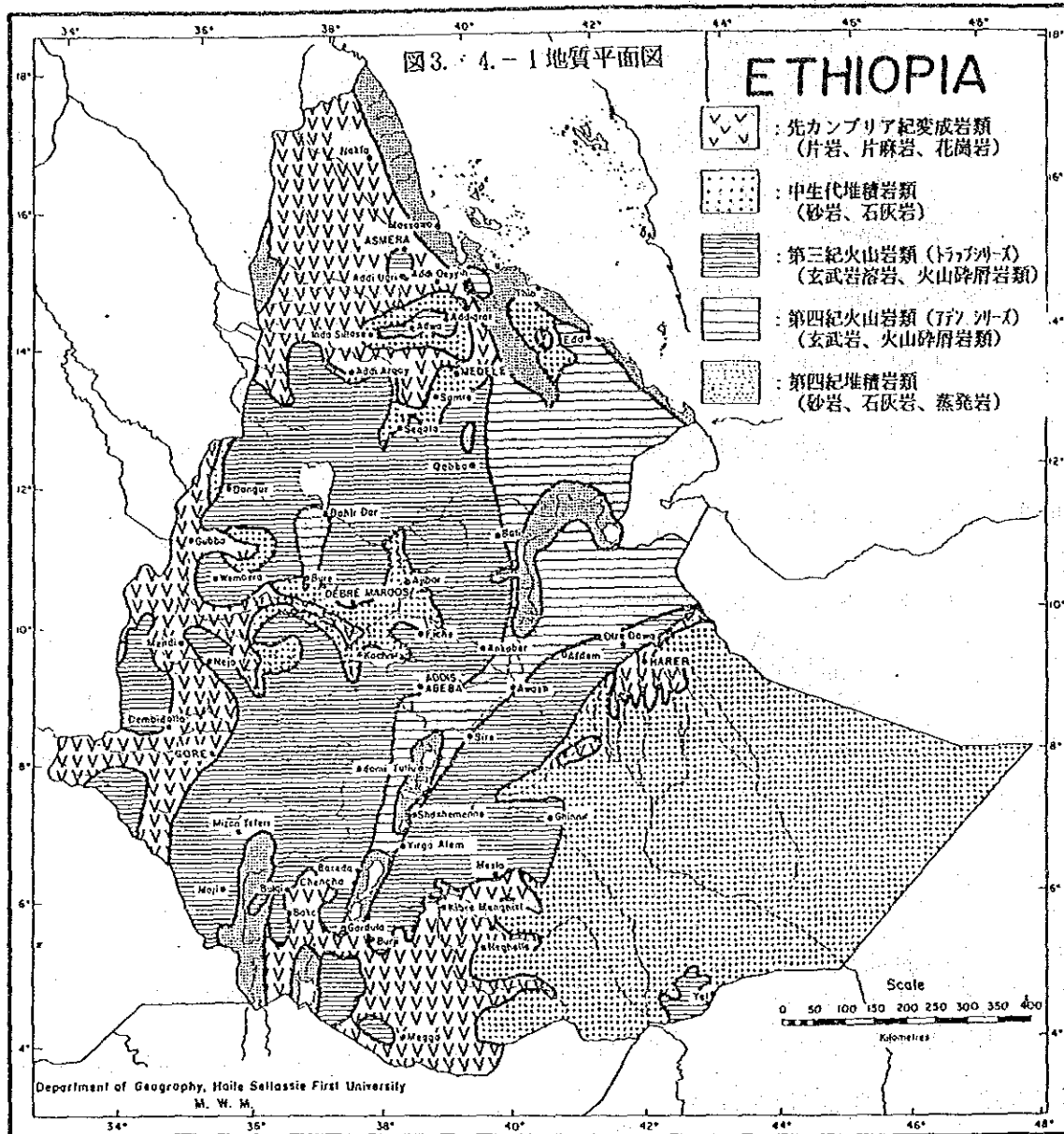
B-1 : Elevation Map of Ethiopia



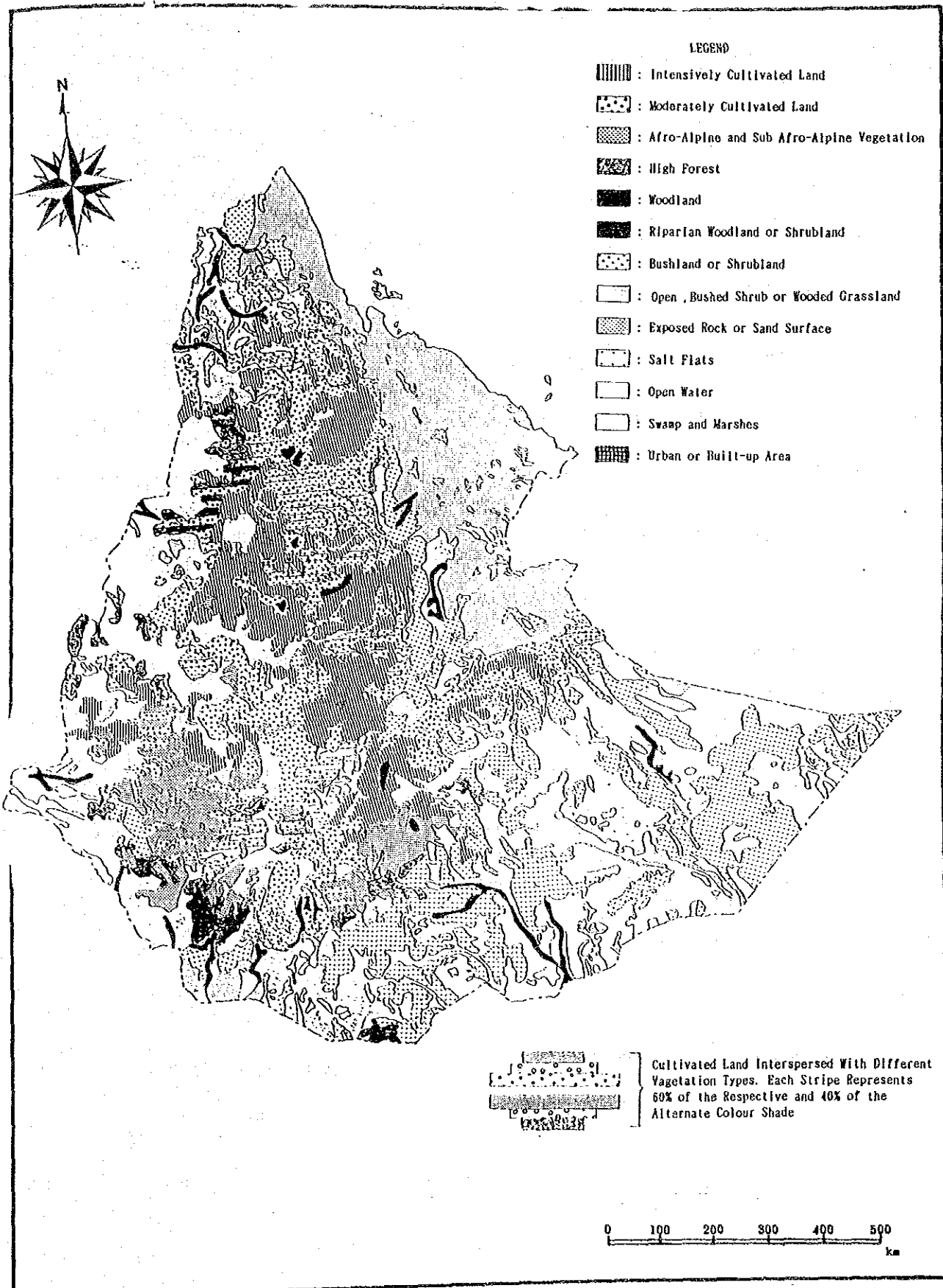
B-2 : Topographic Classification of Ethiopia



B-3 : Geological Map of Ethiopia



B-4 : Land Use and Land Cover Map of Ethiopia



B-5 : List of Meteorological Stations in Ethiopia (1/3)

| No. | Name of Place | Lati. | Long. | Alti. (m) | Zone | Region |
|-----|---------------|-------|-------|-----------|-----------|--------------|
| 1 | Abiy Adi | 13.32 | 39.01 | 1870 | Tigrey | Temben |
| 2 | Abobo | 7.48 | 34.24 | 530 | Ilubabor | Gambela |
| 3 | Adaba | 7.01 | 39.24 | 2485 | Bale | Genale |
| 4 | Addis Ababa | 9.02 | 38.45 | 2408 | Shewa | Menagesha |
| 5 | Addis Zemen | 12.07 | 37.52 | 2020 | Gondar | Libo |
| 6 | Adigrat | 14.16 | 39.27 | 2457 | Tigrey | Agame |
| 7 | Adikeyih | 14.50 | 39.20 | 2490 | Eritrea | Akele Guzay |
| 8 | Adi Ugri | 14.53 | 38.49 | 2022 | Eritrea | |
| 9 | Adola | 5.55 | 39.05 | 2170 | Sidamo | |
| 10 | Adwa | 14.10 | 38.54 | 1980 | Tigrey | Adwa |
| 11 | Agaro | 7.51 | 36.38 | 1560 | Kefa | Lumi |
| 12 | Akaki | 8.52 | 38.47 | 2100 | Shewa | Menagesha |
| 13 | Akordat | 15.33 | 37.53 | 626 | Eritrea | Akordat |
| 14 | Alaba Kolito | 7.22 | 38.06 | 1850 | Shewa | Haykoch |
| 15 | Alamata | 12.31 | 39.41 | 2200 | Welo | Raya&Kobo |
| 16 | Alemaya | 9.26 | 42.03 | 2125 | Harerge | Harer |
| 122 | Aleta Wendo | 6.35 | 38.25 | 1860 | Sidamo | Sidama |
| 17 | Ambo | 8.58 | 37.52 | 2080 | Shewa | Jibat Mecha |
| 18 | Arba Minch | 6.05 | 37.38 | 1290 | Gomo Gofa | Gamo |
| 19 | Arjo | 8.45 | 36.30 | 2565 | Wolega | Arjo |
| 20 | Asela | 7.52 | 39.08 | 2450 | Arsi | Chilalo |
| 21 | Asendabo | 7.44 | 37.14 | 1870 | Kefa | Jima |
| 22 | Asmara | 15.17 | 38.55 | 2325 | Eritrea | Hamasen |
| 23 | Asosa | 10.04 | 34.31 | 1750 | Wolega | Asosa |
| 24 | Atnago | 8.29 | 36.57 | 916 | Kefa | Lumi |
| 25 | Awasa | 7.04 | 38.30 | 1890 | Sidamo | Sidama |
| 26 | Awash | 8.59 | 40.09 | 1430 | Shewa | Yerer Kereyu |
| 27 | Bahirdar | 11.36 | 37.24 | 1590 | Gojam | Bahirdar |
| 28 | Bako Jinka | 5.50 | 36.38 | 1450 | Gamo Gofa | Gamo |
| 29 | Bako Shewa | 9.07 | 37.05 | 980 | Wolega | Nekente |
| 30 | Bambesi | 9.45 | 34.44 | 1660 | Wolega | Asosa |
| 31 | Barentu | 15.10 | 37.36 | 2090 | Eritrea | Gash Setit |
| 32 | Bati | 11.13 | 40.03 | 1722 | Welo | Ambasel |
| 33 | Bedele | 8.27 | 36.23 | 1200 | Ilubabor | Buno Bedele |
| 34 | Begi | 9.21 | 34.32 | 2850 | Wolega | Asosa |
| 35 | Bilate | 6.39 | 37.58 | 1725 | Sidamo | Welayta |
| 36 | Bokoji | 7.32 | 39.15 | 2600 | Arsi | Chilalo |
| 37 | Bonga | 7.13 | 36.17 | 1960 | Kefa | Kefa |
| 38 | Bulki | 6.11 | 36.32 | 2100 | Gamo Gofa | Gofa |
| 39 | Burji | 5.24 | 37.56 | 1720 | Sidamo | Arero |
| 40 | Butajira | 8.07 | 38.27 | 1600 | Shewa | Yerer Kereyu |
| 41 | Chagni | 10.55 | 36.26 | 2580 | Gojam | Metekel |
| 42 | Chefa | 10.54 | 39.50 | 2180 | Welo | Kalu |
| 43 | Chencha | 6.15 | 37.37 | | Gamo Gofa | Gamo |
| 44 | Dabat | 13.00 | 37.46 | | Gondar | Wegera |
| 45 | Dangira | 11.17 | 36.55 | | Gojam | Midir |

(Cont.)

B-5 : List of Meteorological Stations in Ethiopia (2/3)

| No. | Name of Place | Lati. | Long. | Alti. (m) | Zone | Region |
|-----|---------------|-------|-------|-----------|-----------|------------------|
| 46 | Debre Birhan | 9.38 | 39.30 | | Shewa | Teglet Bulga |
| 47 | Debre Markos | 10.21 | 37.43 | | Gojam | Debre Markos |
| 48 | Debre Tabor | 11.53 | 38.02 | | Gondar | Debre Tabor |
| 49 | Debre Zeit | 8.44 | 39.02 | | Shewa | Yerer Kereyu |
| 50 | Degeh Bur | 8.09 | 43.33 | | Harerge | Degeh Bur |
| 51 | Dembi Dolo | 8.30 | 34.46 | | Welega | Kelem |
| 52 | Dese | 11.10 | 39.40 | | Welo | Dese Zuriya |
| 53 | Didesa | 9.00 | 36.06 | | Welega | Gimbi |
| 54 | Diksis | 8.08 | 39.35 | | Arsi | Arba Gugu |
| 55 | Dila | 6.25 | 38.18 | | Sidamo | Gedeo |
| 56 | Dire Dewa | 9.36 | 41.52 | | Harerge | Dire Dewa |
| 57 | Dodola | 6.58 | 39.11 | | Sidamo | Genale |
| 58 | Faghena | 15.33 | 38.54 | | Eritrea | Hamasena |
| 59 | Felege Neway | 6.18 | 36.52 | | Gamo Gofa | Gofa |
| 60 | Fiche | 9.48 | 38.45 | | Shewa | Selale |
| 61 | Filiklik | 10.03 | 38.13 | | Gojam | |
| 62 | Fincha | 9.32 | 37.23 | | Welega | Horo Gudru |
| 63 | Gambela | 8.15 | 34.35 | | Ilubabor | Gambela |
| 64 | Gewani | 10.05 | 40.38 | | Shewa | Timuga |
| 65 | Gidami | 8.58 | 34.35 | | Welega | Kelem |
| 66 | Gidole | 5.37 | 37.29 | | Gamo Gofa | Gardula |
| 67 | Gimbi | 9.05 | 35.47 | | Welega | Gimbi |
| 69 | Goba | 7.01 | 40.00 | | Bale | Mendoyu |
| 70 | Gode | 6.06 | 43.35 | | Harerge | Gode |
| 71 | Goha Tsion | 10.02 | 38.14 | | Shewa | Selale |
| 72 | Gonder | 12.32 | 37.26 | | Gonder | Gonder |
| 73 | Gore | 8.10 | 35.33 | | Ilubabor | Gore |
| 74 | Gorgora | 12.15 | 37.18 | | Gonder | Gonder |
| 68 | Grawa | 9.08 | 41.50 | | Harerge | Gara Muleta |
| 75 | Guder | 8.57 | 37.47 | | Shewa | Jibat Mecha |
| 76 | Hagere Mariam | 5.38 | 38.15 | | Sidamo | Arero |
| 77 | Hagere Selam | 6.28 | 38.31 | | Sidamo | Sidamo |
| 78 | Hamaro | 7.22 | 42.13 | | Harerge | Gursum |
| 79 | Harer | 9.12 | 42.07 | | Harerge | Harer Zuriya |
| 80 | Hosaina | 7.35 | 37.50 | | Shewa | Hadiya |
| 81 | Humera | 14.10 | 36.35 | | Gonder | Wegera |
| 82 | Indaselasie | 14.06 | 38.16 | | Tigray | Shire |
| 83 | Itang | 8.10 | 34.15 | | Ilubabor | Gambela |
| 84 | Jijiga | 9.20 | 42.43 | | Harerge | Jijiga |
| 85 | Jima | 7.40 | 36.50 | | Kefa | Jima |
| 86 | Kebri Dehar | 6.40 | 44.18 | | Harerge | Kebri Dehar |
| 87 | Keren | 15.45 | 38.26 | | Eritrea | Keren |
| 88 | Kofele | 7.04 | 38.47 | | Arsi | Chilalo |
| 89 | Koka Dam | 8.25 | 39.10 | | Shewa | Yerer Kereyu |
| 90 | Kombolcha | 11.05 | 39.45 | | Welo | Dese |
| 91 | Konso | 5.15 | 37.35 | | Gomo Gofa | Gardula |
| 92 | Kulumsa | 8.08 | 39.08 | | Arsi | Chiralo |
| 93 | Kuyera | 7.15 | 38.40 | | Arsi | Chiralo |
| 94 | Langano | 7.35 | 38.40 | | Shewa | Haykoch Butajira |
| 95 | Maichew | 12.46 | 39.32 | | Tigay | Raya Azebo |
| 96 | Mega | 4.05 | 38.20 | | Sidamo | Arero |
| 97 | Mekele | 13.30 | 39.29 | | Tigray | Iderta |
| 98 | Melka Werer | 9.28 | 40.23 | | Harerge | Chercher |
| 99 | Mendi | 9.47 | 35.05 | | Welega | Gimbi |

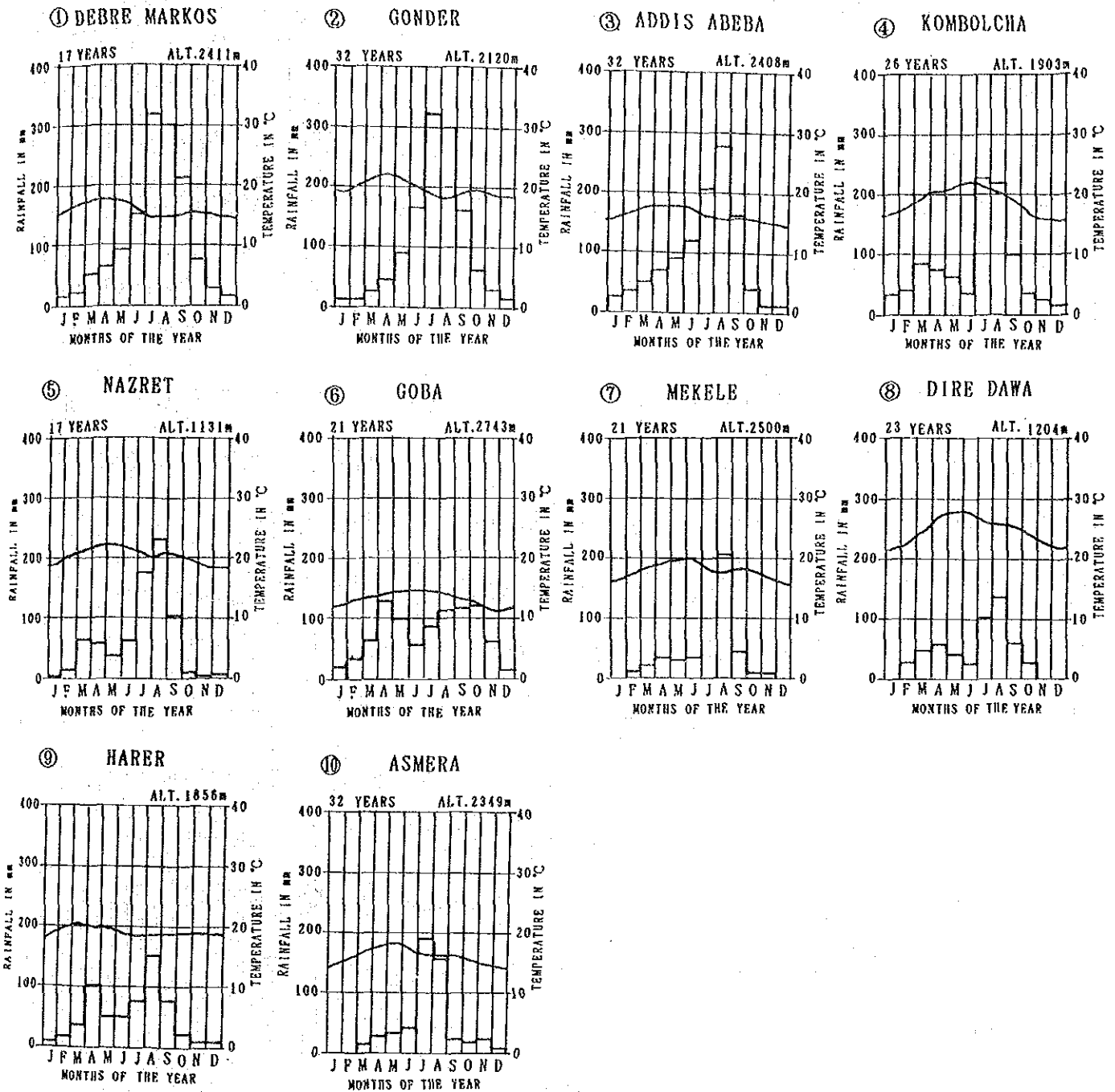
(Cont.)

B-5 : List of Meteorological Stations in Ethiopia (3/3)

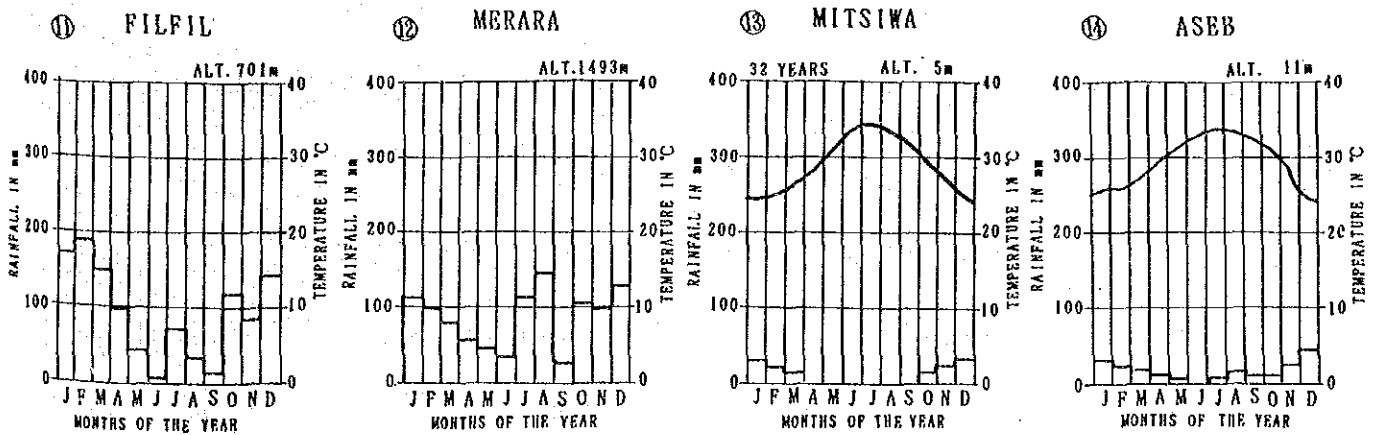
| No. | Name of Place | Lati. | Long. | Alti. (m) | Zone | Region |
|-----|---------------|-------|-------|-----------|-----------|--------------|
| 100 | Metehbila | 8.52 | 39.59 | | Shewa | Yere Kereyu |
| 101 | Metema | 12.57 | 36.04 | | Gondar | Chilga |
| 102 | Metu | 8.19 | 35.35 | | Ilubabor | Gore |
| 103 | Midagaloloa | 8.47 | 42.07 | | Harerge | Gara muleta |
| 104 | Mierab Abaya | 6.20 | 37.50 | | Gamo gofa | Gamo |
| 105 | Mitsiwa | 15.37 | 39.27 | | Eritrea | Mitsiwa |
| 106 | Mojo | 8.37 | 39.09 | | Shewa | Yerer Kereyu |
| 107 | Munesa | 7.35 | 38.54 | | Arsi | Chilalo |
| 108 | Nakfa | 16.40 | 38.20 | | Eritrea | Sahil |
| 109 | Nazareth | 8.33 | 39.17 | | Shewa | Yerer Kereyu |
| 110 | Negele | 5.17 | 39.45 | | Sidamo | Borena |
| 111 | Nejo | 9.30 | 35.29 | | Welega | Gimbi |
| 112 | Nekemte | 9.03 | 36.36 | | Welega | Nekemte |
| 113 | Ogolcho | 8.04 | 39.02 | | Arsi | Chilalo |
| 114 | Poko | 8.15 | 34.25 | | Ilubabor | Gmbela |
| 115 | Robit | 10.01 | 39.59 | | Shewa | Yifat Timuga |
| 116 | Sodo | 6.50 | 37.43 | | Sidamo | Welayita |
| 117 | Tepi | 7.05 | 35.15 | | Ilubabor | Mocha |
| 118 | Teseney | 15.07 | 36.40 | | Eritrea | Gasha Setit |
| 119 | Ticho | 7.49 | 39.32 | | Arsi | Ticho |
| 120 | Waldia | 11.49 | 39.36 | | Welo | Yeju |
| 121 | Welsio | 8.33 | 37.59 | | Shewa | Chebo Gurage |
| 123 | Wendo Genet | 7.10 | 38.35 | | Shidamo | Sidama |
| 124 | Wenji | 8.25 | 39.15 | | Shewa | Yerer Kereyu |
| 125 | Wush Wush | 7.16 | 36.11 | | Kefa | Kefa |
| 126 | Yabelo | 4.53 | 38.06 | | Sidamo | Arero |
| 127 | Yirga Chefe | 6.14 | 38.15 | | Sidamo | Gedeo |
| 128 | Yirgalem | 6.45 | 38.23 | | Shidamo | Sidama |
| 129 | Yubdo | 8.57 | 35.27 | | Welega | Gimbi |
| 130 | Ziway | 8.00 | 38.45 | | Shewa | Yerer Kereyu |

B-6 : Climatological Characters of Main Stations (1/2)

SUMMER RAIN



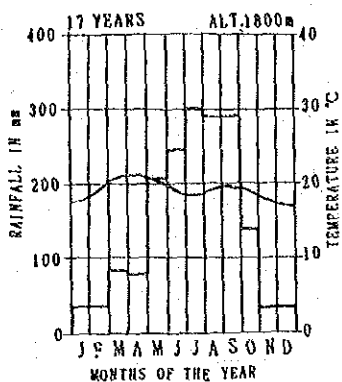
WINTER RAIN



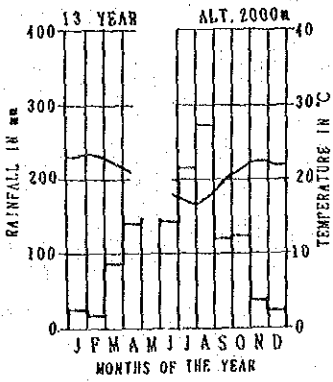
haracters of Main Stations (2/2)

RAIN MOST OF THE YEAR

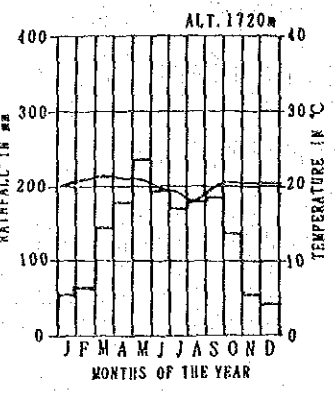
15 METU



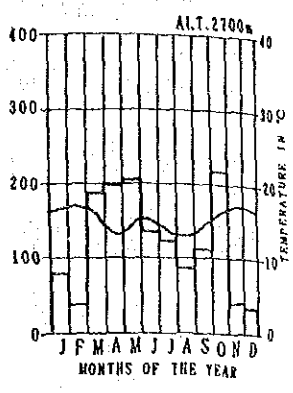
16 DO



17 BONGA

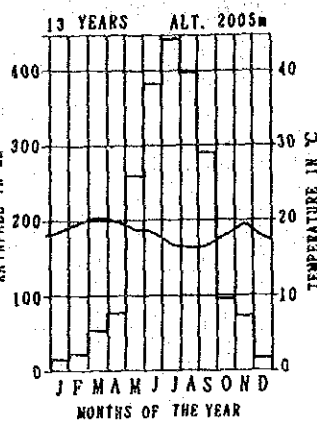
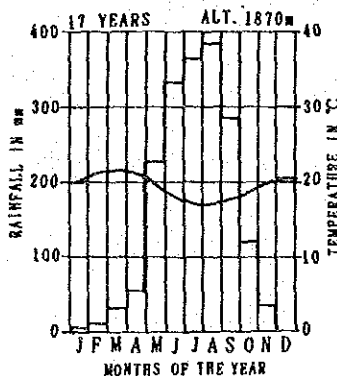


18 CHIENCHA



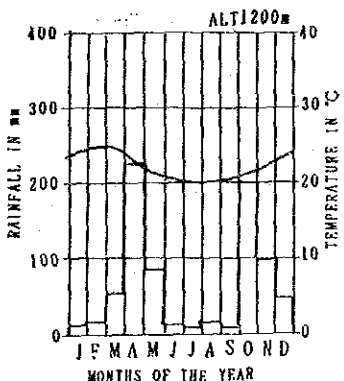
20 NEKEMTE

19 GIMBI

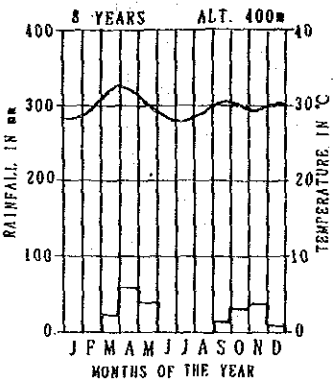


SPRING AND FALL RAIN

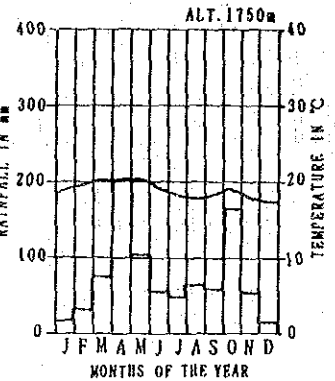
21 MOYALE



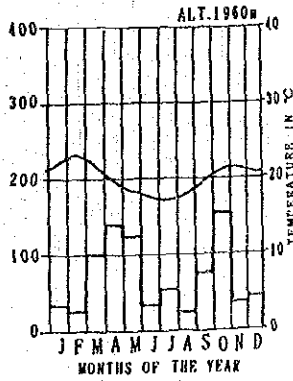
22 KELAFO



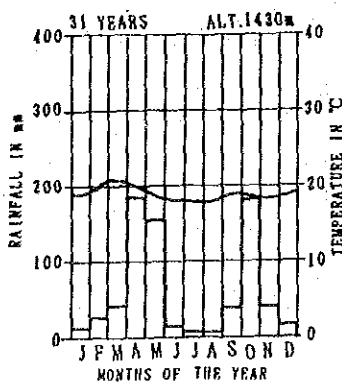
23 KIBRE MENGIST



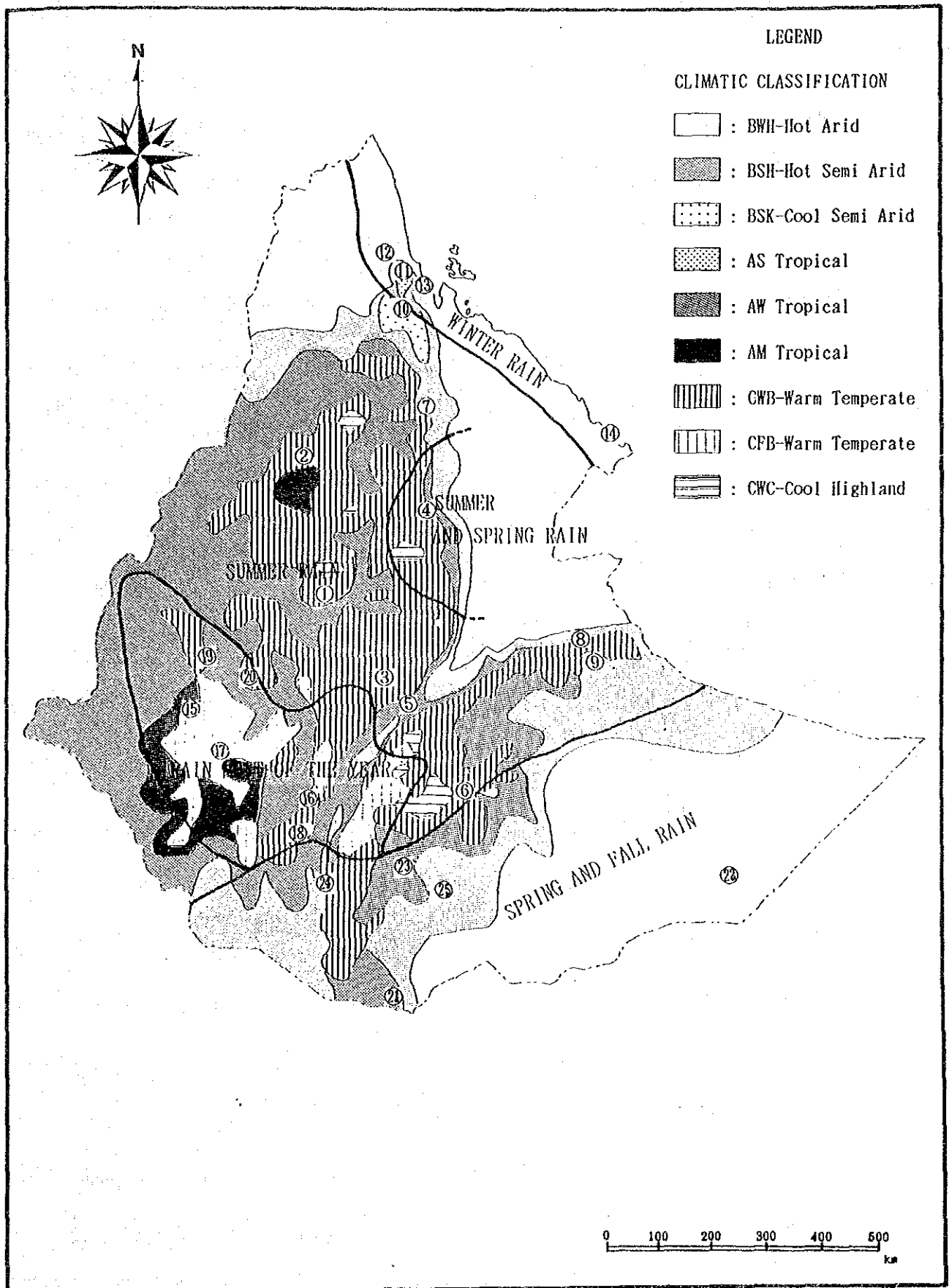
24 BURJI



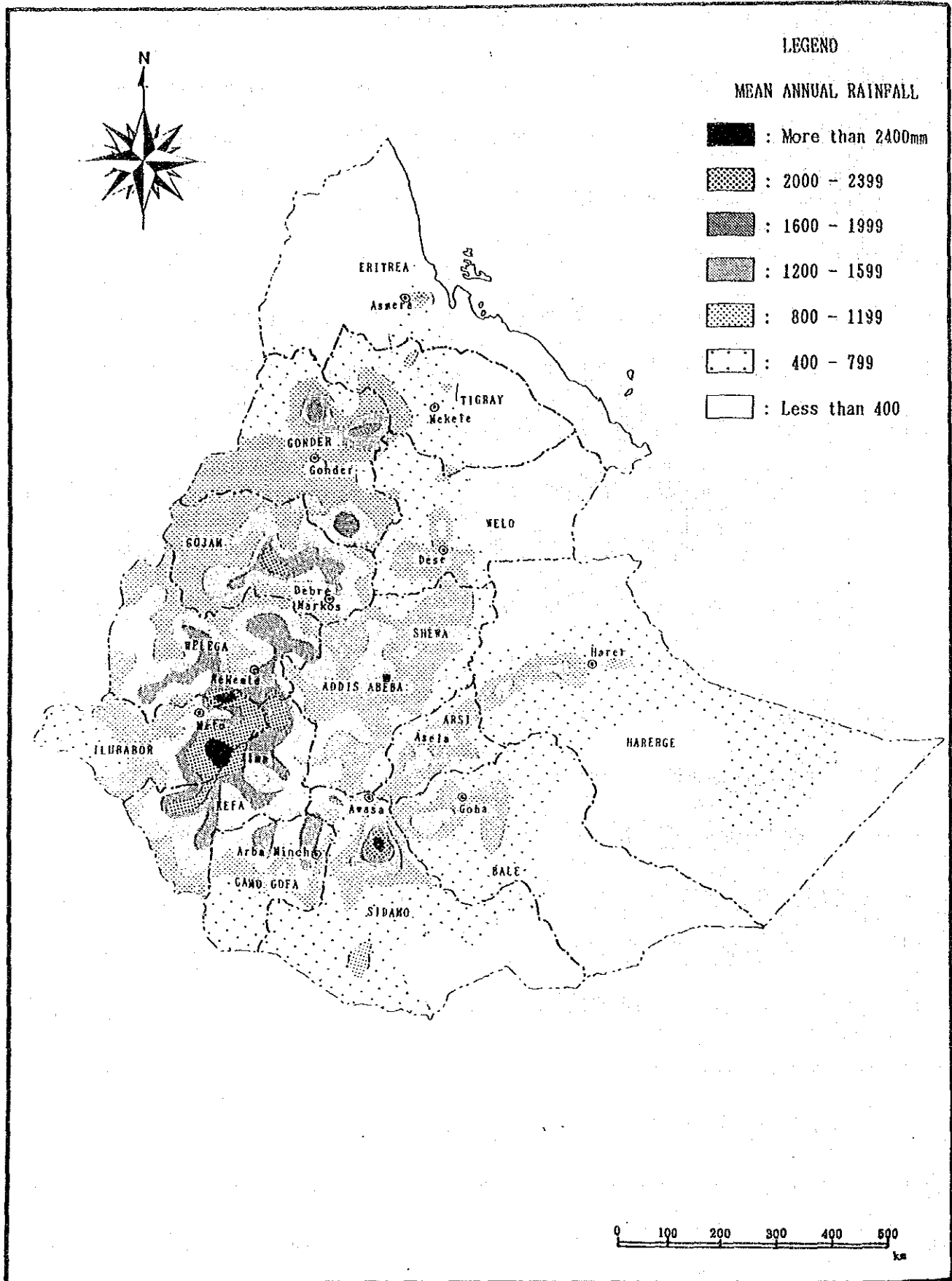
26 NEGELE BORENA



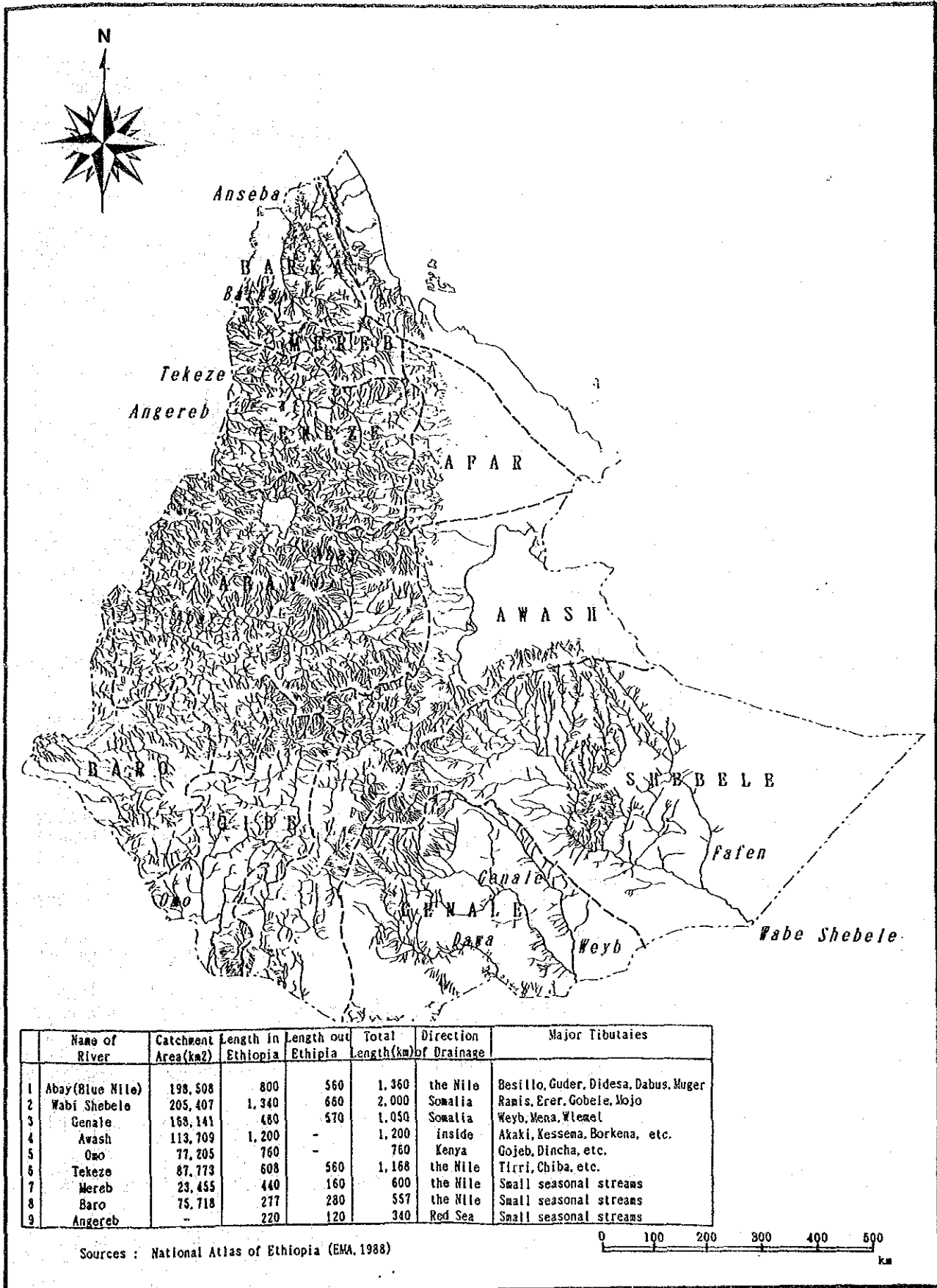
B-7 : Climatological Classification Map of Ethiopia



B-8 : Annual Rainfall Map of Ethiopia



B-9 : Drainage System in Ethiopia



B-10 : Climatological Characteristics in the Project Area (1/4)

表 計画対象地域の気象概要表

Station : Kombolcha L = 11° 05' A = 1,903m No. 90

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 44 | 40 | 66 | 77 | 57 | 48 | 283 | 257 | 127 | 34 | 18 | 18 | 1,089 |
| Temp. (°C) | 16.5 | 17.6 | 19.2 | 19.9 | 20.9 | 22.3 | 20.6 | 19.8 | 19.2 | 17.2 | 15.7 | 16.0 | 18.7 |
| R.H. (%) | 61.8 | 61.1 | 58.9 | 58.9 | 48.1 | 40.9 | 60.2 | 64.1 | 63.8 | 60.1 | 58.9 | 59.9 | 58.1 |
| Sunshine (hr/d) | 7.3 | 7.2 | 6.6 | 6.9 | 7.6 | 6.4 | 4.7 | 5.4 | 5.4 | 7.6 | 8.1 | 7.0 | 6.7 |

Station : Gorgora L = 12° 15' A = 1,840m No. 74

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 2 | 9 | 2 | 21 | 71 | 227 | 312 | 282 | 128 | 36 | 10 | 1 | 1,101 |
| Temp. (°C) | 21.1 | 22.2 | 22.6 | 23.0 | 22.9 | 21.4 | 19.6 | 19.0 | 22.3 | 21.0 | 21.5 | 21.8 | 21.5 |
| R.H. (%) | 51.9 | 48.9 | 47.0 | 47.0 | 55.9 | 69.8 | 79.8 | 80.1 | 75.0 | 65.1 | 60.1 | 55.9 | 61.4 |
| Sunshine (hr/d) | 8.8 | 10.1 | 9.9 | 8.9 | 7.0 | 5.9 | 1.7 | 1.9 | 7.1 | 8.9 | 9.8 | 9.7 | 7.5 |

Station : Abiy Adi L = 13° 32' A = 1,870m No. 1

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 5 | 1 | 21 | 10 | 43 | 96 | 240 | 304 | 22 | 11 | 4 | 10 | 767 |
| Temp. (°C) | 21.5 | 23.0 | 24.3 | 25.1 | 24.0 | 23.9 | 20.4 | 20.0 | 21.2 | 22.3 | 21.8 | 20.8 | 22.4 |
| R.H. (%) | 53.8 | 52.0 | 51.0 | 49.0 | 43.9 | 45.9 | 73.0 | 77.0 | 59.2 | 60.2 | 65.1 | 55.0 | 57.1 |
| Sunshine (hr/d) | 10.9 | 11.2 | 10.6 | 10.7 | 10.3 | 9.3 | 5.5 | 4.4 | 9.1 | 10.6 | 10.8 | 10.8 | 9.5 |

Station : Adigrat L = 14° 16' A = 2,457m No. 6

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 6 | 5 | 42 | 54 | 42 | 38 | 139 | 154 | 17 | 14 | 31 | 10 | 552 |
| Temp. (°C) | 14.8 | 15.9 | 16.6 | 18.8 | 17.6 | 18.0 | 17.1 | 16.3 | 15.8 | 14.8 | 13.8 | 12.8 | 16.0 |
| R.H. (%) | 44.5 | 46.5 | 42.3 | 41.9 | 49.7 | 32.0 | 48.7 | 65.8 | 59.0 | 63.5 | 64.6 | 62.9 | 51.8 |
| Sunshine (hr/d) | 10.7 | 9.9 | 10.6 | 10.9 | 12.3 | 11.0 | 8.2 | 8.1 | 10.2 | 11.0 | 10.3 | 10.7 | 10.3 |

Station : Maichew L = 12° 46' A = 2,380m No. 95

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 13 | 23 | 58 | 92 | 48 | 16 | 203 | 211 | 80 | 39 | 35 | 15 | 833 |
| Temp. (°C) | 14.6 | 14.6 | 16.3 | 17.3 | 18.8 | 20.4 | 18.5 | 18.1 | 17.1 | 15.0 | 15.4 | 14.2 | 16.7 |
| R.H. (%) | 54.1 | 51.7 | 51.2 | 49.1 | 43.8 | 45.9 | 72.8 | 77.0 | 59.0 | 49.8 | 53.1 | 54.9 | 55.2 |
| Sunshine (hr/d) | 9.2 | 10.2 | 10.0 | 9.7 | 10.4 | 9.5 | 7.3 | 6.8 | 8.3 | 10.4 | 10.3 | 10.2 | 9.4 |

Station : Mekele L = 13° 30' A = 2,212m No. 97

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 4 | 9 | 22 | 34 | 28 | 36 | 183 | 205 | 33 | 2 | 4 | 3 | 563 |
| Temp. (°C) | 16.3 | 17.4 | 18.7 | 19.6 | 20.4 | 20.5 | 17.9 | 17.4 | 18.2 | 17.6 | 16.1 | 15.4 | 18.0 |
| R.H. (%) | 53.9 | 51.8 | 51.0 | 49.1 | 43.8 | 46.0 | 73.1 | 77.0 | 58.8 | 50.2 | 53.0 | 54.9 | 55.2 |
| Sunshine (hr/d) | 10.7 | 10.7 | 10.6 | 10.4 | 11.2 | 10.2 | 7.7 | 7.0 | 10.2 | 10.6 | 10.3 | 10.8 | 10.0 |

Station : Adwa L = 14° 10' A = 1,980m No. 10

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 1 | 3 | 13 | 25 | 29 | 83 | 215 | 224 | 117 | 27 | 5 | 0 | 742 |
| Temp. (°C) | 16.8 | 17.8 | 20.4 | 21.8 | 21.9 | 20.2 | 18.4 | 18.9 | 18.8 | 18.6 | 18.3 | 16.7 | 19.1 |
| R.H. (%) | 52.8 | 49.1 | 47.1 | 50.9 | 47.9 | 49.0 | 78.9 | 80.1 | 59.9 | 60.2 | 65.1 | 61.0 | 58.5 |
| Sunshine (hr/d) | 10.9 | 10.9 | 10.8 | 10.9 | 11.6 | 10.6 | 6.6 | 4.8 | 9.8 | 11.0 | 11.1 | 10.0 | 9.9 |

Station : Indaselasie L = 14° 06' A = 1,913m No. 82

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 3 | 1 | 2 | 22 | 50 | 133 | 322 | 294 | 129 | 16 | 15 | 0 | 987 |
| Temp. (°C) | 19.3 | 20.6 | 21.3 | 23.3 | 23.0 | 21.8 | 18.1 | 18.1 | 19.8 | 20.1 | 19.4 | 18.5 | 20.3 |
| R.H. (%) | 43.8 | 38.3 | 34.7 | 36.4 | 37.0 | 44.8 | 77.5 | 81.4 | 76.6 | 74.4 | 68.4 | 51.6 | 55.4 |
| Sunshine (hr/d) | 10.9 | 10.1 | 10.8 | 10.9 | 10.3 | 9.7 | 5.8 | 3.9 | 8.4 | 10.9 | 11.1 | 10.2 | 9.4 |

B-10 : Climatological Characteristics in the Project Area (2/4)

Station : Addis Zemen L = 12° 07' A = 2,020m No. 5

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 6 | 2 | 0 | 11 | 32 | 110 | 355 | 319 | 129 | 51 | 13 | 4 | 1,032 |
| Temp. (°C) | 18.9 | 20.2 | 20.9 | 20.7 | 20.8 | 19.5 | 18.0 | 18.0 | 18.4 | 19.0 | 18.9 | 19.0 | 19.4 |
| R.H. (%) | 52.2 | 49.0 | 46.9 | 47.1 | 56.2 | 70.1 | 79.9 | 79.9 | 75.1 | 65.1 | 60.0 | 56.0 | 61.5 |
| Sunshine (hr/d) | 8.8 | 10.0 | 9.8 | 8.8 | 7.0 | 5.5 | 1.3 | 1.5 | 6.8 | 8.9 | 9.8 | 9.5 | 7.3 |

Station : Alamata L = 12° 31' A = 2,220m No. 15

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 32 | 42 | 195 | 85 | 37 | 8 | 159 | 180 | 37 | 17 | 18 | 31 | 841 |
| Temp. (°C) | 19.4 | 20.0 | 21.5 | 21.8 | 24.0 | 25.5 | 23.6 | 22.4 | 22.7 | 21.6 | 20.4 | 19.3 | 21.9 |
| R.H. (%) | 58.1 | 56.9 | 55.0 | 54.0 | 45.9 | 46.0 | 73.1 | 77.1 | 59.1 | 55.0 | 53.0 | 54.9 | 57.3 |
| Sunshine (hr/d) | 8.4 | 10.1 | 9.3 | 9.2 | 9.8 | 9.1 | 6.6 | 6.6 | 6.7 | 9.8 | 9.7 | 9.5 | 8.7 |

Station : Mendi L = 9° 47' A = 1,650m No. 99

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 4 | 6 | 26 | 67 | 164 | 303 | 307 | 309 | 302 | 129 | 29 | 6 | 1,652 |
| Temp. (°C) | 20.6 | 21.8 | 22.7 | 22.7 | 21.1 | 19.5 | 18.4 | 18.8 | 19.1 | 19.3 | 19.6 | 19.9 | 20.3 |
| R.H. (%) | 47.8 | 47.1 | 47.8 | 50.0 | 73.9 | 82.0 | 83.1 | 83.9 | 77.8 | 72.8 | 65.8 | 55.9 | 65.7 |
| Sunshine (hr/d) | 9.0 | 8.8 | 6.0 | 8.5 | 5.5 | 4.3 | 3.7 | 2.1 | 5.7 | 7.1 | 7.3 | 8.4 | 6.4 |

Station : Nejo L = 9° 30' A = 1,800m No. 111

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 5 | 13 | 31 | 70 | 184 | 340 | 322 | 350 | 319 | 116 | 33 | 5 | 1,788 |
| Temp. (°C) | 19.8 | 21.1 | 21.8 | 21.5 | 19.8 | 18.3 | 17.4 | 17.5 | 17.9 | 18.6 | 18.8 | 19.3 | 19.3 |
| R.H. (%) | 48.1 | 47.2 | 47.9 | 49.9 | 74.0 | 81.8 | 83.0 | 84.0 | 78.0 | 72.8 | 65.9 | 55.8 | 65.7 |
| Sunshine (hr/d) | 9.1 | 9.1 | 2.4 | 8.5 | 2.3 | 4.1 | 3.2 | 1.9 | 5.7 | 7.1 | 7.6 | 8.4 | 5.8 |

Station : Bati L = 11° 13' A = 1,660m No. 32

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 38 | 21 | 60 | 92 | 38 | 32 | 184 | 183 | 95 | 17 | 22 | 28 | 810 |
| Temp. (°C) | 18.2 | 20.0 | 19.6 | 20.3 | 21.5 | 23.1 | 20.6 | 19.0 | 20.8 | 21.0 | 19.9 | 19.9 | 20.3 |
| R.H. (%) | 62.2 | 61.2 | 59.2 | 58.8 | 48.0 | 41.0 | 60.2 | 64.2 | 63.9 | 59.9 | 58.9 | 59.8 | 58.1 |
| Sunshine (hr/d) | 7.4 | 7.2 | 6.7 | 7.0 | 7.7 | 6.4 | 4.8 | 5.5 | 5.6 | 7.6 | 8.1 | 7.1 | 6.8 |

Station : Walidia L = 11° 49' A = 1,960m No. 120

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 40 | 42 | 79 | 108 | 97 | 28 | 220 | 256 | 85 | 47 | 47 | 24 | 1,073 |
| Temp. (°C) | 16.1 | 16.8 | 16.8 | 18.2 | 19.0 | 19.5 | 20.2 | 19.6 | 19.3 | 17.4 | 16.1 | 16.3 | 17.9 |
| R.H. (%) | 61.7 | 61.1 | 59.0 | 58.8 | 47.8 | 41.0 | 60.0 | 64.0 | 63.9 | 59.9 | 59.0 | 59.9 | 58.0 |
| Sunshine (hr/d) | 7.0 | 8.0 | 8.8 | 8.4 | 8.2 | 7.3 | 4.6 | 5.9 | 5.4 | 8.4 | 8.3 | 8.0 | 7.4 |

Station : Degehabur L = 8° 09' A = 1,000m No. 50

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 6 | 1 | 34 | 79 | 68 | 28 | 5 | 12 | 43 | 61 | 12 | 1 | 350 |
| Temp. (°C) | 23.7 | 25.0 | 26.7 | 26.9 | 26.7 | 25.5 | 24.6 | 25.6 | 27.3 | 25.9 | 24.7 | 24.9 | 25.6 |
| R.H. (%) | 58.0 | 55.9 | 54.0 | 62.1 | 66.0 | 64.1 | 66.0 | 66.1 | 63.1 | 64.9 | 60.1 | 59.1 | 61.6 |
| Sunshine (hr/d) | 10.6 | 9.4 | 8.8 | 5.8 | 7.0 | 7.4 | 6.5 | 7.3 | 7.8 | 7.0 | 8.4 | 9.0 | 7.9 |

Station : Dabat L = 13° 00' A = 2,685m No. 44

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 8 | 1 | 6 | 14 | 141 | 199 | 331 | 304 | 163 | 61 | 21 | 5 | 1,254 |
| Temp. (°C) | 12.4 | 12.8 | 13.7 | 15.0 | 14.6 | 14.2 | 13.0 | 12.3 | 12.8 | 12.7 | 10.9 | 11.8 | 13.0 |
| R.H. (%) | 45.1 | 43.3 | 42.1 | 44.0 | 52.9 | 67.9 | 78.8 | 79.0 | 71.7 | 61.3 | 52.9 | 47.7 | 57.2 |
| Sunshine (hr/d) | 10.7 | 10.5 | 10.6 | 9.4 | 7.9 | 7.5 | 1.8 | 1.5 | 7.2 | 10.2 | 10.6 | 10.5 | 8.2 |

Station : Changni (Metekel) L = 10° 55' A = 1,720m No. 41

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 11 | 44 | 1 | 23 | 151 | 302 | 358 | 490 | 326 | 184 | 13 | 6 | 1,909 |
| Temp. (°C) | 19.5 | 19.7 | 21.0 | 22.0 | 20.9 | 19.5 | 18.6 | 18.7 | 18.7 | 18.8 | 18.8 | 18.1 | 19.5 |
| R.H. (%) | 59.1 | 54.0 | 48.2 | 43.2 | 59.1 | 71.9 | 81.2 | 79.7 | 77.0 | 69.1 | 65.9 | 63.1 | 64.8 |
| Sunshine (hr/d) | 9.0 | 9.3 | 7.4 | 8.9 | 6.1 | 4.7 | 2.2 | 1.9 | 6.2 | 7.6 | 8.0 | 7.7 | 6.6 |

B-10 : Climatological Characteristics in the Project Area (3/4)

Station : Dembi Dolo L = 8° 30' A = 1,850m No. 51

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 7 | 28 | 70 | 129 | 197 | 170 | 165 | 120 | 163 | 96 | 31 | 19 | 1,195 |
| Temp. (°C) | 21.2 | 22.2 | 22.7 | 22.3 | 20.8 | 19.5 | 19.0 | 19.2 | 20.3 | 20.4 | 20.6 | 20.8 | 20.8 |
| R.H. (%) | 58.0 | 56.8 | 59.8 | 66.1 | 78.2 | 82.0 | 82.8 | 84.0 | 78.1 | 75.1 | 68.8 | 63.1 | 71.1 |
| Sunshine (hr/d) | 8.5 | 8.0 | 6.2 | 7.3 | 5.0 | 4.7 | 3.9 | 1.9 | 5.2 | 6.7 | 7.4 | 8.5 | 6.1 |

Station : Begi L = 9° 21' A = 1,722m No. 34

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 3 | 13 | 43 | 68 | 232 | 256 | 165 | 185 | 216 | 125 | 62 | 4 | 1,372 |
| Temp. (°C) | 20.9 | 22.1 | 22.8 | 21.9 | 20.0 | 18.5 | 18.2 | 18.6 | 19.6 | 19.2 | 19.4 | 19.7 | 20.1 |
| R.H. (%) | 48.1 | 47.0 | 47.9 | 49.9 | 74.0 | 82.2 | 82.8 | 84.0 | 78.0 | 72.8 | 66.1 | 55.8 | 65.7 |
| Sunshine (hr/d) | 9.1 | 8.3 | 6.2 | 8.3 | 5.5 | 4.7 | 3.9 | 2.4 | 5.6 | 7.0 | 7.4 | 8.4 | 6.4 |

Station : Debre Zeit (Bishoftu) L = 8° 44' A = 1,900m No. 49

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 11 | 25 | 41 | 58 | 45 | 88 | 231 | 229 | 110 | 18 | 6 | 4 | 866 |
| Temp. (°C) | 17.6 | 19.0 | 20.2 | 20.5 | 20.5 | 19.6 | 18.3 | 18.1 | 18.4 | 18.1 | 17.2 | 16.9 | 18.7 |
| R.H. (%) | 60.1 | 61.0 | 60.0 | 61.0 | 61.0 | 67.9 | 78.0 | 79.9 | 74.2 | 62.1 | 61.1 | 60.8 | 65.6 |
| Sunshine (hr/d) | 8.4 | 8.7 | 9.0 | 8.5 | 8.0 | 6.7 | 5.3 | 5.3 | 6.3 | 8.7 | 9.5 | 8.9 | 7.8 |

Station : Didesa L = 9° 00' A = 1,200m No. 53

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 4 | 6 | 3 | 55 | 195 | 257 | 269 | 227 | 222 | 168 | 65 | 8 | 1,479 |
| Temp. (°C) | 17.7 | 23.6 | 25.6 | 25.0 | 23.7 | 24.0 | 21.2 | 20.9 | 21.7 | 21.7 | 21.2 | 24.1 | 22.5 |
| R.H. (%) | 49.9 | 49.1 | 38.1 | 46.1 | 64.2 | 69.0 | 77.1 | 76.9 | 74.0 | 60.9 | 41.7 | 47.0 | 57.8 |
| Sunshine (hr/d) | 8.7 | 8.6 | 6.5 | 8.0 | 5.1 | 4.0 | 2.6 | 1.9 | 4.7 | 7.0 | 7.6 | 8.5 | 6.1 |

Station : Dangila L = 11° 17' A = 2,180m No. 45

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 3 | 24 | 35 | 33 | 85 | 227 | 345 | 347 | 237 | 91 | 63 | 12 | 1,502 |
| Temp. (°C) | 15.6 | 16.6 | 17.4 | 18.1 | 18.1 | 17.3 | 16.5 | 16.7 | 17.0 | 16.9 | 16.1 | 15.7 | 16.8 |
| R.H. (%) | 58.7 | 54.0 | 50.8 | 49.1 | 58.7 | 71.9 | 81.0 | 79.9 | 76.9 | 69.1 | 66.1 | 62.8 | 64.9 |
| Sunshine (hr/d) | 9.0 | 9.5 | 8.2 | 8.9 | 6.3 | 4.9 | 1.8 | 1.6 | 6.6 | 7.7 | 8.2 | 8.1 | 6.7 |

Station : Filiklik L = 10° 03' A = 1,800m No. 61

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 0 | 7 | 35 | 34 | 101 | 130 | 280 | 243 | 110 | 17 | 17 | 5 | 979 |
| Temp. (°C) | 20.7 | 21.9 | 22.8 | 22.9 | 22.3 | 20.6 | 17.6 | 17.2 | 17.9 | 19.2 | 19.7 | 19.7 | 20.2 |
| R.H. (%) | 50.0 | 49.1 | 49.0 | 55.9 | 52.0 | 65.1 | 77.0 | 79.0 | 72.1 | 53.9 | 51.0 | 48.8 | 58.6 |
| Sunshine (hr/d) | 8.0 | 8.0 | 6.6 | 6.8 | 8.0 | 6.0 | 3.2 | 3.2 | 4.9 | 7.6 | 10.0 | 9.0 | 6.8 |

Station : Chefa L = 10° 54' A = 1,600m No. 2

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 26 | 57 | 61 | 105 | 71 | 42 | 222 | 257 | 100 | 25 | 29 | 15 | 1,010 |
| Temp. (°C) | 17.6 | 20.0 | 22.2 | 22.3 | 22.3 | 24.7 | 22.6 | 21.5 | 21.8 | 20.7 | 19.9 | 17.9 | 21.1 |
| R.H. (%) | 60.1 | 59.9 | 59.0 | 59.0 | 53.1 | 44.0 | 59.8 | 65.9 | 63.9 | 56.9 | 55.1 | 56.1 | 57.7 |
| Sunshine (hr/d) | 7.3 | 7.2 | 6.6 | 6.9 | 7.6 | 6.4 | 4.7 | 5.4 | 5.4 | 7.6 | 8.1 | 7.0 | 6.7 |

Station : Gimbi L = 9° 05' A = 1,870m No. 67

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 5 | 8 | 34 | 59 | 234 | 345 | 373 | 396 | 299 | 127 | 38 | 2 | 1,920 |
| Temp. (°C) | 19.6 | 21.4 | 22.2 | 21.6 | 20.6 | 18.6 | 17.9 | 18.4 | 18.7 | 19.7 | 19.6 | 20.2 | 19.9 |
| R.H. (%) | 47.8 | 47.1 | 47.8 | 50.0 | 74.2 | 83.0 | 85.8 | 86.9 | 83.0 | 72.8 | 65.8 | 55.8 | 66.7 |
| Sunshine (hr/d) | 9.0 | 8.9 | 6.4 | 8.3 | 5.3 | 4.0 | 2.9 | 1.9 | 5.2 | 7.0 | 7.4 | 8.5 | 6.2 |

B-10 : Climatological Characteristics in the Project Area (4/4)

Station : Dose L = 11° 10' A = 2,540m No. 52

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 26 | 32 | 66 | 102 | 75 | 46 | 283 | 296 | 154 | 55 | 25 | 15 | 1,175 |
| Temp. (°C) | 13.8 | 14.8 | 14.1 | 15.5 | 15.8 | 16.8 | 17.0 | 16.3 | 15.4 | 14.2 | 12.5 | 12.7 | 14.9 |
| R.H. (%) | 62.1 | 61.2 | 59.0 | 59.0 | 47.9 | 40.8 | 59.9 | 64.2 | 64.0 | 59.9 | 58.6 | 59.9 | 58.0 |
| Sunshine (hr/d) | 7.1 | 7.0 | 6.6 | 7.0 | 7.6 | 6.3 | 4.6 | 5.1 | 5.2 | 7.6 | 8.0 | 7.0 | 6.6 |

Station : Bako Shewa L = 9° 07' A = 1,590m No. 29

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 16 | 29 | 61 | 69 | 130 | 199 | 269 | 198 | 151 | 55 | 34 | 16 | 1,227 |
| Temp. (°C) | 19.8 | 21.1 | 21.7 | 22.4 | 21.2 | 19.6 | 18.8 | 18.8 | 19.1 | 19.2 | 18.8 | 18.8 | 19.9 |
| R.H. (%) | 51.1 | 51.9 | 48.9 | 48.0 | 65.1 | 75.0 | 78.8 | 80.2 | 77.8 | 67.0 | 59.0 | 54.0 | 63.1 |
| Sunshine (hr/d) | 8.1 | 7.9 | 7.2 | 7.9 | 6.3 | 5.4 | 2.9 | 3.6 | 4.9 | 7.6 | 8.9 | 8.6 | 6.6 |

Station : Pincha L = 9° 32' A = 2,320m No. 62

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 18 | 33 | 51 | 70 | 124 | 237 | 364 | 352 | 205 | 96 | 50 | 10 | 1,610 |
| Temp. (°C) | 16.5 | 14.8 | 16.9 | 16.6 | 17.3 | 16.4 | 15.4 | 15.2 | 15.4 | 14.9 | 14.7 | 14.7 | 15.7 |
| R.H. (%) | 39.9 | 35.0 | 49.8 | 42.9 | 54.2 | 67.0 | 74.8 | 78.7 | 73.7 | 62.0 | 53.2 | 47.2 | 56.5 |
| Sunshine (hr/d) | 8.4 | 8.0 | 6.9 | 8.4 | 5.8 | 4.2 | 1.9 | 1.9 | 4.9 | 7.4 | 8.4 | 8.2 | 6.2 |

Station : Arjo L = 8° 45' A = 2,565m No. 19

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 22 | 16 | 111 | 128 | 191 | 290 | 283 | 311 | 357 | 120 | 21 | 36 | 1,886 |
| Temp. (°C) | 17.2 | 17.5 | 17.5 | 17.6 | 16.3 | 15.9 | 16.0 | 15.9 | 16.2 | 16.8 | 17.2 | 17.6 | 16.8 |
| R.H. (%) | 47.9 | 47.0 | 48.0 | 50.2 | 73.9 | 83.0 | 85.8 | 86.9 | 83.1 | 73.2 | 65.7 | 56.1 | 66.7 |
| Sunshine (hr/d) | 8.5 | 8.0 | 6.9 | 7.8 | 5.5 | 4.0 | 2.9 | 2.4 | 4.7 | 7.0 | 7.7 | 8.0 | 6.1 |

Station : Gidami L = 8° 58' A = 2,040m No. 65

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 82 | 9 | 74 | 56 | 190 | 381 | 273 | 142 | 234 | 198 | 41 | 4 | 1,684 |
| Temp. (°C) | 20.7 | 20.9 | 21.3 | 21.0 | 20.5 | 19.2 | 17.7 | 19.7 | 18.1 | 19.3 | 19.9 | 19.8 | 19.8 |
| R.H. (%) | 58.2 | 57.0 | 60.0 | 65.9 | 78.0 | 81.8 | 82.9 | 84.1 | 78.0 | 75.0 | 68.8 | 62.8 | 71.0 |
| Sunshine (hr/d) | 3.4 | 3.4 | 2.7 | 7.5 | 5.1 | 4.7 | 3.9 | 1.9 | 5.2 | 6.9 | 7.4 | 8.5 | 5.1 |

Station : Bahirdar L = 11° 36' A = 1,890m No. 27

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 4 | 1 | 7 | 23 | 90 | 186 | 459 | 411 | 211 | 94 | 29 | 6 | 1,521 |
| Temp. (°C) | 16.0 | 16.9 | 19.8 | 20.5 | 20.7 | 19.6 | 18.3 | 18.1 | 18.2 | 18.5 | 17.4 | 15.8 | 18.3 |
| R.H. (%) | 58.8 | 54.0 | 51.1 | 48.9 | 59.0 | 71.9 | 80.8 | 79.9 | 77.0 | 69.0 | 65.9 | 62.9 | 64.9 |
| Sunshine (hr/d) | 8.4 | 9.7 | 8.9 | 8.8 | 6.6 | 4.9 | 1.5 | 1.9 | 6.3 | 8.3 | 9.0 | 8.7 | 6.9 |

Station : Gonder L = 12° 32' A = 2,270m No. 72

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 5 | 7 | 18 | 43 | 88 | 162 | 330 | 307 | 120 | 51 | 28 | 13 | 1,172 |
| Temp. (°C) | 19.0 | 20.5 | 21.9 | 22.5 | 21.6 | 19.6 | 18.1 | 18.0 | 18.6 | 18.9 | 18.8 | 18.4 | 19.7 |
| R.H. (%) | 45.0 | 43.1 | 41.9 | 44.0 | 53.1 | 67.9 | 78.9 | 79.0 | 71.8 | 60.9 | 53.0 | 48.2 | 57.2 |
| Sunshine (hr/d) | 9.7 | 10.2 | 10.0 | 9.1 | 7.1 | 6.8 | 1.7 | 1.5 | 6.9 | 9.7 | 10.3 | 10.0 | 7.8 |

Station : Asosa L = 10° 04' A = 1,750m No. 23

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 0 | 0 | 31 | 32 | 118 | 189 | 207 | 208 | 207 | 103 | 21 | 0 | 1,116 |
| Temp. (°C) | 22.2 | 23.6 | 24.4 | 24.4 | 22.4 | 20.4 | 19.5 | 19.4 | 20.2 | 20.4 | 20.9 | 22.0 | 21.7 |
| R.H. (%) | 47.8 | 47.0 | 48.1 | 50.1 | 73.8 | 81.8 | 82.9 | 83.9 | 78.1 | 73.0 | 65.9 | 56.0 | 65.7 |
| Sunshine (hr/d) | 9.4 | 8.6 | 6.0 | 8.8 | 6.0 | 4.7 | 4.2 | 2.4 | 6.1 | 7.3 | 7.8 | 8.4 | 6.6 |

Station : Bambesi L = 9° 45' A = 1,450m No. 30

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Rain fall (mm/M) | 0 | 6 | 4 | 54 | 162 | 228 | 193 | 198 | 203 | 94 | 20 | 2 | 1,164 |
| Temp. (°C) | 21.7 | 23.1 | 23.3 | 21.3 | 21.6 | 20.4 | 19.9 | 19.9 | 19.9 | 20.2 | 17.5 | 20.3 | 20.8 |
| R.H. (%) | 45.0 | 39.9 | 37.1 | 36.1 | 36.0 | 41.1 | 65.0 | 69.0 | 55.0 | 47.0 | 49.0 | 47.9 | 47.3 |
| Sunshine (hr/d) | 8.9 | 8.2 | 6.0 | 8.6 | 5.9 | 4.8 | 4.0 | 2.4 | 5.7 | 7.1 | 7.5 | 8.2 | 6.4 |

C : Population

- C-1 : Regional Population Distribution by Sex in 1984**
- C-2 : Population Distribution by Age-groupe and Sex in 1984**
- C-3 : Population in Rural and Urban by Region in 1984**
- C-4 : Population Distribution Map in 1984**
- C-5 : Distribution of Economical Activity in 1984**
- C-6 : Literacy Rate in Rural/Urban Area by Region in 1984**
- C-7 : Population by Religious in Rural/Urban in 1984**

C-1 : Regional Population Distribution by Sex in 1984

| No. | Administration Region 1984 | Population | | | Male/Female Ratio | Remarks |
|-----|-------------------------------|------------|------------|------------|----------------------|--------------|
| | | Male | Female | Total | | |
| 1 | Arssi | 830,882 | 831,908 | 1,662,790 | 99.88% | Project Area |
| 2 | Bale | 503,193 | 514,143 | 1,017,336 | 97.87% | |
| 3 | Eritria | 1,309,736 | 1,311,830 | 2,621,566 | 99.84% | |
| 4 | Gemo Gofa | 641,085 | 628,392 | 1,269,477 | 102.02% | |
| 5 | Gojam | 1,659,323 | 1,614,201 | 3,273,524 | 102.80% | |
| 6 | Gondar | 1,542,698 | 1,476,211 | 3,018,909 | 104.50% | |
| 7 | Harargha | 2,153,965 | 2,038,933 | 4,192,898 | 105.64% | |
| 8 | Illubabor | 484,637 | 491,021 | 975,658 | 98.70% | |
| 9 | Keffa | 1,256,642 | 1,222,315 | 2,478,957 | 102.81% | |
| 10 | Shewa | 4,027,371 | 4,074,955 | 8,102,326 | 98.83% | |
| 11 | Sidamo | 1,918,327 | 1,894,748 | 3,813,075 | 101.24% | |
| 12 | Tigray | 1,223,314 | 1,192,557 | 2,415,871 | 102.58% | |
| 13 | Wellega | 1,243,873 | 1,234,552 | 2,478,425 | 100.76% | |
| 14 | Wello | 1,891,959 | 1,854,185 | 3,746,144 | 102.04% | |
| 15 | Addis Ababa | 685,221 | 737,761 | 1,422,982 | 92.88% | |
| 16 | Asseb A. | 64,716 | 62,022 | 126,738 | 104.34% | |
| | Total | 21,436,942 | 21,179,734 | 42,616,676 | 101.21% | |

Note : A. : Administration

Source : C.S.A., The 1984 population and housing census, Dec. 1991

C-2 : Population Distribution by Age-group and sex in 1984

| | Age Group | Population | | | Age Group Ratio | Rural Population | |
|----|------------|------------|------------|------------|--------------------|------------------|--------|
| | | Male | Female | Total | | Male | Female |
| 1 | under 1 | 608,940 | 596,231 | 1,205,171 | 4.06% | 89.53% | 89.41% |
| 2 | 1-4 | 2,625,307 | 2,565,454 | 5,190,761 | 17.48% | 88.77% | 88.82% |
| 3 | 5-9 | 3,228,919 | 2,937,383 | 6,166,302 | 20.76% | 88.31% | 87.14% |
| 4 | 10-14 | 2,151,174 | 1,899,261 | 4,050,435 | 13.64% | 84.14% | 80.68% |
| 5 | 15-19 | 1,404,085 | 1,370,431 | 2,774,516 | 9.34% | 83.35% | 78.15% |
| 6 | 20-24 | 997,121 | 1,125,800 | 2,122,921 | 7.15% | 86.14% | 83.93% |
| 7 | 25-29 | 909,323 | 1,204,109 | 2,113,432 | 7.12% | 87.72% | 86.00% |
| 8 | 30-34 | 884,134 | 1,118,370 | 2,002,504 | 6.74% | 84.21% | 84.39% |
| 9 | 35-39 | 913,442 | 967,798 | 1,881,240 | 6.33% | 85.73% | 83.92% |
| 10 | 40-44 | 769,441 | 789,732 | 1,559,173 | 5.25% | 86.68% | 88.13% |
| 11 | 45-49 | 604,330 | 525,971 | 1,130,301 | 3.81% | 87.06% | 86.65% |
| 12 | 50-54 | 540,949 | 603,623 | 1,144,572 | 3.85% | 88.10% | 86.66% |
| 13 | 55-59 | 377,676 | 326,342 | 704,018 | 2.37% | 88.08% | 81.96% |
| 14 | 60-64 | 416,033 | 422,043 | 838,076 | 2.82% | 90.09% | 86.60% |
| 15 | 65-69 | 265,550 | 210,236 | 475,786 | 1.60% | 88.71% | 82.18% |
| 16 | 70-74 | 237,994 | 237,111 | 475,105 | 1.60% | 90.34% | 85.77% |
| 17 | 75-80 | 122,939 | 89,109 | 212,048 | 0.71% | 89.68% | 84.05% |
| 18 | 80-84 | 130,695 | 130,051 | 260,746 | 0.88% | 91.81% | 86.59% |
| 19 | 80 more | 102,356 | 77,659 | 180,015 | 0.61% | 91.46% | 84.91% |
| 20 | not stated | 8,128 | 5,722 | 13,850 | 0.05% | 66.88% | 74.22% |
| | Total | 17,298,536 | 17,202,436 | 29,701,293 | 100.00% | 86.99% | 85.18% |

Source : C.S.A., The 1984 population and housing census, Dec. 1991

C-3 : Population in Rural and Urban by Region in 1984

Unit : No. & %

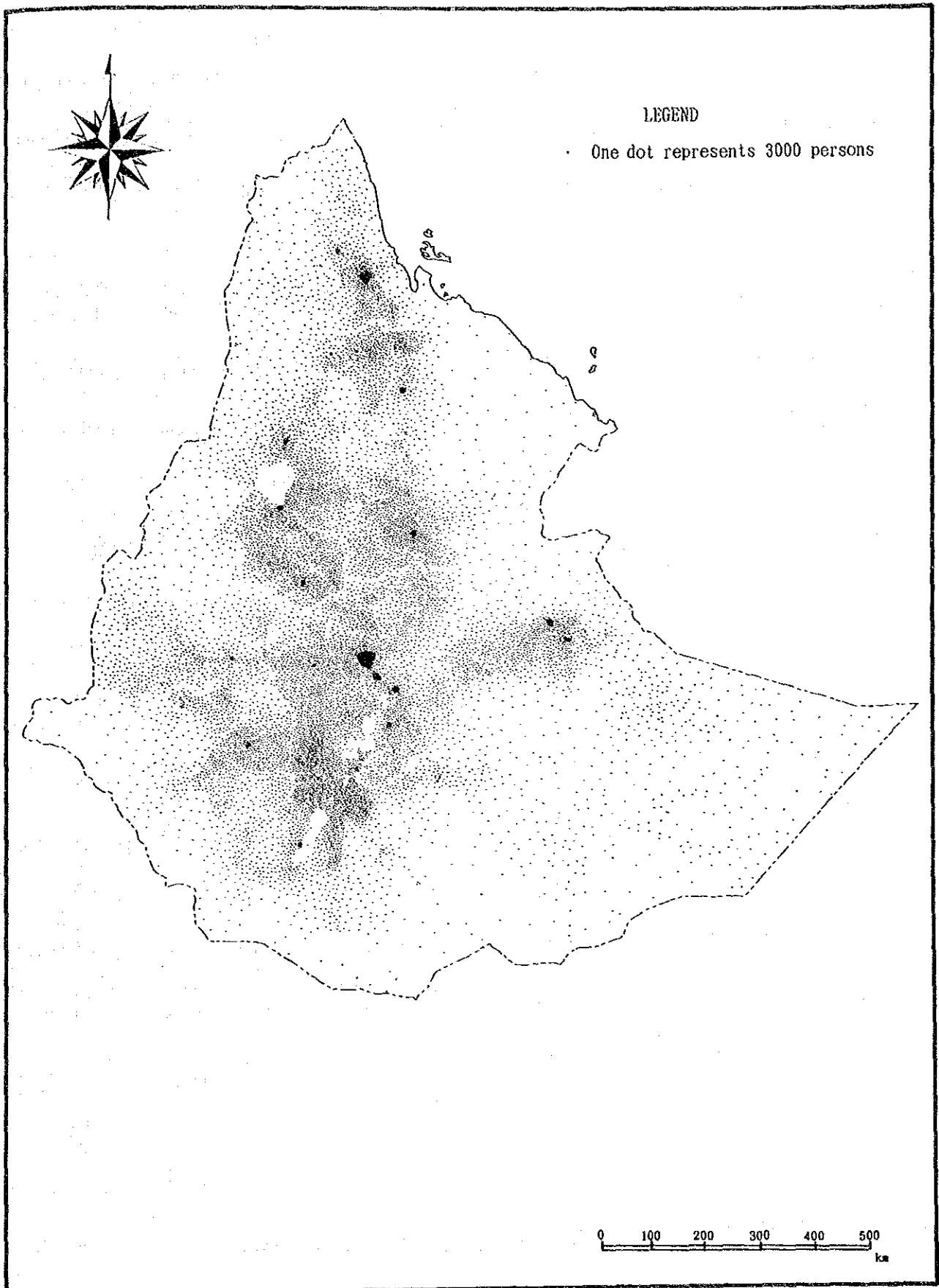
| Region | Rural | | Urban | | Total | |
|-------------|------------|------------------|-----------|------------------|------------|-------------------|
| | Number | % | Number | % | Number | % |
| Arrsi | 1,533,199 | 92.2 (3.60) | 129,591 | 7.8 (0.30) | 1,662,790 | 100.0 (3.90) |
| Bale | 938,020 | 92.2 (2.20) | 79,316 | 7.8 (0.19) | 1,017,336 | 100.0 (2.39) |
| Eritrea | 2,238,251 | 85.4 (5.25) | 383,315 | 14.6 (0.90) | 2,621,566 | 100.0 (6.15) |
| Gamo Gofa | 1,199,211 | 94.5 (2.81) | 70,266 | 5.5 (0.16) | 1,269,477 | 100.0 (2.98) |
| Gondar | 2,786,449 | 92.3 (6.54) | 232,460 | 7.7 (0.55) | 3,018,909 | 100.0 (7.08) |
| Gojjam | 3,914,968 | 92.1 (7.07) | 258,556 | 7.9 (0.61) | 3,273,524 | 100.0 (7.68) |
| Hararge | 3,847,288 | 91.8 (9.03) | 345,610 | 8.2 (0.81) | 4,192,898 | 100.0 (9.84) |
| Illubabor | 307,375 | 93.0 (2.13) | 68,283 | 7.0 (0.16) | 975,658 | 100.0 (2.29) |
| Keffa | 2,326,090 | 93.8 (5.46) | 152,867 | 6.2 (0.36) | 2,478,957 | 100.0 (5.82) |
| Sidamo | 3,562,886 | 93.4 (8.36) | 250,189 | 6.6 (0.59) | 3,813,075 | 100.0 (8.95) |
| Shewa | 7,327,479 | 90.4 (17.19) | 774,847 | 9.6 (1.82) | 8,102,326 | 100.0 (19.01) |
| Tigray | 2,174,894 | 90.0 (5.10) | 240,977 | 10.0 (0.57) | 2,415,871 | 100.0 (5.67) |
| Wellega | 2,320,018 | 93.6 (5.44) | 158,407 | 6.4 (0.37) | 2,478,425 | 100.0 (5.82) |
| Wello | 3,477,178 | 92.8 (8.16) | 268,966 | 7.2 (0.63) | 3,746,144 | 100.0 (8.79) |
| Addis Ababa | NA | 0.0 (0) | 1,423,182 | 100.0 (3.339) | 1,423,182 | 100.0 (3.339) |
| Asseb | 94,281 | 74.4 (0.22) | 32,457 | 25.6 (0.08) | 126,738 | 100.0 (0.30) |
| Total | 37,717,587 | 88.6 | 4,869,289 | 11.4 | 42,616,876 | 100.0 |

Note : Number > Population includes estimated values of areas not covered in the census.

Percentages in () show distribution in national level.

SOURCE : The 1984 Population and Housing Census Dec. '91

C-4 : Population Distribution Map in 1984



C-5 : Distribution of Economical Activity in 1984

| | Rural | | | Urban | | | Total | | |
|---|-----------|-----------|------------|---------|---------|-----------|-----------|-----------|-----------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Agriculture, Forestry | 7,513,746 | 5,308,815 | 12,822,561 | 95,461 | 28,378 | 123,839 | 7,609,207 | 5,337,193 | 12,946,40 |
| Hunting & Fishery | 51.4 | 36.3 | 87.7 | 0.7 | 0.2 | 0.8 | 52.0 | 36.5 | 88. |
| | 97.8 | 95.3 | 96.7 | 11.7 | 5.1 | 9.0 | 89.5 | 87.2 | 88. |
| Mining & Quarrying | 3,469 | 2,219 | 5,688 | 5,688 | 3,800 | 9,488 | 9,157 | 6,019 | 15,17 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0. |
| | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 0.1 | 0.1 | 0. |
| Manufacturing | 32,697 | 51,563 | 84,260 | 101,777 | 44,657 | 146,434 | 134,474 | 96,220 | 230,69 |
| | 0.2 | 0.4 | 0.6 | 0.7 | 0.3 | 1.0 | 0.9 | 0.7 | 1. |
| | 0.4 | 0.9 | 0.6 | 12.4 | 8.0 | 10.7 | 1.6 | 1.6 | 1. |
| Construction | 5,679 | 508 | 6,187 | 6,187 | 27,867 | 34,054 | 11,866 | 28,375 | 40,24 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.1 | 0.2 | 0. |
| | 0.1 | 0.0 | 0.0 | 0.8 | 5.0 | 2.5 | 0.1 | 0.5 | 0. |
| Electricity, Gas and Water | 671 | 146 | 817 | 8,209 | 1,210 | 9,419 | 8,880 | 1,356 | 10,23 |
| | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0. |
| | 0.0 | 0.0 | 0.0 | 1.0 | 0.2 | 0.7 | 0.1 | 0.0 | 0. |
| Wholesale, Retail Trade & catering | 34,272 | 146,571 | 180,843 | 166,955 | 212,610 | 379,565 | 201,227 | 359,181 | 560,40 |
| | 0.2 | 1.0 | 1.2 | 1.1 | 1.5 | 2.6 | 1.4 | 2.5 | 3. |
| | 0.4 | 2.6 | 1.4 | 20.4 | 38.3 | 27.6 | 2.4 | 5.9 | 3. |
| Transport & Related Worker | 4,372 | 4,617 | 8,989 | 48,417 | 4,461 | 52,878 | 52,789 | 9,078 | 61,86 |
| | 0.0 | 0.0 | 0.1 | 0.3 | 0.0 | 0.4 | 0.4 | 0.1 | 0. |
| | 0.1 | 0.1 | 0.1 | 5.9 | 0.8 | 3.8 | 0.6 | 0.1 | 0. |
| Bank, Insurance & Business Service | 290 | 288 | 578 | 8,419 | 2,665 | 11,084 | 8,709 | 2,953 | 11,66 |
| | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0. |
| | 0.0 | 0.0 | 0.0 | 1.0 | 0.5 | 0.8 | 0.1 | 0.0 | 0. |
| Public Administration, Social Culture, Personal & Household Service | 89,362 | 54,115 | 143,477 | 377,418 | 229,552 | 606,970 | 466,780 | 283,667 | 750,44 |
| | 0.6 | 0.4 | 1.0 | 2.6 | 1.6 | 4.1 | 3.2 | 1.9 | 5. |
| | 1.2 | 1.0 | 1.1 | 46.1 | 41.3 | 44.2 | 5.5 | 4.6 | 5. |
| Total | 7,684,558 | 5,568,842 | 13,253,400 | 818,531 | 555,200 | 1,373,731 | 8,503,089 | 6,124,042 | 14,627,13 |
| | 52.5 | 38.1 | 90.6 | 5.6 | 3.8 | 9.4 | 58.1 | 41.9 | 100. |
| | 100 | 100 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100. |

Note : Figures in brackets refer to percentages

SOURCE : The 1984 Population and Housing Census Dec. '91

C-6 : Literacy Rate in Rural/Urban Area by Region in 1984

Unit : %

| Region | Rural and Urban | Literacy Rate | | | Rank Order | | |
|-------------|-----------------|---------------|--------|------|------------|-------|-------|
| | | Male | Female | Both | Rural | Urban | Total |
| Arssi | Rural | 37.2 | 15.8 | 26.5 | 2 | | |
| | Urban | 77.6 | 59.2 | 67.6 | | 7 | |
| | Total | 40.4 | 19.9 | 30.1 | | | 2 |
| Bale | Rural | 38.7 | 21.1 | 29.5 | 1 | | |
| | Urban | 81.2 | 65.6 | 72.7 | | 3 | |
| | Total | 43.3 | 26.5 | 34.5 | | | 1 |
| Eritrea | Rural | - | - | - | - | | |
| | Urban | 78.9 | 60.7 | 68.6 | | 5 | |
| | Total | - | - | - | | | - |
| Gamo Gofa | Rural | 13.7 | 4.5 | 9.1 | 12 | | |
| | Urban | 73.5 | 52.9 | 62.4 | | 14 | |
| | Total | 17.0 | 7.6 | 12.3 | | | 12 |
| Gondar | Rural | 24.8 | 8.6 | 16.8 | 9 | | |
| | Urban | 76.8 | 55.2 | 64.2 | | 12 | |
| | Total | 28.4 | 13.2 | 1.2 | | | 9 |
| Gojjam | Rural | 31.5 | 15.2 | 23.7 | 5 | | |
| | Urban | 76.3 | 56.8 | 64.4 | | 11 | |
| | Total | 35.6 | 21.4 | 28.6 | | | 3 |
| Hararge | Rural | 27.6 | 13.3 | 1.3 | 6 | | |
| | Urban | 76.7 | 58.0 | 66.7 | | 8 | |
| | Total | 33.9 | 1.8 | 27.2 | | | 5 |
| Illubabor | Rural | 33.0 | 15.0 | 23.8 | 4 | | |
| | Urban | 80.0 | 58.0 | 68.6 | | 5 | |
| | Total | 36.5 | 18.3 | 27.1 | | | 6 |
| Keffa | Rural | 19.2 | 7.7 | 13.5 | 11 | | |
| | Urban | 77.5 | 58.9 | 67.7 | | 6 | |
| | Total | 22.9 | 11.3 | 17.1 | | | 11 |
| Sidamo | Rural | 26.8 | 10.2 | 18.3 | 8 | | |
| | Urban | 76.9 | 56.3 | 65.7 | | 9 | |
| | Total | 31.7 | 15.3 | 23.2 | | | 7 |
| Shewa | Rural | 28.0 | 9.0 | 18.5 | 7 | | |
| | Urban | 75.7 | 55.9 | 65.4 | | 10 | |
| | Total | 31.3 | 12.5 | 21.8 | | | 8 |
| Tigray | Rural | - | - | - | - | | |
| | Urban | 74.4 | 51.5 | 60.5 | | 15 | |
| | Total | - | - | - | | | - |
| Wellega | Rural | 34.7 | 15.0 | 24.7 | 3 | | |
| | Urban | 81.9 | 59.6 | 70.2 | | 4 | |
| | Total | 37.8 | 18.1 | 27.8 | | | 4 |
| Wello | Rural | 21.9 | 10.6 | 16.3 | 10 | | |
| | Urban | 73.9 | 54.7 | 62.5 | | 13 | |
| | Total | 25.6 | 15.1 | 20.4 | | | 10 |
| Addis Ababa | Rural | - | - | - | - | | |
| | Urban | 89.2 | 75.8 | 82.1 | | 1 | |
| | Total | - | - | - | | | - |
| Asseb | Rural | - | - | - | - | | |
| | Urban | 83.8 | 70.2 | 77.4 | | | |
| | Total | - | - | - | | | - |
| Total | Rural | 27.0 | 11.1 | 19.1 | - | | |
| | Urban | 81.0 | 62.7 | 71.0 | | - | |
| | Total | 34.6 | 19.6 | 27.0 | | | - |

SOURCE : The 1984 Population and Housing Census Dec. '91

C-7 : Population by Religious in Rural/Urban in 1984

| Religion | Rural | | Urban | | Total | |
|--------------|-------------------|------------|------------------|------------|-------------------|------------|
| | Number | % | Number | % | Number | % |
| Christian | 19,141,146 | 57.42 | 3,965,467 | 81.44 | 23,106,613 | 60.48 |
| Orthodox | 16,806,617 | (50.42) | 3,830,745 | (78.67) | 20,637,362 | (54.02) |
| Protestant | 2,007,635 | (6.02) | 86,736 | (1.78) | 2,094,371 | (5.48) |
| Catholic | 326,894 | (0.98) | 47,986 | (0.99) | 374,880 | (0.98) |
| Muslim | 11,707,557 | 35.12 | 862,438 | 17.71 | 12,569,995 | 32.90 |
| Others | 236,125 | 0.71 | 12,918 | 0.27 | 249,043 | 0.65 |
| Traditional | 2,198,376 | 6.59 | 15,289 | 0.31 | 2,213,665 | 5.79 |
| Atheist | 11,893 | 0.04 | 3,590 | 0.07 | 15,483 | 0.04 |
| Not stated | 39,344 | 0.12 | 9,538 | 0.20 | 48,882 | 0.13 |
| Total | 33,334,441 | 100 | 4,869,240 | 100 | 38,203,681 | 100 |

Note : Values do not include the rural population of Eritrea and Tigray.
 SOURCE : The 1984 Population and Housing Census Dec. '91

D. : SOCIO-ECONOMY

- D-1 : Gross Domestic Product of Ethiopia**
- D-2 : Import and Export Amount by Category and Commodity**
- D-3 : Summary of Balance of Payment**
- D-4 : Government Expenditure**
- D-5 : Consumer Price Index (1980 = 100)**
- D-6 : Foreign Aids for Ethiopia**
- D-7 : Drought and Food Shortage Map**
- D-8 : Road Network Map**
- D-9 : Telecommunication Map**

D-1 : Gross Domestic Product of Ethiopia

| Category | Current factor cost | | | | |
|---------------------------------|--------------------------------------|---------|---------|---------|----------|
| | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 |
| AGRICULTURE | 4,070.2 | 3,915.8 | 4,354.5 | 4,317.9 | 4,326.7 |
| Agriculture | 3,840.2 | 3,673.2 | 4,109.2 | 4,060.3 | 4,056.3 |
| Forestry | 224.3 | 236.3 | 238.1 | 249.3 | 262.0 |
| Hunting & Fishing | 5.7 | 6.3 | 7.2 | 8.3 | 8.4 |
| INDUSTRIES | 1,476.4 | 1,495.0 | 1,595.7 | 1,737.0 | 1,775.4 |
| Mining & Quarrying | 12.3 | 15.1 | 15.3 | 12.3 | 13.5 |
| Manufacturing | 670.1 | 683.9 | 722.5 | 804.1 | 824.1 |
| Handicraft & S-Scale Industry | 339.1 | 339.1 | 350.4 | 363.2 | 375.4 |
| Building & Construction | 387.3 | 383.3 | 397.6 | 422.6 | 418.8 |
| Electricity & Water | 67.6 | 73.6 | 109.9 | 134.8 | 143.6 |
| DISTRIBUTIVE SERVICES | 1,562.4 | 1,576.1 | 1,754.4 | 1,769.9 | 1,789.4 |
| Wholesale and Retail Trade | 997.5 | 962.1 | 1,036.3 | 1,056.9 | 1,068.0 |
| Transport & Communication | 564.9 | 614.0 | 718.1 | 713.0 | 721.4 |
| OTHER SERVICES | 1,834.5 | 1,923.6 | 2,013.0 | 2,173.5 | 2,355.7 |
| Banking, Insurance, Real Estate | 286.5 | 312.6 | 339.2 | 378.5 | 449.7 |
| Public Adm. & Defence | 750.9 | 770.0 | 781.6 | 850.6 | 916.0 |
| Ownership of Dwellings | 223.9 | 230.3 | 238.2 | 246.1 | 255.1 |
| Educational Services | 253.1 | 281.5 | 302.7 | 330.8 | 351.7 |
| Medical & Health Services | 59.6 | 62.2 | 74.6 | 81.7 | 86.2 |
| Domestic Services | 70.1 | 70.8 | 71.6 | 72.4 | 73.1 |
| Others | 190.4 | 196.2 | 205.1 | 213.4 | 223.9 |
| TOTAL | 8,943.5 | 8,910.5 | 9,717.6 | 9,998.3 | 10,247.2 |
| GDP per capita | 89.8 | 89.5 | 97.6 | 100.4 | 102.9 |
| Annual rate of growth | | | | | |
| | Constant factor cost of 1980/91 | | | | |
| AGRICULTURE | 3,792.5 | 3,176.0 | 3,468.1 | 3,968.9 | 3,938.3 |
| Agriculture | 3,576.4 | 2,950.6 | 3,241.3 | 3,735.2 | 3,698.9 |
| Forestry | 210.8 | 219.9 | 220.6 | 226.6 | 232.3 |
| Hunting & Fishing | 5.3 | 5.5 | 6.2 | 7.1 | 7.1 |
| INDUSTRIES | 1,436.7 | 1,446.6 | 1,500.7 | 1,567.8 | 1,589.2 |
| Mining & Quarrying | 11.6 | 14.1 | 14.2 | 11.4 | 12.5 |
| Manufacturing | 657.5 | 667.7 | 703.3 | 744.7 | 760.9 |
| Handicraft & S-Scale Industry | 330.6 | 330.6 | 338.9 | 348.3 | 357.0 |
| Building & Construction | 362.5 | 353.0 | 358.7 | 371.5 | 359.1 |
| Electricity & Water | 74.5 | 81.2 | 85.6 | 91.9 | 99.7 |
| DISTRIBUTIVE SERVICES | 1,367.6 | 1,356.6 | 1,464.2 | 1,540.1 | 1,566.1 |
| Wholesale and Retail Trade | 938.4 | 887.4 | 938.6 | 1,013.2 | 1,014.6 |
| Transport & Communication | 429.2 | 469.2 | 525.6 | 526.9 | 551.5 |
| OTHER SERVICES | 1,718.3 | 1,757.8 | 1,821.4 | 1,916.6 | 2,029.3 |
| Banking, Insurance, Real Estate | 304.8 | 312.1 | 335.8 | 360.3 | 411.6 |
| Public Adm. & Defence | 659.3 | 665.8 | 672.5 | 710.6 | 746.5 |
| Ownership of Dwellings | 217.3 | 221.0 | 224.9 | 230.1 | 236.1 |
| Educational Services | 229.6 | 247.2 | 261.9 | 279.2 | 291.0 |
| Medical & Health Services | 56.9 | 58.8 | 68.1 | 72.4 | 74.6 |
| Domestic Services | 70.1 | 70.8 | 71.6 | 72.4 | 73.1 |
| Others | 180.3 | 182.1 | 186.6 | 191.6 | 196.4 |
| TOTAL | 8,315.1 | 7,737.0 | 8,254.4 | 8,993.4 | 9,122.9 |
| GDP per capita | 83.5 | 77.7 | 82.9 | 90.3 | 91.6 |
| Annual rate of growth | | -6.95% | 6.69% | 8.95% | 1.44% |
| | Constant factor cost of 1980/91 in % | | | | |
| AGRICULTURE | 45.61% | 41.05% | 42.02% | 44.13% | 43.17% |
| Agriculture | 43.01% | 38.14% | 39.27% | 41.53% | 40.55% |
| Forestry | 2.54% | 2.84% | 2.67% | 2.52% | 2.55% |
| Hunting & Fishing | 0.06% | 0.07% | 0.08% | 0.08% | 0.08% |
| INDUSTRIES | 17.28% | 18.70% | 18.18% | 17.43% | 17.42% |
| Mining & Quarrying | 0.14% | 0.18% | 0.17% | 0.13% | 0.14% |
| Manufacturing | 7.91% | 8.63% | 8.52% | 8.28% | 8.34% |
| Handicraft & S-Scale Industry | 3.98% | 4.27% | 4.11% | 3.87% | 3.91% |
| Building & Construction | 4.36% | 4.56% | 4.35% | 4.13% | 3.94% |
| Electricity & Water | 0.90% | 1.05% | 1.04% | 1.02% | 1.09% |
| DISTRIBUTIVE SERVICES | 16.45% | 17.53% | 17.74% | 17.12% | 17.17% |
| Wholesale and Retail Trade | 11.29% | 11.47% | 11.37% | 11.27% | 11.12% |
| Transport & Communication | 5.16% | 6.06% | 6.37% | 5.86% | 6.05% |
| OTHER SERVICES | 20.66% | 22.72% | 22.07% | 21.31% | 22.24% |
| Banking, Insurance, Real Estate | 3.67% | 4.03% | 4.07% | 4.01% | 4.51% |
| Public Adm. & Defence | 7.93% | 8.61% | 8.15% | 7.90% | 8.18% |
| Ownership of Dwellings | 2.61% | 2.86% | 2.72% | 2.56% | 2.59% |
| Educational Services | 2.76% | 3.20% | 3.17% | 3.10% | 3.19% |
| Medical & Health Services | 0.68% | 0.76% | 0.83% | 0.81% | 0.82% |
| Domestic Services | 0.84% | 0.92% | 0.87% | 0.81% | 0.80% |
| Others | 2.17% | 2.35% | 2.26% | 2.13% | 2.15% |
| TOTAL | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

Source : CSA, Statistical Abstract 1988

D-2 : Import and Export Amount by Category and Commodity

Import and Export Amount by Category and Commodity
in '000 Birr

| Category | 1984 | 1985 | 1986 | 1987 |
|---------------------------------|------------------|-------------------|-------------------|-------------------|
| IMPORT | | | | |
| Food and live animals | 17,622 | 500,566 | 496,236 | 247,608 |
| Beverages and tobacco | 19,549 | 8,458 | 11,150 | 15,623 |
| Crude materials, except fuels | 43,264 | 67,588 | 51,652 | 49,790 |
| Mineral fuels, lubricants etc. | 360,491 | 302,824 | 211,685 | 226,314 |
| Animal & vegetable oil | 24,371 | 99,084 | 66,190 | 19,741 |
| Chemical elements & components | 205,971 | 150,433 | 247,247 | 262,659 |
| Manufactured goods | 290,210 | 275,790 | 299,472 | 323,002 |
| Machinery & transport equipment | 774,069 | 588,185 | 810,835 | 1,037,461 |
| Misc. manufactured articles | 61,550 | 53,512 | 84,087 | 97,111 |
| Commodities & transaction | 7 | 2 | 153 | 226 |
| Total | 1,797,104 | 2,046,442 | 2,278,707 | 2,279,535 |
| EXPORT | | | | |
| Food and live animals | 619,710 | 486,496 | 782,290 | 504,638 |
| Beverages and tobacco | 1,891 | 369 | 356 | 1,042 |
| Crude materials, except fuels | 163,916 | 133,877 | 146,795 | 196,948 |
| Mineral fuels, lubricants etc. | 63,851 | 68,613 | 22,092 | 44,038 |
| Animal & vegetable oil | 5,260 | 1,632 | 1,406 | 1,416 |
| Chemical elements & components | 2,023 | 4,020 | 4,271 | 6,575 |
| Manufactured goods | 914 | 671 | 253 | 1,106 |
| Machinery & transport equipment | 45 | 11 | 88 | 17 |
| Misc. manufactured articles | 3,809 | 1,649 | 3,064 | 10,215 |
| Commodities & transaction | 1,158 | 1,374 | 714 | 1,210 |
| Total | 862,577 | 698,712 | 961,329 | 767,205 |
| Ratio : import/export | 208.34% | 292.89% | 237.04% | 297.12% |
| Balance | -934,527 | -1,347,730 | -1,317,378 | -1,512,330 |

| Commodity | 1985 | | 1986 | | 1987 | |
|-----------------------------------|--------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Value | % | Value | % | Value | % |
| Main Export Commodities | | | | | | |
| Live animals | 18,982.7 | 2.72% | 14,139.1 | 1.47% | 25,850.8 | 3.37% |
| Vegetable fresh or frozen | 14,602.3 | 2.09% | 15,415.8 | 1.60% | 29,039.8 | 3.79% |
| Sugar & honey | 8,855.0 | 1.27% | 10,891.9 | 1.13% | 13,880.7 | 1.81% |
| Coffee | 432,723.0 | 61.93% | 733,757.5 | 76.33% | 422,033.2 | 55.01% |
| Hides & skins, raw | 111,196.7 | 15.91% | 111,453.1 | 11.59% | 129,128.3 | 16.83% |
| Oil seeds oleaginous fruits | 9,109.4 | 1.30% | 11,376.1 | 1.18% | 18,894.5 | 2.46% |
| Crude vegetable materials | 7,871.2 | 1.13% | 19,253.6 | 2.00% | 42,830.3 | 5.58% |
| Petroleum products | 68,613.1 | 9.82% | 22,091.9 | 2.30% | 44,037.5 | 5.74% |
| Others | 26,758.2 | 3.83% | 22,948.8 | 2.39% | 41,509.7 | 5.41% |
| Total | 698,711.6 | 100.00% | 961,327.8 | 100.00% | 767,204.8 | 100.00% |
| Main Import Commodities | | | | | | |
| Milk & cream | 59,551.7 | 2.91% | 59,991.8 | 2.63% | 18,203.9 | 0.80% |
| Meat, unmilled | 160,274.5 | 7.83% | 166,959.5 | 7.33% | 112,630.9 | 4.94% |
| Meal & Flour of wheat | 135,670.3 | 6.63% | 122,460.6 | 5.37% | 57,525.7 | 2.52% |
| Petroleum, crude & part. refined | 276,319.3 | 13.50% | 151,374.4 | 6.64% | 190,592.6 | 8.36% |
| Medical & pharmaceutical products | 47,293.8 | 2.31% | 67,201.4 | 2.95% | 62,506.8 | 2.74% |
| Fertilizers, manufactured | 28,845.2 | 1.41% | 55,772.7 | 2.45% | 51,692.1 | 2.27% |
| Telecommunication equipment | 17,336.3 | 0.85% | 42,942.5 | 1.88% | 79,490.5 | 3.49% |
| Parts & accessories for vehicle | 61,920.5 | 3.03% | 96,980.9 | 4.26% | 108,911.9 | 4.78% |
| Aircraft & parts | 44,911.9 | 2.19% | 33,497.2 | 1.47% | 166,606.7 | 7.31% |
| Others | 1,214,318.0 | 59.34% | 1,481,526.4 | 65.02% | 1,431,374.0 | 62.79% |
| Total | 2,046,441.5 | 100.00% | 2,278,707.4 | 100.00% | 2,279,535.1 | 100.00% |

Source : CSA, Statistical abstract 1988

D-3 : Summary of Balance of Payment

国際収支総括

in million US\$

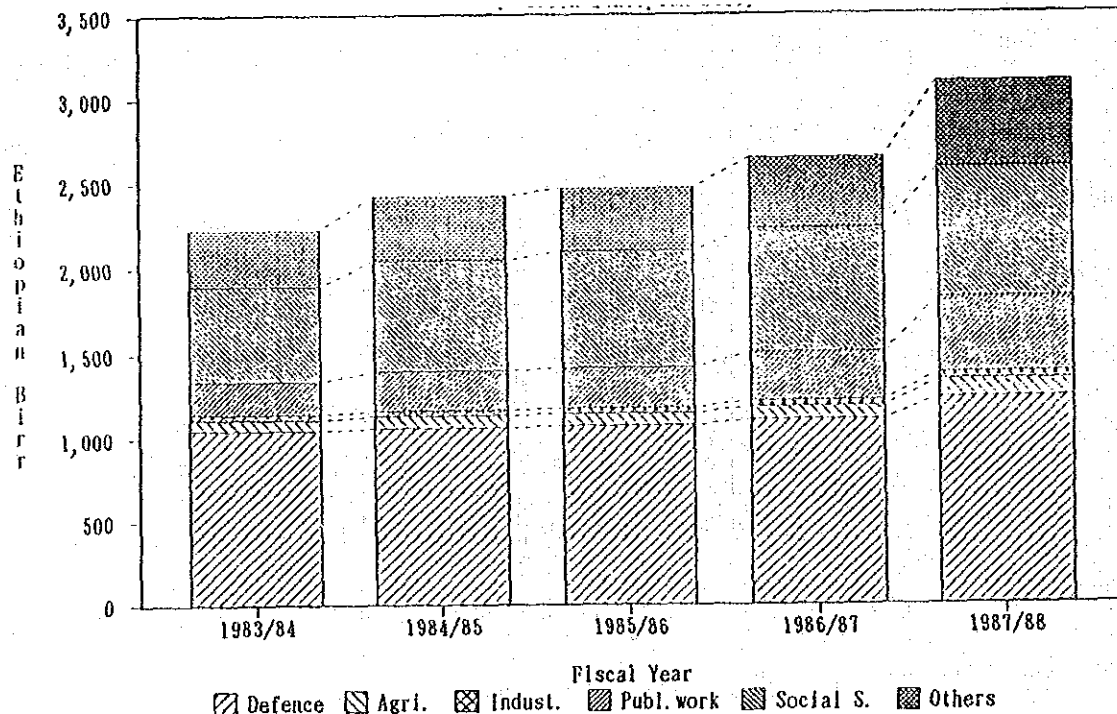
| Category | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 項 目 |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|------------------|
| 1. Merchandise : Export FOB | 402.8 | 402.6 | 416.8 | 332.9 | 477.1 | 355.2 | 429.3 | 商品 : 輸出FOB |
| 2. Merchandise : Import FOB | -675.2 | -740.0 | -798.4 | -840.5 | -932.6 | -932.7 | -956.0 | 商品 : 輸入FOB |
| 3. Other goods, ser. & income: Cred. | 176.5 | 169.6 | 210.3 | 313.6 | 277.9 | 318.7 | 275.7 | 他の財貨、サービス所得 : 受取 |
| 4. Other goods, ser. & income: Deb. | -239.8 | -252.9 | -290.1 | -310.6 | -332.9 | -366.4 | -415.8 | 他の財貨、サービス所得 : 支払 |
| 5. Private unrequired transfers | 38.1 | 92.1 | 144.9 | 212.9 | 69.4 | 129.6 | 180.5 | 民間無償振替 |
| 6. Official unrequired Trans.nie | 102.4 | 158.1 | 166.1 | 397.7 | 113.7 | 278.0 | 261.6 | 他に分類されない公的無償振替 |
| 7. Direct investment | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 直接投資 |
| 8. Direct investment,nie | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 他に分類されない有価証券投資 |
| 9. Other long-term capital,nie | 69.5 | 207.4 | 194.6 | 175.2 | 240.6 | 292.8 | 292.9 | 他に分類されないその他長期資本 |
| 10. Other short-term capital,nie | 39.5 | -35.9 | 29.6 | 49.8 | -1.0 | 0.0 | 6.8 | 他に分類されないその他短期資本 |
| 11. Net errors and omissions | 10.8 | -54.1 | -150.6 | -168.8 | 201.6 | -182.8 | -97.2 | 純誤差および脱漏 |
| 12. C part to mon.deno.of gold | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 貨幣用金への見返り |
| 13. Counterpart to SDR allocation | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | SDR配分への見返り |
| 14. Counterpart to valuation change | 1.0 | 8.7 | 5.7 | -11.6 | -9.4 | -32.7 | 3.9 | 価格変動の見返り |
| 15. Exceptional financing | 0.0 | 0.1 | 1.2 | 0.0 | 0.0 | 0.4 | 0.0 | 例外的資金 |
| 16. Liab.const.fgn.author. reserves | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 負債 = 外国準備金 |
| Total change in reserves | 74.4 | 44.3 | 49.9 | -150.6 | -104.4 | 139.9 | 18.3 | 準備金の変動総計 |

Source : UN, "Statistical yearbook 1987"

Government Expenditure

| Fiscal Year | in million Ethiopian Birr | | | | | in percentage | | | | |
|--------------------------------|---------------------------|---------|---------|---------|---------|---------------|---------|---------|---------|---------|
| | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 |
| A. GENERAL SERVICE | 1,205.3 | 1,239.0 | 1,255.0 | 1,294.6 | 1,426.0 | 54.18% | 51.21% | 50.87% | 49.06% | 46.04% |
| General government | 84.2 | 94.4 | 96.7 | 104.1 | 107.8 | 3.78% | 3.90% | 3.92% | 3.94% | 3.48% |
| National defence | 869.6 | 881.7 | 896.8 | 922.1 | 1,051.1 | 39.09% | 36.44% | 36.35% | 34.94% | 33.94% |
| Internal order & justice | 174.1 | 178.8 | 176.9 | 182.3 | 181.5 | 7.83% | 7.39% | 7.17% | 6.91% | 5.86% |
| Foreign relations | 19.7 | 21.1 | 21.6 | 22.7 | 22.7 | 0.89% | 0.87% | 0.88% | 0.86% | 0.73% |
| Finance & planning | 57.7 | 63.0 | 63.0 | 63.4 | 62.9 | 2.59% | 2.60% | 2.55% | 2.40% | 2.03% |
| B. ECONOMIC SERVICES | 161.4 | 167.4 | 169.1 | 178.4 | 205.2 | 7.25% | 6.92% | 6.85% | 6.76% | 6.63% |
| Agriculture | 63.4 | 71.1 | 71.9 | 77.9 | 106.5 | 2.85% | 2.94% | 2.91% | 2.95% | 3.44% |
| Industry, commerce and mining | 33.5 | 34.2 | 33.8 | 36.5 | 40.6 | 1.51% | 1.41% | 1.37% | 1.38% | 1.31% |
| Public works & communication | 64.5 | 62.1 | 63.4 | 64.0 | 58.1 | 2.90% | 2.57% | 2.57% | 2.43% | 1.88% |
| C. SOCIAL SERVICES | 555.2 | 643.0 | 679.5 | 719.8 | 763.2 | 24.96% | 26.58% | 27.54% | 27.28% | 24.64% |
| Education and culture | 318.9 | 348.5 | 366.7 | 397.3 | 421.7 | 14.33% | 14.40% | 14.86% | 15.06% | 13.62% |
| Public health | 100.1 | 109.5 | 115.7 | 125.8 | 133.4 | 4.50% | 4.53% | 4.69% | 4.77% | 4.31% |
| Social affairs | 36.2 | 78.1 | 88.5 | 79.8 | 82.0 | 1.63% | 3.23% | 3.59% | 3.02% | 2.65% |
| D. PENSION EXPENDITURES | 100.0 | 106.9 | 108.6 | 116.9 | 126.1 | 4.49% | 4.42% | 4.40% | 4.43% | 4.07% |
| E. PUBLIC DEBT | 195.4 | 235.6 | 239.5 | 282.7 | 436.5 | 8.78% | 9.74% | 9.71% | 10.71% | 14.09% |
| Internal debt | 132.0 | 143.5 | 136.1 | 133.2 | 209.6 | 5.93% | 5.93% | 5.52% | 5.05% | 6.77% |
| External debt | 60.6 | 89.1 | 100.4 | 146.5 | 223.9 | 2.72% | 3.68% | 4.07% | 5.55% | 7.23% |
| Bank charges | 2.8 | 3.0 | 3.0 | 3.0 | 3.0 | 0.13% | 0.12% | 0.12% | 0.11% | 0.10% |
| F. OTHERS | 110.4 | 134.4 | 123.7 | 163.2 | 266.1 | 4.96% | 5.56% | 5.01% | 6.18% | 8.59% |
| TOTAL | 2,224.8 | 2,419.3 | 2,466.9 | 2,638.8 | 3,097.1 | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| ANNUAL GROWTH | | 8.7% | 2.0% | 7.0% | 17.4% | | | | | |

SOURCE : CSA, Statistical abstract 1988



D-5 : Consumer Price Index (1980 = 100)

| Year | All Items 全項目 | Annual increment | Food 食料 | Annual increment |
|------|------------------|---------------------|------------|---------------------|
| 1979 | 96 | | 95 | |
| 1980 | 100 | 4.17% | 100 | 5.26% |
| 1981 | 106 | 6.00% | 105 | 5.00% |
| 1982 | 111 | 4.72% | 111 | 5.71% |
| 1983 | 112 | 0.90% | 112 | 0.90% |
| 1984 | 121 | 8.04% | 124 | 10.71% |
| 1985 | 144 | 19.01% | 155 | 25.00% |
| 1986 | 130 | -9.72% | 132 | -14.84% |
| 1987 | 127 | -2.31% | 124 | -6.06% |
| 1988 | 136 | 7.09% | 133 | 7.26% |

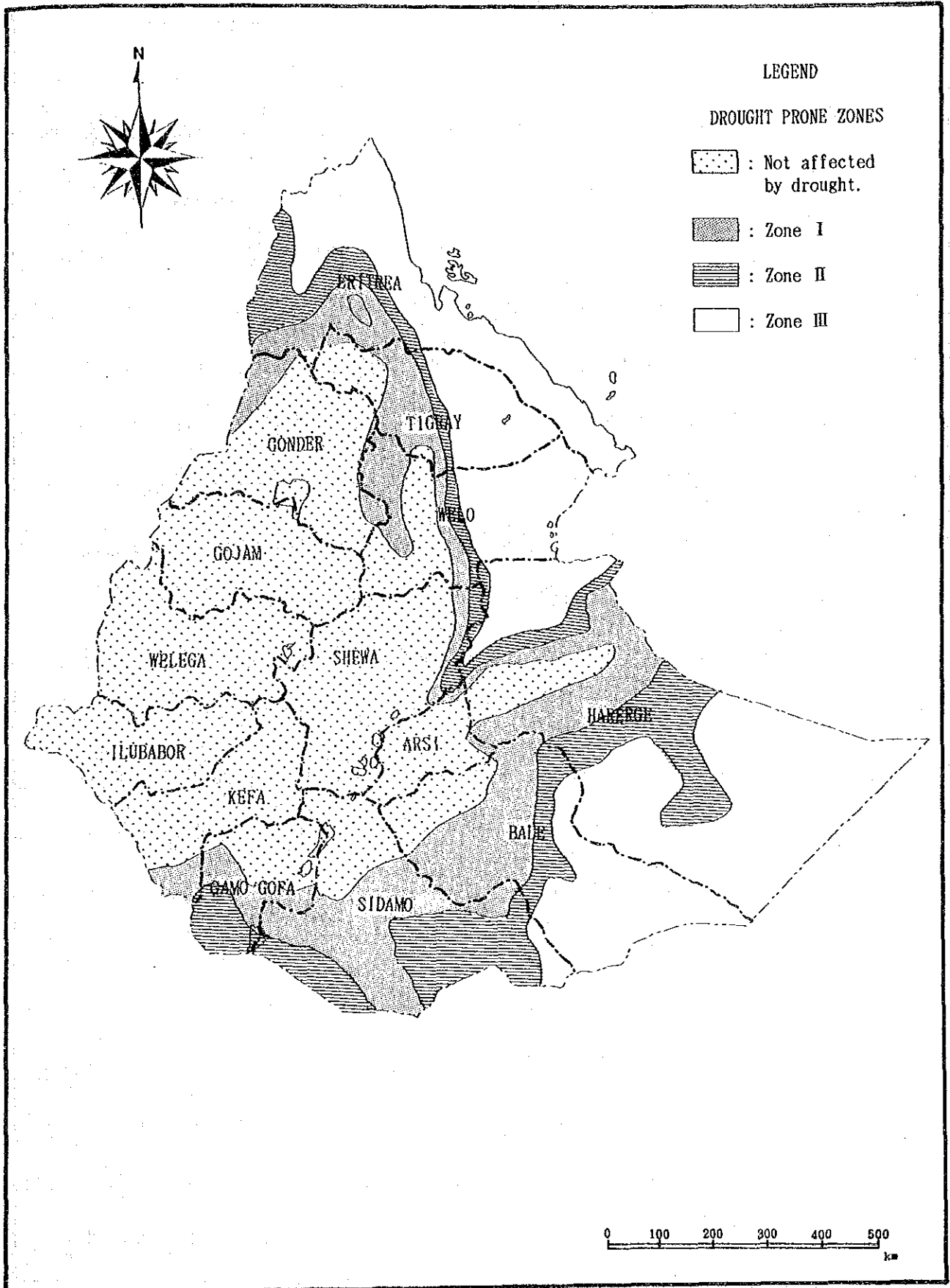
Source : United Nations, Statistical Yearbook 1987

D-6 Foreign Assistances for Ethiopia

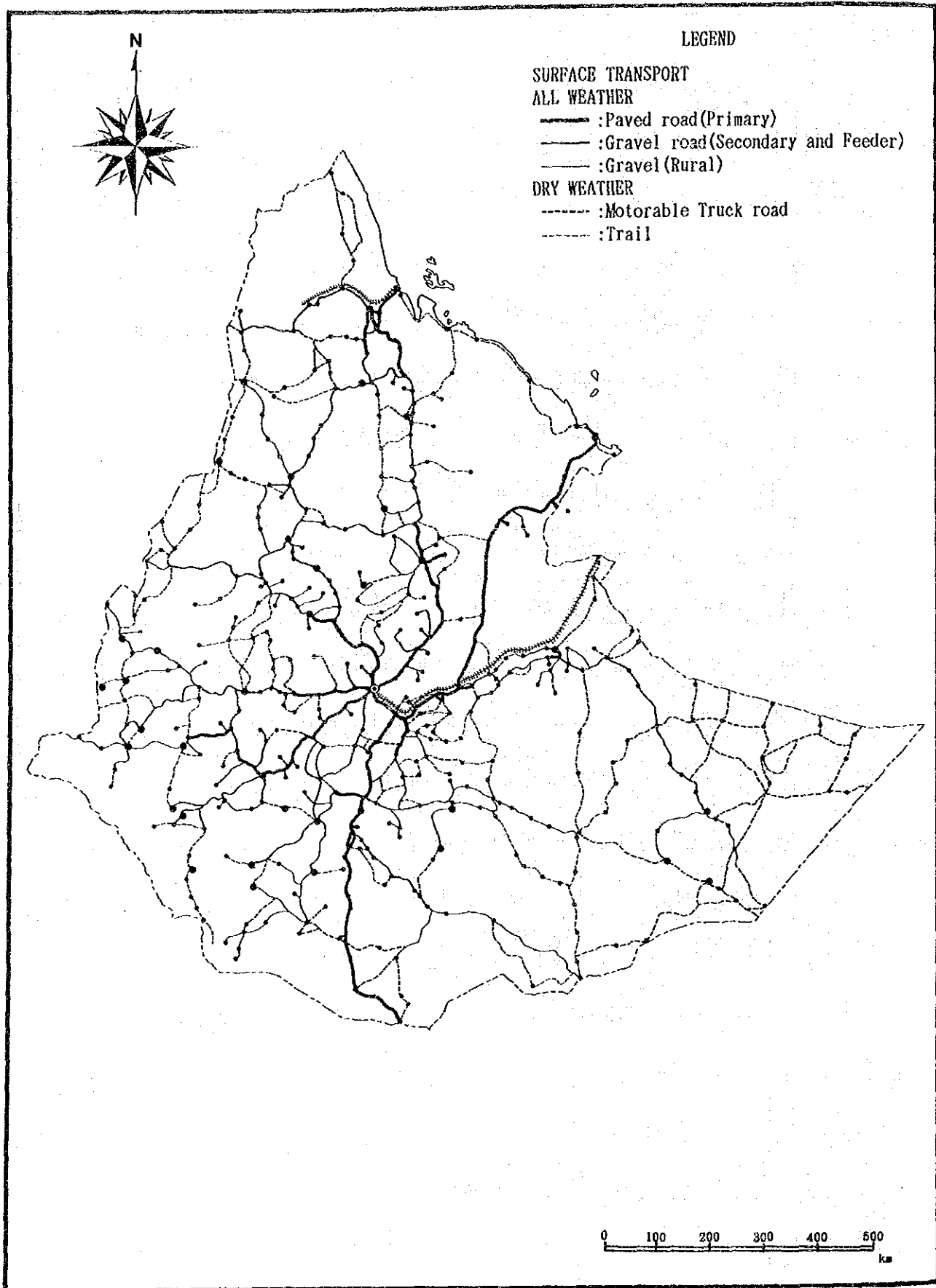
| Country/Organization | 1986 | | 1987 | | 1988 | | 1989 | | 1990 | |
|------------------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|
| | Amount US\$million | Share % | Amount US\$million | Share % | Amount US\$million | Share % | Amount US\$million | Share % | Amount US\$million | Share % |
| ODA Bilateral(二国間援助) | 401.5 | 62.59% | 312.4 | 49.19% | 555.9 | 57.48% | 377.8 | 50.93% | 503.1 | 56.64% |
| Italia | 151.6 | 23.63% | 127.8 | 20.12% | 232.0 | 23.98% | 138.4 | 18.66% | 169.1 | 19.04% |
| USA | 91.0 | 14.18% | 5.0 | 0.79% | 66.0 | 6.82% | 23.0 | 3.10% | 50.0 | 5.63% |
| W.German | 25.1 | 3.91% | 26.7 | 4.20% | n.a. | - | 49.6 | 6.69% | 46.7 | 5.26% |
| Sweden | 35.2 | 5.49% | 35.1 | 5.53% | 53.2 | 5.50% | 32.3 | 4.35% | 48.9 | 5.51% |
| Japan | 5.3 | 0.83% | 13.7 | 2.15% | 12.3 | 1.27% | 11.2 | 1.50% | 10.3 | 1.16% |
| Others | 93.3 | 14.54% | 104.1 | 16.40% | 192.4 | 19.89% | 123.3 | 16.63% | 178.1 | 20.05% |
| ODA Multilateral(国際機関) | 240.0 | 37.41% | 322.7 | 50.81% | 411.3 | 42.52% | 364.0 | 49.07% | 385.1 | 43.36% |
| EDF(BEC) | 85.7 | 13.36% | 95.9 | 15.10% | 153.4 | 15.86% | 57.1 | 7.70% | 53.8 | 6.06% |
| UNDP/UNAFD/UNCDF | 23.2 | 3.61% | 28.8 | 4.53% | n.a. | - | n.a. | - | n.a. | - |
| AfDF | n.a. | - | 23.4 | 3.68% | 15.7 | 1.62% | 27.5 | 3.71% | 42.5 | 4.78% |
| UNHCR | 21.3 | 3.39% | 27.9 | 4.40% | 73.7 | 7.62% | 88.2 | 11.90% | 74.3 | 8.36% |
| IFAD | n.a. | - | n.a. | - | n.a. | - | n.a. | - | n.a. | - |
| IDA | 35.3 | 5.50% | 81.8 | 12.88% | 72.0 | 7.44% | 66.0 | 8.90% | 69.0 | 7.77% |
| WFP | 30.3 | 4.72% | 31.1 | 4.89% | 40.1 | 4.15% | 66.8 | 9.01% | 88.5 | 9.96% |
| UNICEF | n.a. | - | 15.1 | 2.37% | n.a. | - | n.a. | - | n.a. | - |
| Others | 43.8 | 6.83% | 18.8 | 2.96% | 56.5 | 5.84% | 58.2 | 7.85% | 57.1 | 6.42% |
| Total | 641.5 | 100.00% | 635.1 | 100.00% | 967.2 | 100.00% | 741.8 | 100.00% | 888.2 | 100.00% |

Sources : (財) 国際協力推進協会、わが国の政府開発援助
APIC of Japan, "ODA Japan" (Japanese), 1986-1992

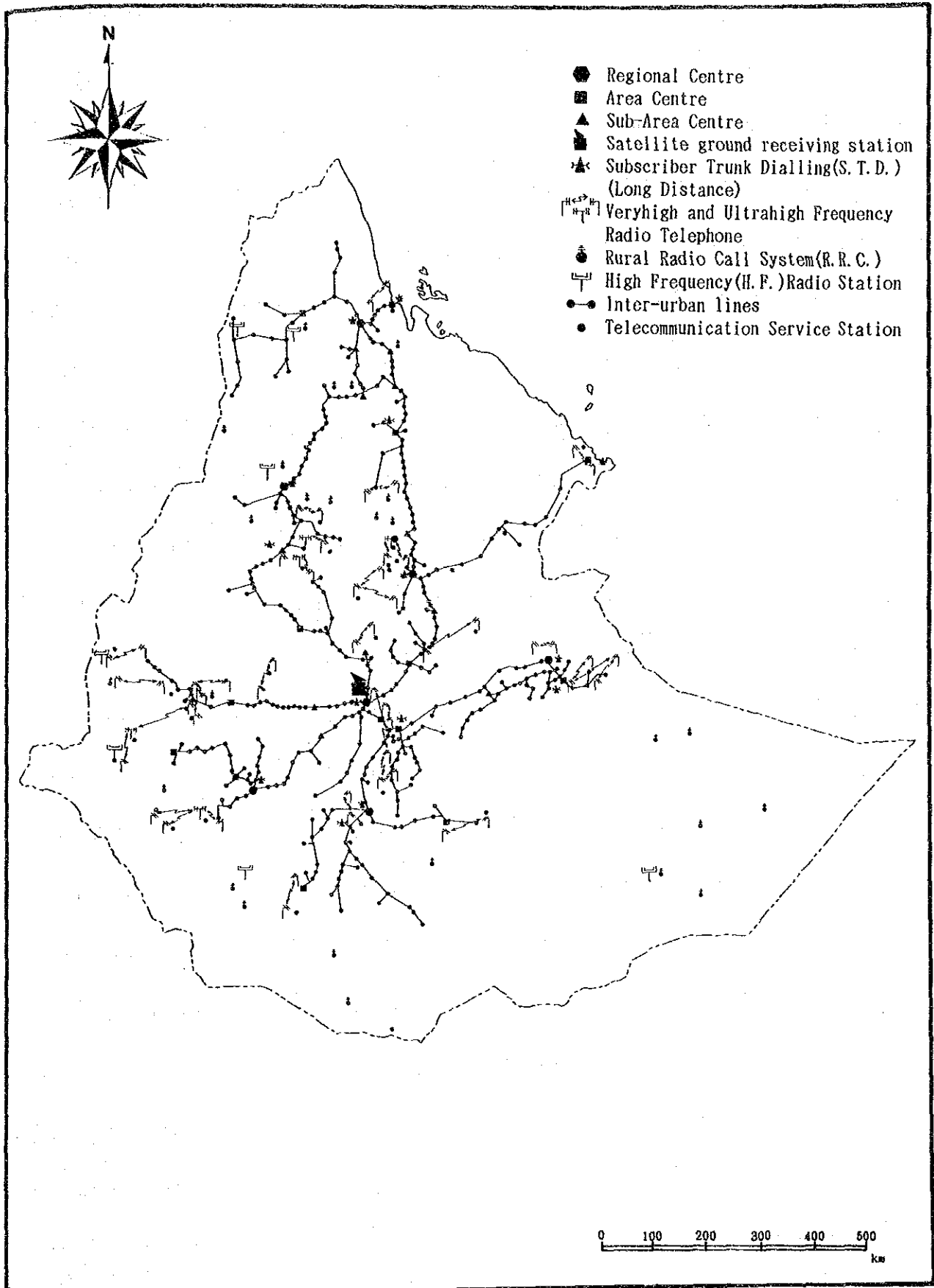
D-7 : Drought and Food Shortage Map



D-8 : Road Network Map



D-9 : Telecommunication Map



E : Agriculture

- E-1 : Main Crop Production and Cultivation Area 1986-1992
- E-2 : Forecast of Crop Production and cultivation Area in 1991/92
Private Holdings in Meher Season
- E-3 : Distribution of Cultivated Land
- E-4 : Food Crop Production Map in 1983
- E-5 : Coffee Production
- E-6 : Marketing System of Agricultural Products
- E-7 : Price of Agricultural Products in the Project Area, February 1988

E-1 : Main Crop Production and Cultivation Area 1986-1992

| No. | Crop | 1986/87 | | | 1987/88 | | | 1988/89** | | | 1989/90 | | | 1990/91* | | | 1991/92 (Estimate)* | | |
|-----|----------------------|---------------------------|----------------------------------|----------------|---------------------------|----------------------------------|----------------|---------------------------|----------------------------------|----------------|---------------------------|----------------------------------|----------------|---------------------------|----------------------------------|----------------|---------------------------|----------------------------------|----------------|
| | | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) | Cultivation Area ('000ha) | Production ('000 quintal ton/ha) | Yield (ton/ha) |
| 1-1 | Teff | 1,272.60 | 10,332.00 | 0.81 | 1,233.40 | 10,000.00 | 0.80 | 1,451.24 | 12,177.24 | 0.83 | N.A. | N.A. | N.A. | 1,895.12 | 13,644.87 | 0.72 | | | |
| 1-2 | Barley | 898.90 | 9,932.00 | 1.11 | 1,056.70 | 12,889.00 | 1.20 | 958.47 | 10,181.82 | 1.06 | N.A. | N.A. | N.A. | 607.45 | 6,150.02 | 1.01 | | | |
| 1-3 | Wheat | 561.90 | 7,753.00 | 1.17 | 657.80 | 7,788.00 | 1.18 | 647.53 | 7,998.36 | 1.24 | N.A. | N.A. | N.A. | 581.31 | 5,786.41 | 1.00 | | | |
| 1-4 | Maize | 1,012.60 | 17,154.00 | 1.69 | 1,095.50 | 18,640.00 | 1.79 | 1,021.10 | 16,888.86 | 1.65 | N.A. | N.A. | N.A. | 809.15 | 10,033.86 | 1.24 | | | |
| 1-5 | Sorghum | 962.70 | 9,632.00 | 1.00 | 782.60 | 9,093.00 | 1.16 | 627.07 | 8,492.12 | 1.35 | N.A. | N.A. | N.A. | 489.05 | 4,793.56 | 1.09 | | | |
| 1-6 | Millet | 137.60 | 1,198.00 | 0.87 | 156.50 | 1,659.00 | 1.06 | 132.96 | 1,121.90 | 0.84 | N.A. | N.A. | N.A. | 155.31 | 1,166.78 | 0.76 | | | |
| 1-7 | Oats | N.A. | N.A. | - | N.A. | N.A. | - | 42.32 | 475.53 | 1.13 | N.A. | N.A. | N.A. | 36.78 | 350.73 | 1.05 | | | |
| | Sub-total of Cereals | 4,945.30 | 56,001.00 | 1.13 | 5,002.60 | 60,875.00 | 1.22 | 4,840.79 | 57,335.73 | 1.17 | N.A. | N.A. | N.A. | 3,893.67 | 41,945.23 | 0.93 | | | |
| 2-1 | Worse Beans | 259.90 | 2,935.00 | 1.13 | 282.00 | 2,500.00 | 0.89 | 227.29 | 2,578.11 | 1.13 | N.A. | N.A. | N.A. | 243.31 | 2,381.36 | 0.69 | | | |
| 2-2 | Chick Peas | 95.30 | 722.00 | 0.76 | 135.60 | 1,056.00 | 0.78 | 126.00 | 851.19 | 0.69 | N.A. | N.A. | N.A. | 116.69 | 645.71 | 0.63 | | | |
| 2-3 | Haricot Beans | 52.60 | 333.00 | 0.63 | 82.50 | 472.00 | 0.57 | 93.36 | 709.82 | 0.76 | N.A. | N.A. | N.A. | 31.50 | 514.86 | 0.92 | | | |
| 2-4 | Field Peas | 106.10 | 895.00 | 0.79 | 108.40 | 88.00 | 0.06 | 88.90 | 784.06 | 0.88 | N.A. | N.A. | N.A. | 116.97 | 1,190.97 | 0.73 | | | |
| 2-5 | Lentils | 48.50 | 289.00 | 0.58 | 64.40 | 316.00 | 0.49 | 37.80 | 278.56 | 0.74 | N.A. | N.A. | N.A. | 40.65 | 187.51 | 0.46 | | | |
| 2-6 | Vetch | N.A. | N.A. | - | N.A. | N.A. | - | 58.64 | 410.15 | 0.70 | N.A. | N.A. | N.A. | 64.86 | 406.31 | 0.51 | | | |
| 2-7 | Soy Beans | N.A. | N.A. | - | N.A. | N.A. | - | 4.15 | 24.68 | 0.59 | N.A. | N.A. | N.A. | N.A. | N.A. | - | | | |
| | Sub-total of Pulses | 580.40 | 5,094.00 | 0.91 | 672.90 | 4,412.00 | 0.56 | 626.14 | 5,837.37 | 0.89 | N.A. | N.A. | N.A. | 674.10 | 5,927.34 | 0.99 | | | |
| 3-1 | Neug | 132.30 | 455.00 | 0.34 | 115.50 | 424.00 | 0.37 | 129.54 | 407.71 | 0.31 | N.A. | N.A. | N.A. | 158.79 | 768.36 | 0.27 | | | |
| 3-2 | Linseed | 65.80 | 311.00 | 0.47 | 54.50 | 230.00 | 0.42 | 50.34 | 189.20 | 0.36 | N.A. | N.A. | N.A. | 52.69 | 214.80 | 0.33 | | | |
| 3-3 | Fenugreek | N.A. | N.A. | - | N.A. | N.A. | - | 12.19 | 59.93 | 0.49 | N.A. | N.A. | N.A. | 9.98 | 17.40 | 0.32 | | | |
| 3-4 | Repessed | N.A. | N.A. | - | N.A. | N.A. | - | 9.33 | 74.03 | 0.79 | N.A. | N.A. | N.A. | 11.68 | 18.55 | 0.19 | | | |
| 3-5 | Sunflower | N.A. | N.A. | - | N.A. | N.A. | - | 0.17 | 1.37 | 0.81 | N.A. | N.A. | N.A. | N.A. | N.A. | - | | | |
| 3-6 | Groundnuts | N.A. | N.A. | - | N.A. | N.A. | - | 2.56 | 12.03 | 0.47 | N.A. | N.A. | N.A. | N.A. | N.A. | - | | | |
| 3-7 | Sesame | 0.20 | 1.00 | 0.50 | 1.20 | 6.00 | 0.50 | 11.28 | 40.74 | 0.35 | N.A. | N.A. | N.A. | N.A. | N.A. | - | | | |
| | Sub-total of Others | 198.30 | 787.00 | 0.39 | 171.20 | 660.00 | 0.39 | 245.49 | 785.01 | 0.36 | N.A. | N.A. | N.A. | 243.14 | 1,019.23 | 0.28 | | | |
| | All Crop Total | 5,704.00 | 61,362.00 | 1.08 | 5,846.70 | 65,947.00 | 1.13 | 5,742.42 | 63,758.11 | 1.11 | N.A. | N.A. | N.A. | 4,815.87 | 46,892.80 | 0.85 | | | |

[FILE : MAINPRO.WJ2]

Sources : CSA, Agricultural Sample survey 1988/89(1981 EC.), Sep. 1980

* CSA, Statistical Abstract 1988

Note : Total Ethiopia excluding Asseb, Eritria, Ogaden and Tigray Autonomous Regions

**including secondary cropping (Berg season)

E-2 : Forecast of Crop Production and cultivation Area in 1991/92
Private Holdings in Meher Season (1/3)

| Admi. Region No. | Crop | 1. Arssi | | | 2. Bale | | | 3. North Omo | | | 4. South Omo | | | 5. Past Gollam | | |
|------------------|----------------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|
| | | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha |
| 1-1 | Teff | 39.62 | 273.45 | 0.70 | 5.22 | 19.61 | 0.38 | 35.39 | 213.90 | 0.56 | 2.19 | 13.39 | 0.61 | 156.12 | 1,333.53 | 0.80 |
| 1-2 | Barley | 125.79 | 2,030.02 | 1.61 | 32.55 | 348.94 | 1.07 | 22.08 | 221.67 | 1.00 | 0.70 | 8.86 | 1.27 | 50.79 | 306.81 | 0.60 |
| 1-3 | Wheat | 111.66 | 1,426.83 | 1.28 | 38.60 | 355.19 | 0.92 | 7.82 | 46.43 | 0.53 | 0.20 | 2.15 | 1.03 | 60.87 | 453.18 | 0.74 |
| 1-4 | Maize | 35.24 | 455.48 | 1.29 | 1.78 | 24.34 | 1.37 | 6.44 | 39.93 | 0.52 | 2.33 | 22.06 | 1.04 | 241.74 | 171.74 | 0.32 |
| 1-5 | Sorghum | 3.18 | 68.12 | 2.14 | 0.26 | 0.43 | 0.17 | 30.50 | 208.81 | 0.68 | 2.71 | 36.24 | 1.84 | 12.60 | 171.48 | 1.35 |
| 1-6 | Millet | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.92 | 12.72 | 1.38 |
| 1-7 | Oats | 6.85 | 75.99 | 1.11 | 6.38 | 68.72 | 0.82 | 0.47 | 4.24 | 0.90 | 0.00 | 0.00 | - | 0.00 | 0.00 | - |
| | Sub-total of Cereals | 322.34 | 4,334.89 | - | 86.80 | 817.43 | - | 104.30 | 734.92 | - | 7.93 | 32.72 | - | 317.70 | 2,519.46 | - |
| 2-1 | Horse Beans | 27.78 | 309.64 | 1.11 | 3.43 | 33.10 | 0.97 | 8.63 | 51.27 | 0.59 | 0.60 | 23.41 | 3.90 | 20.58 | 158.63 | 0.77 |
| 2-2 | Field Peas | 18.15 | 95.27 | 0.52 | 3.66 | 30.97 | 0.85 | 23.85 | 97.07 | 0.41 | 1.12 | 12.08 | 1.08 | 9.70 | 40.43 | 0.42 |
| 2-3 | Haricot Beans | 6.16 | 48.27 | 0.78 | 0.06 | 0.01 | 0.02 | 6.03 | 27.67 | 0.46 | 0.16 | 2.17 | 1.21 | 1.38 | 8.16 | 0.59 |
| 2-4 | Chick Peas | 0.17 | 0.28 | 0.16 | 0.19 | 0.17 | 0.09 | 2.61 | 18.48 | 0.71 | 0.00 | 0.00 | - | 15.82 | 98.22 | 0.62 |
| 2-5 | Lentils | 2.67 | 10.22 | 0.38 | 0.48 | 1.60 | 0.33 | 0.08 | 0.17 | 0.21 | 0.00 | 0.00 | - | 2.12 | 2.93 | 0.14 |
| 2-6 | Vetch | 2.39 | 11.81 | 0.49 | 0.27 | 0.19 | 0.07 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 17.76 | 90.57 | 0.51 |
| | Sub-total of Pulses | 57.32 | 473.43 | - | 8.09 | 86.04 | - | 41.21 | 194.65 | - | 1.90 | 37.66 | - | 67.36 | 398.94 | - |
| 3-1 | Newg | 0.02 | 0.02 | 0.10 | 0.23 | 0.27 | 0.12 | 0.00 | 0.00 | - | 0.01 | 0.00 | 0.00 | 20.13 | 52.79 | 0.25 |
| 3-2 | Linseed | 24.89 | 105.80 | 0.43 | 4.44 | 22.22 | 0.50 | 0.04 | 0.10 | 0.25 | 0.00 | 0.00 | - | 5.60 | 19.08 | 0.34 |
| 3-3 | Fenugreek | 0.09 | 0.39 | 0.43 | 0.43 | 0.35 | 0.05 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.57 | 1.79 | 0.31 |
| 3-4 | Rapeseed | 1.01 | 2.75 | 0.27 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.75 | 4.18 | 0.56 |
| | Sub-total of Others | 26.01 | 108.96 | - | 5.16 | 22.74 | - | 0.05 | 0.10 | - | 0.01 | 0.00 | - | 27.05 | 77.84 | - |
| | All Crop Total | 405.67 | 4,919.34 | - | 100.05 | 906.21 | - | 143.56 | 929.74 | - | 9.84 | 120.38 | - | 412.11 | 2,995.24 | - |

| Admi. Region No. | Crop | 6. West Gollam | | | 7. Metekel | | | 8. North Gondar | | | 9. South Gondar | | | 10. Dire Dawa | | |
|------------------|----------------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|--------------------------|-------------------------|--------------|
| | | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area('000ha) | Production '000 quintal | Yield ton/ha |
| 1-1 | Teff | 188.89 | 1,268.90 | 0.67 | 16.01 | 63.55 | 0.40 | 51.60 | 468.45 | 0.91 | 77.10 | 401.23 | 0.52 | 0.00 | 0.00 | - |
| 1-2 | Barley | 62.57 | 268.82 | 0.43 | 0.33 | 0.09 | 0.00 | 21.56 | 248.28 | 1.13 | 31.61 | 222.63 | 0.70 | 0.00 | 0.00 | - |
| 1-3 | Wheat | 8.94 | 121.55 | 1.36 | 0.52 | 3.84 | 0.74 | 7.44 | 48.20 | 0.65 | 24.20 | 152.82 | 0.63 | - | - | - |
| 1-4 | Maize | 80.14 | 917.97 | 1.15 | 9.94 | 61.37 | 0.82 | 10.23 | 65.08 | 0.63 | 18.95 | 130.48 | 0.69 | 0.31 | 2.41 | 0.78 |
| 1-5 | Sorghum | 2.50 | 11.38 | 0.46 | 11.06 | 67.90 | 0.61 | 60.50 | 537.97 | 0.89 | 5.12 | 19.56 | 0.38 | 4.80 | 70.62 | 1.47 |
| 1-6 | Millet | 69.11 | 593.25 | 0.86 | 18.77 | 85.17 | 0.46 | 12.78 | 120.17 | 0.94 | 21.18 | 128.97 | 0.61 | - | - | - |
| 1-7 | Oats | 0.30 | 2.16 | 0.72 | 0.00 | 0.00 | - | 1.34 | 5.89 | 0.44 | 0.35 | 0.00 | 0.00 | - | - | - |
| | Sub-total of Cereals | 412.45 | 3,134.03 | - | 58.63 | 282.83 | - | 165.97 | 1,494.04 | - | 178.52 | 1,055.69 | - | 5.11 | 73.03 | - |
| 2-1 | Horse Beans | 15.10 | 99.79 | 0.66 | 0.70 | 4.51 | 0.65 | 14.06 | 81.50 | 0.56 | 17.31 | 120.20 | 0.69 | - | - | - |
| 2-2 | Field Peas | 6.99 | 40.47 | 0.58 | 0.00 | 0.00 | - | 6.01 | 27.51 | 0.46 | 2.16 | 10.76 | 0.50 | 0.01 | 0.06 | 0.60 |
| 2-3 | Haricot Beans | 0.86 | 9.16 | 1.07 | 0.37 | 1.99 | 0.54 | 0.02 | 0.16 | 0.80 | 0.00 | 0.00 | - | 0.01 | 0.24 | 2.40 |
| 2-4 | Chick Peas | 8.01 | 64.22 | 0.80 | 1.98 | 12.43 | 0.63 | 14.62 | 63.32 | 0.43 | 9.33 | 42.54 | 0.46 | 0.01 | 0.01 | 0.10 |
| 2-5 | Lentils | 0.05 | 0.35 | 0.70 | 0.00 | 0.00 | - | 0.35 | 3.03 | 0.87 | 0.31 | 0.68 | 0.22 | - | - | - |
| 2-6 | Vetch | 6.28 | 63.66 | 1.01 | 0.00 | 0.00 | - | 1.88 | 10.13 | 0.54 | 12.19 | 75.20 | 0.62 | - | - | - |
| | Sub-total of Pulses | 37.29 | 271.85 | - | 3.05 | 18.99 | - | 36.98 | 185.65 | - | 41.30 | 249.38 | - | 0.03 | 0.31 | - |
| 3-1 | Newg | 39.87 | 82.54 | 0.23 | 8.46 | 18.93 | 0.22 | 6.26 | 25.61 | 0.41 | 21.63 | 47.09 | 0.22 | - | - | - |
| 3-2 | Linseed | 12.79 | 19.53 | 0.15 | 0.02 | 0.01 | 0.05 | 1.30 | 4.80 | 0.37 | 5.56 | 14.47 | 0.26 | - | - | - |
| 3-3 | Fenugreek | 0.10 | 0.30 | 0.30 | 0.00 | 0.00 | - | 0.49 | 1.38 | 0.35 | 0.15 | 0.05 | 0.03 | - | - | - |
| 3-4 | Rapeseed | 0.08 | 0.20 | 0.38 | 0.11 | 1.47 | 1.34 | 0.05 | 0.29 | 0.53 | 0.00 | 0.00 | - | - | - | - |
| | Sub-total of Others | 52.84 | 112.67 | - | 8.59 | 20.41 | - | 8.01 | 32.08 | - | 27.34 | 61.61 | - | 0.00 | 0.00 | - |
| | All Crop Total | 502.58 | 3,574.35 | 0.71 | 68.27 | 322.23 | - | 210.94 | 1,711.77 | - | 247.15 | 1,365.68 | - | 5.14 | 73.34 | - |

E-2 : Forecast of Crop Production and cultivation Area in 1991/92
Private Holdings in Meher Season (2/3)

| Admi. Region No. | Crop | 11. East Hararghe | | | 12. West Hararghe | | | 13. Gambella | | | 14. Illubabor | | | 15. Keffa | | |
|------------------|----------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|
| | | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal |
| 1-1 | Teff | 0.59 | 5.61 | 0.95 | 26.33 | 0.37 | 97.27 | 0.32 | 1.97 | 0.52 | 95.71 | 0.73 | 594.90 | 11.25 | 84.07 | |
| 1-2 | Barley | 4.37 | 44.04 | 1.01 | 3.93 | 29.33 | 0.75 | 1.49 | 1.49 | 0.78 | 16.25 | 0.90 | 146.19 | 5.95 | 55.57 | |
| 1-3 | Wheat | 8.01 | 93.58 | 1.17 | 2.22 | 12.75 | 0.57 | 0.04 | 0.32 | 0.30 | 10.86 | 0.82 | 89.07 | 1.92 | 19.71 | |
| 1-4 | Maize | 18.40 | 170.22 | 0.93 | 23.91 | 314.31 | 1.31 | 1.57 | 16.04 | 1.02 | 102.04 | 1.35 | 1,372.96 | 25.20 | 642.02 | |
| 1-5 | Sorghum | 73.37 | 697.39 | 0.95 | 57.66 | 790.74 | 1.37 | 4.48 | 4.48 | 1.12 | 33.72 | 0.91 | 306.20 | 13.49 | 194.63 | |
| 1-6 | Millet | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.07 | 0.92 | 37.50 | 6.76 | 86.18 | |
| 1-7 | Oats | 0.39 | 3.23 | 0.84 | 1.23 | 7.53 | 0.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.35 | 0.90 | 0.00 | |
| | Sub-total of Cereals | 105.13 | 1,014.12 | - | 115.54 | 1,251.93 | - | 2.52 | 24.30 | - | 253.25 | - | 2,656.17 | 64.53 | 1,082.18 | |
| 2-1 | Horse Beans | 5.05 | 36.84 | 1.17 | 3.56 | 35.33 | 1.07 | 0.03 | 0.25 | 0.33 | 15.29 | 0.32 | 141.31 | 6.34 | 53.37 | |
| 2-2 | Field Peas | 1.61 | 17.81 | 1.11 | 0.38 | 3.66 | 0.96 | 0.00 | 0.00 | 0.00 | 19.76 | 1.61 | 319.02 | 4.06 | 25.04 | |
| 2-3 | Haricot Beans | 5.31 | 59.19 | 1.11 | 11.84 | 184.50 | 1.59 | 0.00 | 0.00 | 0.00 | 2.41 | 0.59 | 14.13 | 1.71 | 19.07 | |
| 2-4 | Chick Peas | 0.00 | 0.00 | - | 2.84 | 12.50 | 0.44 | 0.00 | 0.00 | 0.00 | 1.40 | 1.69 | 23.70 | 0.00 | 0.00 | |
| 2-5 | Lentils | 0.00 | 0.00 | - | 0.51 | 2.90 | 0.57 | 0.00 | 0.00 | 0.00 | 1.09 | 0.38 | 4.11 | 0.00 | 0.00 | |
| 2-6 | Vetch | 0.00 | 0.00 | - | 0.33 | 0.47 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | Sub-total of Pulses | 11.97 | 135.84 | - | 19.06 | 239.86 | - | 0.03 | 0.25 | - | 39.59 | - | 502.27 | 12.11 | 97.43 | |
| 3-1 | Neug | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.23 | 1.85 | 0.34 | 4.23 | 0.34 | 0.56 | |
| 3-2 | Linseed | 0.00 | 0.00 | - | 0.18 | 0.54 | 0.30 | 0.00 | 0.00 | 0.33 | 0.60 | 0.03 | 2.23 | 0.03 | 0.14 | |
| 3-3 | Fenugreek | 0.11 | 0.62 | 0.56 | 0.01 | 0.04 | 0.40 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3-4 | Rapeseed | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | Sub-total of Others | 0.11 | 0.62 | - | 0.19 | 0.58 | - | 0.00 | 0.00 | - | 2.49 | - | 6.53 | 0.37 | 0.70 | |
| | All Crop Total | 117.21 | 1,150.33 | - | 134.79 | 1,492.43 | - | 2.55 | 24.55 | - | 305.70 | - | 3,154.97 | 77.06 | 1,130.36 | |

| Admi. Region No. | Crop | 16. Addis Ababa | | | 17. East Shoa | | | 18. North Shoa | | | 19. South Shoa | | | 20. West Shoa | | |
|------------------|----------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|--------------------------|--------------|-------------------------|
| | | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal | Cultivation Area('000ha) | Yield ton/ha | Production '000 quintal |
| 1-1 | Teff | 35.96 | 299.36 | 0.83 | 90.38 | 684.55 | 0.76 | 87.71 | 845.48 | 0.97 | 95.78 | 0.65 | 519.67 | 169.85 | 1,170.14 | |
| 1-1 | Barley | 17.47 | 201.31 | 1.15 | 5.30 | 58.90 | 1.00 | 45.13 | 14.06 | 1.03 | 14.06 | 1.44 | 201.85 | 57.90 | 462.72 | |
| 1-3 | Wheat | 17.43 | 178.99 | 1.03 | 21.79 | 220.74 | 1.01 | 73.47 | 640.90 | 0.87 | 55.92 | 1.42 | 792.06 | 39.34 | 287.91 | |
| 1-4 | Maize | 0.46 | 4.61 | 1.00 | 18.42 | 168.20 | 0.91 | 1.97 | 9.33 | 0.50 | 125.65 | 1.75 | 2,197.28 | 42.51 | 416.40 | |
| 1-5 | Sorghum | 0.17 | 1.33 | 0.82 | 1.38 | 10.46 | 0.76 | 3.72 | 37.29 | 1.00 | 13.16 | 0.77 | 100.83 | 14.70 | 162.98 | |
| 1-6 | Millet | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.84 | 0.45 | 3.77 | 0.41 | 1.31 | |
| 1-7 | Oats | 0.03 | 0.33 | 1.10 | 0.00 | 0.04 | - | 0.90 | 6.44 | 0.72 | 2.84 | 1.47 | 41.74 | 1.17 | 10.45 | |
| | Sub-total of Cereals | 71.52 | 685.99 | - | 137.87 | 1,142.89 | - | 212.99 | 2,004.23 | - | 308.25 | - | 3,937.20 | 325.88 | 2,511.81 | |
| 2-1 | Horse Beans | 8.52 | 75.21 | 0.88 | 4.53 | 47.76 | 1.05 | 54.87 | 457.20 | 0.33 | 14.17 | 0.71 | 100.06 | 19.07 | 165.02 | |
| 2-2 | Field Peas | 1.45 | 10.63 | 0.73 | 7.97 | 70.30 | 0.88 | 8.00 | 81.94 | 1.02 | 8.43 | 0.69 | 57.77 | 3.18 | 16.58 | |
| 2-3 | Haricot Beans | 0.08 | 0.37 | 0.46 | 6.31 | 41.78 | 0.66 | 3.68 | 6.38 | 0.33 | 16.39 | 0.46 | 16.39 | 0.07 | 0.00 | |
| 2-4 | Chick Peas | 8.39 | 79.70 | 0.95 | 5.83 | 35.63 | 0.63 | 4.45 | 38.81 | 0.87 | 4.37 | 0.42 | 18.20 | 19.44 | 115.59 | |
| 2-5 | Lentils | 4.76 | 38.04 | 0.80 | 14.14 | 4.47 | 0.47 | 4.50 | 21.77 | 0.48 | 13.43 | 0.34 | 2.58 | 4.10 | 13.43 | |
| 2-6 | Vetch | 2.65 | 23.37 | 0.88 | 1.80 | 9.73 | 0.61 | 4.97 | 10.82 | 0.22 | 1.28 | 0.77 | 9.81 | 14.11 | 91.98 | |
| | Sub-total of Pulses | 25.85 | 227.32 | - | 29.02 | 219.34 | - | 77.56 | 616.92 | - | 32.60 | - | 205.01 | 59.97 | 408.60 | |
| 3-1 | Neug | 0.24 | 0.44 | 0.15 | 0.00 | 0.00 | - | 15.32 | 47.12 | 0.50 | 0.00 | 0.00 | 0.00 | 25.45 | 48.75 | |
| 3-2 | Linseed | 0.64 | 1.90 | 0.30 | 0.02 | 0.04 | 0.20 | 4.82 | 10.61 | 0.22 | 0.09 | 0.24 | 0.48 | 4.03 | 10.36 | |
| 3-3 | Fenugreek | 0.13 | 0.33 | 0.25 | 0.33 | 1.21 | 0.37 | 2.11 | 8.84 | 0.42 | 0.13 | 0.20 | 0.15 | 0.40 | 0.69 | |
| 3-4 | Rapeseed | 0.05 | 0.41 | 0.82 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | 0.51 | 2.14 | |
| | Sub-total of Others | 1.06 | 3.08 | - | 0.35 | 1.25 | - | 22.85 | 66.57 | - | 0.18 | - | 0.44 | 30.40 | 70.45 | |
| | All Crop Total | 98.43 | 916.39 | - | 167.24 | 1,363.48 | - | 313.31 | 2,887.78 | - | 341.03 | - | 4,162.63 | 416.25 | 2,985.86 | |

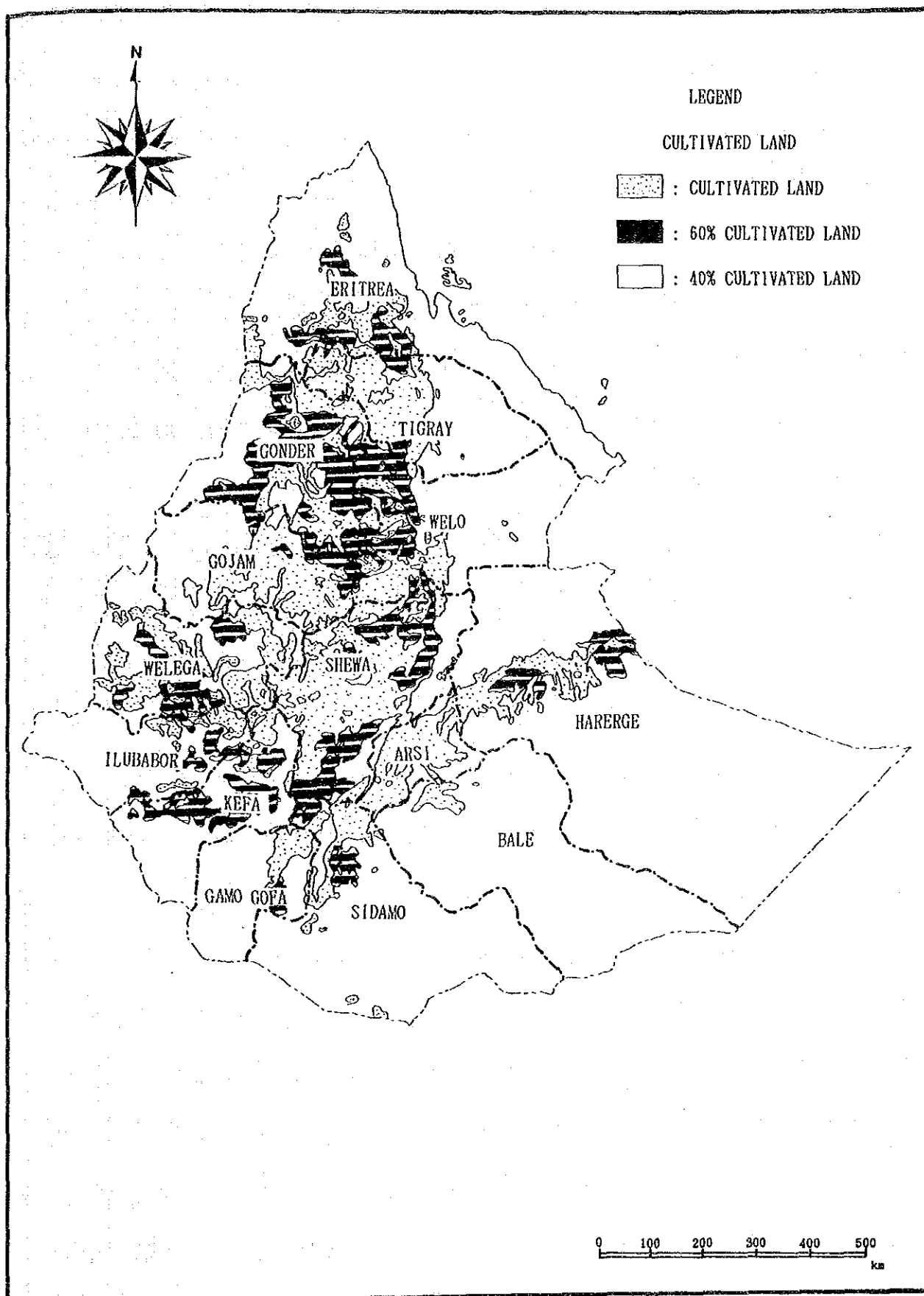
E-2 : Forecast of Crop Production and Cultivation Area in 1991/92
Private Holdings in Meher Season (3/3)

| Admi. Region | No. | Crop | 21. Berena | | | 22. Sidamo | | | 23. Assosa | | | 24. Wollega | | | 25. North Wollo | | |
|--------------|-----|----------------------|---------------------------|-------------------------|--------------|---------------------------|-------------------------|--------------|---------------------------|-------------------------|--------------|---------------------------|-------------------------|--------------|---------------------------|-------------------------|--------------|
| | | | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha |
| | 1-1 | Teff | 0.17 | 0.25 | 0.15 | 13.61 | 69.22 | 0.51 | 1.79 | 17.95 | 1.00 | 603.82 | 4,449.11 | 0.74 | 20.51 | 158.39 | 0.82 |
| | 1-2 | Barley | 2.64 | 30.39 | 1.15 | 12.99 | 189.39 | 1.82 | 0.09 | 0.37 | 16.43 | 121.32 | 0.74 | 22.15 | 187.80 | 0.85 | |
| | 1-3 | Wheat | 0.51 | 13.93 | 2.73 | 4.13 | 33.47 | 0.81 | 0.10 | 0.46 | 12.45 | 64.39 | 0.52 | 17.57 | 152.06 | 0.92 | |
| | 1-4 | Maize | 10.70 | 186.34 | 1.74 | 47.41 | 800.98 | 1.59 | 4.07 | 1.52 | 172.12 | 1,327.98 | 0.77 | 3.07 | 48.23 | 1.57 | |
| | 1-5 | Sorghum | 0.21 | 2.57 | 1.22 | 1.93 | 21.84 | 1.14 | 2.25 | 1.05 | 32.98 | 350.43 | 1.08 | 11.86 | 183.58 | 1.55 | |
| | 1-6 | Millet | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 3.50 | 14.96 | 0.43 | 17.84 | 98.95 | 0.56 | 2.33 | 2.12 | |
| | 1-7 | Oats | 0.00 | 0.00 | - | 0.04 | 0.28 | 0.70 | 0.00 | 0.00 | - | - | - | 0.42 | 5.51 | 1.31 | |
| | | Sub-total of Cereals | 14.23 | 233.48 | - | 80.01 | 1,095.43 | - | 11.90 | 122.11 | - | 654.91 | 6,412.71 | - | 75.80 | 758.00 | - |
| | 2-1 | Horse Beans | 1.58 | 16.35 | 1.04 | 2.24 | 25.83 | 1.15 | 0.02 | 0.08 | 0.40 | 156.99 | 615.85 | 0.39 | 6.93 | 57.72 | 0.83 |
| | 2-2 | Field Peas | 0.36 | 3.07 | 0.85 | 2.84 | 19.46 | 0.69 | 0.00 | 0.00 | - | 17.57 | 126.79 | 0.72 | 2.76 | 15.24 | 0.55 |
| | 2-3 | Haricot Beans | 0.72 | 4.88 | 0.58 | 2.96 | 11.00 | 0.37 | 0.04 | 0.29 | 0.73 | 5.16 | 57.33 | 1.11 | 0.08 | 1.55 | 1.94 |
| | 2-4 | Chick Peas | 0.05 | 0.09 | 0.18 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.49 | 1.88 | 0.38 | 1.86 | 9.12 | 0.49 |
| | 2-5 | Lentils | 0.00 | 0.00 | - | 0.05 | 0.08 | 0.16 | 0.00 | 0.00 | - | 0.13 | 0.08 | 0.05 | 5.68 | 32.01 | 0.56 |
| | 2-6 | Vetch | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.08 | 0.17 | 0.21 | 0.37 | 1.19 | 0.32 |
| | | Sub-total of Pulses | 2.71 | 24.40 | - | 8.13 | 56.37 | - | 0.06 | 0.37 | - | 180.52 | 802.10 | - | 17.68 | 116.84 | - |
| | 3-1 | Neug | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.73 | 1.61 | 0.22 | 139.93 | 426.20 | 0.30 | 0.03 | 0.03 | 0.10 |
| | 3-2 | Linseed | 0.00 | 0.00 | - | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.12 | 0.18 | 0.15 | 0.19 | 0.77 | 0.41 |
| | 3-3 | Fenugreek | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.13 | 0.34 | 0.26 | 0.05 | 0.03 | 0.06 |
| | 3-4 | Rapeseed | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | 7.23 | 0.00 | 0.00 | 0.00 | 0.00 | - |
| | | Sub-total of Others | 0.00 | 0.00 | - | 0.02 | 0.00 | - | 0.73 | 1.61 | - | 147.41 | 426.72 | - | 0.27 | 0.83 | - |
| | | All Crop Total | 16.94 | 257.88 | - | 88.16 | 1,151.80 | - | 12.69 | 125.09 | - | 1,182.84 | 7,841.53 | - | 93.75 | 875.67 | - |

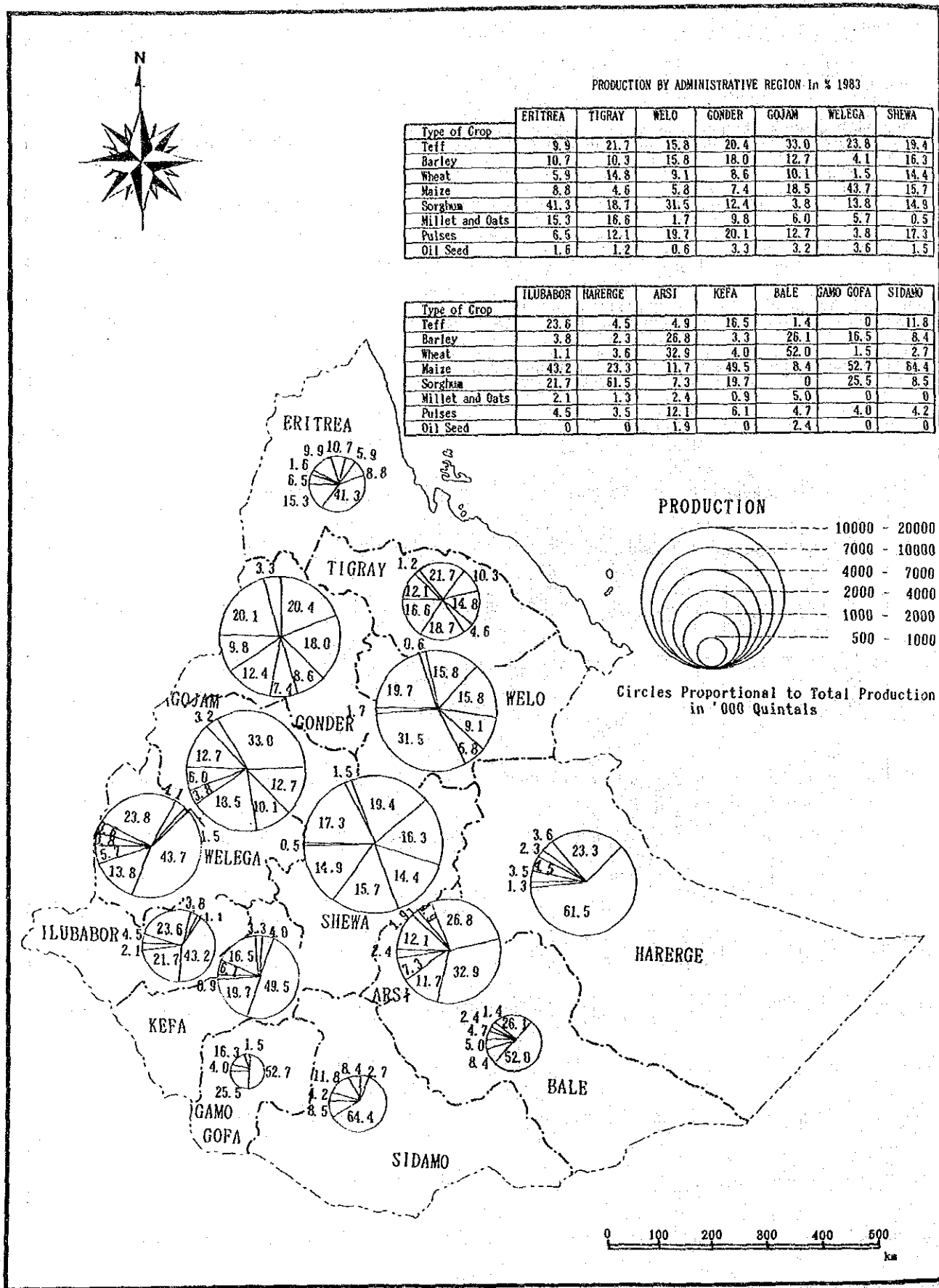
| Admi. Region | No. | Crop | 26. South Wollo | | | Ethiopia Total* | | |
|--------------|-----|----------------------|---------------------------|-------------------------|--------------|---------------------------|-------------------------|--------------|
| | | | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha | Cultivation Area ('000ha) | Production '000 quintal | Yield ton/ha |
| | 1-1 | Teff | 47.49 | 379.72 | 0.80 | 1,885.12 | 13,644.87 | 0.72 |
| | 1-1 | Barley | 33.73 | 313.83 | 0.95 | 607.45 | 6,150.02 | 1.01 |
| | 1-3 | Wheat | 55.60 | 566.38 | 1.02 | 581.31 | 5,786.41 | 1.00 |
| | 1-4 | Maize | 20.05 | 231.90 | 1.16 | 809.15 | 10,033.86 | 1.24 |
| | 1-5 | Sorghum | 44.66 | 712.41 | 1.60 | 438.38 | 4,793.59 | 1.09 |
| | 1-6 | Millet | 0.00 | 0.00 | - | 155.31 | 1,186.78 | 0.76 |
| | 1-7 | Oats | 8.00 | 108.20 | 1.35 | 32.42 | 350.73 | 1.05 |
| | | Sub-total of Cereals | 209.53 | 2,318.44 | - | 4,511.14 | 41,946.26 | - |
| | 2-1 | Horse Beans | 24.60 | 238.55 | 0.97 | 431.80 | 2,961.36 | 0.69 |
| | 2-2 | Field Peas | 13.38 | 89.06 | 0.52 | 183.51 | 1,130.97 | 0.73 |
| | 2-3 | Haricot Beans | 0.00 | 0.00 | - | 55.91 | 514.88 | 0.92 |
| | 2-4 | Chick Peas | 1.13 | 9.83 | 0.87 | 102.82 | 645.71 | 0.63 |
| | 2-5 | Lentils | 10.35 | 39.36 | 0.38 | 40.96 | 187.51 | 0.46 |
| | 2-6 | Vetch | 1.01 | 7.81 | 0.77 | 67.17 | 406.91 | 0.61 |
| | | Sub-total of Pulses | 50.47 | 384.61 | - | 862.17 | 5,927.34 | - |
| | 3-1 | Neug | 0.63 | 1.15 | 0.18 | 281.72 | 788.38 | 0.27 |
| | 3-2 | Linseed | 0.28 | 1.33 | 0.48 | 65.62 | 214.90 | 0.33 |
| | 3-3 | Fenugreek | 0.15 | 0.84 | 0.63 | 5.38 | 17.40 | 0.32 |
| | 3-4 | Rapeseed | 0.00 | 0.00 | - | 9.78 | 18.55 | 0.19 |
| | | Sub-total of Others | 1.06 | 3.42 | - | 362.50 | 1,019.23 | - |
| | | All Crop Total | 281.06 | 2,686.47 | - | 5,725.81 | 48,822.83 | - |
| | | | | | | 1,414.40 | 8,464.08 | |
| | | | | | | 32.87% | | |
| | | | | | | 46.97% | | |
| | | | | | | 0.83 | | |

[FILE : AGROPRO.WJ2]
Source : Central Statistical Authority, Statistic Bulletin 99 : Crop production forecast 1991/92
Note : * Eritrea, Tigray, Aseb and Ogaden autonomous regions are excluded

E-3 : Distribution of Cultivated Land



E-4 : Food Crop Production Map in 1983



E-5 : Coffee Production

unit in ton

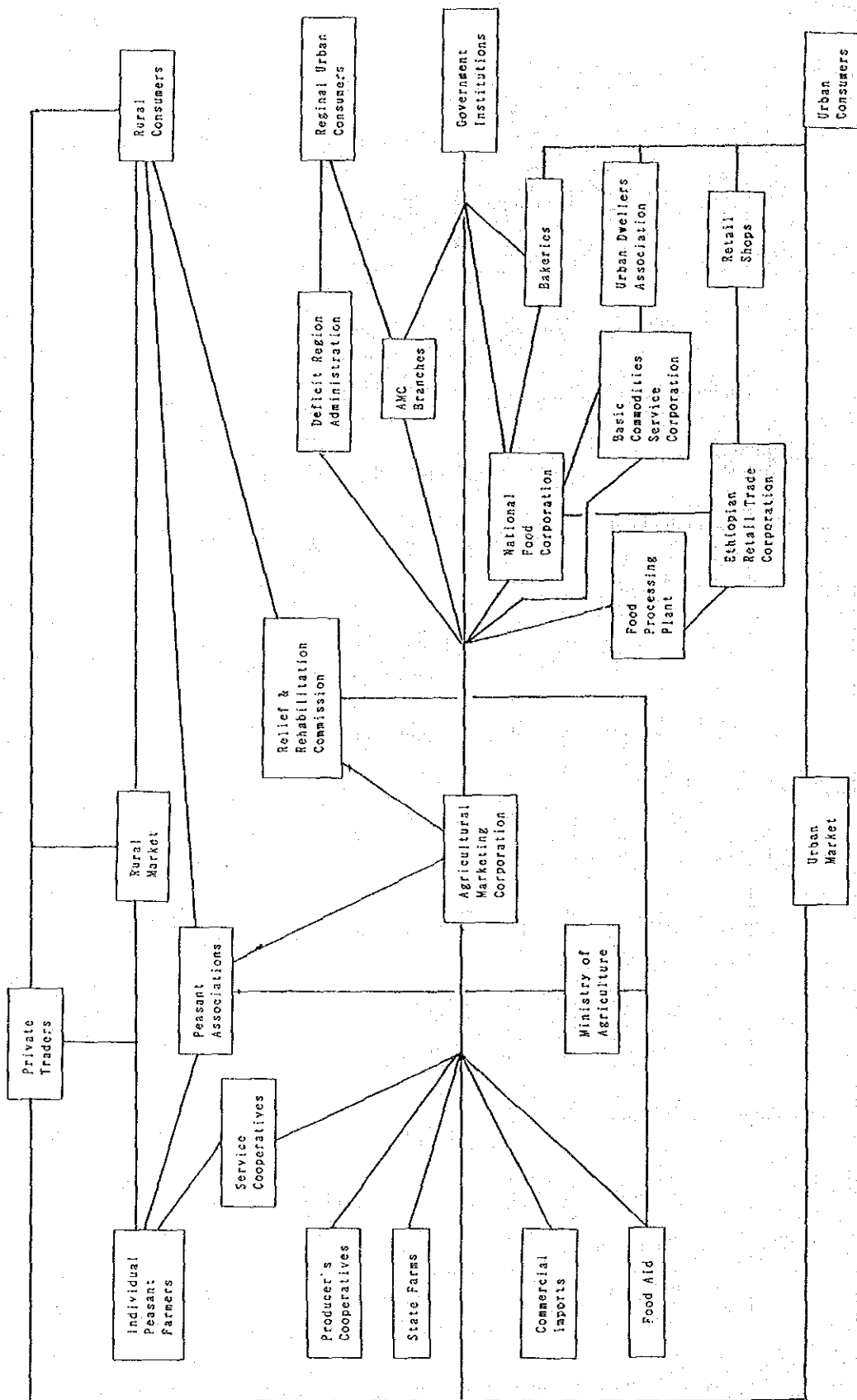
| Year | Ethiopia | | | | | | | | | | World* | Weight* |
|-------------|----------|---------|-----------|--------|-------|--------|---------|---------|----------------------|---------|-----------|---------|
| | Gamu | Hararge | Illubabor | Keffa | Shewa | Sidamo | Wellega | Total | Domestic Consumption | Total* | | |
| 1976 / 77 | 1,705 | 4,742 | 5,256 | 17,735 | 2,757 | 22,302 | 11,782 | 66,279 | n.a | n.a | n.a | n.a |
| 1977 / 78 | 2,171 | 12,569 | 8,290 | 28,248 | 3,020 | 26,816 | 9,180 | 90,297 | n.a | n.a | n.a | n.a |
| 1978 / 79 | 1,959 | 9,399 | 7,885 | 31,147 | 2,176 | 30,059 | 15,487 | 98,112 | n.a | 192,400 | 5,268,000 | 3.65% |
| 1979 / 80 | 2,895 | 9,829 | 7,187 | 27,148 | 3,665 | 31,701 | 12,511 | 94,936 | n.a | 188,000 | 4,943,000 | 3.80% |
| 1980 / 81 | 1,584 | 4,152 | 11,805 | 28,863 | 2,163 | 31,084 | 17,693 | 97,244 | n.a | 187,200 | 4,821,200 | 3.88% |
| 1981 / 82 | 2,033 | 3,047 | 7,517 | 31,238 | 2,098 | 31,742 | 16,579 | 94,254 | n.a | 202,000 | 6,039,900 | 3.34% |
| 1982 / 83 | 3,216 | 3,019 | 7,360 | 30,161 | 2,041 | 29,836 | 14,731 | 90,364 | n.a | 202,000 | 4,998,300 | 4.04% |
| 1983 / 84 | 2,191 | 7,462 | 11,086 | 31,618 | 436 | 30,498 | 11,500 | 94,791 | 95,700 | 233,000 | 5,641,600 | 4.13% |
| 1984 / 85 | 2,123 | 3,719 | 6,109 | 23,413 | 38 | 27,371 | 8,256 | 71,029 | 98,880 | 139,000 | 5,136,800 | 2.71% |
| 1985 / 86 | 4,133 | 2,547 | 8,787 | 24,261 | 283 | 31,572 | 17,706 | 89,289 | 112,800 | 170,000 | 5,789,900 | 2.94% |
| 1986 / 87 | 1,301 | 4,426 | 9,807 | 30,923 | 340 | 32,261 | 9,077 | 88,135 | 118,500 | 178,000 | 5,153,600 | 3.45% |
| 1987 / 88 | 3,637 | 6,331 | 5,698 | 17,468 | 339 | 39,295 | 10,439 | 83,257 | 108,000 | 178,800 | 6,283,000 | 2.85% |
| 1988 / 89 | 1,991 | 4,993 | 14,896 | 36,387 | 126 | 34,861 | 15,918 | 109,172 | 108,000 | n.a | n.a | n.a |
| Weight 1988 | 1.82% | 4.57% | 13.64% | 33.33% | 0.12% | 31.93% | 14.58% | 100.00% | | | | |

Sources : CSA, Statistical Abstract 1988 (inspected by Ministry of Coffee and Tea Development)

* United Nations, Statistical Yearbook 1987

E-6 : Marketing System of Agricultural Products

小規模灌漑開発計画事業穀穀物流通系統概説図



出典 : FAO/AFDB Report Aug. 1983

E-7 : Price of Agricultural Products in the Project Area, February 1988 (1/4)

表

地区別作物販売価格集計表
(FEBRUARY 1988)

Unit: Birr

| Items | Units | R E G I O N | | | | | | | | | | | | Average |
|----------------|-------|-------------|------|-------|--------|--------|---------|-------|-------|-------|--------|--------|-------|---------|
| | | Gamo | | | | | | Huu- | | | | | | |
| | | Arssi | Bale | Goffa | Gojjam | Gonder | Hararge | labor | Keffa | Shewa | Sidamo | Welega | Wello | |
| Cereals | | | | | | | | | | | | | | |
| Teff Mixed | Kg. | 0.56 | 0.45 | 0.62 | 0.50 | 0.82 | 0.85 | 0.42 | 0.53 | 0.71 | 0.46 | 0.47 | 0.92 | 0.60 |
| Wheat Mixed | Kg. | 0.36 | 0.41 | 0.52 | 0.45 | 0.64 | 0.58 | 0.39 | 0.39 | 0.57 | 0.26 | 0.44 | 0.61 | 0.48 |
| Barley White | Kg. | 0.27 | 0.39 | 0.35 | 0.36 | 0.54 | 0.40 | 0.36 | 0.47 | 0.47 | 0.41 | 0.39 | 0.58 | 0.42 |
| Barley Mixed | Kg. | 0.27 | 0.40 | 0.36 | 0.37 | 0.53 | 0.40 | 0.37 | 0.37 | 0.43 | 0.35 | 0.42 | 0.55 | 0.40 |
| Maize | Kg. | 0.33 | 0.47 | 0.30 | 0.34 | 0.48 | 0.42 | 0.31 | 0.46 | 0.36 | 0.34 | 0.43 | 0.49 | 0.38 |
| Durrah | Kg. | 0.32 | 0.28 | 0.29 | 0.40 | 0.45 | NA | 0.30 | 0.31 | 0.43 | NA | 0.29 | 0.57 | 0.39 |
| African Millet | Kg. | NA | NA | 0.37 | 0.38 | 0.54 | 0.37 | 0.40 | 0.30 | 0.37 | NA | 0.32 | NA | 0.39 |
| Sorghum Mixed | Kg. | 0.34 | NA | 0.31 | 0.38 | 0.51 | 0.58 | 0.29 | 0.40 | 0.46 | 0.32 | 0.41 | 0.55 | 0.43 |
| Oats | Kg. | 0.29 | 0.35 | NA | 0.60 | 0.60 | 0.63 | NA | 0.23 | 0.49 | NA | 0.61 | 0.51 | 0.39 |
| Pulses | | | | | | | | | | | | | | |
| Horse Beans | Kg. | 0.50 | 0.52 | 0.53 | 0.50 | 0.54 | 0.63 | 0.80 | 0.56 | 0.67 | 0.60 | 0.69 | 0.56 | 0.61 |
| Chick Peas | Kg. | 0.86 | 0.62 | 0.50 | 0.45 | 0.57 | 0.95 | 0.81 | 0.74 | 0.67 | 0.66 | 0.68 | 0.72 | 0.62 |
| Peas White | Kg. | 0.73 | 0.60 | 0.65 | 0.73 | 0.89 | 0.56 | 0.51 | 0.44 | 0.99 | 0.58 | 0.87 | 0.65 | 0.73 |
| Soya Beans | Kg. | NA | 0.49 | NA | NA | NA | NA | 0.82 | NA | NA | NA | 0.41 | 0.90 | 0.65 |
| Peas Mixed | Kg. | 0.68 | 0.63 | 0.66 | 0.65 | 0.62 | 0.67 | 0.82 | 0.51 | 0.72 | 0.69 | 0.78 | 0.73 | 0.69 |
| Lentils | Kg. | 1.40 | 1.13 | 0.98 | 0.64 | 0.82 | 1.00 | NA | 9.30 | 1.00 | 1.28 | 0.72 | 0.82 | 0.94 |
| Vetch | Kg. | 0.44 | 0.40 | NA | 0.34 | 0.40 | NA | 0.71 | NA | 0.51 | NA | 0.42 | 0.49 | 0.43 |
| Vegetables | | | | | | | | | | | | | | |
| Ethiopian Kale | Kg. | 1.90 | 0.08 | 0.14 | 0.31 | NA | NA | 0.33 | 0.32 | 0.34 | 0.23 | 0.50 | 0.28 | 0.29 |
| Cabbage | Kg. | 0.29 | NA | NA | NA | NA | NA | NA | NA | 0.19 | NA | NA | 0.34 | 0.28 |
| Lettuce | Kg. | NA | NA | NA | NA | 0.40 | NA | NA | NA | NA | NA | NA | 0.16 | 0.22 |
| Carrot | Kg. | NA | 0.35 | NA | NA | 0.68 | NA | NA | NA | 0.40 | NA | NA | 0.64 | 0.54 |
| Potatoes | Kg. | NA | NA | 0.23 | 0.37 | 0.33 | 0.48 | 0.62 | 0.35 | 0.28 | 0.20 | 0.25 | 0.83 | 0.39 |
| Sweet Potatoes | Kg. | 0.46 | NA | 0.18 | 0.33 | NA | 0.52 | 0.29 | 0.39 | 0.23 | 0.15 | 0.27 | NA | 0.28 |
| Tomates | Kg. | 0.60 | 0.25 | 0.37 | 0.16 | 0.46 | 0.57 | 0.52 | 0.52 | 0.67 | NA | 0.53 | 0.98 | 0.55 |
| Onions | Kg. | 1.00 | 0.96 | 0.92 | 0.57 | 1.20 | 0.72 | 2.21 | 1.19 | 1.01 | 1.11 | 1.34 | 0.86 | 1.13 |
| Garlics | Kg. | 1.75 | 1.40 | 1.25 | 1.10 | 1.33 | 2.06 | 2.28 | 1.12 | 1.70 | 1.75 | 1.56 | 1.33 | 1.57 |
| Pepper Green | Kg. | 0.67 | 1.12 | 0.74 | 0.50 | 1.31 | 0.85 | 0.95 | 0.40 | 1.01 | 0.43 | 0.93 | 1.13 | 8.40 |
| Beet Root | Kg. | NA | 0.22 | NA | 0.21 | NA | 0.50 | NA | NA | 0.71 | NA | NA | 0.75 | 0.61 |
| Cauliflower | Kg. | NA | 0.13 | NA | 0.07 | NA | NA | NA | 0.32 | 0.12 | NA | 0.15 | NA | 0.16 |
| Pumpkin | Kg. | 0.16 | 0.23 | 0.10 | 0.12 | 0.05 | 0.24 | 0.19 | 0.29 | 0.23 | NA | 0.23 | NA | 0.22 |
| Sugar Cane | Kg. | 0.40 | 0.37 | 0.20 | 0.34 | NA | 0.39 | 0.36 | 0.47 | 0.53 | 0.28 | 0.20 | 0.83 | 0.38 |

(Cont.)

E-7 : Price of Agricultural Products in the Project Area, February 1988 (2/4)

表

地域別作物販売価格集計表
(FEBRUARY 1988)

Unit: Birr

| Items | Units | R E G I O N | | | | | | | | | | | | |
|-----------------------|-------|-------------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|---------|
| | | Gamo | | | Illu- | | | | Keffa | Shewa | Sidamo | Welega | Wello | Avegage |
| | | Arssi | Bale | Goffa | Gojjam | Gonder | Hararge | babor | | | | | | |
| Fruits | | | | | | | | | | | | | | |
| Bananas | Kg. | 0.39 | 0.50 | 0.32 | 0.60 | 0.75 | 0.49 | 0.53 | 0.28 | 0.61 | 0.27 | 0.53 | 0.61 | 0.47 |
| Orange/Sweet/ | Kg. | 0.13 | NA | NA | 0.50 | NA | NA | 0.52 | 0.19 | 0.52 | 0.29 | 0.39 | NA | 0.37 |
| Lemons | Kg. | NA | 0.36 | 0.27 | 0.67 | 0.44 | NA | 0.35 | 0.30 | 0.66 | NA | 0.54 | 0.68 | 0.53 |
| Papayas | Kg. | NA | 0.45 | 0.13 | 0.35 | NA | NA | 0.41 | 0.52 | 0.38 | 0.53 | 0.29 | 0.67 | 0.38 |
| Grapes | Kg. | NA | NA | NA | NA | NA | NA | NA | NA | 0.48 | NA | NA | NA | 0.48 |
| Mangoes | Kg. | NA | NA | NA | NA | NA | NA | 0.55 | NA | NA | NA | 0.43 | NA | 0.48 |
| Guava | Kg. | NA | NA | NA | NA | NA | 0.24 | 0.38 | NA | NA | 0.19 | NA | NA | 0.27 |
| Citron | Kg. | NA | NA | NA | NA | NA | NA | 0.64 | 0.16 | 0.48 | NA | 0.31 | 0.76 | 0.47 |
| Spices | | | | | | | | | | | | | | |
| Pepper Whole | Kg. | 1.76 | 1.00 | 1.84 | 1.46 | 1.01 | 2.53 | 1.29 | 1.00 | 2.17 | 1.17 | 2.18 | 3.55 | 1.78 |
| Ginger/dry | Kg. | NA | NA | 0.75 | 1.20 | NA | 1.27 | 1.33 | NA | 1.23 | 0.99 | 0.48 | NA | 1.06 |
| Ginger/Not dry | Kg. | NA | 1.77 | 1.45 | 2.74 | NA | NA | 1.52 | 3.07 | 0.85 | 1.02 | 1.59 | NA | 1.64 |
| Cumin/White | Kg. | NA | 3.15 | NA | 1.88 | 0.74 | NA | 2.93 | NA | 1.77 | NA | 1.24 | 0.96 | 1.89 |
| Cumin/Black | Kg. | 1.44 | 3.24 | NA | 3.28 | 1.11 | 3.08 | 2.89 | 2.21 | 3.37 | NA | 3.82 | 2.73 | 3.02 |
| Tumeric | Kg. | NA | NA | NA | NA | NA | NA | 2.64 | 3.11 | 3.26 | NA | 2.87 | 3.33 | 2.83 |
| Chillies | Kg. | NA | NA | 1.55 | NA | NA | NA | 3.11 | 2.32 | 2.54 | 2.68 | 3.06 | 2.77 | 2.55 |
| Coriander | Kg. | NA | 1.93 | 2.22 | NA | NA | NA | 3.26 | NA | 1.88 | 1.79 | 1.78 | 2.22 | 2.00 |
| Mustard | Kg. | NA | NA | NA | NA | NA | NA | 1.18 | NA | 0.89 | NA | NA | 3.01 | 1.37 |
| Sacred Basil | Kg. | 2.25 | 1.89 | NA | 1.49 | 0.85 | NA | 2.08 | 1.59 | 3.75 | 1.21 | 2.04 | 3.05 | 2.17 |
| Savory | Kg. | NA | 1.30 | 1.15 | 1.07 | NA | NA | NA | NA | NA | NA | NA | NA | 1.14 |
| Rue | Kg. | 1.07 | 1.29 | 0.87 | 1.12 | 2.33 | NA | 0.95 | 0.26 | 1.95 | NA | 3.01 | NA | 1.71 |
| Livestock | | | | | | | | | | | | | | |
| Sheep | No | 80.00 | 80.17 | 51.22 | 70.91 | 77.44 | 69.45 | 60.95 | 52.39 | 73.10 | 58.06 | 79.46 | 80.78 | 70.64 |
| Lamb | No | 33.84 | 26.92 | 20.50 | 30.22 | 29.47 | 38.77 | 27.59 | 25.25 | 34.82 | 26.70 | 31.95 | 28.86 | 30.44 |
| Goat/Castrated | No | 98.74 | 82.78 | 52.04 | 64.60 | 78.20 | 82.66 | 48.65 | 43.37 | 76.18 | 52.22 | 60.18 | 88.21 | 69.57 |
| Calf | No | 84.56 | 93.50 | 62.21 | 96.04 | 96.42 | 93.77 | 51.34 | 60.40 | 69.71 | 68.00 | 58.29 | 100.97 | 75.92 |
| Heifer | No | 139.38 | 149.42 | 129.59 | 186.86 | 191.35 | 142.50 | 141.55 | 155.19 | 138.72 | 159.47 | 118.81 | 189.08 | 148.41 |
| Cow | No | 212.33 | 196.01 | 185.05 | 249.07 | 230.77 | 251.25 | 184.98 | 238.17 | 237.60 | 212.26 | 189.57 | 218.63 | 216.22 |
| Bull | No | 197.36 | 165.20 | 130.77 | 206.64 | 214.30 | 174.65 | 134.57 | 139.08 | 175.17 | 183.33 | 125.81 | 179.44 | 168.24 |
| Ox | No | 359.15 | 320.64 | 240.11 | 279.46 | 346.85 | 313.58 | 254.68 | 265.80 | 350.40 | 308.13 | 258.83 | 295.79 | 309.29 |
| Hen/Local | No | 3.04 | 2.13 | 2.00 | 3.30 | 2.74 | 3.38 | 3.95 | 3.00 | 3.25 | 2.70 | 4.05 | 2.63 | 3.19 |
| Donkey | No | 104.23 | 89.83 | 122.50 | 74.06 | 108.41 | 100.42 | 121.60 | NA | 74.85 | 95.56 | 107.00 | 86.09 | 90.04 |
| Horse | No | 185.28 | 144.11 | NA | 146.25 | 234.00 | NA | 231.43 | 180.00 | 156.28 | 214.55 | 163.47 | 146.64 | 168.42 |
| Mule | No | 444.29 | 326.88 | 448.33 | 348.56 | NA | NA | 422.00 | 376.67 | 361.60 | 396.67 | NA | 500.00 | 382.63 |
| Camel | No | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 976.67 | 976.67 |
| Dairy Products | | | | | | | | | | | | | | |
| Milk/Unpasteurized | Lit | 1.05 | 0.72 | 0.69 | 1.01 | 1.00 | 0.94 | 0.60 | 0.66 | 0.62 | 0.57 | NA | NA | 0.75 |
| Butter/Unpasteurized | Kg. | 11.45 | 8.89 | 7.15 | 7.87 | 9.14 | 8.16 | 6.64 | 6.78 | 8.54 | 7.94 | 7.32 | 7.75 | 8.37 |
| Cheese/Cottage/ | Kg. | 1.00 | 1.21 | 0.61 | NA | 0.50 | NA | 0.93 | 1.08 | 1.65 | 1.59 | 0.83 | NA | 1.33 |
| Eggs/Local/ | Doz. | 1.33 | 1.14 | 0.89 | 1.15 | 1.15 | 1.78 | 1.47 | 1.21 | 1.37 | 1.29 | 1.46 | 1.03 | 1.29 |
| Others | | | | | | | | | | | | | | |
| Kotcho | Kg. | NA | 0.32 | 0.62 | 1.87 | NA | NA | 0.55 | 0.51 | 1.70 | 0.53 | 0.71 | NA | 1.02 |
| Coffee/Beans | Kg. | NA | 3.70 | 2.07 | 8.57 | 5.82 | 8.79 | 3.02 | 2.58 | 4.74 | 2.76 | 3.83 | 5.42 | 4.16 |
| Coffee/Whole | Kg. | 3.57 | 3.11 | 2.99 | 5.19 | 5.91 | NA | 2.00 | 3.53 | 3.48 | 1.30 | 1.47 | 5.89 | 2.56 |

E-7 : Price of Agricultural Products in the Project Area, February 1988 (3/4)
 表 地域別作物販売価格集計表
 (AUGUST 1988)

Unit: Birr

| Items | Units | R E G I O N | | | | | | | | | | | | | |
|-------------------|-------|-------------|------|-------|--------|--------|---------|-------|------|-------|-------|--------|--------|-------|---------|
| | | Arssi | Bale | Gamo | | | Illu- | | | Keffa | Shewa | Sidamo | Welega | Wello | Avegage |
| | | | | Goffa | Gojjam | Gonder | Hararge | babor | | | | | | | |
| Cereals | | | | | | | | | | | | | | | |
| Teff Mixed | Kg. | 0.93 | 0.65 | 0.92 | 0.97 | NA | 1.03 | 0.78 | 0.75 | 0.90 | 0.80 | 0.61 | 1.05 | 0.70 | |
| Wheat Mixed | Kg. | 0.59 | 0.47 | 0.78 | 0.59 | NA | 0.80 | 0.68 | 0.61 | 0.93 | 0.74 | 0.60 | 0.85 | 0.73 | |
| Barley White | Kg. | 0.48 | 0.41 | 0.60 | 0.51 | NA | 0.57 | 0.48 | 0.69 | 0.83 | 0.91 | 0.73 | 0.81 | 0.67 | |
| Barley Mixed | Kg. | 0.42 | 0.38 | 0.56 | 0.49 | NA | 0.65 | 0.69 | 1.07 | 0.93 | 1.31 | 0.75 | 0.64 | 0.68 | |
| Maize | Kg. | 0.55 | 0.43 | 0.64 | 0.42 | NA | 0.62 | 0.46 | 0.45 | 0.70 | 0.87 | 0.40 | 0.59 | 0.52 | |
| Durrah | Kg. | 0.52 | 0.42 | 0.67 | 0.47 | NA | NA | 0.40 | 1.46 | 0.64 | NA | 0.38 | 1.87 | 0.65 | |
| African Millet | Kg. | NA | NA | 0.94 | 0.48 | NA | NA | 0.56 | 0.91 | 0.48 | 0.71 | 0.42 | NA | 0.54 | |
| Sorghum Red | Kg. | 0.64 | NA | 0.45 | 0.57 | NA | 0.68 | 0.36 | 0.69 | 0.66 | 0.45 | 0.54 | 0.72 | 0.54 | |
| Sorghum Mixed | Kg. | 0.70 | NA | 0.45 | 0.56 | NA | 0.72 | 0.36 | 0.72 | 0.70 | NA | 0.37 | 0.81 | 0.60 | |
| Oats | Kg. | 0.30 | 0.89 | NA | 0.36 | NA | 0.94 | NA | NA | NA | NA | NA | 0.52 | 0.70 | |
| Pulses | | | | | | | | | | | | | | | |
| Horse Beans | Kg. | 0.69 | 0.67 | 1.12 | 0.74 | NA | 0.82 | 1.69 | 0.86 | 1.02 | 2.01 | 1.55 | 0.73 | 1.06 | |
| Chick Peas | Kg. | 1.29 | 0.76 | 1.12 | 2.13 | NA | 0.93 | 0.95 | 1.92 | 3.06 | 1.21 | 0.96 | 2.61 | 2.24 | |
| Peas White | Kg. | 1.19 | 0.57 | 0.99 | NA | NA | 1.00 | 1.34 | 1.00 | 0.96 | 0.95 | 0.84 | NA | 1.01 | |
| Soya Beans | Kg. | NA | 0.58 | 0.91 | NA | NA | NA | 1.24 | NA | 0.65 | NA | 0.38 | NA | 0.86 | |
| Peas Mixed | Kg. | 1.37 | 0.76 | 1.07 | 0.82 | NA | 0.88 | 1.25 | 2.76 | 0.97 | 1.71 | 0.99 | 0.97 | 1.06 | |
| Lentils | Kg. | 1.98 | 1.30 | 1.16 | 2.22 | NA | 1.92 | NA | NA | 1.77 | NA | NA | 1.78 | 1.73 | |
| Vetch | Kg. | NA | 0.48 | NA | 0.80 | NA | NA | NA | NA | 0.74 | NA | NA | 2.04 | 0.85 | |
| Vegetables | | | | | | | | | | | | | | | |
| Ethiopian Kale | Kg. | 0.26 | 0.16 | 0.28 | 0.35 | NA | 0.72 | 0.28 | 0.87 | 0.30 | 0.58 | 0.14 | 0.49 | 0.37 | |
| Cabbage | Kg. | NA | 0.44 | NA | NA | NA | NA | 0.42 | 0.06 | 0.22 | NA | NA | 0.37 | 0.30 | |
| Lettuce | Kg. | NA | NA | 0.10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.10 | |
| Carrot | Kg. | 0.59 | 0.54 | NA | NA | NA | NA | 1.10 | NA | 0.25 | NA | NA | 0.51 | 0.51 | |
| Potatoes | Kg. | 0.45 | 0.41 | 0.40 | 0.79 | NA | 0.80 | 1.09 | NA | 0.66 | 0.40 | 0.61 | 0.35 | 0.66 | |
| Sweet Potatoes | Kg. | 0.27 | 0.58 | 0.33 | NA | NA | 0.56 | 0.51 | 1.67 | 0.18 | 0.17 | NA | 0.28 | 0.35 | |
| Tomates | Kg. | 0.54 | NA | 0.75 | NA | NA | NA | 0.60 | 0.48 | 0.80 | NA | 0.30 | 0.30 | 0.59 | |
| Onions | Kg. | 1.06 | 0.88 | 1.02 | 1.50 | NA | 2.03 | 2.57 | 3.57 | 1.26 | 1.12 | 1.30 | 2.43 | 1.66 | |
| Garlics | Kg. | 1.78 | 2.78 | 1.18 | 1.81 | NA | 2.76 | 3.44 | 2.01 | 2.93 | 1.27 | 3.83 | 3.54 | 2.63 | |
| Pepper Green | Kg. | 0.53 | 0.55 | 0.50 | 1.22 | NA | 1.82 | 1.02 | 0.63 | 1.31 | 0.67 | 1.02 | 2.20 | 0.97 | |

(Cont.)

E-7 : Price of Agricultural Products in the Project Area, February 1988 (4/4)

表

地域別作物販売価格集計表
(AUGUST 1988)

Unit: Birr

| Items | Units | R E G I O N | | | | | | | | | | | | |
|-----------------------|-------|-------------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|---------|
| | | Gamo | | | | | Illu- | | | | | | | |
| | | Arssi | Bale | Goffa | Gojjam | Gonder | Hararge | habor | Keffa | Shewa | Sidamo | Welega | Wello | Avegage |
| Vegetables | | | | | | | | | | | | | | |
| Beet Root | Kg. | 0.14 | 0.3 | NA | NA | NA | 0.25 | 0.33 | NA | 0.18 | 0.14 | 0.38 | NA | 0.24 |
| Cauliflower | Kg. | NA | NA | 0.15 | NA | NA | NA | NA | 0.25 | 0.17 | NA | 0.11 | NA | 0.19 |
| Pumpkin | Kg. | 0.52 | 0.19 | 0.07 | NA | NA | 0.15 | 0.6 | 0.25 | 0.20 | 0.11 | 0.28 | NA | 0.31 |
| Sugar Cane | Kg. | 0.20 | 0.23 | 0.29 | 0.20 | NA | NA | 0.38 | 0.34 | 0.44 | 0.17 | 0.43 | 0.49 | 0.35 |
| Fruits | | | | | | | | | | | | | | |
| Bananas | Kg. | 0.37 | 0.61 | 0.30 | 0.51 | NA | 0.59 | 0.50 | 0.49 | 0.61 | 0.55 | 0.42 | NA | 0.49 |
| Orange/Sweet/ | Kg. | 0.20 | 0.29 | NA | 0.73 | NA | NA | 0.66 | 0.15 | 0.24 | 0.25 | 0.45 | 1.00 | 0.41 |
| Lemons | Kg. | 0.20 | 0.32 | 0.36 | 0.46 | NA | 0.71 | 0.60 | 0.31 | 0.35 | 0.47 | 0.40 | 0.60 | 0.42 |
| Mandarines | Kg. | NA | NA | 0.43 | NA | NA | NA | 0.72 | 0.42 | 0.47 | 0.38 | NA | NA | 0.55 |
| Papayas | Kg. | NA | 0.42 | 0.17 | 0.55 | NA | NA | 0.35 | 0.51 | 0.32 | 0.41 | NA | NA | 0.35 |
| Mangoes | Kg. | NA | NA | NA | NA | NA | NA | 0.72 | NA | NA | NA | 0.46 | NA | 0.59 |
| Guava | Kg. | 0.14 | 0.21 | NA | NA | NA | 0.34 | 0.12 | NA | 0.18 | 0.18 | NA | NA | 0.21 |
| Citron | Kg. | NA | NA | NA | NA | NA | NA | 0.29 | 0.15 | 0.33 | NA | NA | NA | 0.28 |
| Pine Apples | Kg. | NA | NA | NA | NA | NA | NA | 0.39 | NA | NA | 0.46 | NA | NA | 0.41 |
| Spices | | | | | | | | | | | | | | |
| Pepper | Kg. | NA | 1.06 | 1.13 | 1.55 | NA | 1.93 | 2.42 | 3.62 | 1.99 | 3.44 | 3.50 | 3.38 | 2.16 |
| Ginger/dry | Kg. | NA | NA | NA | NA | NA | 3.22 | 1.20 | NA | 1.42 | 1.43 | 1.51 | NA | 1.69 |
| Ginger/Not dry | Kg. | NA | NA | 0.47 | 4.42 | NA | NA | 1.21 | 0.87 | 1.00 | 0.72 | 1.25 | NA | 1.16 |
| Cumin/White | Kg. | NA | 2.52 | NA | 2.89 | NA | NA | 2.05 | 2.12 | 3.17 | NA | NA | NA | 2.45 |
| Cumin/Black | Kg. | NA | 2.20 | NA | 2.00 | NA | 2.06 | 1.96 | NA | 2.31 | NA | NA | NA | 2.08 |
| Tumeric | Kg. | NA | NA | NA | NA | NA | NA | 2.34 | 1.44 | 3.33 | NA | 1.93 | NA | 2.19 |
| Fenugrech | Kg. | 1.73 | 1.07 | 1.13 | 1.34 | na | 1.99 | 1.56 | 2.53 | 1.97 | NA | 2.46 | 3.15 | 1.91 |
| Chillies | Kg. | NA | NA | 1.65 | NA | NA | NA | 2.41 | 4.57 | 3.33 | NA | 2.46 | NA | 2.32 |
| Coriander | Kg. | 2.92 | 3.60 | 2.91 | 1.25 | NA | NA | NA | NA | 2.00 | NA | 2.16 | NA | 2.58 |
| Mustard | Kg. | NA | NA | NA | NA | NA | NA | 1.93 | NA | 1.39 | 1.57 | NA | NA | 1.66 |
| Sacred Basil | Kg. | 1.05 | 2.48 | 1.89 | 1.96 | NA | NA | 1.15 | NA | 2.99 | NA | 3.23 | 2.10 | 2.22 |
| Savory | Kg. | NA | 1.42 | 0.60 | 0.97 | NA | NA | NA | NA | 1.26 | 1.12 | NA | NA | 1.09 |
| Rue | Kg. | 0.46 | 1.99 | 0.66 | 0.60 | NA | NA | 0.98 | NA | 2.01 | 2.18 | 3.14 | NA | 1.48 |
| Livestock | | | | | | | | | | | | | | |
| Sheep | No | 93.31 | 64.21 | 48.84 | 70.56 | NA | 117.93 | 59.12 | 51.93 | 85.47 | 45.03 | 85.53 | 78.01 | 72.84 |
| Laab | No | 37.50 | 31.77 | 18.62 | 35.21 | NA | 40.45 | 34.55 | 40.52 | 37.33 | 26.17 | 35.55 | 34.83 | 35.38 |
| Goat/Castrated | No | 97.20 | 52.44 | 57.48 | 72.75 | NA | 106.20 | 99.97 | NA | 85.34 | 54.97 | 72.00 | 106.40 | 82.26 |
| Calf | No | 87.61 | 95.67 | 56.83 | 69.75 | NA | 71.50 | 47.57 | 57.56 | 80.63 | 54.84 | 85.63 | 67.17 | 73.15 |
| Heifer | No | 162.29 | 168.20 | 124.88 | 191.98 | NA | 158.41 | 94.13 | 182.37 | 151.63 | 137.15 | 107.26 | 176.35 | 144.57 |
| Cow | No | 245.50 | 252.35 | 179.77 | 300.07 | NA | 232.90 | 193.19 | 219.20 | 248.24 | 231.01 | 205.26 | 301.06 | 235.68 |
| Bull | No | 206.76 | 179.77 | 111.13 | 218.71 | NA | 257.86 | 127.47 | 139.43 | 175.50 | 172.67 | 123.15 | 234.93 | 167.64 |
| Ox | No | 405.10 | 334.81 | 220.12 | 284.98 | NA | 595.39 | 225.95 | 230.92 | 356.67 | 269.59 | 264.49 | 409.35 | 316.71 |
| Hen | No | 2.76 | 2.22 | 2.19 | 2.97 | NA | 3.80 | 3.55 | 3.04 | 3.31 | 2.47 | 3.41 | 3.34 | 3.09 |
| Donkey | No | 80.45 | 106.42 | 90.17 | 74.24 | NA | 106.25 | NA | NA | 76.82 | 78.96 | 110.00 | 84.64 | 83.88 |
| Horse | No | 166.67 | 164.44 | 181.55 | 148.27 | NA | NA | 143.33 | NA | 139.71 | 195.90 | NA | 141.38 | 159.13 |
| Mule | No | 350.00 | 288.94 | 244.89 | 268.00 | NA | NA | NA | NA | NA | 326.00 | NA | 455.00 | 322.81 |
| Dairy Products | | | | | | | | | | | | | | |
| Milk/Unpasteurized | Lit | 0.91 | 0.80 | 1.03 | NA | NA | 2.08 | 1.09 | NA | 0.79 | 0.58 | NA | NA | 1.16 |
| Butter | Kg. | 10.66 | 10.05 | 8.47 | 7.96 | NA | 9.96 | 8.40 | 10.87 | 10.28 | 9.94 | 8.44 | 9.81 | 9.47 |
| Cheese/Cottage/ | Kg. | 0.85 | NA | 0.82 | NA | NA | NA | 1.07 | 2.33 | 1.76 | 2.82 | 2.13 | NA | 1.80 |
| Eggs | Doz. | 1.89 | 1.36 | 1.51 | 1.90 | NA | 1.72 | 2.83 | 1.44 | 2.13 | 1.20 | 1.66 | 1.83 | 1.78 |
| Others | | | | | | | | | | | | | | |
| Kotcho | Kg. | NA | 0.64 | 0.18 | NA | NA | NA | 0.98 | 0.51 | 0.31 | 0.58 | NA | 0.91 | 0.46 |
| Coffee/Beans | Kg. | NA | NA | 2.26 | 7.99 | NA | 7.66 | 4.37 | 4.08 | 7.58 | 5.11 | 6.07 | NA | 4.92 |
| Coffee/Whole | Kg. | 3.53 | 3.51 | 2.75 | 2.61 | NA | NA | 2.25 | 2.54 | 2.29 | 1.05 | 2.05 | 2.07 | 2.28 |

F : Small Scale Irrigation Development Project

- F-1 : Proposed Cropping Pattern for SSID Project
- F-2 : Crop Water Requirement in Project Area
- F-3 : Summary of SSID Schemes in Northern Zone
- F-4 : Summary of SSID Schemes in Northeastern Zone
- F-5 : Inventory of SSID Schemes in Northeastern Zone
- F-6 : Summary of SSID Project in Northwestern Zone
- F-7 : Inventory of SSID Schemes in Northwestern Zone
- F-8 : Summary of SSID Schemes in Western Zone
- F-9 : Inventory of SSID Schemes in Western Zone
- F-10 : Summary of SSID Schemes in Southwestern Zone
- F-11 : Inventory of SSID Schemes in Southwestern Zone
- F-12 : Summary of SSID Schemes in Eastern Zone
- F-13 : Inventory of SSID Schemes in Eastern Zone
- F-14 : Summary of SSID Schemes in Southern Zone
- F-15 : Inventory of SSID Schemes in Southern Zone
- F-16 : Summary of SSID Schemes in Southeastern Zone
- F-17 : Inventory of SSID Schemes in Southeastern Zone
- F-18 : Summary of SSID Schemes in Central Zone
- F-19 : Inventory of SSID Schemes in Central Zone
- F-20 : Summary of SSID Schemes in Central-south Zone
- F-21 : Inventory of SSID Schemes in Central-south Zone
- F-22 : Design Standard for Tertiary Block Planning
- F-23 : Typical Layout of SSID Schemes
- F-24 : Typical Design of Diversion Structure
- F-25 : Hydraulic Calculation of Diversion Weir
- F-26 : Stability Calculation of Diversion Weir
- F-27 : Typical Design of Diversion Box
- F-28 : Typical Design of Offtake with Fixed Regulator
- F-29 : Typical Design of Offtake with Gate
- F-30 : Typical Design of Drops
- F-31 : Typical Design of Inverted Syphons
- F-32 : Typical Design of Road Crossing Culverts

F-1 : Proposed Cropping Pattern for SSID Project (1/3; Elevation 2000 - 2200 m)

小規模灌漑開発計画クロッピング・パターン例
(標高 2,000~2,200m相当)

EXHIBIT A

SMALL SCALE IRRIGATION PROJECT

Farm Model I - 100 ha Producers Cooperative - Crop Rotation for the Irrigated Area (40 ha)

| Months: | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Rotation and Cropping Pattern |
|------------------------|------|------|------|------|-----|------|------|------|-------|------|------|------|--|
| Rainfall (mm) | 3 | 24 | 15 | 33 | 85 | 227 | 345 | 347 | 237 | 91 | 61 | 12 | |
| Av. Min. Temp. | 4.2 | 5.2 | 6.1 | 6.0 | 9.0 | 9.5 | 9.9 | 10.2 | 10.1 | 8.8 | 7.7 | 5.2 | |
| Year 1 10 ha | | | | | | | | | | | | | Rotation No. 1 (60% Area) - Barley - Maize + Onions - Field Peas - Maize + Onions |
| Year 2 10 ha | | | | | | | | | | | | | Rotation No. 2 (40% Area) - Maize + Chili Pepper + Veget. + Potatoes - Chili Pepper + Maize + Potatoes + Vegetables |
| Year 3 10 ha | | | | | | | | | | | | | Cropping Pattern Areas (ha) - Barley 12 - Maize 32 - Field Peas 12 - Chili Pepper 2 - Onions 2 - Potatoes 3 - Vegetables 1 TOTAL: 64 |
| Year 4 10 ha | | | | | | | | | | | | | Shaded Areas = Dry Season Cropping |

Note: Cropping intensity on the irrigated area = 160%.

SOURCE : FAO/afDB Report Aug. 1983

F-1 : Proposed Cropping Pattern for SSID Project (2/3; Elevation 1500 - 2000 m)

小規模灌漑開発計画クロッピング・パターン例
(標高 1,500~2,000m相当)

ETHIOPIA

SMALL SCALE IRRIGATION PROJECT

Para Model II - 100 ha Producers Cooperative - Crop Rotation for the Irrigated Area (10 ha)

| Months: | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Rotation and Cropping Pattern | | | | | | |
|---------------------------------|------------------------|------------------------|------------------------|------------|------------|-------------|-------------|-------------|-------------|------------|-----------|----------|--|---|---|---|--|--|--|
| Rainfall (mm) Av. Min. Temp. | 23 16.8 | 45 12.1 | 72 12.3 | 75 12.9 | 84 12.0 | 101 12.3 | 224 12.8 | 170 12.6 | 121 12.5 | 45 10.5 | 15 9.2 | 4 7.0 | | | | | | | |
| <u>Year 1</u> 10 ha | | | | | | | | | | | | | <u>Rotation No. 1</u> (60% Area) - Wheat - Maize + Onions - Field Peas - Maize + Onions | | | | | | |
| | <u>Year 2</u> 10 ha | | | | | | | | | | | | | <u>Rotation No. 2</u> (40% Area) - Maize + Chilli Pepper + Vegetables + Potatoes - Chilli Pepper + Maize + Potatoes + Vegetables | | | | | |
| | | <u>Year 3</u> 10 ha | | | | | | | | | | | | | <u>Cropping Pattern</u> Areas (ha) - Wheat 12 - Maize 32 - Field Peas 12 - Chilli Pepper 2 - Onions 2 - Potatoes 3 - Vegetables 1 TOTAL: 64 | | | | |
| | | | <u>Year 4</u> 10 ha | | | | | | | | | | | | | Shaded Areas - Dry Season Cropping | | | |

Note: Cropping intensity on the irrigated Area = 160%.

SOURCE : FAO/afDB Report Aug. 1983

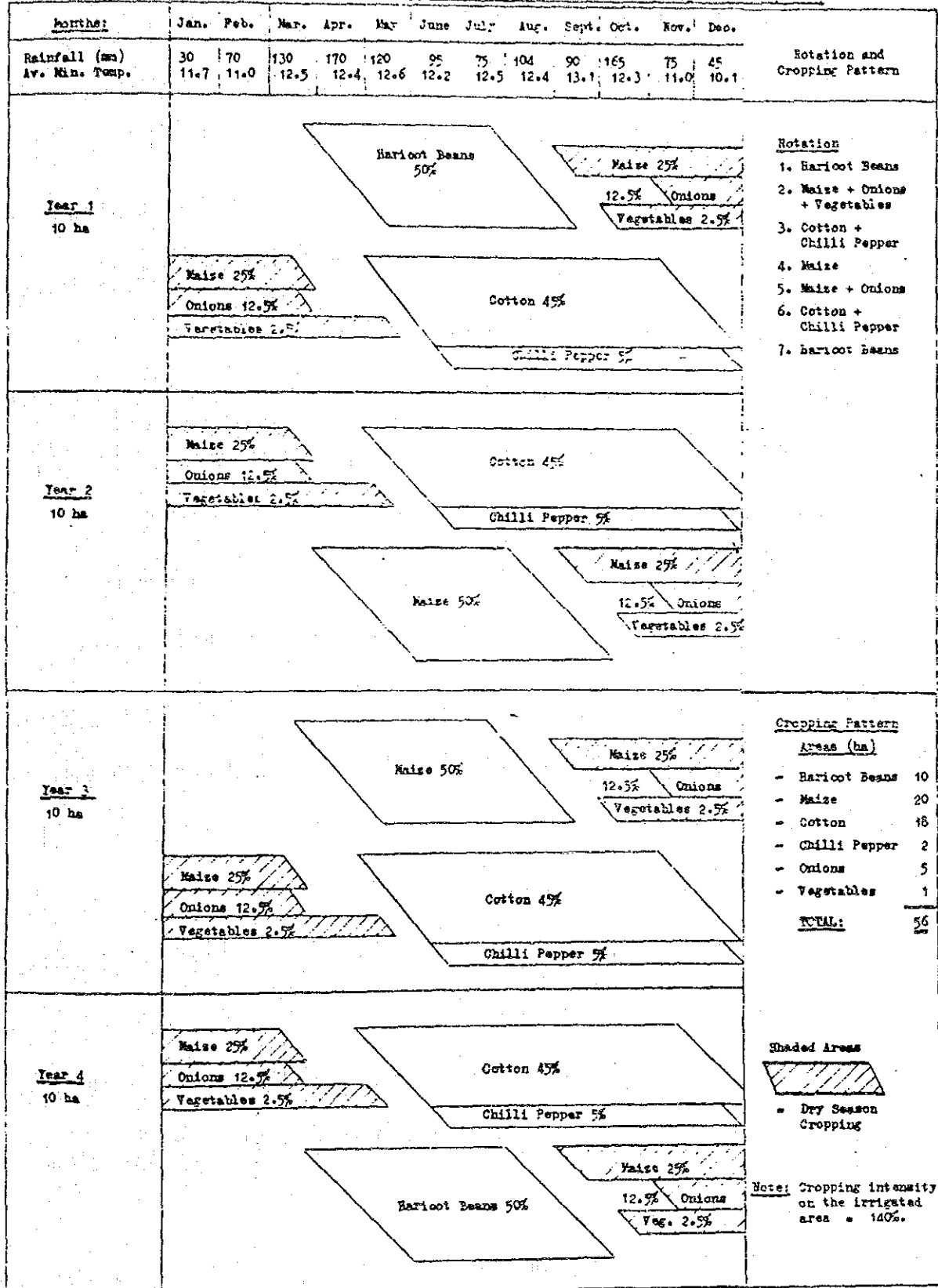
F-1 : Proposed Cropping Pattern for SSID Project (3/3; Elevation 1000 - 1500 m)

小規模灌漑開発計画クロッピング・パターン例
(標高 1,000~1,500m相当)

ETHIOPIA

SMALL SCALE IRRIGATION PROJECT

Part Model III - 100 ha Producers Cooperative - Crop Rotation for the Irrigated Area (40 ha)



SOURCE : FAO/AFDB Report Aug. 1983

F-2 : Crop Water Requirement in Project Area (1/5)

計画対象地域の作物必要推定表

Station : Kombolcha L = 11° 05' A = 1,930m No. 90

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.38 | 3.85 | 4.19 | 4.31 | 4.80 | 4.75 | 3.88 | 3.82 | 3.64 | 3.75 | 3.41 | 3.26 | 47.0 |
| ETcrop(mm/per) | 104.8 | 107.8 | 129.9 | 129.3 | 148.8 | 142.5 | 120.3 | 118.4 | 109.2 | 116.3 | 102.3 | 101.1 | 1,430.6 |
| E.R.* (mm/per) | 21.4 | 19.5 | 33.6 | 38.8 | 30.5 | 25.4 | 120.1 | 110.9 | 58.6 | 16.8 | 7.7 | 7.6 | 490.9 |
| I.N.* (mm/per) | 83.4 | 88.4 | 96.4 | 90.5 | 118.4 | 117.0 | 0.0 | 7.6 | 50.6 | 99.3 | 94.7 | 93.4 | 939.7 |
| W.D.* (l/s/ha) | 1.20 | 1.41 | 1.39 | 1.35 | 1.71 | 1.74 | 0.00 | 0.11 | 0.75 | 1.43 | 1.41 | 1.35 | 13.9 |

Station : Gorgora L = 12° 15' A = 1,840m No. 74

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.44 | 5.24 | 5.56 | 5.41 | 4.98 | 4.28 | 2.75 | 2.75 | 4.40 | 4.69 | 4.57 | 4.27 | 53.3 |
| ETcrop(mm/per) | 137.6 | 146.7 | 172.4 | 162.3 | 154.4 | 128.4 | 85.3 | 85.3 | 132.0 | 145.4 | 137.1 | 132.4 | 1,619.2 |
| E.R.* (mm/per) | 0.0 | 2.5 | 0.0 | 10.7 | 38.0 | 101.8 | 85.3 | 85.2 | 62.0 | 19.0 | 3.1 | 0.0 | 407.6 |
| I.N.* (mm/per) | 137.6 | 144.1 | 172.5 | 151.6 | 116.5 | 26.6 | 0.0 | 0.0 | 69.9 | 126.5 | 133.9 | 132.3 | 1,211.5 |
| W.D.* (l/s/ha) | 1.98 | 2.30 | 2.49 | 2.26 | 1.68 | 0.40 | 0.00 | 0.00 | 1.04 | 1.82 | 2.00 | 1.91 | 17.9 |

Station : Ably Adi L = 13° 32' A = 1,870m No. 1

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.58 | 5.33 | 5.90 | 6.30 | 6.14 | 5.71 | 4.05 | 3.67 | 5.17 | 5.47 | 4.60 | 4.22 | 61.1 |
| ETcrop(mm/per) | 142.0 | 149.2 | 182.9 | 189.0 | 190.3 | 171.3 | 125.6 | 113.8 | 155.1 | 169.6 | 138.0 | 130.8 | 1,857.6 |
| E.R.* (mm/per) | 0.0 | 0.0 | 11.2 | 3.5 | 25.2 | 52.2 | 106.2 | 113.8 | 11.1 | 4.1 | 0.0 | 3.1 | 330.4 |
| I.N.* (mm/per) | 141.9 | 149.2 | 171.6 | 185.4 | 165.2 | 119.2 | 19.4 | 0.0 | 143.8 | 165.6 | 138.0 | 127.8 | 1,527.1 |
| W.D.* (l/s/ha) | 2.05 | 2.38 | 2.47 | 2.76 | 2.38 | 1.78 | 0.28 | 0.00 | 2.14 | 2.39 | 2.06 | 1.84 | 22.5 |

Station : Adigrat L = 14° 16' A = 2,457m No. 6

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|
| ETO (mm/day) | 3.64 | 4.04 | 4.73 | 5.29 | 5.55 | 5.15 | 4.44 | 4.22 | 4.57 | 4.37 | 3.47 | 3.19 | 52.7 |
| ETcrop(mm/per) | 112.8 | 113.1 | 146.6 | 158.7 | 172.1 | 154.5 | 137.6 | 130.8 | 137.1 | 135.5 | 104.1 | 98.9 | 1,601.9 |
| E.R.* (mm/per) | 0.2 | 0.0 | 22.4 | 29.5 | 23.7 | 20.5 | 67.6 | 72.9 | 7.7 | 5.7 | 14.8 | 2.8 | 267.8 |
| I.N.* (mm/per) | 112.5 | 113.3 | 124.1 | 129.1 | 148.5 | 134.0 | 70.0 | 57.8 | 129.5 | 129.6 | 89.2 | 96.2 | 1,333.8 |
| W.D.* (l/s/ha) | 1.62 | 1.81 | 1.79 | 1.92 | 2.14 | 2.00 | 1.01 | 0.83 | 1.93 | 1.87 | 1.33 | 1.39 | 19.6 |

Station : Maichew L = 12° 46' A = 2,380m No. 95

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.23 | 3.79 | 4.30 | 4.53 | 4.56 | 4.33 | 3.79 | 3.64 | 3.87 | 3.98 | 3.54 | 3.25 | 46.8 |
| ETcrop(mm/per) | 100.1 | 106.1 | 133.3 | 135.9 | 141.4 | 129.9 | 117.5 | 112.8 | 116.1 | 123.4 | 106.2 | 100.8 | 1,423.5 |
| E.R.* (mm/per) | 4.7 | 10.6 | 29.9 | 46.4 | 25.3 | 6.9 | 90.2 | 92.3 | 39.1 | 19.7 | 16.9 | 5.9 | 387.9 |
| I.N.* (mm/per) | 95.3 | 95.6 | 103.4 | 89.4 | 116.2 | 123.1 | 27.2 | 20.4 | 77.1 | 103.7 | 89.4 | 94.3 | 1,035.1 |
| W.D.* (l/s/ha) | 1.37 | 1.53 | 1.49 | 1.33 | 1.67 | 1.83 | 0.39 | 0.29 | 1.15 | 1.49 | 1.33 | 1.36 | 15.2 |

Station : Mokele L = 13° 30' A = 2,212m No. 97

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.80 | 4.37 | 4.96 | 5.27 | 5.60 | 5.24 | 4.15 | 3.92 | 4.83 | 4.73 | 3.78 | 3.51 | 54.2 |
| ETcrop(mm/per) | 117.8 | 122.4 | 153.8 | 158.1 | 173.6 | 157.2 | 128.7 | 121.5 | 144.9 | 146.6 | 113.4 | 108.8 | 1,646.7 |
| E.R.* (mm/per) | 0.0 | 2.3 | 11.1 | 18.4 | 15.4 | 19.5 | 84.4 | 91.8 | 17.3 | 0.0 | 0.0 | 0.0 | 260.2 |
| I.N.* (mm/per) | 117.8 | 120.0 | 142.8 | 139.6 | 158.3 | 137.6 | 44.1 | 29.7 | 127.7 | 146.5 | 113.5 | 108.8 | 1,386.5 |
| W.D.* (l/s/ha) | 1.70 | 1.92 | 2.06 | 2.08 | 2.28 | 2.05 | 0.64 | 0.43 | 1.90 | 2.11 | 1.69 | 1.57 | 20.4 |

Station : Adwa L = 14° 10' A = 1,980m No. 10

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.97 | 4.59 | 5.38 | 5.86 | 6.14 | 5.55 | 4.02 | 3.59 | 4.96 | 5.01 | 4.18 | 3.56 | 56.8 |
| ETcrop(mm/per) | 123.1 | 128.5 | 166.8 | 175.8 | 190.3 | 166.5 | 124.6 | 111.3 | 148.8 | 155.3 | 125.4 | 110.4 | 1,726.8 |
| E.R.* (mm/per) | 0.0 | 0.0 | 5.4 | 13.6 | 16.6 | 45.2 | 96.3 | 96.9 | 59.4 | 14.2 | 0.0 | 0.0 | 347.6 |
| I.N.* (mm/per) | 123.2 | 128.4 | 161.4 | 162.3 | 173.8 | 121.2 | 28.2 | 14.4 | 89.4 | 141.1 | 125.3 | 110.5 | 1,379.2 |
| W.D.* (l/s/ha) | 1.78 | 2.05 | 2.33 | 2.42 | 2.51 | 1.81 | 0.41 | 0.21 | 1.33 | 2.03 | 1.87 | 1.59 | 20.3 |

* E.R. = Effective Rain I.N. = Irrigation Net Field W.D. = Water Duty

SOURCE : IFAD SPECIAL COUNTRY PROGRAMME/Manual on Small Scale Irrigation

F-2 : Crop Water Requirement in Project Area (2/5)

Station : Indaselasie L = 14° 06' A = 1,913m No. 82

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.22 | 4.70 | 5.44 | 5.98 | 5.91 | 5.50 | 3.81 | 3.28 | 4.57 | 5.01 | 4.28 | 3.78 | 56.5 |
| ETcrop(mm/per) | 130.8 | 131.6 | 168.6 | 179.4 | 183.2 | 165.0 | 118.1 | 101.7 | 137.1 | 155.3 | 128.4 | 117.2 | 1,716.5 |
| E.R.* (mm/per) | 0.0 | 0.0 | 0.0 | 11.8 | 28.9 | 69.0 | 118.1 | 101.6 | 63.2 | 7.3 | 6.3 | 0.0 | 406.2 |
| I.N.* (mm/per) | 130.9 | 131.7 | 168.7 | 167.8 | 154.5 | 96.0 | 0.0 | 0.0 | 73.9 | 148.1 | 122.1 | 117.1 | 1,310.8 |
| W.D.* (l/s/ha) | 1.89 | 2.10 | 2.43 | 2.50 | 2.23 | 1.43 | 0.00 | 0.00 | 1.10 | 2.14 | 1.82 | 1.69 | 19.3 |

Station : Addis Zemen L = 12° 07' A = 2,020m No. 5

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.00 | 4.72 | 5.05 | 4.85 | 4.50 | 3.79 | 2.43 | 2.46 | 3.76 | 4.25 | 4.08 | 3.75 | 47.6 |
| ETcrop(mm/per) | 124.0 | 132.2 | 156.6 | 145.5 | 139.5 | 113.7 | 75.3 | 76.3 | 112.8 | 131.8 | 122.4 | 116.3 | 1,446.2 |
| E.R.* (mm/per) | 0.2 | 0.0 | 0.0 | 3.8 | 16.6 | 52.0 | 75.4 | 76.4 | 59.9 | 26.3 | 4.9 | 0.0 | 315.5 |
| I.N.* (mm/per) | 123.6 | 132.1 | 156.4 | 141.6 | 123.0 | 61.6 | 0.0 | 0.0 | 53.0 | 105.4 | 117.3 | 116.4 | 1,130.4 |
| W.D.* (l/s/ha) | 1.78 | 2.11 | 2.26 | 2.11 | 1.77 | 0.92 | 0.00 | 0.00 | 0.79 | 1.52 | 1.75 | 1.68 | 16.7 |

Station : Alamata L = 12° 31' A = 2,200m No. 15

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.68 | 4.51 | 4.90 | 5.12 | 5.17 | 4.93 | 4.26 | 4.17 | 4.19 | 4.74 | 4.10 | 3.74 | 53.5 |
| ETcrop(mm/per) | 114.1 | 126.3 | 151.9 | 153.6 | 160.3 | 147.9 | 132.1 | 129.3 | 125.7 | 146.9 | 123.0 | 115.9 | 1,626.9 |
| E.R.* (mm/per) | 15.6 | 21.4 | 93.9 | 44.9 | 20.2 | 1.7 | 75.2 | 83.3 | 18.7 | 7.8 | 6.0 | 15.2 | 405.9 |
| I.N.* (mm/per) | 98.3 | 104.9 | 58.0 | 108.8 | 140.1 | 146.1 | 56.8 | 45.9 | 107.1 | 139.0 | 115.0 | 100.7 | 1,220.7 |
| W.D.* (l/s/ha) | 1.42 | 1.67 | 0.84 | 1.62 | 2.02 | 2.18 | 0.82 | 0.66 | 1.59 | 2.00 | 1.71 | 1.45 | 18.0 |

Station : Mendi L = 9° 47' A = 1,650m No. 99

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.22 | 4.74 | 4.52 | 5.16 | 3.82 | 3.20 | 3.04 | 2.69 | 3.67 | 3.98 | 3.81 | 3.95 | 46.8 |
| ETcrop(mm/per) | 130.8 | 132.7 | 140.1 | 154.8 | 118.4 | 96.0 | 94.2 | 83.4 | 110.1 | 123.4 | 114.3 | 122.5 | 1,420.7 |
| E.R.* (mm/per) | 0.0 | 0.2 | 13.1 | 36.0 | 75.0 | 96.0 | 94.1 | 83.3 | 110.1 | 61.3 | 14.1 | 0.2 | 583.4 |
| I.N.* (mm/per) | 130.7 | 132.5 | 127.1 | 118.7 | 43.4 | 0.0 | 0.0 | 0.0 | 0.0 | 62.0 | 100.3 | 122.1 | 836.8 |
| W.D.* (l/s/ha) | 1.88 | 2.11 | 1.83 | 1.77 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 1.47 | 1.76 | 12.3 |

Station : Nejo L = 9° 30' A = 1,800m No. 111

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.93 | 4.47 | 3.42 | 4.75 | 2.76 | 2.89 | 2.70 | 2.42 | 3.38 | 3.71 | 3.59 | 3.69 | 41.7 |
| ETcrop(mm/per) | 121.8 | 125.2 | 106.0 | 142.5 | 85.6 | 86.7 | 83.7 | 75.0 | 101.4 | 115.0 | 107.7 | 114.4 | 1,265.0 |
| E.R.* (mm/per) | 0.0 | 5.0 | 14.9 | 36.5 | 77.2 | 86.7 | 83.6 | 74.9 | 101.4 | 54.7 | 16.0 | 0.0 | 550.9 |
| I.N.* (mm/per) | 121.7 | 120.1 | 91.3 | 105.9 | 8.4 | 0.0 | 0.0 | 0.0 | 0.0 | 60.3 | 91.8 | 114.5 | 714.0 |
| W.D.* (l/s/ha) | 1.76 | 1.92 | 1.32 | 1.58 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.87 | 1.37 | 1.65 | 10.6 |

Station : Bati L = 11° 13' A = 1,660m No. 32

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.74 | 4.30 | 4.51 | 4.64 | 5.21 | 5.14 | 4.15 | 4.02 | 4.05 | 4.31 | 3.97 | 3.80 | 51.8 |
| ETcrop(mm/per) | 115.9 | 120.4 | 139.8 | 139.2 | 161.5 | 154.2 | 128.7 | 124.6 | 121.5 | 133.6 | 119.1 | 117.8 | 1,576.3 |
| E.R.* (mm/per) | 18.8 | 9.7 | 31.4 | 46.8 | 20.8 | 17.1 | 84.9 | 83.7 | 46.3 | 7.6 | 10.3 | 13.6 | 391.0 |
| I.N.* (mm/per) | 97.0 | 110.7 | 108.5 | 92.6 | 140.6 | 137.1 | 43.9 | 40.8 | 75.1 | 125.9 | 108.8 | 104.0 | 1,185.0 |
| W.D.* (l/s/ha) | 1.40 | 1.77 | 1.56 | 1.38 | 2.03 | 2.04 | 0.63 | 0.59 | 1.12 | 1.82 | 1.62 | 1.50 | 17.5 |

Station : Walidia L = 11° 49' A = 1,960m No. 120

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.27 | 3.91 | 4.45 | 4.51 | 4.79 | 4.70 | 3.84 | 3.93 | 3.64 | 3.90 | 3.44 | 3.40 | 47.8 |
| ETcrop(mm/per) | 101.4 | 109.5 | 138.0 | 135.3 | 148.5 | 141.0 | 119.0 | 121.8 | 109.2 | 120.9 | 103.2 | 105.4 | 1,453.2 |
| E.R.* (mm/per) | 19.3 | 20.6 | 40.5 | 53.7 | 50.1 | 14.3 | 97.0 | 111.3 | 40.7 | 23.7 | 22.8 | 11.1 | 505.1 |
| I.N.* (mm/per) | 82.0 | 88.9 | 97.4 | 81.7 | 98.3 | 126.7 | 21.9 | 10.6 | 68.5 | 97.4 | 80.5 | 94.3 | 948.2 |
| W.D.* (l/s/ha) | 1.18 | 1.42 | 1.40 | 1.22 | 1.42 | 1.89 | 0.32 | 0.15 | 1.02 | 1.40 | 1.20 | 1.36 | 14.0 |

* E.R. = Effective Rain I.N. = Irrigation Net Field W.D. = Water Duty

F-2 : Crop Water Requirement in Project Area (3/5)

Station : Degehabur L = 8° 09' A = 1,000m No. 50

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 5.19 | 5.27 | 5.75 | 4.80 | 4.94 | 4.93 | 4.52 | 5.01 | 5.34 | 4.67 | 4.89 | 5.12 | 60.4 |
| ETcrop (mm/per) | 160.9 | 147.6 | 178.3 | 144.0 | 153.1 | 147.9 | 140.1 | 155.3 | 160.2 | 144.8 | 146.7 | 158.7 | 1,837.6 |
| E. R. * (mm/per) | 0.3 | 0.0 | 9.2 | 41.1 | 36.4 | 14.5 | 0.0 | 4.6 | 23.6 | 32.2 | 4.5 | 0.0 | 166.4 |
| I. N. * (mm/per) | 160.6 | 147.4 | 159.0 | 103.1 | 116.8 | 133.4 | 140.0 | 150.8 | 136.5 | 112.6 | 142.1 | 158.7 | 1,661.0 |
| W. D. * (l/s/ha) | 2.31 | 2.35 | 2.29 | 1.54 | 1.68 | 1.99 | 2.02 | 2.17 | 2.03 | 1.62 | 2.12 | 2.29 | 24.4 |

Station : Dabat L = 13° 00' A = 2,685m No. 44

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.68 | 4.06 | 4.47 | 4.43 | 4.17 | 3.84 | 2.32 | 2.21 | 3.42 | 3.91 | 3.47 | 3.27 | 43.3 |
| ETcrop (mm/per) | 114.1 | 113.7 | 138.6 | 132.9 | 129.3 | 115.2 | 71.9 | 68.5 | 102.6 | 121.2 | 104.1 | 101.4 | 1,313.4 |
| E. R. * (mm/per) | 1.6 | 0.0 | 0.2 | 5.7 | 67.2 | 88.2 | 72.0 | 68.5 | 72.1 | 90.6 | 9.4 | 0.0 | 415.5 |
| I. N. * (mm/per) | 112.5 | 113.7 | 138.3 | 127.3 | 62.0 | 26.9 | 0.0 | 0.0 | 30.6 | 90.7 | 94.6 | 101.3 | 897.9 |
| W. D. * (l/s/ha) | 1.62 | 1.81 | 1.99 | 1.90 | 0.89 | 0.40 | 0.00 | 0.00 | 0.46 | 1.31 | 1.41 | 1.46 | 13.3 |

Station : Changni (Metekel) L = 10° 55' A = 1,720m No. 41

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.90 | 4.35 | 4.55 | 5.16 | 4.13 | 3.44 | 2.61 | 2.59 | 3.60 | 3.82 | 3.64 | 3.34 | 45.1 |
| ETcrop (mm/per) | 120.9 | 121.8 | 141.1 | 154.8 | 128.0 | 103.2 | 80.9 | 80.3 | 108.0 | 118.4 | 109.2 | 103.5 | 1,370.1 |
| E. R. * (mm/per) | 3.6 | 22.2 | 0.0 | 11.7 | 71.2 | 103.2 | 80.8 | 80.2 | 108.0 | 82.9 | 4.8 | 0.2 | 568.8 |
| I. N. * (mm/per) | 117.3 | 99.6 | 141.0 | 143.1 | 56.9 | 0.0 | 0.0 | 0.0 | 0.0 | 35.4 | 104.3 | 103.3 | 800.9 |
| W. D. * (l/s/ha) | 1.69 | 1.59 | 2.03 | 2.13 | 0.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.51 | 1.55 | 1.49 | 11.8 |

Station : Dembi Dolo L = 8° 30' A = 1,850m No. 51

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.39 | 4.75 | 4.64 | 4.83 | 3.77 | 3.36 | 3.15 | 2.69 | 3.79 | 4.06 | 4.01 | 4.11 | 47.6 |
| ETcrop (mm/per) | 136.1 | 133.0 | 143.8 | 144.9 | 116.9 | 100.8 | 97.7 | 83.4 | 113.7 | 125.9 | 120.3 | 127.4 | 1,443.8 |
| E. R. * (mm/per) | 1.0 | 14.1 | 36.6 | 64.3 | 87.7 | 74.5 | 72.0 | 52.6 | 73.8 | 47.2 | 15.3 | 8.7 | 547.8 |
| I. N. * (mm/per) | 135.1 | 118.9 | 107.0 | 80.6 | 29.1 | 26.4 | 25.5 | 30.9 | 39.8 | 78.7 | 104.9 | 118.7 | 895.6 |
| W. D. * (l/s/ha) | 1.95 | 1.90 | 1.54 | 1.20 | 0.42 | 0.39 | 0.37 | 0.44 | 0.59 | 1.13 | 1.56 | 1.71 | 13.2 |

Station : Begi L = 9° 21' A = 1,722m No. 34

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 4.49 | 4.77 | 4.51 | 5.11 | 3.88 | 3.29 | 3.10 | 2.79 | 3.77 | 3.99 | 3.85 | 4.10 | 47.7 |
| ETcrop (mm/per) | 139.2 | 133.6 | 139.8 | 153.3 | 120.3 | 98.7 | 96.1 | 86.5 | 113.1 | 123.7 | 115.5 | 127.1 | 1,446.8 |
| E. R. * (mm/per) | 0.0 | 5.1 | 22.6 | 36.4 | 101.9 | 98.8 | 71.8 | 77.7 | 94.3 | 59.6 | 30.7 | 0.0 | 598.9 |
| I. N. * (mm/per) | 139.1 | 128.4 | 117.2 | 117.0 | 18.5 | 0.0 | 24.2 | 8.7 | 18.9 | 63.9 | 84.8 | 127.0 | 847.7 |
| W. D. * (l/s/ha) | 2.01 | 2.05 | 1.69 | 1.74 | 0.27 | 0.00 | 0.35 | 0.13 | 0.28 | 0.92 | 1.26 | 1.83 | 12.5 |

Station : Debre Zeit (Bishoft) L = 8° 44' A = 1,900m No. 49

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.59 | 4.19 | 4.58 | 4.64 | 4.40 | 3.76 | 3.27 | 3.27 | 3.53 | 4.08 | 4.01 | 3.63 | 47.0 |
| ETcrop (mm/per) | 111.3 | 117.3 | 142.0 | 139.2 | 136.4 | 112.8 | 101.4 | 101.4 | 105.9 | 126.5 | 120.3 | 112.5 | 1,426.9 |
| E. R. * (mm/per) | 3.6 | 11.9 | 21.6 | 30.3 | 23.5 | 42.4 | 97.4 | 96.6 | 51.1 | 8.1 | 0.2 | 0.0 | 386.7 |
| I. N. * (mm/per) | 107.6 | 105.3 | 120.4 | 109.0 | 113.1 | 70.4 | 3.9 | 4.6 | 54.7 | 118.5 | 120.0 | 112.7 | 1,040.2 |
| W. D. * (l/s/ha) | 1.55 | 1.68 | 1.74 | 1.62 | 1.63 | 1.05 | 0.06 | 0.07 | 0.81 | 1.71 | 1.79 | 1.62 | 15.3 |

Station : Didesa L = 9° 00' A = 1,200m No. 53

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|------------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ETO (mm/day) | 3.96 | 4.93 | 5.00 | 5.29 | 4.00 | 3.58 | 3.06 | 2.84 | 3.66 | 4.32 | 4.22 | 4.44 | 49.3 |
| ETcrop (mm/per) | 122.8 | 138.0 | 155.0 | 158.7 | 124.0 | 107.4 | 94.9 | 88.0 | 109.8 | 133.9 | 126.6 | 137.6 | 1,496.8 |
| E. R. * (mm/per) | 0.0 | 0.2 | 0.0 | 30.1 | 88.4 | 107.3 | 94.9 | 88.2 | 95.8 | 79.2 | 32.9 | 1.7 | 618.7 |
| I. N. * (mm/per) | 122.7 | 137.7 | 155.1 | 128.6 | 35.7 | 0.0 | 0.0 | 0.0 | 14.0 | 54.5 | 93.7 | 136.0 | 878.0 |
| W. D. * (l/s/ha) | 1.77 | 2.20 | 2.24 | 1.92 | 0.51 | 0.00 | 0.00 | 0.00 | 0.21 | 0.79 | 1.40 | 1.96 | 13.0 |

* E. R. = Effective Rain I. N. = Irrigation Net Field W. D. = Water Duty

F-2 : Crop Water Requirement in Project Area (4/5)

1 Station : Dangila L = 11° 17' A = 2,180m No. 45

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.75 | 4.33 | 4.65 | 5.06 | 4.20 | 3.46 | 2.50 | 2.51 | 3.67 | 3.82 | 3.61 | 3.37 | 44.9 |
| ETcrop(mm/per) | 116.3 | 121.2 | 144.2 | 151.8 | 130.2 | 103.8 | 77.5 | 77.8 | 110.1 | 118.4 | 108.3 | 104.5 | 1,364.0 |
| E.R.* (mm/per) | 0.0 | 11.5 | 18.4 | 17.6 | 42.6 | 96.4 | 77.6 | 77.9 | 101.5 | 44.2 | 30.7 | 4.1 | 522.5 |
| I.N.* (mm/per) | 116.3 | 109.6 | 125.7 | 134.1 | 87.6 | 7.4 | 0.0 | 0.0 | 8.6 | 74.2 | 77.8 | 100.2 | 841.5 |
| W.D.* (l/s/ha) | 1.68 | 1.75 | 1.81 | 2.00 | 1.26 | 0.11 | 0.00 | 0.00 | 0.13 | 1.07 | 1.16 | 1.44 | 12.4 |

2 Station : Filiklik L = 10° 03' A = 1,800m No. 61

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 4.30 | 4.80 | 4.86 | 4.93 | 5.09 | 4.07 | 2.98 | 3.01 | 3.62 | 4.68 | 4.93 | 4.35 | 51.6 |
| ETcrop(mm/per) | 133.3 | 134.4 | 150.7 | 147.9 | 157.8 | 122.1 | 92.4 | 93.3 | 108.6 | 145.1 | 147.9 | 134.9 | 1,568.3 |
| E.R.* (mm/per) | 0.0 | 1.0 | 18.7 | 18.0 | 53.1 | 61.6 | 92.5 | 93.3 | 51.4 | 7.8 | 7.8 | 0.0 | 405.2 |
| I.N.* (mm/per) | 133.4 | 133.5 | 132.1 | 129.9 | 104.8 | 60.6 | 0.0 | 0.0 | 57.1 | 137.2 | 140.0 | 134.8 | 1,163.4 |
| W.D.* (l/s/ha) | 1.92 | 2.13 | 1.90 | 1.94 | 1.51 | 0.90 | 0.00 | 0.00 | 0.85 | 1.98 | 2.09 | 1.94 | 17.2 |

3 Station : Chefa L = 10° 54' A = 1,600m No. 2

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.63 | 4.09 | 4.56 | 4.66 | 4.85 | 4.92 | 4.00 | 3.95 | 3.99 | 4.27 | 3.92 | 3.47 | 50.3 |
| ETcrop(mm/per) | 112.5 | 114.5 | 141.4 | 139.8 | 150.4 | 147.6 | 124.0 | 122.5 | 119.7 | 132.4 | 117.6 | 107.6 | 1,529.9 |
| E.R.* (mm/per) | 12.4 | 28.2 | 32.0 | 52.8 | 37.7 | 22.4 | 98.9 | 111.8 | 48.4 | 12.3 | 14.2 | 6.0 | 477.1 |
| I.N.* (mm/per) | 100.2 | 86.2 | 109.5 | 87.1 | 112.6 | 125.2 | 25.1 | 10.5 | 71.4 | 119.9 | 103.5 | 101.5 | 1,052.7 |
| W.D.* (l/s/ha) | 1.44 | 1.38 | 1.58 | 1.30 | 1.62 | 1.86 | 0.36 | 0.15 | 1.06 | 1.73 | 1.54 | 1.46 | 15.5 |

4 Station : Gimbi L = 9° 05' A = 1,870m No. 67

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.92 | 4.46 | 4.31 | 4.69 | 3.49 | 2.89 | 2.62 | 2.41 | 3.28 | 3.79 | 3.64 | 3.79 | 43.3 |
| ETcrop(mm/per) | 121.5 | 124.9 | 133.6 | 140.7 | 108.2 | 86.7 | 81.2 | 74.7 | 98.4 | 117.5 | 109.2 | 117.5 | 1,314.1 |
| E.R.* (mm/per) | 0.0 | 1.7 | 17.4 | 30.9 | 100.0 | 86.6 | 81.1 | 74.9 | 98.3 | 59.7 | 18.6 | 0.0 | 569.2 |
| I.N.* (mm/per) | 121.4 | 123.3 | 116.2 | 109.8 | 8.3 | 0.0 | 0.0 | 0.0 | 0.0 | 57.9 | 90.5 | 117.6 | 745.0 |
| W.D.* (l/s/ha) | 1.75 | 1.97 | 1.67 | 1.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.83 | 1.35 | 1.70 | 11.0 |

5 Station : Dese L = 11° 10' A = 2,540m No. 52

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|---------|
| ET0 (mm/day) | 3.14 | 3.58 | 3.73 | 3.95 | 4.29 | 4.18 | 3.55 | 3.49 | 3.33 | 3.50 | 3.14 | 2.99 | 42.9 |
| ETcrop(mm/per) | 97.3 | 100.2 | 115.6 | 118.5 | 133.0 | 125.4 | 110.1 | 108.2 | 99.9 | 108.5 | 94.2 | 92.7 | 1,303.6 |
| E.R.* (mm/per) | 12.0 | 15.2 | 32.6 | 49.1 | 38.2 | 23.4 | 110.2 | 108.2 | 68.1 | 26.9 | 11.3 | 5.8 | 501.0 |
| I.N.* (mm/per) | 85.2 | 85.0 | 83.2 | 69.3 | 94.9 | 102.0 | 0.0 | 0.0 | 31.7 | 81.6 | 82.8 | 87.0 | 602.7 |
| W.D.* (l/s/ha) | 1.23 | 1.35 | 1.20 | 1.03 | 1.37 | 1.52 | 0.00 | 0.00 | 0.47 | 1.18 | 1.23 | 1.25 | 11.8 |

6 Station : Bako Shewa L = 9° 07' A = 1,590m No. 29

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 4.22 | 4.70 | 4.91 | 5.15 | 4.30 | 3.61 | 2.94 | 3.13 | 3.52 | 4.38 | 4.37 | 4.19 | 49.4 |
| ETcrop(mm/per) | 130.8 | 131.6 | 152.2 | 154.5 | 133.3 | 108.3 | 91.1 | 97.0 | 105.6 | 135.8 | 131.1 | 129.9 | 1,501.3 |
| E.R.* (mm/per) | 6.9 | 14.6 | 32.7 | 37.0 | 63.1 | 86.9 | 91.2 | 84.4 | 67.8 | 28.6 | 17.3 | 6.9 | 537.4 |
| I.N.* (mm/per) | 124.0 | 117.0 | 119.4 | 117.5 | 70.3 | 21.4 | 0.0 | 12.6 | 37.8 | 107.2 | 113.7 | 122.8 | 963.7 |
| W.D.* (l/s/ha) | 1.79 | 1.87 | 1.72 | 1.75 | 1.01 | 0.32 | 0.00 | 0.18 | 0.56 | 1.55 | 1.69 | 1.77 | 14.2 |

7 Station : Fincha L = 9° 32' A = 2,320m No. 62

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.74 | 3.88 | 4.03 | 4.41 | 3.74 | 3.09 | 2.45 | 2.42 | 3.17 | 3.77 | 3.75 | 3.45 | 41.9 |
| ETcrop(mm/per) | 115.9 | 108.6 | 124.9 | 132.3 | 115.9 | 92.7 | 76.0 | 75.0 | 95.1 | 116.9 | 112.5 | 107.0 | 1,272.8 |
| E.R.* (mm/per) | 7.9 | 16.0 | 25.9 | 35.7 | 58.2 | 92.7 | 75.9 | 74.9 | 86.6 | 46.3 | 24.7 | 2.9 | 547.7 |
| I.N.* (mm/per) | 107.9 | 92.6 | 98.9 | 96.6 | 57.8 | 0.0 | 0.0 | 0.0 | 8.6 | 70.7 | 87.8 | 104.0 | 724.9 |
| W.D.* (l/s/ha) | 1.56 | 1.48 | 1.43 | 1.44 | 0.83 | 0.00 | 0.00 | 0.00 | 0.13 | 1.02 | 1.31 | 1.50 | 10.7 |

* E.R. = Effective Rain I.N. = Irrigation Net Field W.D. = Water Duty

F-2 : Crop Water Requirement in Project Area (5/5)

1 Station : Arjo L = 8° 45' A = 2,565m No. 19

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.64 | 3.95 | 4.00 | 4.20 | 3.26 | 2.74 | 2.53 | 2.43 | 3.03 | 3.58 | 3.53 | 3.51 | 40.4 |
| ETcrop(mm/per) | 112.8 | 110.6 | 124.0 | 126.0 | 101.1 | 82.2 | 78.4 | 75.3 | 90.9 | 111.0 | 105.9 | 108.8 | 1,227.1 |
| E.R.* (mm/per) | 10.1 | 6.6 | 53.7 | 61.2 | 82.5 | 82.2 | 78.5 | 75.2 | 90.8 | 55.9 | 9.4 | 17.5 | 623.6 |
| I.N.* (mm/per) | 102.8 | 104.0 | 70.5 | 64.8 | 18.4 | 0.0 | 0.0 | 0.0 | 0.0 | 55.1 | 96.6 | 91.2 | 603.4 |
| W.D.* (l/s/ha) | 1.48 | 1.66 | 1.02 | 0.97 | 0.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.79 | 1.44 | 1.32 | 9.0 |

2 Station : Gidami L = 8° 58' A = 2,040m No. 65

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|------|------|-------|-------|-------|------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.09 | 3.32 | 3.24 | 4.44 | 3.55 | 3.16 | 2.89 | 2.58 | 3.37 | 3.74 | 3.67 | 3.84 | 40.9 |
| ETcrop(mm/per) | 95.8 | 93.0 | 100.4 | 133.2 | 110.1 | 94.8 | 89.6 | 80.0 | 101.1 | 115.9 | 110.1 | 119.0 | 1,243.0 |
| E.R.* (mm/per) | 38.2 | 2.2 | 35.1 | 28.9 | 83.7 | 94.9 | 89.6 | 60.7 | 98.4 | 88.0 | 20.1 | 0.0 | 639.8 |
| I.N.* (mm/per) | 57.6 | 90.7 | 65.4 | 104.3 | 26.2 | 0.0 | 0.0 | 19.3 | 2.8 | 28.0 | 90.0 | 118.9 | 603.2 |
| W.D.* (l/s/ha) | 0.83 | 1.45 | 0.94 | 1.55 | 0.38 | 0.00 | 0.00 | 0.28 | 0.04 | 0.40 | 1.34 | 1.71 | 8.9 |

3 Station : Bahirdar L = 11° 36' A = 1,890m No. 27

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 3.46 | 4.14 | 4.75 | 4.98 | 4.25 | 3.50 | 2.47 | 2.56 | 3.59 | 3.93 | 3.67 | 3.28 | 44.6 |
| ETcrop(mm/per) | 107.3 | 115.9 | 147.3 | 149.4 | 131.8 | 105.0 | 76.6 | 79.4 | 107.7 | 121.8 | 110.1 | 101.7 | 1,353.8 |
| E.R.* (mm/per) | 0.0 | 0.0 | 1.0 | 11.6 | 45.1 | 81.3 | 76.7 | 79.4 | 91.3 | 45.9 | 13.9 | 0.2 | 446.4 |
| I.N.* (mm/per) | 107.2 | 116.0 | 146.3 | 137.7 | 86.6 | 23.6 | 0.0 | 0.0 | 16.3 | 75.8 | 96.2 | 101.4 | 907.1 |
| W.D.* (l/s/ha) | 1.55 | 1.85 | 2.11 | 2.05 | 1.25 | 0.35 | 0.00 | 0.00 | 0.24 | 1.09 | 1.43 | 1.46 | 13.4 |

4 Station : Gonder L = 12° 32' A = 2,270m No. 72

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 4.15 | 4.76 | 5.17 | 5.06 | 4.63 | 4.14 | 2.55 | 2.49 | 3.84 | 4.43 | 4.15 | 3.78 | 49.2 |
| ETcrop(mm/per) | 128.7 | 133.3 | 160.3 | 151.8 | 143.5 | 124.2 | 79.1 | 77.2 | 115.2 | 137.3 | 124.5 | 117.2 | 1,492.2 |
| E.R.* (mm/per) | 0.0 | 1.0 | 8.7 | 23.2 | 45.3 | 75.2 | 78.9 | 77.1 | 56.5 | 26.6 | 13.8 | 4.9 | 411.2 |
| I.N.* (mm/per) | 128.8 | 132.4 | 151.4 | 128.6 | 98.1 | 49.1 | 0.0 | 0.0 | 58.9 | 110.8 | 110.7 | 112.4 | 1,081.2 |
| W.D.* (l/s/ha) | 1.86 | 2.11 | 2.18 | 1.92 | 1.41 | 0.73 | 0.00 | 0.00 | 0.88 | 1.60 | 1.65 | 1.62 | 16.0 |

5 Station : Asosa L = 10° 04' A = 1,750m No. 23

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 4.73 | 5.06 | 4.65 | 5.62 | 4.30 | 3.48 | 3.28 | 2.86 | 3.97 | 4.16 | 4.08 | 4.34 | 50.5 |
| ETcrop(mm/per) | 146.6 | 141.7 | 144.2 | 168.6 | 133.3 | 104.4 | 101.7 | 88.7 | 119.1 | 129.0 | 122.4 | 134.5 | 1,534.1 |
| E.R.* (mm/per) | 0.0 | 0.0 | 16.2 | 17.6 | 57.9 | 82.4 | 88.6 | 86.5 | 92.1 | 50.7 | 9.8 | 0.0 | 501.8 |
| I.N.* (mm/per) | 145.7 | 141.7 | 128.1 | 150.8 | 75.4 | 22.2 | 13.1 | 2.2 | 27.1 | 78.1 | 112.6 | 134.6 | 1,031.6 |
| W.D.* (l/s/ha) | 2.11 | 2.26 | 1.85 | 2.25 | 1.09 | 0.33 | 0.19 | 0.03 | 0.40 | 1.13 | 1.68 | 1.94 | 15.3 |

6 Station : Bambesi L = 9° 45' A = 1,450m No. 30

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SUM/AVG |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| ET0 (mm/day) | 5.22 | 5.95 | 6.80 | 7.59 | 7.97 | 7.34 | 6.20 | 5.75 | 6.38 | 6.88 | 5.61 | 4.97 | 76.7 |
| ETcrop(mm/per) | 161.8 | 166.6 | 210.8 | 227.7 | 247.1 | 220.2 | 192.2 | 178.3 | 191.4 | 213.3 | 168.3 | 154.1 | 2,331.7 |
| E.R.* (mm/per) | 0.0 | 0.0 | 0.0 | 3.8 | 13.6 | 45.7 | 77.7 | 91.9 | 45.0 | 2.0 | 0.0 | 0.0 | 279.7 |
| I.N.* (mm/per) | 161.8 | 166.6 | 210.7 | 224.0 | 233.4 | 174.4 | 114.6 | 86.4 | 146.5 | 211.2 | 168.4 | 154.0 | 2,052.0 |
| W.D.* (l/s/ha) | 2.33 | 2.66 | 3.04 | 3.34 | 3.37 | 2.60 | 1.65 | 1.25 | 2.18 | 3.04 | 2.51 | 2.22 | 30.2 |

* E.R. = Effective Rain I.N. = Irrigation Net Field W.D. = Water Duty

F-3 : Summary of SSID Schemes in Northern Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|----------------|--------|--------|--------------|---------------|-------------------------------|-----------------------|----------------|------------------|---------------|--------------------------|
| 1 | Genfel | Tigray | Wukro | 13°-48' | 39°-36' | 100 | Head work const. | Gov. | Weir | 200 | 7,000,000 |
| 2 | Seneafti | " | Adwa | 14°-9' | 39°-26' | 100 | " | " | " | 200 | 7,000,000 |
| 3 | Gufgufe | " | Mekele | 12°-48' | 39°-37' | 100 | " | " | " | 200 | 7,000,000 |
| 4 | Astago | " | " | 13°-28' | 39°-30' | 100 | Design Comp. | " | Dam | 200 | 15,000,000 |
| Total | | | | | | 400 | | | | | |

F-4 : Summary of SSID Schemes in Northeastern Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the Project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|-------------------------------------|---------|------------|--------------|---------------|-------------------------------|-----------------------|-------------------|------------------|---------------|--------------------------|
| 1 | Hardibo | S.Wello | Ambassel | 11°-15' | 39°-46' | 150 | On farm Cons. | R.Cross(Don.) | Weir | 436 | 654,900 |
| 2 | Borkenna | " | Kallu | 11°-1' | 39°-44' | 150 | " | " | " | 409 | 10,500,000 |
| 3 | Mersa | N.Wello | Yeju | 11°-43' | 39°-35' | 40 | " | Gov. | " | 80 | 86,700 |
| 4 | Baty | S.Wello | Kallu | 11°-16' | 40°-2' | 100 | " | R.Cross(Don.) | Dam | 200 | 2,500,000 |
| 5 | Bulbulo | S.Wello | Ambassel | 11°-21' | 39°-44' | 20 | " | SIDA (Don.) | Pump | 346 | 99,900 |
| 6 | Kekewa | " | " | 11°-20' | 39°-40' | 72 | " | R.Cross (Don.) | " | 106 | 961,500 |
| 7 | Kombolcha Peasant's Training Center | " | Dese-Zuria | 11°-9' | 39°-36' | 3 | " | SIDA (Don.) | " | 6 | " |
| 8 | Alewuha | N.Wello | Kobo | 12° | 40° | 360 | Headwork Cons. | Ethio-Italy(Don.) | Weir | 610 | 25,200,000 |
| 9 | Gimbora | " | Yeju | 11°-47' | 39°-23' | 310 | " | Africare (Don.) | " | 1032 | 2,105,100 |
| 10 | Dirma | S.Wello | Kallu | 10°-53' | 39°-43' | 200 | Design Comp. | Gov. | " | 400 | 14,000,000 |
| 11 | Gotu | N.Wello | Yeju | 10°-38' | 39°-40' | 185 | " | " | " | 370 | 189,100 |
| 12 | Golina | N.Wello | Kobo | 12°-07' | 39°-40' | 400 | " | Ethio-Italy | " | 800 | 2,400,000 |
| Total | | | | | | 1190 | | | | | |

F-5 : Inventory of SSID Schemes in Northeastern Zone (1/2)

| *Proj't Name* | | 1 | 2 | 4 | 5 | 6 | 7 |
|----------------|-------------------|---------|---------|---------|---------|---------|---------|
| | | Hardibo | Mersa | Gotu | Gimbora | Bulbulo | Kekewa |
| Type | | W | W | W | W | P | P |
| Zone | | N/E | N/E | N/E | N/E | N/E | N/E |
| Province | | S/Welo | N/Welo | N/Welo | N/Welo | S/Welo | S/Welo |
| I-Area | ha | 150 | 40 | 185 | 310 | 20 | 72 |
| Base flow | m ³ /s | 0.3 | 0.08 | 0.24 | 0.699 | 0.04 | 0.14 |
| Bene. (House) | No. | 436 | 80 | 300 | 1032 | 346 | 106 |
| Bene. (Popu.) | | - | - | - | - | - | - |
| ** Intake ** | | | | | | | |
| B. leng. | m | - | 20.8 | 129 | 26 | - | - |
| B. hight | m | - | 1.3 | 4.25 | 4.5 | - | - |
| L. Sway | m | - | - | - | 21 | - | - |
| H. Sway | m | - | - | 2.25 | 1.2 | - | - |
| ** M-Canal ** | | | | | | | |
| Number | No. | 1 | 1 | - | - | 1 | 1 |
| T-Leng. | m | 3206 | 750 | - | 7783 | 1600 | 1535 |
| Width | m | 0.8 | 0.8 | - | 0.6 | 0.25 | 0.35 |
| Dep. | m | 0.7 | 0.45 | - | 0.9 | 0.5 | 0.65 |
| Capa. | m | - | - | - | - | 0.04 | - |
| ** S-Canal ** | | | | | | | |
| Number | No. | - | - | - | 54 | - | - |
| T-Leng. | m | - | - | - | 15000 | - | - |
| Width | m | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - |
| ** T-Canal ** | | | | | | | |
| Number | No. | 23 | - | - | - | 7 | 19 |
| T-Leng. | m | 9093 | - | - | - | 1913 | 3381 |
| Width | m | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - |
| ** Q-Canal ** | | | | | | | |
| ** Drainage ** | m | 8500 | 1500 | - | 8000 | 2500 | 2500 |
| *Structures* | | | | | | | |
| No. Flume | No. | - | 1 | - | 1 | 1 | 4 |
| Culvert | No. | 16 | 3 | - | 14 | 3 | 9 |
| Div. -Box | No. | 1 | - | - | 29 | 3 | 19 |
| Drop | No. | 101 | - | - | 540 | 135 | 50 |
| C-gate | No. | - | - | - | - | - | - |
| T-out | No. | 17 | - | - | 9 | 5 | 12 |
| No. F-road | No. | 7 | - | - | 2 | - | 7 |
| L. F-road | m | 6530 | - | - | 8000 | - | 3475 |
| T. C. C | Bir | 654,948 | 86,694 | 189,121 | 2105099 | 99,953 | 961,479 |
| ** Status ** | | Under-C | Under-C | D-Comp. | Under-C | Under-C | Under-C |
| Design | % | 50 | 100 | 100 | 80 | 20 | 36 |
| Const. | % | 80 | 60 | 0 | 0 | 70 | 80 |
| On-Farm | % | 40 | 25 | 0 | 30 | 70 | - |

F-5 : Inventory of SSID Schemes in Northeastern Zone (2/2)

| | | |
|---------------------|------|-----------|
| Project | | 3 |
| Type | | Earth Dam |
| Zone | | N/W |
| Province | | S/Welo |
| I-Area | ha | 100 |
| No. of B. | | 39 |
| Pop. | | |
| C Area | Km2 | 9.8 |
| An. R-fall | mm/y | 816 |
| An. Dis. | MCM | 1.35 |
| Subm'd area | Km2 | 20ha |
| Stor. Capa. | MCM | 1.17 |
| **Facil.** | | |
| Hight | m | 15.7 |
| Length | m | 332 |
| V. Earth | m3 | 172,143 |
| **Spillway** | | |
| Type | | ? |
| Leng. | m | 228.8 |
| Wid. | m | |
| Hight | m | 1.1 |
| Disc. capa. | m3/s | 6 |
| **Intake** | | |
| Type | | ? |
| Leng. | m | 84 |
| Disc. capa. | | 0.736 |
| ** M-C ** | | |
| No. | | - |
| Leng. | m | 4633 |
| Bed Width | m | 0.5 |
| Water Dep. | m | 0.8 |
| **S-C** | | |
| No. | | 12 |
| Leng. | m | 1,510 |
| Bed Width | m | - |
| Water Dep. | m | - |
| **T-C** | | |
| No. | | - |
| Leng. | m | - |
| Bed Width | m | - |
| Water Dep. | m | - |
| **Drain** | | |
| **R-S** | | |
| No. Flume | No. | 1 |
| Culvert | No. | 16 |
| Shute | No. | 7 |
| Div.-Box | No. | 2 |
| Drop | No. | 6 |
| T-out | No. | - |
| C-gate | No. | - |
| No. F-road | No. | - |
| L. F-road | m | 4633 |
| T. C. C | Birr | 2500000 |
| *Status* | | Under-C. |
| Design | % | 80 |
| Const. | % | 15 |
| On-Farm | % | - |

F-6 : Summary of SSID Project in Northwestern Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|----------------|-----------|------------------|--------------|---------------|-------------------------------|--------------------------|------------------------------|------------------|---------------|--------------------------|
| 1 | Geray | W.Gojjja | Jabi-Kuarit | 10°-38' | 37°-22' | 770 | On farm const. | ADF (Loan) EEC, UN (Don.) | Weir | 535 | 3,051,800 |
| 2 | Tikur Wuha | " | " | 10°-37' | 37°-25' | 162 | " | " | " | 198 | 744,000 |
| 3 | Kilty | " | Achefer | 11°-25' | 36°-56' | 131 | " | " | " | 479 | 860,000 |
| 4 | Fetam | " | Guagusa-Wenberma | 10°-41' | 36°-58' | 400 | " | " | " | 413 | 1,600,000 |
| 5 | Zingins | " | Agew-Midir | 10°-52' | 36°-55' | 250 | Headwork (cons.) | Gov. | " | 168 | 618,600 |
| 6 | Mendel | " | Bahir-Dar | 11°-26' | 37°-34' | 100 | " | " | " | 20 | 442,200 |
| 7 | Buchiksi | " | Metekel | 11°-2' | 36°-38° | 400 | " | " | " | 800 | 423,100 |
| 8 | Azuari | E.Gojjjam | Mota | 11°-1' | 37°-56' | 75 | " | " | " | 150 | 410,000 |
| 9 | Jedeb | " | Damot | 10°-25' | 37°-34' | 250 | Design of Headwork comp. | " | " | 500 | 1,750,000 |
| 10 | Muga | " | Bichena | 10°-26' | 38°-05' | 200 | " | " | " | 400 | 1,400,000 |
| 11 | Abagenen | N.Gonder | Dembia | 12°-23' | 37°-18' | 50 | Design comp. | " | Dam | 100 | 668,900 |
| 12 | Tikurit | W.Gojjjam | Bahir-Dar | 11°-28' | 37°-28' | 100 | On farm const. | " | Weir | - | - |
| 13 | Markuma | E.Gojjjam | Finoteselam | 10°-58' | 36°-55' | 32 | On farm const. | " | Pump | 64 | 104,800 |
| 14 | Sebshergo No 1 | " | Dejen | 10°-15' | 38°-17' | 60 | comp. | " | " | 120 | 28,500 |
| 15 | Sebshergo No 2 | " | " | 10°-15' | 38°-17' | 75 | " | " | " | 150 | 65,100 |
| 16 | Yesir | W.Gojjjam | Damot | 10°-44' | 37°-5' | 50 | Design Comp. | IDA (Don.) | Weir | 100 | 3,500,000 |
| Total | | | | | | | | | | | |

3105

F-7 : Inventory of SSID Schemes in Northwestern Zone (1/3)

| #Proj't Name# | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------------|-------------------|-----------|------------|---------|-----------|---------|---------|----------|
| Type | | Geray | Tikur Wuha | Kilty | Fetam | Zingini | Mendel | Buchiksi |
| Zone | | W | W | W | W | W | W | W |
| Province | | N/W | N/W | N/W | N/W | N/W | N/W | N/W |
| I-Area | ha | W/Gojam | W/Gojam | W/Gojam | W/Gojam | W/Gojam | W/Gojam | Metekel |
| Base flow | m ³ /s | 770 | 162 | 131 | 400 | 250 | 100 | 400 |
| Bene. (House) | No. | 1.7 | 0.352 | 0.286 | 0.88 | 0.54 | 0.19 | 0.4 |
| Bene. (Popu.) | No. | 404 | 291 | 963 | 434 | 3600 | 390 | 862 |
| ** Intake ** | | | | | | | | |
| B. leng. | m | 105 | - | - | - | 32.7 | 16 | 90 |
| B. hight | m | 4 | - | - | - | 1.5 | 3.7 | 2.5 |
| L. Sway | m | - | - | - | - | 5.1 | 11 | 17 |
| H. Sway | m | - | - | - | - | 0.9 | - | 1.5 |
| ** M-Canal ** | | | | | | | | |
| Number | No. | 1 | - | - | - | - | - | - |
| T-Leng. | m | 9800 | 2800 | 4000 | 4800 | 4885 | 2060 | 3050 |
| Width | m | 3.8 | - | - | - | 0.6 | 0.7 | 0.5 |
| Dep. | m | 1.5 | - | - | - | 0.5 | 0.45 | 0.4 |
| Capa. | m | - | - | - | - | - | - | - |
| ** S-Canal ** | | | | | | | | |
| Number | No. | - | - | - | - | 3 | 12 | 2 |
| T-Leng. | m | 12500 | 7000 | 3000 | 7200 | 2450 | 4450 | 2750 |
| Width | m | - | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - | - |
| ** T-Canal ** | | | | | | | | |
| Number | No. | - | - | - | - | 70 | 111 | - |
| T-Leng. | m | 52400 | 10500 | 7800 | 27200 | 3115 | 19270 | - |
| Width | m | - | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - | - |
| ** Q-Canal ** | m | - | 12000 | 5000 | - | - | 7000 | - |
| ** Drainage** | m | 35000 | - | 5000 | 20000 | 6000 | - | 5500 |
| *Structures* | | | | | | | | |
| No. Flume | No. | - | - | - | - | 5 | - | 42 |
| Culvert | No. | - | - | - | - | 24 | 8 | 4 |
| Div. -Box | No. | - | - | - | - | 3 | 9 | 12 |
| Drop | No. | - | - | - | - | 49 | 9 | 46 |
| C-gate | No. | - | - | - | - | 3 | - | - |
| T-out | No. | - | - | - | - | 22 | - | - |
| No. F-road | No. | - | - | - | - | - | - | - |
| L. F-road | m | 5000 | - | 4000 | 12000 | 3840 | 3160 | - |
| T. C. C | Bir | 3,051,800 | 744,000 | 860,000 | 1,600,000 | 618,607 | 442,226 | 423,065 |
| ** Status ** | | Under-C | Comp. | Comp. | Under-C | Under-C | Under-C | Under-C |
| Design | % | 40 | 30 | 25 | 30 | - | 100 | 100 |
| Const. | % | 40 | 60 | 25 | 30 | 80 | 60 | 60 |
| On-Farm | % | - | - | - | - | - | - | - |

F-7 : Inventory of SSID Schemes in Northwestern Zone (2/3)

| *Proj t Name* | | 8 | 9 | 10 | 12 | 13 | 14 |
|------------------|-------------------|---------|--------------|--------------|---------|-------------|-------------|
| Type | | Azuari | Jedeb | Muga | Markoma | Shebshengol | Shebshengo2 |
| Zone | | W | W | W | P | P | P |
| Province | | N/W | N/W | N/W | N/W | N/W | N/W |
| I-Area | ha | E/Gojam | E/Gojam | E/Gojam | W/Gojam | E/Gojam | E/Gojam |
| Base flow | m ³ /s | 75 | 250 | 200 | 32 | 60 | 75 |
| Bene. (House) | No. | 0.297 | 0.5 | 0.4 | 0.064 | 0.12 | 0.15 |
| Bene. (Popu.) | No. | 200 | 3686 | 465 | 1408 | 2380 | 2380 |
| ** Intake ** | | | | | | | |
| B. leng. | m | 39 | - | - | - | - | - |
| B. hight | m | 3.8 | 4.95 | 4.8 | - | - | - |
| L. Sway | m | 30 | 30 | 38 | - | - | - |
| H. Sway | m | 1.8 | 4.5 | - | - | - | - |
| ** M-Canal ** | | | | | | | |
| Number | No. | | | | | | |
| T-Leng. | m | 3450 | - | - | 657 | 1800 | 2100 |
| Width | m | 1.6 | - | - | 0.4 | 0.4 | 0.6 |
| Dep. | m | 1 | - | - | 0.3 | 0.3 | 0.4 |
| Capa. | m ³ /S | - | - | - | - | - | - |
| ** S-Canal ** | | | | | | | |
| Number | No. | 3 | - | - | - | - | 18 |
| T-Leng. | m | 832 | - | - | - | - | 2900 |
| Width | m | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - |
| ** T-Canal ** | | | | | | | |
| Number | No. | - | - | - | - | 4 | - |
| T-Leng. | m | - | - | - | - | 2330 | 3500 |
| Width | m | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - |
| ** Q-Canal ** | | | | | | | |
| Number | No. | - | - | - | - | - | - |
| T-Leng. | m | - | - | - | - | - | - |
| Width | m | - | - | - | - | - | - |
| Dep. | m | - | - | - | - | - | - |
| ** Drainage ** | | | | | | | |
| Number | No. | 4500 | - | - | 800 | 3500 | - |
| ** Structures ** | | | | | | | |
| No. Flume | No. | - | - | - | - | 7 | 9 |
| Culvert | No. | 1 | - | - | 2 | 3 | 1 |
| Div. -Box | No. | 5 | - | - | 10 | - | - |
| Drop | No. | - | - | - | 1 | - | - |
| C-gate | No. | - | - | - | - | - | - |
| T-out | No. | 6 | - | - | - | - | - |
| No. F-road | No. | - | - | - | - | - | - |
| L. F-road | m | 112 | - | - | - | - | - |
| T. C. C | Bir | 677,860 | 668,938 | 487,086 | 104,815 | 28,452 | 65,087 |
| ** Status ** | | | | | | | |
| Design | % | D-Comp. | D-Comp. | D-Comp. | Under-C | Comp. | Comp. |
| Const. | % | 100 | 100-Headwork | 100-Headwork | 100 | 100 | 100 |
| On-Farm | % | 0 | - | - | 100 | 100 | 100 |
| | | 0 | - | - | 62 | - | - |

F-7 : Inventory of SSID Schemes in Northwestern Zone (3/3)

| | | |
|--------------|------|------------|
| Project | | II |
| Type | | Aba Genan |
| Zone | | D |
| Province | | W |
| I-Area | ha | N/Gondar |
| No. of B. | | 50 |
| Pop. | | 1650 |
| C Area | Km2 | 24 |
| An. R-fall | mm/y | 1,000 |
| An. Dis. | MCM | 2.3 |
| Subm'd area | Km2 | - |
| Stor. Capa. | MCM | 0.76 |
| **Facil.** | | Earth Dam |
| Hight | m | 18 |
| Length | m | 423 |
| V. Earth | m3 | 151,800 |
| **Spillway** | | |
| Type | | Concrete |
| Leng. | m | 200 |
| Wid. | m | |
| Hight | m | 15 |
| Disc. capa. | m3/s | 94 |
| **Intake** | | |
| Type | | Steel Pipe |
| Leng. | m | 61.5 |
| Disc. capa. | | 0.15 |
| ** M-C ** | | |
| No. | | - |
| Leng. | m | - |
| Bed Width | m | - |
| Water Dep. | m | - |
| **S-C** | | |
| No. | | - |
| Leng. | m | - |
| Bed Width | m | - |
| Water Dep. | m | - |
| **T-C** | | |
| No. | | - |
| Leng. | m | - |
| Bed Width | m | - |
| Water Dep. | m | - |
| **Drain** | | |
| **R-S** | | |
| No. Flume | No. | - |
| Culvert | No. | - |
| Shute | No. | - |
| Div. -Box | No. | - |
| Drop | No. | - |
| T-out | No. | - |
| C-gate | No. | - |
| No. F-road | No. | - |
| L. F-road | m | - |
| T. C. C. | Birr | 668,938 |
| *Status* | | D-Comp. |
| Design | % | 100 |
| Const. | % | 0 |
| On-Farm | % | 0 |

F-8 : Summary of SSID Schemes in Western Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|----------------|---------|---------|--------------|---------------|-------------------------------|--------------------------|----------------|------------------|---------------|--------------------------|
| 1 | Gambela Tere | Wellega | Nekemit | 7°-33' | 36°-43' | 80 | Head work & M.C. Constr. | Gov. | Weir | 160 | 723,500 |
| 2 | Gibelimu | " | " | 9°-81' | 37°-14' | 50 | Design Comp. | " | " | 100 | 250,000 |
| 3 | Keto | " | " | 10°-6' | 34°-33' | 50 | On farm const. Comp. | " | Pump | 100 | - |
| 4 | Tato | " | Asosa | 10°-6' | 34°-33' | 60 | Design Comp. | " | Weir | 120 | 4,200,000 |
| Total | | | | | | | | | | | 240 |

F-9 : Inventory of SSID Schemes in Western Zone

| *Proj't Name* | | 1 | 2 | 3 |
|---------------|-------------------|-------------|----------|---------|
| | | Gambelatare | Gibe | Tato |
| Type | | W | W | W |
| Zone | | W | W | W |
| Province | | Wellega | Wellega | Wellega |
| I-Area | ha | 80 | 50 | 50 |
| Base flow | m ³ /s | 0.36 | 0.1 | 0.15 |
| Bene. (House) | No. | 235 | 105 | 300 |
| Bene. (Popu.) | | - | - | - |
| ** Intake ** | | | | |
| B. leng. | m | 17 | 30 | 20 |
| B. hight | m | 3 | 0.5 | 2.5 |
| L. Sway | m | - | - | - |
| H. Sway | m | - | - | - |
| ** M-Canal ** | | | | |
| Number | No. | 1 | - | - |
| T-Leng. | m | 7300 | 3500 | - |
| Width | m | 0.7 | 0.45 | - |
| Dep. | m | 0.35 | 0.65 | - |
| Capa. | m | - | - | - |
| ** S-Canal ** | | | | |
| Number | No. | - | - | - |
| T-Leng. | m | 1500 | 500 | - |
| Width | m | - | - | - |
| Dep. | m | - | - | - |
| ** T-Canal ** | | | | |
| Number | No. | - | - | - |
| T-Leng. | m | - | 10400 | - |
| Width | m | - | - | - |
| Dep. | m | - | - | - |
| ** Q-Canal ** | | | | |
| ** Drainage** | m | 5500 | 5000 | - |
| *Structures* | | | | |
| No. Flume | No. | 2 | 1 | - |
| Culvert | No. | 5 | 8 | - |
| Div. -Box | No. | - | 20 | - |
| Drop | No. | 14 | 34 | - |
| C-gate | No. | 14 | - | - |
| T-out | No. | - | 12 | - |
| No. F-road | No. | 1 | - | - |
| L. F-road | m | 550 | - | - |
| T. C. C | Bir | 723, 548 | 250, 000 | - |
| ** Status ** | | Under-C | D-Comp. | D-Comp. |
| Design | % | 100 | 100 | 100 |
| Const. | % | 50 | 0 | - |
| On-Farm | % | 0 | 0 | - |

F-10 : Summary of SSID Schemes in Southeastern Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|----------------|-----------|--------|--------------|---------------|-------------------------------|------------------------|----------------|------------------|---------------|--------------------------|
| 1 | Waro | Illubabor | Jima | 7°-36' | 36°-51' | 150 | Onfarm const. Comp. | Gov. | Weir | 300 | 311,400 |
| 2 | Abono | " | " | 7°-33' | 36°-42' | 160 | " | " | " | 320 | 367,800 |
| 3 | Kishe | " | " | 7°-25' | 36°-33' | 25 | " | " | " | 50 | 125,000 |
| 4 | Kolombo | " | Limu | 7°-51' | 36°-42' | 53 | Head work const. Comp. | " | " | 106 | - |
| Total | | | | | | 388 | | | | | |

F-11 : Inventory of SSID Schemes in Southwestern Zone

| *Proj't Name* | | 1 | 2 | 3 | 4 |
|----------------------|-------------------|----------|-----------|----------|----------|
| Type | | Waro | Abono | Kishe | Colombo |
| Zone | | W | W | W | W |
| Province | | S/W | S/W | S/W | S/W |
| I-Area | ha | Ilubabor | Ilubabor | Ilubabor | Ilubabor |
| Base flow | m ³ /s | 150 | 160 | 25 | 53 |
| Bene. (House) | No. | 0.3 | 0.24 | 0.075 | 0.2 |
| Bene. (Popu.) | No. | 1,200 | 800 | 130 | 64 |
| ** Intake ** | | | | | |
| B. leng. | m | 20 | 30 | 10 | 15 |
| B. hight | m | 3.6 | 3 | 1.8 | 2 |
| L. Sway | m | - | 13.2 | - | - |
| H. Sway | m | - | 3 | - | - |
| ** M-Canal ** | | | | | |
| Number | No. | - | - | - | - |
| T-Leng. | m | 2,950 | 3,252 | 1,550 | - |
| Width | m | 0.6 | 0.8 & 0.5 | 0.4 | - |
| Dep. | m | 0.4 | 0.3 & 0.3 | 0.3 | - |
| Capa. | m ³ /S | - | - | - | - |
| ** S-Canal ** | | | | | |
| Number | No. | - | - | - | - |
| T-Leng. | m | - | 4,760 | - | - |
| Width | m | - | - | - | - |
| Dep. | m | - | - | - | - |
| ** T-Canal ** | | | | | |
| Number | No. | 55 | 149 | - | - |
| T-Leng. | m | 1,655 | 3,762 | - | - |
| Width | m | - | - | - | - |
| Dep. | m | - | - | - | - |
| ** Q-Canal ** | | | | | |
| ** Drainage** | | | | | |
| | m | 4,000 | 7,000 | 2,000 | - |
| *Structures* | | | | | |
| No. Flume | No. | - | - | 2 | - |
| Culvert | No. | 1 | 36 | - | - |
| Div. -Box | No. | - | 4 | 4 | - |
| Drop | No. | 15 | - | 5 | - |
| C-gate | No. | - | - | - | - |
| T-out | No. | 15 | 5 | - | - |
| No. F-road | No. | - | - | - | - |
| L. F-road | m | 1,000 | - | - | - |
| T. C. C | Bir | 311,395 | 367,762 | 125,000 | - |
| ** Status ** | | | | | |
| | | Under-c | Comp. | Comp. | Under-c |
| Design | % | 100 | 100 | 100 | 50 |
| Const. | % | 60 | 100 | 100 | - |
| On-Farm | % | - | 50 | 100 | - |

F-12: Summary of SSID Schemes in Eastern Zone

| No | Project's Name | Region | Awraja | Latitude (N) | Longitude (E) | Potential Irrigable Area (ha) | Status of the project | Source of fund | Type of Headwork | Beneficiaries | Construction cost (Birr) |
|-------|----------------|-----------|-------------|--------------|---------------|-------------------------------|-----------------------|-------------------|------------------|---------------|--------------------------|
| 1 | Burka | W.Harerge | Habru | 8°-58' | 40°-46' | 165 | On farm const. comp. | Gov. | Weir | 330 | 100,000 |
| 2 | Hirna | " | Webera | 9°-13' | 41°-9' | 50 | " | " | " | 240 | - |
| 3 | Boko | E.Harerge | Fedis | 9°-14' | 42°-9' | 105 | " | " | " | 137 | 280,000 |
| 4 | Awsherif | " | Harer-Zuria | 9°-22' | 42°-20' | 10 | " | " | " | 20 | 6,500 |
| 5 | Homecho | " | Chercher | 8°-55' | 41° | 250 | " | " | " | 450 | 304,100 |
| 6 | Kasiheja | " | " | 8°-55' | 40°-50' | 250 | " | " | " | 500 | 286,700 |
| 7 | Kubsa | " | Harer-Zuria | 9°-27' | 42°-7' | 30 | " | " | Pump | 60 | 26,400 |
| 8 | Gabisa | " | " | 9°-24' | 42°-4' | 30 | " | " | " | 60 | 21,800 |
| 9 | Kuroharo | " | " | 9°-24' | 42°-7' | 30 | " | " | " | 60 | 22,800 |
| 10 | Biyo | " | Jijiga | 9°-25' | 42°-41' | 86 | " | Eth. Italy (Don.) | Dam | 172 | 4,841,800 |
| 11 | Chinaksen | " | " | 9°-27' | 42°-39' | 45 | Head work const. | " | " | 90 | 2,612,800 |
| 12 | Asseliso | " | Diredawa | 9°-38' | 41°-49' | 100 | " | Gov. | Weir | 200 | 357,600 |
| 13 | Hario | " | Jijiga | 9°-15' | 42°-10' | 100 | Design comp. | Eth-Italy (Don) | Dam | 2000 | 28,000,000 |
| 14 | Sofi | " | Harer-Zuria | 9°-15' | 42°-10' | 10 | " | IFAD (Loan) | Weir | 20 | 14,700 |
| 15 | Burkahundene | " | " | 9°-15' | 42°-10' | 20 | " | " | " | 40 | 39,400 |
| 16 | Woter | E.Harerge | Harer-Zuria | 9°-20' | 41°-48' | 60 | Design comp. | IFAD (Loan) | " | 120 | 171,400 |
| 17 | Jawis | W.Harerge | Habru | 8°-49' | 40°-52' | 50 | " | " | " | 100 | 171,300 |
| 18 | Rarechilalo | E.Harerge | Gara Moleta | 9°-25' | 42° | 30 | " | " | " | 60 | 60,000 |
| 19 | Gendarige | Dire Dawa | Dire Dawa | 9°-36' | 41°-47' | 20 | " | " | " | 40 | 40,000 |
| 20 | Eter Woldeia | " | " | 10°-35' | 42°-54' | 52 | " | " | " | 104 | 104,000 |
| 21 | Azara | " | " | 9°-22' | 41°-38' | 20 | under Design | " | " | 40 | 40,000 |
| 22 | Hirna | E.Harerge | - | - | - | 30 | - | - | - | - | - |
| 23 | Jijiga | " | Jijiga | 9°-25' | 42°-55' | 500 | On farm const. | Eth-Italy (Don) | Dam | 1000 | 12,000,000 |
| 24 | Kobo | " | Jijiga | 9°-27' | 42°-35' | 250 | " | " | " | 500 | 74,000,000 |
| Total | | | | | | 3042 | | | | | |

F-13 : Inventory of SSID Schemes in Eastern Zone (1/4)

| | | 1 | 2 | 3 | 4 |
|----------------|-------------------|-------------|-------------|-------------|-------------|
| *Proj. t Name* | | Burka | Boko | Hasseliso | Honecho |
| Type | | W | W | W | W |
| Zone | | E | E | E | E |
| Province | | W. Harerige | W. Harerige | W. Harerige | W. Harerige |
| l-Area | ha | 165 | 105 | 100 | 250 |
| Base flow | m ³ /s | 0.268 | 0.2 | 0.12 | 0.55 |
| Bene. (House) | No. | 330 | | | 600 |
| Bene. (Popu.) | No. | - | 630 | 3,000 | - |
| ** Intake ** | | | | | |
| B. leng. | m | 3.5 | 18 | 20 | 12.5 |
| B. hight | m | 1.35 | 4 | 4.3 | 2.7 |
| L. Sway | m | - | - | - | - |
| H. Sway | m | - | - | - | - |
| ** M-Canal ** | | | | | |
| Number | No. | - | - | - | - |
| T-Leng. | m | 6,300 | 1,750 | 6,575 | 4,500 |
| Width | m | 0.6 | 0.4 | 0.5 | 1.2 |
| Dep. | m | 0.6 | 0.4 | 0.5 | 1.2 |
| Capa. | M ³ /S | - | - | - | - |
| ** S-Canal ** | | | | | |
| Number | No. | 2 | 1 | 3 | - |
| T-Leng. | m | 800 | 350 | 5,485 | - |
| Width | m | - | - | - | - |
| Dep. | m | - | - | - | - |
| ** T-Canal ** | | | | | |
| Number | No. | 13 | 5 | 15 | - |
| T-Leng. | m | 18,000 | 2,080 | 12,140 | 8,750 |
| Width | m | - | - | - | - |
| Dep. | m | - | - | - | - |
| ** Q-Canal ** | m | - | - | - | - |
| ** Drainage** | m | 7,000 | 4,500 | 1,500 | 12,000 |
| *Structures* | | | | | |
| No. Flume | No. | - | 2 | - | - |
| Culvert | No. | 4 | 3 | 14 | 7 |
| Div. -Box | No. | 1 | - | - | - |
| Drop | No. | 3 | - | 5 | - |
| C-gate | No. | 0 | - | - | - |
| T-out | No. | 9 | 2 | - | 10 |
| No. F-road | No. | - | - | - | - |
| L. F-road | m | - | - | 4,600 | 1,050 |
| T. C. C | Bir | 100,123 | 280,089 | 357,582 | 304,122 |
| ** Status ** | | Comp. | Under-C. | D-Comp. | D-Comp. |
| Design | % | 100 | 100 | 100 | 100 |
| Const. | % | 100 | 100 | 70 | 95 |
| On-Farm | % | 60 | 10 | - | 65 |