

Reconnaissance Soil Survey  
in the Humid Forest Area of South Cameroon,  
at scale of 1: 1,500,000  
(unpublished)

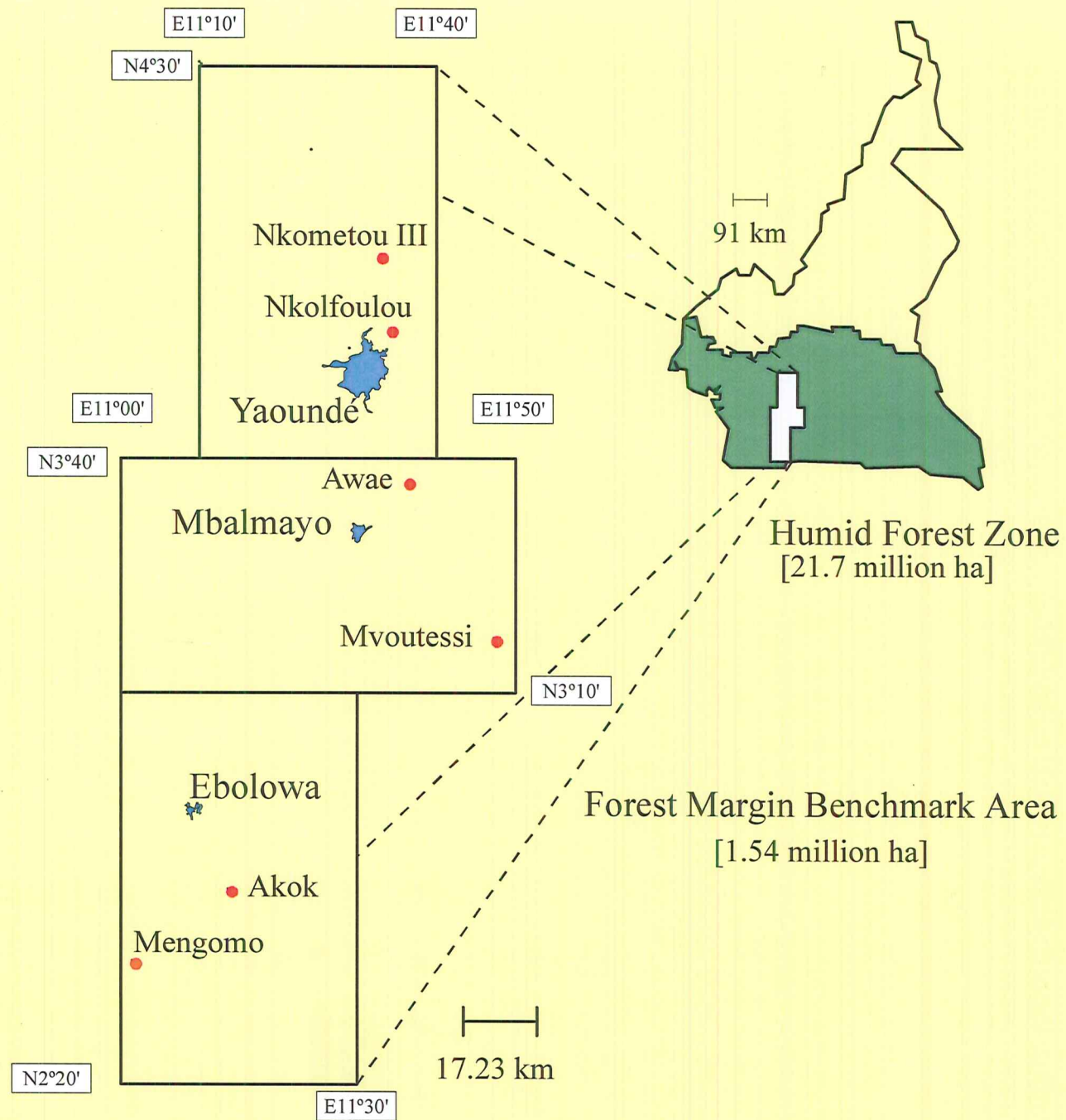
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1991

Humid Forest Ecoregional Center, IITA, Cameroon

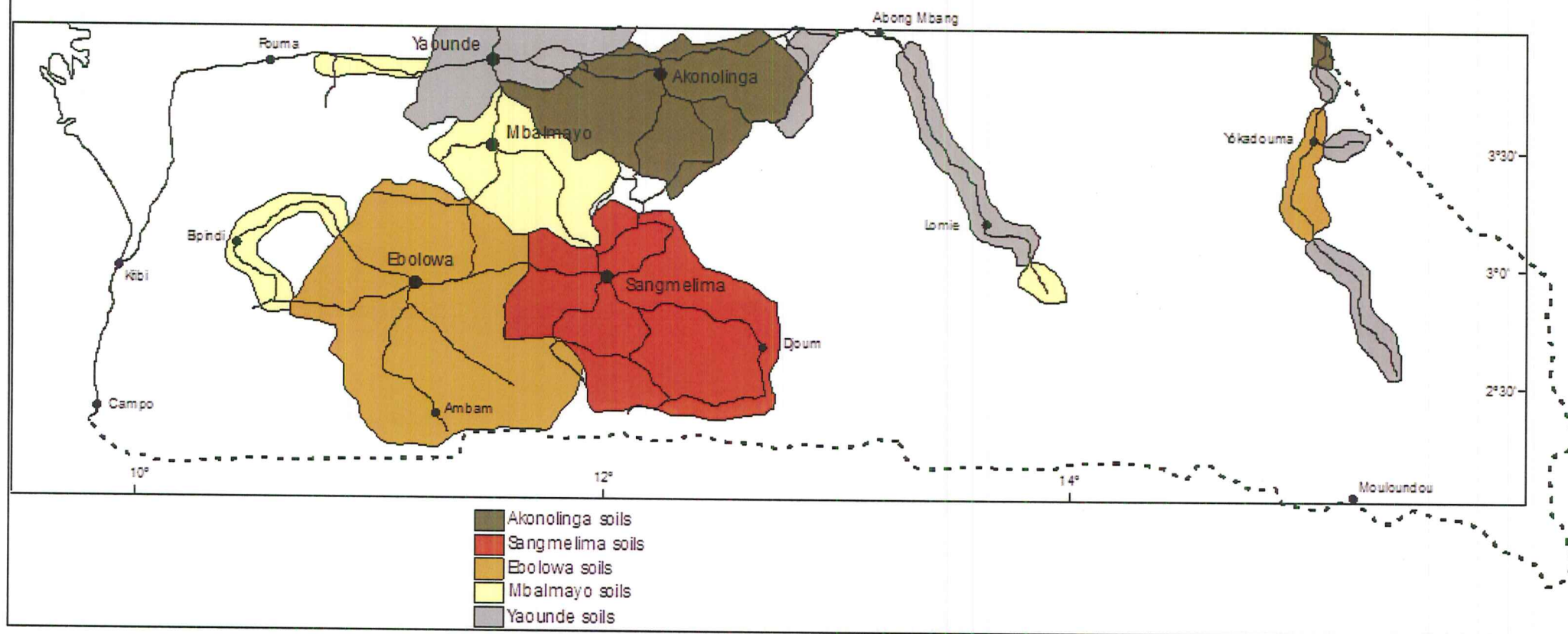
ISN 29749



# Reconnaissance Soil Survey in the Humid Forest Area of South Cameroon

By G.G. Murtha (CSIRO and Tchienkwa (IRAD)  
fieldwork from 19 March to 25 April 1991

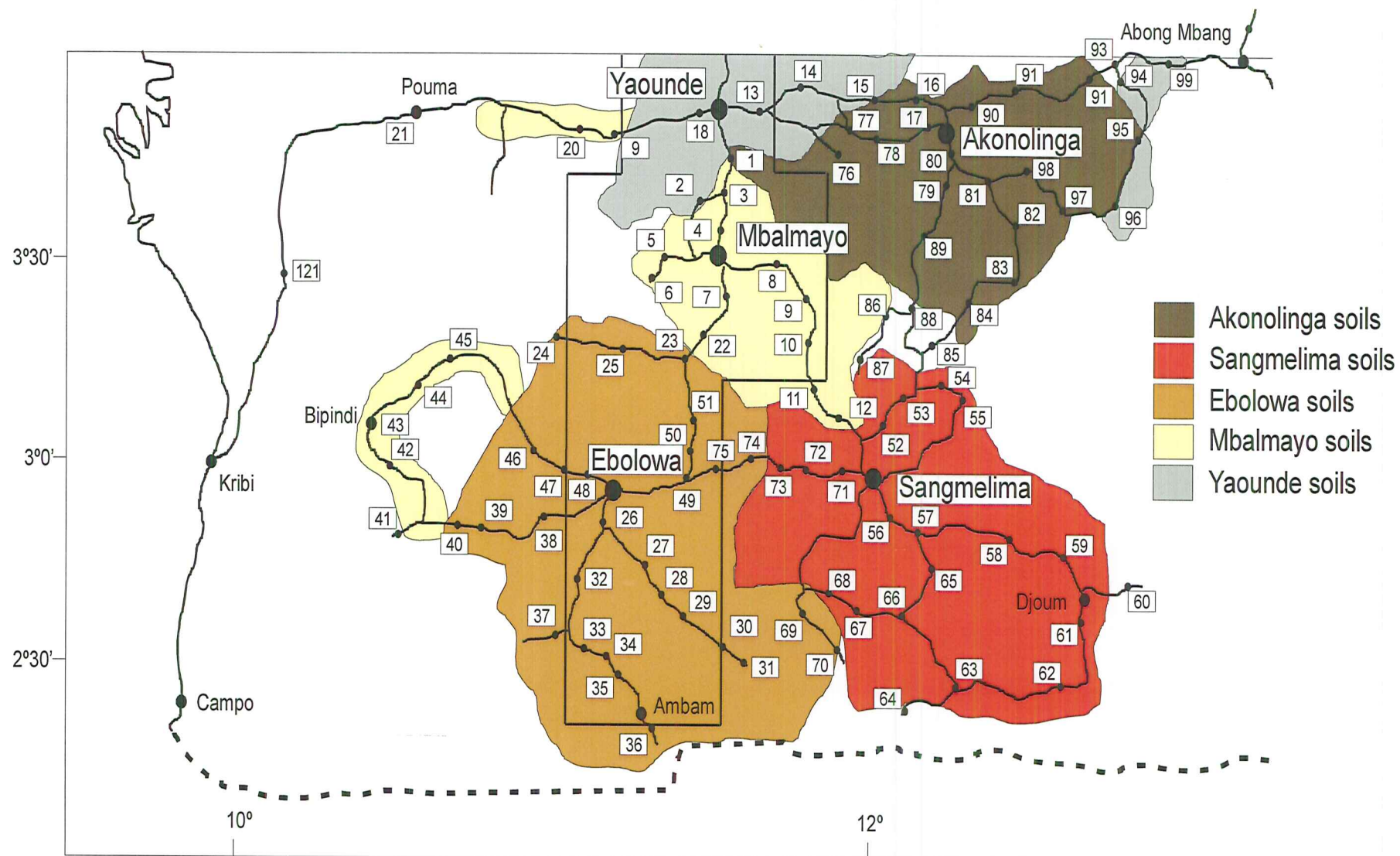
base map: road map of Cameroon, scale 1:1,500,000  
soil sketch map based on field observations



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| code    | description                 | unit       | method                            | reference                  |         |          |
|---------|-----------------------------|------------|-----------------------------------|----------------------------|---------|----------|
| Village | village name                |            |                                   | topographic map            |         |          |
| region  | soil region as mapped       |            |                                   | see 'map' worksheet        |         |          |
| rno     | region number               |            |                                   |                            |         |          |
| ID      | vililage number             |            |                                   |                            |         |          |
| depth   | soil sampling depth         | [cm]       | 1=0-15; 2=15-30; 3=30-45; 4=45-60 |                            |         |          |
| sand    | percent sand of texture     | [%]        |                                   |                            |         |          |
| clay    | percent clay of texture     | [%]        |                                   |                            |         |          |
| silt    | percent silt of texture     | [%]        |                                   |                            |         |          |
| Corg    | organic carbon              | [%]        | Walkley/Black                     |                            |         |          |
| Norg    | total N                     | [%]        | Kjeldahl                          |                            |         |          |
| C/N     | C/N ratio                   |            |                                   |                            |         |          |
| P       | available P                 | [ppm]      | Bray 1                            |                            |         |          |
| pHH     | pH in H2O                   |            | H2O                               |                            | 0.0476  | dilution |
| pHB     | pH in BaCl                  |            | 0.005M BaCl                       |                            | 0.00476 | M        |
| EC      | electrical conductivity     | µS/cm      |                                   |                            |         |          |
| Ca      | exchangeable Ca             | cmol(+)/kg | 0.1M BaCl                         | ??? [Gillmann '79: 0.002M] | 0.10    | M        |
| Mg      | exchangeable Mg             | cmol(+)/kg |                                   |                            | 0.4878  | 0.20000  |
| K       | exchangeable K              | cmol(+)/kg |                                   |                            | 0.5122  | 0.00476  |
| Al      | exchangeable Al             | cmol(+)/kg |                                   |                            |         |          |
| sumbase | sum of exchangeable bases   | cmol(+)/kg |                                   |                            |         |          |
| ECEC    | effective exchange capacity | cmol(+)/kg |                                   |                            |         |          |
| Alsat   | Al saturation               | [%]        |                                   |                            |         |          |
| Na      | exchangeable Na             | cmol(+)/kg |                                   |                            |         |          |

| ID | Village        | parent material | region | rno | LOC | LOD | LOM | LOS | LAC | LAD | LAM | LAS | X        | Y       |
|----|----------------|-----------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|---------|
| 1  | Nsimalen       | gneiss          | Ako    | 1   | E   | 11  | 33  |     | N   | 3   | 46  |     | 11.55000 | 3.76667 |
| 2  | Bikok          | gneiss          | Yao    | 4   | E   | 11  | 27  |     | N   | 3   | 38  |     | 11.45000 | 3.63333 |
| 3  | Ekali          | schist          | Mba    | 4   | E   | 11  | 32  |     | N   | 3   | 41  |     | 11.53333 | 3.68333 |
| 4  | Zamakoe        | schist          | Mba    | 4   | E   | 11  | 31  |     | N   | 3   | 35  |     | 11.51667 | 3.58333 |
| 5  | Akono          | schist          | Mba    | 4   | E   | 11  | 21  |     | N   | 3   | 30  |     | 11.35000 | 3.50000 |
| 6  | Mfida          | schist          | Mba    | 4   | E   | 11  | 19  |     | N   | 3   | 27  |     | 11.31667 | 3.45000 |
| 7  | Abang          | schist          | Mba    | 4   | E   | 11  | 32  |     | N   | 3   | 24  |     | 11.53333 | 3.40000 |
| 8  | Obout          | schist          | Mba    | 4   | E   | 11  | 42  |     | N   | 3   | 29  |     | 11.70000 | 3.48333 |
| 9  | Nkoyla         | schist          | Mba    | 4   | E   | 11  | 45  |     | N   | 3   | 25  |     | 11.75000 | 3.41667 |
| 10 | Nvoutessi 1    | schist          | Mba    | 4   | E   | 11  | 47  |     | N   | 3   | 19  |     | 11.78333 | 3.31667 |
| 11 | Nsimi          | schist          | Mba    | 4   | E   | 11  | 50  |     | N   | 3   | 17  |     | 11.83333 | 3.28333 |
| 12 | Oveng          | granite         | Mba    | 4   | E   | 11  | 56  |     | N   | 3   | 11  |     | 11.93333 | 3.18333 |
| 13 | Nkolmeyang     | migmatite       | Yao    | 5   | E   | 11  | 41  |     | N   | 3   | 51  |     | 11.68333 | 3.85000 |
| 14 | Essamintsang   | migmatite       | Yao    | 5   | E   | 11  | 47  |     | N   | 3   | 55  |     | 11.78333 | 3.91667 |
| 15 | Mambang        | migmatite       | Yao    | 1   | E   | 12  | 0   |     | N   | 3   | 54  |     | 12.00000 | 3.90000 |
| 16 | Mfoumassi      | schist          | Mis    | 1   | E   | 12  | 9   |     | N   | 3   | 54  |     | 12.15000 | 3.90000 |
| 17 | Essong         | schist          | Mba    | 1   | E   | 12  | 11  |     | N   | 3   | 49  |     | 12.18333 | 3.81667 |
| 18 | Nkolbisson     | migmatite       | Yao    | 5   | E   | 11  | 27  |     | N   | 3   | 53  |     | 11.45000 | 3.88333 |
| 19 | Ngoulemakong   | schist          | Mba    | 4   | E   | 11  | 11  |     | N   | 3   | 50  |     | 11.18333 | 3.83333 |
| 20 | Matomb         | schist          | Mba    | 4   | E   | 11  | 3   |     | N   | 3   | 21  |     | 11.05000 | 3.35000 |
| 21 | Pouma          | gneiss          | Mba    | 4   | E   | 10  | 31  |     | N   | 3   | 53  |     | 10.51667 | 3.88333 |
| 22 | Azap           | granite         | Mba    | 4   | E   | 11  | 28  |     | N   | 3   | 19  |     | 11.46667 | 3.31667 |
| 23 | Ntang          | granite         | Mba    | 2   | E   | 11  | 22  |     | N   | 3   | 15  |     | 11.36667 | 3.25000 |
| 24 | Mvengve        | granite         | Ebo    | 2   | E   | 10  | 58  |     | N   | 3   | 17  |     | 10.96667 | 3.28333 |
| 25 | Ngomedzap      | granite         | Ebo    | 2   | E   | 11  | 12  |     | N   | 3   | 16  |     | 11.20000 | 3.26667 |
| 26 | Nkoenvone      | granite         | Ebo    | 2   | E   | 11  | 8   |     | N   | 2   | 50  |     | 11.13333 | 2.83333 |
| 27 | Akookas        | granite         | Ebo    | 2   | E   | 11  | 17  |     | N   | 2   | 47  |     | 11.28333 | 2.78333 |
| 28 | Minkok         | granite         | Ebo    | 2   | E   | 11  | 19  |     | N   | 2   | 41  |     | 11.31667 | 2.68333 |
| 29 | Mekok          |                 | Yao    | 2   | E   | 11  | 29  |     | N   | 2   | 13  |     | 11.48333 | 2.21667 |
| 30 | Bissam         | granite         | Ebo    | 2   | E   | 11  | 32  |     | N   | 2   | 31  |     | 11.53333 | 2.51667 |
| 31 | Okpwegngoe     | granite         | Ebo    | 2   | E   | 11  | 37  |     | N   | 2   | 27  |     | 11.61667 | 2.45000 |
| 32 | Nyazanga       | granite         | Ebo    | 2   | E   | 11  | 4   |     | N   | 2   | 40  |     | 11.06667 | 2.66667 |
| 33 | Akak Metom     | granite         | Ebo    | 2   | E   | 11  | 5   |     | N   | 2   | 31  |     | 11.08333 | 2.51667 |
| 34 | Akonekye       | granite         | Ebo    | 2   | E   | 11  | 9   |     | N   | 2   | 29  |     | 11.15000 | 2.48333 |
| 35 | Biyii          | granite         | Ebo    | 2   | E   | 11  | 13  |     | N   | 2   | 26  |     | 11.21667 | 2.43333 |
| 36 | Ntem River     | granite         | Ebo    | 2   | E   | 11  | 9   |     | N   | 2   | 29  |     | 11.15000 | 2.48333 |
| 37 | Ekoumedoum     | granite         | Ebo    | 2   | E   | 11  | 0   |     | N   | 2   | 36  |     | 11.00000 | 2.60000 |
| 38 | Mvieng         | granite         | Ebo    | 2   | E   | 10  | 58  |     | N   | 2   | 40  |     | 10.96667 | 2.66667 |
| 39 | Nkoloveng      | granite         | Ebo    | 2   | E   | 10  | 46  |     | N   | 2   | 39  |     | 10.76667 | 2.65000 |
| 40 | Ebemvok        | granite         | Ebo    | 2   | E   | 10  | 41  |     | N   | 2   | 38  |     | 10.68333 | 2.63333 |
| 41 | Nkonmekak      | gneiss          | Mba    | 4   | E   | 10  | 32  |     | N   | 2   | 37  |     | 10.53333 | 2.61667 |
| 42 | Nlonkeng       | gneiss          | Mba    | 4   | E   | 10  | 31  |     | N   | 2   | 58  |     | 10.51667 | 2.96667 |
| 43 | Bipindi        | gneiss          | Mba    | 4   | E   | 10  | 28  |     | N   | 3   | 3   |     | 10.46667 | 3.05000 |
| 44 | Bikala         | gneiss          | Mba    | 4   | E   | 10  | 27  |     | N   | 3   | 12  |     | 10.45000 | 3.20000 |
| 45 | Bingambo       | gneiss          | Mba    | 4   | E   | 10  | 33  |     | N   | 3   | 14  |     | 10.55000 | 3.23333 |
| 46 | Efoulan        | grandodiorite   | Ebo    | 2   | E   | 10  | 58  |     | N   | 3   | 0   |     | 10.96667 | 3.00000 |
| 47 | Mengale        | grandodiorite   | Ebo    | 2   | E   | 11  | 2   |     | N   | 2   | 57  |     | 11.03333 | 2.95000 |
| 48 | Akom           | grandodiorite   | Ebo    | 2   | E   | 11  | 3   |     | N   | 2   | 55  |     | 11.05000 | 2.91667 |
| 49 | Mengong        | granite         | Ebo    | 2   | E   | 11  | 25  |     | N   | 2   | 53  |     | 11.41667 | 2.88333 |
| 50 | Ntomba         | granite         | Ebo    | 2   | E   | 11  | 26  |     | N   | 3   | 17  |     | 11.43333 | 3.28333 |
| 51 | Ngoulemakong   | grandodiorite   | Ebo    | 2   | E   | 11  | 26  |     | N   | 3   | 2   |     | 11.43333 | 3.03333 |
| 52 | Nkoloutououtor | granite         | San    | 3   | E   | 12  | 1   |     | N   | 3   | 5   |     | 12.01667 | 3.08333 |
| 53 | Tekmo          | grandodiorite   | San    | 3   | E   | 12  | 5   |     | N   | 3   | 9   |     | 12.08333 | 3.15000 |
| 54 | bibouloumam    | granite         | Mba    | 3   | E   | 12  | 13  |     | N   | 3   | 10  |     | 12.21667 | 3.16667 |
| 55 | Andom          | granite         | Mba    | 3   | E   | 12  | 18  |     | N   | 3   | 7   |     | 12.30000 | 3.11667 |
| 56 | Nyzunger       | diorite         | San    | 3   | E   | 12  | 3   |     | N   | 2   | 50  |     | 12.05000 | 2.83333 |
| 57 | Olounou        | diorite         | San    | 3   | E   | 12  | 8   |     | N   | 2   | 49  |     | 12.13333 | 2.81667 |
| 58 | Bikoula        | diorite         | San    | 3   | E   | 12  | 26  |     | N   | 2   | 48  |     | 12.43333 | 2.80000 |
| 59 | Mveng          | diorite         | San    | 3   | E   | 12  | 37  |     | N   | 2   | 45  |     | 12.61667 | 2.75000 |
| 60 | Efoulan        | diorite         | San    | 3   | E   | 12  | 48  |     | N   | 2   | 39  |     | 12.80000 | 2.65000 |
| 61 | Essong         | diorite         | San    | 3   | E   | 12  | 39  |     | N   | 2   | 31  |     | 12.65000 | 2.51667 |
| 62 | Nkolenyeng     | diorite         | San    | 3   | E   | 12  | 35  |     | N   | 2   | 26  |     | 12.58333 | 2.43333 |
| 63 | Oveng          | diorite         | San    | 3   | E   | 12  | 16  |     | N   | 2   | 26  |     | 12.26667 | 2.43333 |
| 64 | Akoabas        | diorite         | San    | 3   | E   | 12  | 6   |     | N   | 2   | 23  |     | 12.10000 | 2.38333 |
| 65 | Elom           | diorite         | San    | 3   | E   | 2   | 11  |     | N   | 2   | 48  |     | 2.18333  | 2.80000 |
| 66 | Endengue       | diorite         | Mba    | 3   | E   | 12  | 5   |     | N   | 2   | 36  |     | 12.08333 | 2.60000 |
| 67 | Meboo Ngoe     | diorite         | San    | 3   | E   | 12  | 59  |     | N   | 2   | 35  |     | 12.98333 | 2.58333 |
| 68 | Aboelon        | granite         | San    | 3   | E   | 11  | 57  |     | N   | 2   | 37  |     | 11.95000 | 2.61667 |
| 69 | Bikong         | granite         | Ebo    | 3   | E   | 11  | 47  |     | N   | 2   | 35  |     | 11.78333 | 2.58333 |



| ID  | Village      | parent material | region | rno | LOC | LOD | LOM | LOS | LAC | LAD | LAM | LAS | X        | Y       |
|-----|--------------|-----------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|---------|
| 70  | Ekowong      | diorite         | San    | 3   | E   | 11  | 56  |     | N   | 2   | 31  |     | 11.93333 | 2.51667 |
| 71  | Akak         | granite         | San    | 3   | E   | 11  | 59  |     | N   | 2   | 58  |     | 11.98333 | 2.96667 |
| 72  | Avebe-Esse   | granite         | San    | 3   | E   | 11  | 46  |     | N   | 2   | 59  |     | 11.76667 | 2.98333 |
| 73  | Evelessi     | granite         | San    | 3   | E   | 11  | 41  |     | N   | 3   | 0   |     | 11.68333 | 3.00000 |
| 74  | Nemeyong     | granite         | Ebo    | 2   | E   | 11  | 36  |     | N   | 2   | 59  |     | 11.60000 | 2.98333 |
| 75  | Mvangué      | granite         | Ebo    | 2   | E   | 11  | 30  |     | N   | 2   | 57  |     | 11.50000 | 2.95000 |
| 76  | Dzeng        | mica schist     | Ako    | 1   | E   | 11  | 52  |     | N   | 3   | 46  |     | 11.86667 | 3.76667 |
| 77  | Ngang        | gneiss          | Ako    | 1   | E   | 12  | 0   |     | N   | 3   | 47  |     | 12.00000 | 3.78333 |
| 78  | Mfoumou      | gneiss          | Ako    | 1   | E   | 12  | 3   |     | N   | 3   | 49  |     | 12.05000 | 3.81667 |
| 79  | Efoulan      | mica schist     | Ako    | 1   | E   | 12  | 11  |     | N   | 3   | 42  |     | 12.18333 | 3.70000 |
| 80  | Akololinga   | alluvium        | Ako    | 1   | E   | 12  | 16  |     | N   | 3   | 47  |     | 12.26667 | 3.78333 |
| 81  | Ebengue      | mica schist     | Ako    | 1   | E   | 12  | 21  |     | N   | 3   | 41  |     | 12.35000 | 3.68333 |
| 82  | Djeng        | mica schist     | Ako    | 1   | E   | 12  | 23  |     | N   | 3   | 35  |     | 12.38333 | 3.58333 |
| 83  | Bengbis      | mica schist     | Ako    | 1   | E   | 12  | 22  |     | N   | 3   | 25  |     | 12.36667 | 3.41667 |
| 84  | Essaman      | mica schist     | Ako    | 1   | E   | 12  | 18  |     | N   | 3   | 24  |     | 12.30000 | 3.40000 |
| 85  | Essong       | schist          | Mba    | 1   | E   | 12  | 8   |     | N   | 3   | 16  |     | 12.13333 | 3.26667 |
| 86  | Nkolessas    | schist          | Mba    | 4   | E   | 12  | 4   |     | N   | 3   | 19  |     | 12.06667 | 3.31667 |
| 87  | Nkoumadjap   | granite         | San    | 4   | E   | 12  | 0   |     | N   | 3   | 12  |     | 12.00000 | 3.20000 |
| 88  | Nkoambang    | mica schist     | Ako    | 1   | E   | 12  | 7   |     | N   | 3   | 23  |     | 12.11667 | 3.38333 |
| 89  | Zoulon       | mica schist     | Ako    | 1   | E   | 12  | 8   |     | N   | 3   | 31  |     | 12.13333 | 3.51667 |
| 90  | Ekwa         | mica schist     | Ako    | 1   | E   | 12  | 16  |     | N   | 3   | 52  |     | 12.26667 | 3.86667 |
| 91  | Emini        | mica schist     | Ako    | 1   | E   | 12  | 22  |     | N   | 3   | 54  |     | 12.36667 | 3.90000 |
| 92  | Mayos        | mica schist     | Ako    | 1   | E   | 12  | 38  |     | N   | 3   | 55  |     | 12.63333 | 3.91667 |
| 93  | Mbama        | gneiss          | Yao    | 1   | E   | 12  | 43  |     | N   | 3   | 55  |     | 12.71667 | 3.91667 |
| 94  | Ngwemetak    | gneiss          | Yao    | 1   | E   | 12  | 48  |     | N   | 3   | 55  |     | 12.80000 | 3.91667 |
| 95  | Blandjwek    | mica schist     | Ako    | 1   | E   | 12  | 49  |     | N   | 3   | 47  |     | 12.81667 | 3.78333 |
| 96  | Maleele      | gneiss          | Yao    | 1   | E   | 12  | 38  |     | N   | 3   | 38  |     | 12.63333 | 3.63333 |
| 97  | Malan        | mica schist     | Ako    | 1   | E   | 12  | 36  |     | N   | 3   | 36  |     | 12.60000 | 3.60000 |
| 98  | Nkanassie    | mica schist     | Ako    | 1   | E   | 12  | 34  |     | N   | 3   | 42  |     | 12.56667 | 3.70000 |
| 99  | Bigwens      | gneiss          | Yao    | 5   | E   | 12  | 55  |     | N   | 3   | 58  |     | 12.91667 | 3.96667 |
| 100 | Nkouak       | gneiss          | Yao    | 5   | E   | 13  | 19  |     | N   | 3   | 52  |     | 13.31667 | 3.86667 |
| 101 | Malen        | gneiss          | Yao    | 5   | E   | 13  | 21  |     | N   | 3   | 41  |     | 13.35000 | 3.68333 |
| 102 | Mindourou    | gneiss          | Yao    | 5   | E   | 13  | 29  |     | N   | 3   | 33  |     | 13.48333 | 3.55000 |
| 103 | Koungoulou   | schist          | Yao    | 5   | E   | 13  | 34  |     | N   | 3   | 2   |     | 13.56667 | 3.03333 |
| 104 | Karagwa      | schist          | Mba    | 5   | E   | 13  | 29  |     | N   | 2   | 57  |     | 13.48333 | 2.95000 |
| 105 | Bapile       | mica schist     | Yao    | 5   | E   | 13  | 34  |     | N   | 3   | 22  |     | 13.56667 | 3.36667 |
| 106 | Nkoum        | migmatite       | Yao    | 5   | E   | 13  | 5   |     | N   | 4   | 0   |     | 13.08333 | 4.00000 |
| 107 | Yola         | anatexite       | San    | 5   | E   | 15  | 8   |     | N   | 3   | 58  |     | 15.13333 | 3.96667 |
| 108 | Bompelo      | schist          | Yao    | 5   | E   | 15  | 9   |     | N   | 3   | 29  |     | 15.15000 | 3.48333 |
| 109 | Menziewg     | migmatite       | Yao    | 5   | E   | 15  | 19  |     | N   | 3   | 30  |     | 15.31667 | 3.50000 |
| 110 | Momjenom     | migmatite       | Ebo    | 2   | E   | 15  | 0   |     | N   | 3   | 21  |     | 15.00000 | 3.35000 |
| 111 | Madjwe       | migmatite       | Ebo    | 2   | E   | 14  | 58  |     | N   | 3   | 19  |     | 14.96667 | 3.31667 |
| 112 | Bandekok     | calschist       | Ebo    | 2   | E   | 15  | 1   |     | N   | 3   | 12  |     | 15.01667 | 3.20000 |
| 113 | Kongo-Bange  | dolerite        | Yao    | 5   | E   | 15  | 4   |     | N   | 3   | 5   |     | 15.06667 | 3.08333 |
| 114 | Mimbo Mimbo  | dolerite        | Yao    | 5   | E   | 15  | 15  |     | N   | 2   | 56  |     | 15.25000 | 2.93333 |
| 115 | Brazzaville  | calschist       | Yao    | 5   | E   | 15  | 23  |     | N   | 2   | 30  |     | 15.38333 | 2.50000 |
| 116 | Ngoula       | calschist       | Yao    | 5   | E   | 15  | 17  |     | N   | 2   | 43  |     | 15.28333 | 2.71667 |
| 117 | Moudimdim    | calschist       | Ebo    | 5   | E   | 15  | 13  |     | N   | 2   | 47  |     | 15.21667 | 2.78333 |
| 118 | Gribi        | anatexite       | Yao    | 5   | E   | 15  | 11  |     | N   | 3   | 43  |     | 15.18333 | 3.71667 |
| 119 | Lom          | anatexite       | Yao    | 5   | E   | 15  | 8   |     | N   | 3   | 45  |     | 15.13333 | 3.75000 |
| 120 | Diso-Ngoundi | anatexite       | Ako    | 5   | E   | 15  | 7   |     | N   | 3   | 48  |     | 15.11667 | 3.80000 |
| 121 | Apou         | gneiss          | Mba    | 4   | E   | 10  | 6   |     | N   | 3   | 32  |     | 10.10000 | 3.53333 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |    |       |      |       |      |      |      |      |      |       |     |        |      |      |      |      |      |         |       |
|-------------------------------------------------------------|--------|-----|----|-------|------|-------|------|------|------|------|------|-------|-----|--------|------|------|------|------|------|---------|-------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |    |       |      |       |      |      |      |      |      |       |     |        |      |      |      |      |      |         |       |
| RAW DATA                                                    |        |     |    |       |      |       |      |      |      |      |      |       |     |        |      |      |      |      |      |         |       |
| samples were taken in cocoa plantations or secondary forest |        |     |    |       |      |       |      |      |      |      |      |       |     |        |      |      |      |      |      |         |       |
| Village                                                     | region | rno | ID | depth | Corg | Norg  | C/N  | sand | clay | silt | pH   | old P | EC  | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC  |
| Nsimalen                                                    | Ako    | 1   | 1  | 1     | 1.42 | 0.178 | 8.0  | 45.3 | 46.4 | 8.3  | 6.06 | 0.8   | 66  | 5.58   | 5.30 | 0.95 | 0.02 | 0.15 | 0.00 | 6.42    | 6.42  |
| Mambang                                                     | Ako    | 1   | 15 | 1     | 1.72 | 0.206 | 8.4  | 61.1 | 31.2 | 7.7  | 5.06 | 0.7   | 74  | 4.56   | 2.58 | 0.78 | 0.02 | 0.18 | 0.84 | 3.56    | 4.40  |
| Mfoumassi                                                   | Ako    | 1   | 16 | 1     | 1.10 | 1.359 | 0.8  | 43.5 | 49.8 | 6.7  | 4.37 | 0.3   | 55  | 3.87   | 0.40 | 0.25 | 0.02 | 0.15 | 3.51 | 0.82    | 4.33  |
| Essong                                                      | Ako    | 1   | 17 | 1     | 1.69 | 0.189 | 8.9  | 55.1 | 34.2 | 10.7 | 4.96 | 0.8   | 93  | 4.55   | 2.24 | 0.68 | 0.02 | 0.17 | 0.73 | 3.11    | 3.84  |
| Dzeng                                                       | Ako    | 1   | 76 | 1     | 1.10 | 0.151 | 7.3  | 70.0 | 21.6 | 8.4  | 5.15 | 0.1   | 60  | 4.30   | 1.97 | 0.97 | 0.01 | 0.10 | 0.41 | 3.05    | 3.46  |
| Ngang                                                       | Ako    | 1   | 77 | 1     | 0.89 | 0.124 | 7.2  | 59.4 | 34.6 | 6.0  | 4.74 | 0.2   | 61  | 3.94   | 1.52 | 0.67 | 0.01 | 0.08 | 1.09 | 2.28    | 3.37  |
| Mfoumou                                                     | Ako    | 1   | 78 | 1     | 1.31 | 0.138 | 9.5  | 56.4 | 38.6 | 5.0  | 4.87 | 0.0   | 56  | 4.09   | 1.94 | 0.68 | 0.01 | 0.08 | 0.82 | 2.71    | 3.53  |
| Efoulan                                                     | Ako    | 1   | 79 | 1     | 2.45 | 0.289 | 8.5  | 68.0 | 22.0 | 10.0 | 5.37 | 0.0   | 95  | 4.64   | 5.38 | 1.35 | 0.01 | 0.15 | 0.08 | 6.89    | 6.97  |
| Akololinga                                                  | Ako    | 1   | 80 | 1     |      | 0.258 |      | 36.4 | 45.6 | 18   | 5.03 | 0.0   | 13  | 3.92   | 1.19 | 0.09 | 0.04 | 0.08 | 6.64 | 1.40    | 8.04  |
| Ebengue                                                     | Ako    | 1   | 81 | 1     | 1.74 | 0.197 | 8.8  | 60.9 | 28.0 | 11.1 | 4.89 | 0.2   | 85  | 4.17   | 2.45 | 0.80 | 0.01 | 0.29 | 0.65 | 3.55    | 4.20  |
| Djeng                                                       | Ako    | 1   | 82 | 1     | 0.69 | 0.098 | 7.0  | 63.0 | 33.0 | 4.0  | 4.48 | 0.0   | 58  | 3.88   | 0.49 | 0.26 | 0.01 | 0.13 | 1.50 | 0.89    | 2.39  |
| Bengbis                                                     | Ako    | 1   | 83 | 1     | 1.68 | 0.175 | 9.6  | 59.6 | 24.0 | 16.4 | 5.25 | 0.0   | 84  | 4.58   | 3.39 | 1.11 | 0.01 | 0.18 | 0.23 | 4.69    | 4.92  |
| Essaman                                                     | Ako    | 1   | 84 | 1     | 1.65 | 0.176 | 9.3  | 68.4 | 20.5 | 11.1 | 6.25 | 0.3   | 111 | 5.33   | 7.90 | 1.97 | 0.01 | 0.13 | 0.01 | 10.01   | 10.02 |
| Essong                                                      | Ako    | 1   | 85 | 1     | 1.03 | 0.116 | 8.8  | 60.4 | 30.9 | 8.7  | 4.93 | 0.0   | 63  | 4.25   | 2.14 | 0.53 | 0.00 | 0.16 | 0.66 | 2.83    | 3.49  |
| Nkoambang                                                   | Ako    | 1   | 88 | 1     | 1.20 | 0.152 | 7.9  | 65.1 | 23.6 | 11.3 | 5.47 | 0.0   | 109 | 4.91   | 3.73 | 1.76 | 0.01 | 0.13 | 0.05 | 5.63    | 5.68  |
| Zoulon                                                      | Ako    | 1   | 89 | 1     | 1.29 | 0.172 | 7.5  | 46.1 | 44.6 | 9.3  | 5.08 | 0.2   | 69  | 4.34   | 2.47 | 1.04 | 0.01 | 0.19 | 0.70 | 3.71    | 4.41  |
| Ekwa                                                        | Ako    | 1   | 90 | 1     | 1.27 | 0.182 | 7.0  | 76.8 | 18.0 | 5.2  | 5.08 | 0.6   | 71  | 4.49   | 1.89 | 0.72 | 0.01 | 0.19 | 0.44 | 2.81    | 3.25  |
| Emini                                                       | Ako    | 1   | 91 | 1     | 1.80 | 0.202 | 8.9  | 57.1 | 33.6 | 9.3  | 5.25 | 0.2   | 107 | 4.82   | 3.30 | 1.19 | 0.01 | 0.21 | 0.13 | 4.71    | 4.84  |
| Mayos                                                       | Ako    | 1   | 92 | 1     | 2.48 | 0.206 | 12.0 | 65.4 | 23.0 | 11.6 | 6.80 | 0.2   | 98  | 6.25   | 7.89 | 1.92 | 0.01 | 0.18 | 0.02 | 10.00   | 10.02 |
| Mbama                                                       | Ako    | 1   | 93 | 1     | 1.71 | 0.224 | 7.6  | 54.0 | 36.4 | 9.6  | 5.19 | 0.0   | 71  | 4.64   | 3.32 | 0.80 | 0.01 | 0.17 | 0.22 | 4.30    | 4.52  |
| Ngwemetak                                                   | Ako    | 1   | 94 | 1     | 0.98 | 0.173 | 5.7  | 59.8 | 31.4 | 8.8  | 5.16 | 0.2   | 65  | 4.51   | 1.94 | 1.00 | 0.01 | 0.17 | 0.33 | 3.12    | 3.45  |
| Blandjwek                                                   | Ako    | 1   | 95 | 1     | 1.87 | 0.234 | 8.0  | 52.8 | 35.4 | 11.8 | 5.65 | 0.0   | 80  | 5.01   | 4.39 | 1.52 | 0.01 | 0.24 | 0.03 | 6.16    | 6.19  |
| Maleele                                                     | Ako    | 1   | 96 | 1     | 1.32 | 0.136 | 9.7  | 39.1 | 54.2 | 6.7  | 4.80 | 0.0   | 35  | 3.93   | 0.59 | 0.43 | 0.01 | 0.41 | 3.09 | 1.44    | 4.53  |
| Malan                                                       | Ako    | 1   | 97 | 1     | 2.04 | 0.220 | 9.3  | 51.0 | 43.4 | 5.6  | 5.16 | 0.2   | 66  | 4.48   | 3.13 | 1.43 | 0.01 | 0.13 | 0.79 | 4.70    | 5.49  |
| Nkanassie                                                   | Ako    | 1   | 98 | 1     | 1.03 | 0.084 | 12.2 | 53.2 | 38.4 | 8.4  | 4.97 | 0.0   | 31  | 4.18   | 1.60 | 0.44 | 0.01 | 0.10 | 1.68 | 2.15    | 3.83  |
| Nsimalen                                                    | Ako    | 1   | 1  | 2     | 0.73 | 0.107 | 6.8  | 38.3 | 52.0 | 9.7  | 7.10 | 0.4   | 86  | 6.82   | 6.51 | 0.52 | 0.01 | 0.13 | 0.00 | 7.17    | 7.17  |
| Mambang                                                     | Ako    | 1   | 15 | 2     | 0.73 | 0.083 | 8.8  | 53.1 | 40.2 | 6.7  | 5.48 | 0.2   | 27  | 4.69   | 1.66 | 0.86 | 0.02 | 0.06 | 0.22 | 2.60    | 2.82  |
| Mfoumassi                                                   | Ako    | 1   | 16 | 2     | 0.71 | 0.099 | 7.2  | 35.8 | 58.8 | 5.4  | 4.34 | 0.1   | 41  | 3.88   | 0.10 | 0.12 | 0.02 | 0.10 | 3.79 | 0.34    | 4.13  |
| Essong                                                      | Ako    | 1   | 17 | 2     | 0.62 | 0.083 | 7.5  | 45.1 | 49.5 | 5.4  | 4.92 | 0.1   | 28  | 4.22   | 0.81 | 0.41 | 0.02 | 0.07 | 1.55 | 1.31    | 2.86  |
| Dzeng                                                       | Ako    | 1   | 76 | 2     | 0.57 | 0.076 | 7.5  | 58.8 | 33.9 | 7.3  | 4.98 | 0.0   | 17  | 4.01   | 0.88 | 0.23 | 0.01 | 0.04 | 1.29 | 1.16    | 2.45  |
| Ngang                                                       | Ako    | 1   | 77 | 2     | 0.55 | 0.076 | 7.2  | 58.4 | 36.6 | 5.0  | 4.68 | 0.0   | 49  | 3.90   | 1.12 | 0.25 | 0.01 | 0.05 | 1.54 | 1.43    | 2.97  |
| Mfoumou                                                     | Ako    | 1   | 78 | 2     | 0.69 | 0.092 | 7.5  | 44.4 | 47.2 | 8.4  | 4.80 | 0.0   | 30  | 3.93   | 0.90 | 0.36 | 0.03 | 0.06 | 1.56 | 1.35    | 2.91  |
| Efoulan                                                     | Ako    | 1   | 79 | 2     | 0.64 | 0.068 | 9.5  | 73.0 | 18.6 | 8.4  | 4.94 | 0.0   | 30  | 4.05   | 0.79 | 0.22 | 0.01 | 0.08 | 0.86 | 1.10    | 1.96  |
| Akololinga                                                  | Ako    | 1   | 80 | 2     | 0.68 | 0.123 | 5.6  | 14.4 | 75.6 | 10.0 | 4.94 | 0.0   | 8   | 3.98   | 0.06 | 0.02 | 0.02 | 0.02 | 6.08 | 0.12    | 6.20  |
| Ebengue                                                     | Ako    | 1   | 81 | 2     | 0.62 | 0.087 | 7.1  | 54.0 | 41.6 | 4.4  | 4.58 | 0.0   | 39  | 3.85   | 0.31 | 0.14 | 0.01 | 0.13 | 1.90 | 0.59    | 2.49  |
| Djeng                                                       | Ako    | 1   | 82 | 2     | 0.57 | 0.082 | 6.9  | 42.4 | 53.2 | 4.4  | 4.57 | 0.0   | 24  | 3.91   | 0.24 | 0.14 | 0.01 | 0.04 | 2.48 | 0.43    | 2.91  |
| Bengbis                                                     | Ako    | 1   | 83 | 2     | 0.64 | 0.078 | 8.2  | 47.0 | 41.6 | 11.4 | 5.45 | 0.0   | 15  | 4.41   | 1.88 | 0.83 | 0.01 | 0.09 | 0.72 | 2.81    | 3.53  |
| Essaman                                                     | Ako    | 1   | 84 | 2     | 0.65 | 0.077 | 8.5  | 66.4 | 23.5 | 10.1 | 4.95 | 0.0   | 33  | 4.10   | 1.21 | 0.32 | 0.01 | 0.08 | 1.02 | 1.62    | 2.64  |
| Essong                                                      | Ako    | 1   | 85 | 2     | 0.48 | 0.068 | 7.1  | 49.4 | 43.9 | 6.7  | 4.57 | 0.0   | 29  | 3.84   | 0.57 | 0.15 | 0.01 | 0.11 | 2.70 | 0.84    | 3.54  |
| Nkoambang                                                   | Ako    | 1   | 88 | 2     | 0.53 | 0.078 | 6.8  | 57.1 | 33.6 | 9.3  | 5.11 | 0.0   | 25  | 4.21   | 1.36 | 0.38 | 0.01 | 0.07 | 1.07 | 1.82    | 2.89  |
| Zoulon                                                      | Ako    | 1   | 89 | 2     | 0.91 | 0.119 | 7.7  | 45.1 | 47.6 | 7.3  | 5.42 | 0.0   | 18  | 4.37   | 2.06 | 0.77 | 0.01 | 0.13 | 0.89 | 2.97    | 3.86  |
| Ekwa                                                        | Ako    | 1   | 90 | 2     | 0.57 | 0.075 | 7.6  | 71.1 | 26.0 | 2.9  | 4.67 | 0.0   | 27  | 4.11   | 0.40 | 0.28 | 0.01 | 0.07 | 1.82 | 0.76    | 2.58  |
| Emini                                                       | Ako    | 1   | 91 | 2     | 0.79 | 0.106 | 7.5  | 47.1 | 45.6 | 7.3  | 4.78 | 0.0   | 36  | 4.14   | 1.28 | 0.39 | 0.01 | 0.13 | 2.05 | 1.81    | 3.86  |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|----|-------|------|-------|-----|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|------|
| RAW DATA                                                    |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Mayos                                                       | Ako    | 1   | 92 | 2     | 0.68 | 0.088 | 7.7 | 61.4 | 28.6 | 10.0 | 6.10 | 0.0   | 19 | 5.20   | 1.87 | 0.96 | 0.01 | 0.05 | 0.02 | 2.89    | 2.91 |
| Mbama                                                       | Ako    | 1   | 93 | 2     | 0.79 | 0.096 | 8.2 | 37.0 | 57.6 | 5.4  | 5.05 | 0.0   | 22 | 4.27   | 1.58 | 0.26 | 0.00 | 0.06 | 1.15 | 1.90    | 3.05 |
| Ngwemetak                                                   | Ako    | 1   | 94 | 2     | 0.63 | 0.092 | 6.8 | 48.8 | 47.4 | 3.8  | 4.83 | 0.0   | 24 | 4.05   | 0.30 | 0.32 | 0.01 | 0.10 | 1.70 | 0.73    | 2.43 |
| Blandjwek                                                   | Ako    | 1   | 95 | 2     | 0.79 | 0.103 | 7.6 | 37.5 | 55.8 | 6.7  | 5.04 | 0.0   | 45 | 4.23   | 1.53 | 0.76 | 0.01 | 0.14 | 0.91 | 2.44    | 3.35 |
| Maleele                                                     | Ako    | 1   | 96 | 2     | 0.74 | 0.095 | 7.8 | 37.5 | 61.8 | 0.7  | 4.82 | 0.0   | 19 | 3.97   | 0.24 | 0.16 | 0.01 | 0.14 | 3.44 | 0.55    | 3.99 |
| Malan                                                       | Ako    | 1   | 97 | 2     | 0.90 | 0.114 | 7.9 | 40.8 | 53.4 | 5.8  | 4.60 | 0.0   | 38 | 3.99   | 0.61 | 0.21 | 0.01 | 0.06 | 3.17 | 0.89    | 4.06 |
| Nkanassie                                                   | Ako    | 1   | 98 | 2     | 0.63 | 0.074 | 8.5 | 43.8 | 49.1 | 7.1  | 5.40 | 0.0   | 17 | 4.26   | 1.93 | 0.61 | 0.01 | 0.09 | 1.52 | 2.64    | 4.16 |
| Nsimalen                                                    | Ako    | 1   | 1  | 3     | 0.40 | 0.072 | 5.6 | 33.8 | 60.0 | 6.2  | 7.11 | 0.2   | 28 | 6.39   | 4.14 | 0.40 | 0.01 | 0.05 | 0.00 | 4.60    | 4.60 |
| Mambang                                                     | Ako    | 1   | 15 | 3     | 0.46 | 0.076 | 6.0 | 40.5 | 54.2 | 5.3  | 5.29 | 0.1   | 21 | 4.59   | 1.21 | 0.93 | 0.02 | 0.06 | 0.40 | 2.22    | 2.62 |
| Mfoumassi                                                   | Ako    | 1   | 16 | 3     | 0.55 | 0.076 | 7.2 | 29.5 | 66.2 | 4.3  | 4.57 | 0.1   | 23 | 3.99   | 0.11 | 0.07 | 0.01 | 0.07 | 3.63 | 0.26    | 3.89 |
| Essong                                                      | Ako    | 1   | 17 | 3     | 0.49 | 0.065 | 7.5 | 37.1 | 59.9 | 3.0  | 4.98 | 0.1   | 16 | 4.20   | 0.66 | 0.29 | 0.01 | 0.05 | 1.98 | 1.01    | 2.99 |
| Dzeng                                                       | Ako    | 1   | 76 | 3     | 0.44 | 0.065 | 6.8 | 41.0 | 53.6 | 5.4  | 5.00 | 0.0   | 11 | 4.00   | 1.00 | 0.13 | 0.01 | 0.03 | 2.05 | 1.17    | 3.22 |
| Ngang                                                       | Ako    | 1   | 77 | 3     | 0.49 | 0.075 | 6.6 | 43.4 | 53.6 | 3.0  | 4.81 | 0.0   | 22 | 3.94   | 1.47 | 0.22 | 0.01 | 0.04 | 2.03 | 1.74    | 3.77 |
| Mfoumou                                                     | Ako    | 1   | 78 | 3     | 0.61 | 0.073 | 8.3 | 35.4 | 59.2 | 5.4  | 4.92 | 0.0   | 14 | 3.98   | 0.85 | 0.16 | 0.01 | 0.04 | 1.60 | 1.06    | 2.66 |
| Efoulou                                                     | Ako    | 1   | 79 | 3     | 0.36 | 0.051 | 7.0 | 55.0 | 40.6 | 4.4  | 5.09 | 0.0   | 18 | 4.14   | 1.51 | 0.45 | 0.01 | 0.05 | 0.81 | 2.02    | 2.83 |
| Akololinga                                                  | Ako    | 1   | 80 | 3     | 0.34 | 0.074 | 4.6 | 14.4 | 77.6 | 8.0  | 5.14 | 1.1   | 5  | 4.04   | 0.02 | 0.01 | 0.02 | 0.01 | 5.31 | 0.06    | 5.37 |
| Ebengue                                                     | Ako    | 1   | 81 | 3     | 0.53 | 0.073 | 7.2 | 37.0 | 59.0 | 4.0  | 4.77 | 0.0   | 19 | 3.96   | 0.32 | 0.14 | 0.01 | 0.08 | 2.18 | 0.55    | 2.73 |
| Djeng                                                       | Ako    | 1   | 82 | 3     | 0.48 | 0.069 | 6.9 | 38.8 | 58.5 | 2.7  | 4.64 | 0.0   | 19 | 3.95   | 0.21 | 0.08 | 0.01 | 0.03 | 2.48 | 0.33    | 2.81 |
| Bengbis                                                     | Ako    | 1   | 83 | 3     | 0.45 | 0.063 | 7.1 | 36.0 | 55.4 | 8.6  | 5.42 | 0.0   | 21 | 4.44   | 1.88 | 0.77 | 0.01 | 0.10 | 0.86 | 2.76    | 3.62 |
| Essaman                                                     | Ako    | 1   | 84 | 3     | 0.27 | 0.042 | 6.5 | 71.4 | 20.9 | 7.7  | 5.15 | 0.0   | 19 | 4.24   | 1.10 | 0.17 | 0.00 | 0.29 | 0.47 | 1.56    | 2.03 |
| Essong                                                      | Ako    | 1   | 85 | 3     | 0.46 | 0.064 | 7.1 | 44.4 | 50.9 | 4.7  | 4.49 | 0.0   | 23 | 3.82   | 0.39 | 0.10 | 0.01 | 0.15 | 3.15 | 0.65    | 3.80 |
| Nkoambang                                                   | Ako    | 1   | 88 | 3     | 0.40 | 0.064 | 6.2 | 43.1 | 56.1 | 5.3  | 5.27 | 0.0   | 12 | 4.26   | 1.79 | 0.27 | 0.01 | 0.03 | 1.30 | 2.10    | 3.40 |
| Zoulou                                                      | Ako    | 1   | 89 | 3     | 0.59 | 0.082 | 7.2 | 36.8 | 59.6 | 3.6  | 5.44 | 0.0   | 12 | 4.46   | 2.43 | 0.98 | 0.01 | 0.14 | 0.59 | 3.56    | 4.15 |
| Ekwa                                                        | Ako    | 1   | 90 | 3     | 0.38 | 0.053 | 7.1 | 61.8 | 34.0 | 4.2  | 4.83 | 0.0   | 22 | 4.02   | 0.58 | 0.40 | 0.01 | 0.06 | 2.22 | 1.05    | 3.27 |
| Emini                                                       | Ako    | 1   | 91 | 3     | 0.51 | 0.077 | 6.7 | 35.1 | 61.6 | 3.3  | 4.87 | 0.0   | 20 | 4.15   | 1.41 | 0.22 | 0.01 | 0.06 | 2.27 | 1.70    | 3.97 |
| Mayos                                                       | Ako    | 1   | 92 | 3     | 0.34 | 0.067 | 5.0 | 64.4 | 28.6 | 7.0  | 5.16 | 0.0   | 13 | 4.29   | 0.92 | 0.31 | 0.01 | 0.06 | 0.81 | 1.30    | 2.11 |
| Mbama                                                       | Ako    | 1   | 93 | 3     | 0.60 | 0.079 | 7.6 | 29.0 | 68.4 | 2.6  | 4.91 | 0.0   | 20 | 4.20   | 0.75 | 0.09 | 0.01 | 0.05 | 1.76 | 0.90    | 2.66 |
| Ngwemetak                                                   | Ako    | 1   | 94 | 3     | 0.50 | 0.072 | 7.0 | 37.8 | 61.1 | 1.1  | 4.87 | 0.0   | 18 | 4.10   | 0.25 | 0.22 | 0.01 | 0.06 | 2.03 | 0.54    | 2.57 |
| Blandjwek                                                   | Ako    | 1   | 95 | 3     | 0.56 | 0.075 | 7.4 | 31.5 | 65.8 | 2.7  | 4.88 | 0.0   | 23 | 4.12   | 0.72 | 0.36 | 0.01 | 0.10 | 1.76 | 1.19    | 2.95 |
| Maleele                                                     | Ako    | 1   | 96 | 3     | 0.57 | 0.072 | 7.9 | 31.2 | 61.8 | 7.0  | 4.80 | 0.0   | 19 | 4.06   | 0.10 | 0.05 | 0.01 | 0.46 | 3.27 | 0.62    | 3.89 |
| Malan                                                       | Ako    | 1   | 97 | 3     | 0.61 | 0.064 | 9.6 | 40.0 | 57.4 | 2.6  | 4.49 | 0.0   | 32 | 3.95   | 0.23 | 0.09 | 0.01 | 0.05 | 3.34 | 0.38    | 3.72 |
| Nkanassie                                                   | Ako    | 1   | 98 | 3     | 0.55 | 0.066 | 8.3 | 40.8 | 54.4 | 4.8  | 5.31 | 0.0   | 18 | 4.38   | 1.87 | 0.60 | 0.00 | 0.11 | 1.13 | 2.58    | 3.71 |
| Nsimalen                                                    | Ako    | 1   | 1  | 4     | 0.28 | 0.048 | 5.8 | 34.2 | 61.0 | 4.8  | 6.79 | 0.2   | 32 | 6.24   | 2.97 | 0.56 | 0.02 | 0.05 | 0.00 | 3.60    | 3.60 |
| Mambang                                                     | Ako    | 1   | 15 | 4     | 0.26 | 0.048 | 5.5 | 34.5 | 60.2 | 5.3  | 5.21 | 0.1   | 11 | 4.39   | 0.55 | 0.43 | 0.02 | 0.04 | 1.04 | 1.04    | 2.08 |
| Mfoumassi                                                   | Ako    | 1   | 16 | 4     | 0.45 | 0.064 | 6.9 | 32.6 | 62.2 | 5.2  | 4.66 | 0.1   | 19 | 4.06   | 0.08 | 0.04 | 0.01 | 0.06 | 3.00 | 0.19    | 3.19 |
| Essong                                                      | Ako    | 1   | 17 | 4     | 0.39 | 0.054 | 7.2 | 31.1 | 65.9 | 3.0  | 4.97 | 0.0   | 14 | 4.21   | 0.43 | 0.19 | 0.02 | 0.03 | 2.07 | 0.67    | 2.74 |
| Dzeng                                                       | Ako    | 1   | 76 | 4     | 0.39 | 0.059 | 6.6 | 35.8 | 59.9 | 4.3  | 4.96 | 0.4   | 9  | 3.97   | 0.64 | 0.15 | 0.01 | 0.04 | 2.34 | 0.84    | 3.18 |
| Ngang                                                       | Ako    | 1   | 77 | 4     | 0.40 | 0.060 | 6.6 | 34.4 | 62.6 | 3.0  | 4.88 | 0.6   | 14 | 3.93   | 0.91 | 0.27 | 0.01 | 0.04 | 2.50 | 1.23    | 3.73 |
| Mfoumou                                                     | Ako    | 1   | 78 | 4     | 0.43 | 0.062 | 7.0 | 34.4 | 60.9 | 4.7  | 4.97 | 0.4   | 10 | 4.04   | 0.71 | 0.07 | 0.00 | 0.03 | 1.48 | 0.81    | 2.29 |
| Efoulou                                                     | Ako    | 1   | 79 | 4     | 0.38 | 0.051 | 7.5 | 41.0 | 55.6 | 3.4  | 5.18 | 0.0   | 13 | 4.20   | 1.66 | 0.42 | 0.01 | 0.03 | 0.86 | 2.12    | 2.98 |
| Ebengue                                                     | Ako    | 1   | 81 | 4     | 0.39 | 0.058 | 6.7 | 32.0 | 65.0 | 3.0  | 4.77 | 0.3   | 61 | 4.06   | 0.38 | 0.14 | 0.01 | 0.04 | 1.89 | 0.57    | 2.46 |
| Djeng                                                       | Ako    | 1   | 82 | 4     | 0.34 | 0.054 | 6.4 | 37.8 | 60.2 | 2.0  | 4.76 | 0.1   | 18 | 4.00   | 0.15 | 0.10 | 0.01 | 0.02 | 2.08 | 0.28    | 2.36 |
| Bengbis                                                     | Ako    | 1   | 83 | 4     | 0.36 | 0.056 | 6.4 | 37.0 | 56.6 | 6.4  | 5.39 | 0.8   | 12 | 4.33   | 1.30 | 0.47 | 0.02 | 0.09 | 1.37 | 1.88    | 3.25 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |      |      |      |      |      |       |     |        |       |      |      |      |      |         |       |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|------|------|------|------|------|-------|-----|--------|-------|------|------|------|------|---------|-------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |      |      |      |      |      |       |     |        |       |      |      |      |      |         |       |
| RAW DATA                                                    |        |     |     |       |      |       |      |      |      |      |      |       |     |        |       |      |      |      |      |         |       |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |      |      |      |      |      |       |     |        |       |      |      |      |      |         |       |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N  | sand | clay | silt | pH   | old P | EC  | pHBaCl | Ca    | Mg   | Na   | K    | Al   | SUMBASE | ECEC  |
| Essaman                                                     | Ako    | 1   | 84  | 4     | 0.35 | 0.051 | 6.9  | 51.4 | 42.9 | 5.7  | 5.31 | 0.6   | 12  | 4.22   | 2.39  | 0.44 | 0.01 | 0.08 | 1.07 | 2.92    | 3.99  |
| Essong                                                      | Ako    | 1   | 85  | 4     | 0.40 | 0.059 | 6.8  | 42.5 | 50.9 | 6.6  | 4.60 | 0.1   | 18  | 3.85   | 0.59  | 0.06 | 0.00 | 0.06 | 3.28 | 0.71    | 3.99  |
| Nkoambang                                                   | Ako    | 1   | 88  | 4     | 0.34 | 0.053 | 6.4  | 35.1 | 61.6 | 3.3  | 5.10 | 0.0   | 7   | 4.29   | 1.66  | 0.24 | 0.01 | 0.07 | 1.64 | 1.98    | 3.62  |
| Zoulon                                                      | Ako    | 1   | 89  | 4     | 0.53 | 0.083 | 6.4  | 30.8 | 65.6 | 3.6  | 5.50 | 1.5   | 40  | 4.38   | 2.04  | 0.96 | 0.01 | 0.08 | 0.79 | 3.09    | 3.88  |
| Ekwa                                                        | Ako    | 1   | 90  | 4     | 0.36 | 0.056 | 6.5  | 52.8 | 43.6 | 3.6  | 5.00 | 0.8   | 14  | 4.06   | 0.39  | 1.05 | 0.01 | 0.05 | 2.59 | 1.50    | 4.09  |
| Emini                                                       | Ako    | 1   | 91  | 4     | 0.39 | 0.055 | 7.1  | 32.1 | 63.6 | 4.3  | 4.97 | 0.0   | 16  | 4.25   | 1.17  | 0.22 | 0.01 | 0.05 | 1.90 | 1.45    | 3.35  |
| Mayos                                                       | Ako    | 1   | 92  | 4     | 0.41 | 0.054 | 7.7  | 44.4 | 52.0 | 3.6  | 5.31 | 0.0   | 9   | 4.31   | 2.49  | 0.30 | 0.01 | 0.04 | 0.96 | 2.84    | 3.80  |
| Mbama                                                       | Ako    | 1   | 93  | 4     | 0.45 | 0.061 | 7.3  | 31.0 | 67.6 | 1.4  | 4.94 | 0.5   | 16  | 4.22   | 0.33  | 0.07 | 0.01 | 0.06 | 1.54 | 0.47    | 2.01  |
| Ngwemetak                                                   | Ako    | 1   | 94  | 4     | 0.39 | 0.054 | 7.2  | 34.8 | 63.4 | 1.8  | 4.87 | 0.0   | 14  | 4.10   | 0.13  | 0.16 | 0.01 | 0.04 | 1.97 | 0.34    | 2.31  |
| Blandjwek                                                   | Ako    | 1   | 95  | 4     | 0.44 | 0.060 | 7.4  | 28.5 | 69.8 | 1.7  | 4.70 | 0.5   | 36  | 4.09   | 0.44  | 0.19 | 0.01 | 0.08 | 1.90 | 0.72    | 2.62  |
| Maleele                                                     | Ako    | 1   | 96  | 4     | 0.38 | 0.053 | 7.3  | 32.2 | 62.4 | 5.4  | 4.80 | 0.7   | 25  | 4.09   | 0.04  | 0.04 | 0.01 | 0.14 | 2.98 | 0.23    | 3.21  |
| Malan                                                       | Ako    | 1   | 97  | 4     | 0.51 | 0.113 | 4.5  | 38.2 | 57.4 | 4.4  | 4.65 | 0.0   | 27  | 4.00   | 0.37  | 0.11 | 0.01 | 0.03 | 2.75 | 0.52    | 3.27  |
| Nkanassie                                                   | Ako    | 1   | 98  | 4     | 0.44 | 0.071 | 6.3  | 37.8 | 58.4 | 3.8  | 5.47 | 0.9   | 12  | 4.46   | 1.78  | 0.59 | 0.01 | 0.08 | 0.90 | 2.46    | 3.36  |
| Ntang                                                       | Ebo    | 2   | 23  | 1     | 1.29 | 0.142 | 9.1  | 47.5 | 44.2 | 8.3  | 4.86 | 0.5   | 72  | 4.39   | 1.17  | 0.47 | 0.02 | 0.18 | 0.64 | 1.84    | 2.48  |
| Mvengve                                                     | Ebo    | 2   | 24  | 1     | 1.10 | 0.162 | 6.8  | 47.5 | 43.8 | 8.7  | 4.93 | 0.4   | 47  | 4.17   | 1.78  | 0.49 | 0.01 | 0.13 | 1.59 | 2.41    | 4.00  |
| Ngomedzap                                                   | Ebo    | 2   | 25  | 1     | 1.20 | 0.163 | 7.4  | 45.1 | 50.5 | 4.4  | 4.78 | 0.7   | 66  | 4.12   | 1.32  | 0.92 | 0.01 | 0.15 | 1.48 | 2.40    | 3.88  |
| Nkoenvone                                                   | Ebo    | 2   | 26  | 1     | 1.94 | 0.105 | 18.4 | 47.9 | 40.0 | 12.1 | 6.08 | 0.5   | 72  | 5.50   | 9.43  | 0.96 | 0.02 | 0.13 | 0.07 | 10.54   | 10.61 |
| Akookas                                                     | Ebo    | 2   | 27  | 1     | 0.76 | 0.110 | 6.9  | 38.6 | 56.4 | 5.0  | 4.17 | 0.3   | 64  | 3.76   | 0.19  | 0.09 | 0.01 | 0.09 | 2.38 | 0.38    | 2.76  |
| Minkok                                                      | Ebo    | 2   | 28  | 1     | 0.78 | 0.117 | 6.7  | 57.2 | 35.4 | 7.4  | 5.28 | 0.4   | 54  | 4.56   | 2.35  | 0.47 | 0.01 | 0.08 | 0.17 | 2.91    | 3.08  |
| Mekok                                                       | Ebo    | 2   | 29  | 1     | 1.14 | 0.131 | 8.7  | 29.6 | 63.1 | 7.3  | 4.77 | 0.5   | 40  | 4.08   | 1.22  | 0.25 | 0.01 | 0.08 | 1.20 | 1.56    | 2.76  |
| Bissam                                                      | Ebo    | 2   | 30  | 1     | 1.30 | 0.171 | 7.6  | 39.6 | 50.4 | 10.0 | 5.22 | 0.6   | 45  | 4.46   | 3.34  | 0.65 | 0.01 | 0.08 | 0.39 | 4.08    | 4.47  |
| Okpwegngoe                                                  | Ebo    | 2   | 31  | 1     | 1.14 | 0.131 | 8.7  | 44.6 | 45.0 | 10.4 | 3.96 | 0.5   | 97  | 3.60   | 0.24  | 0.11 | 0.01 | 0.09 | 3.34 | 0.45    | 3.79  |
| Nyazanga                                                    | Ebo    | 2   | 32  | 1     | 1.05 | 0.138 | 7.6  | 52.8 | 43.2 | 4.0  | 4.32 | 0.5   | 68  | 3.81   | 0.66  | 0.12 | 0.01 | 0.07 | 2.11 | 0.86    | 2.97  |
| Akak Metom                                                  | Ebo    | 2   | 33  | 1     | 1.46 | 0.147 | 9.9  | 43.8 | 48.2 | 8.0  | 4.62 | 0.6   | 83  | 4.04   | 2.14  | 0.47 | 0.01 | 0.11 | 1.74 | 2.73    | 4.47  |
| Akonekye                                                    | Ebo    | 2   | 34  | 1     | 1.30 | 0.162 | 8.1  | 58.9 | 36.7 | 4.4  | 5.35 | 1.1   | 88  | 4.85   | 3.81  | 0.73 | 0.01 | 0.09 | 0.19 | 4.64    | 4.83  |
| Biyii                                                       | Ebo    | 2   | 35  | 1     | 1.20 | 0.139 | 8.6  | 46.9 | 44.0 | 9.1  | 4.14 | 0.6   | 103 | 3.61   | 0.64  | 0.37 | 0.01 | 0.09 | 2.81 | 1.11    | 3.92  |
| Ntem River                                                  | Ebo    | 2   | 36  | 1     | 1.01 | 0.159 | 6.4  | 50.6 | 40.0 | 9.4  | 5.39 | 1.2   | 63  | 4.74   | 3.27  | 0.65 | 0.01 | 0.07 | 0.19 | 4.00    | 4.19  |
| Ekoumedoum                                                  | Ebo    | 2   | 37  | 1     | 1.74 | 0.196 | 8.9  | 49.0 | 37.6 | 13.4 | 5.59 | 0.8   | 69  | 4.91   | 3.59  | 1.26 | 0.01 | 0.11 | 0.00 | 4.97    | 4.97  |
| Mvieng                                                      | Ebo    | 2   | 38  | 1     | 1.05 | 0.104 | 10.1 | 63.6 | 29.0 | 7.4  | 4.15 | 0.8   | 87  | 3.66   | 0.28  | 0.11 | 0.03 | 0.04 | 2.65 | 0.46    | 3.11  |
| Nkoloveng                                                   | Ebo    | 2   | 39  | 1     | 0.73 | 0.120 | 6.1  | 57.0 | 32.4 | 10.6 | 4.68 | 0.6   | 57  | 4.01   | 0.88  | 0.37 | 0.01 | 0.07 | 1.61 | 1.33    | 2.94  |
| Ebemvok                                                     | Ebo    | 2   | 40  | 1     | 1.27 | 0.140 | 9.1  | 38.6 | 53.0 | 8.4  | 4.36 | 0.3   | 84  | 3.83   | 0.86  | 0.36 | 0.01 | 0.11 | 2.79 | 1.34    | 4.13  |
| Efoulan                                                     | Ebo    | 2   | 46  | 1     | 0.93 | 0.132 | 7.0  | 50.1 | 45.2 | 4.7  | 4.21 | 0.4   | 68  | 3.76   | 0.27  | 0.22 | 0.01 | 0.10 | 3.18 | 0.60    | 3.78  |
| Mengale                                                     | Ebo    | 2   | 47  | 1     | 0.67 | 0.097 | 6.9  | 65.5 | 26.9 | 7.6  | 4.96 | 0.9   | 48  | 4.32   | 0.71  | 0.21 | 0.00 | 0.11 | 1.00 | 1.03    | 2.03  |
| Akom                                                        | Ebo    | 2   | 48  | 1     | 0.85 | 0.124 | 6.9  | 48.8 | 42.2 | 9.0  | 5.05 | 0.0   | 70  | 4.50   | 1.15  | 0.16 | 0.01 | 0.28 | 0.28 | 1.60    | 1.88  |
| Mengong                                                     | Ebo    | 2   | 49  | 1     | 1.17 | 0.139 | 8.4  | 59.8 | 37.2 | 3.0  | 4.30 | 0.2   | 80  | 3.78   | 0.43  | 0.31 | 0.01 | 0.16 | 3.00 | 0.91    | 3.91  |
| Ntomba                                                      | Ebo    | 2   | 50  | 1     | 1.38 | 0.187 | 7.4  | 35.8 | 58.9 | 5.3  | 4.64 | 0.2   | 104 | 4.12   | 1.72  | 0.22 | 0.01 | 0.27 | 1.16 | 2.22    | 3.38  |
| Ngoulemakong                                                | Ebo    | 2   | 51  | 1     | 1.56 | 0.160 | 9.7  | 27.1 | 67.2 | 5.7  | 4.09 | 0.0   | 80  | 3.60   | 0.20  | 0.21 | 0.01 | 0.11 | 4.58 | 0.53    | 5.11  |
| Nemeyong                                                    | Ebo    | 2   | 74  | 1     | 1.22 | 0.151 | 8.1  | 56.4 | 37.6 | 6.0  | 4.47 | 0.4   | 113 | 3.81   | 1.37  | 0.26 | 0.01 | 0.12 | 1.22 | 1.76    | 2.98  |
| Mvangué                                                     | Ebo    | 2   | 75  | 1     | 1.02 | 0.136 | 7.5  | 45.7 | 47.0 | 7.3  | 4.27 | 0.2   | 83  | 3.68   | 1.50  | 0.28 | 0.01 | 0.11 | 2.28 | 1.90    | 4.18  |
| Momjenom                                                    | Ebo    | 2   | 110 | 1     | 1.37 | 0.214 | 6.4  | 52.3 | 30.2 | 17.5 | 6.71 | 0.0   | 104 | 6.10   | 8.51  | 1.40 | 0.01 | 0.25 | 0.01 | 10.17   | 10.18 |
| Madjwe                                                      | Ebo    | 2   | 111 | 1     | 2.54 | 0.310 | 8.2  | 48.8 | 33.8 | 17.4 | 8.19 | 0.0   | 109 | 7.71   | 18.64 | 2.01 | 0.00 | 0.26 | 0.00 | 20.91   | 20.91 |
| Bandekok                                                    | Ebo    | 2   | 112 | 1     | 1.58 | 0.235 | 6.7  | 30.1 | 47.4 | 22.5 | 4.26 | 0.0   | 93  | 3.93   | 1.45  | 0.46 | 0.01 | 0.19 | 5.73 | 2.11    | 7.84  |
| Ntang                                                       | Ebo    | 2   | 23  | 2     | 0.53 | 0.082 | 6.4  | 37.5 | 58.2 | 4.3  | 4.62 | 0.1   | 32  | 4.05   | 0.17  | 0.21 | 0.02 | 0.08 | 2.24 | 0.48    | 2.72  |



| Reconnaissance soil survey of southcentral Cameroon (1991) |        |     |     |       |      |       |     |      |      |      |                                                             |       |     |        |      |      |      |      |      |         |      |
|------------------------------------------------------------|--------|-----|-----|-------|------|-------|-----|------|------|------|-------------------------------------------------------------|-------|-----|--------|------|------|------|------|------|---------|------|
| RAW DATA                                                   |        |     |     |       |      |       |     |      |      |      |                                                             |       |     |        |      |      |      |      |      |         |      |
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm  |        |     |     |       |      |       |     |      |      |      | samples were taken in cocoa plantations or secondary forest |       |     |        |      |      |      |      |      |         |      |
| Village                                                    | region | rno | ID  | depth | Corg | Norg  | C/N | sand | clay | silt | pH                                                          | old P | EC  | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Mvengve                                                    | Ebo    | 2   | 24  | 2     | 0.63 | 0.099 | 6.4 | 38.5 | 54.8 | 6.7  | 5.15                                                        | 0.1   | 20  | 4.24   | 2.12 | 0.35 | 0.01 | 0.10 | 1.56 | 2.58    | 4.14 |
| Ngomedzap                                                  | Ebo    | 2   | 25  | 2     | 0.66 | 0.108 | 6.0 | 34.6 | 60.4 | 5.0  | 4.73                                                        | 0.0   | 36  | 4.03   | 0.62 | 0.46 | 0.01 | 0.12 | 2.70 | 1.21    | 3.91 |
| Nkoenvone                                                  | Ebo    | 2   | 26  | 2     | 0.68 | 0.082 | 8.3 | 36.6 | 55.4 | 8.0  | 5.14                                                        | 0.5   | 35  | 4.44   | 2.36 | 0.46 | 0.01 | 0.07 | 0.76 | 2.90    | 3.66 |
| Akookas                                                    | Ebo    | 2   | 27  | 2     | 0.52 | 0.085 | 6.1 | 35.2 | 59.4 | 5.4  | 4.29                                                        | 0.2   | 35  | 3.85   | 0.04 | 0.05 | 0.01 | 0.06 | 2.45 | 0.16    | 2.61 |
| Minkok                                                     | Ebo    | 2   | 28  | 2     | 0.42 | 0.070 | 6.0 | 44.9 | 49.4 | 5.7  | 5.29                                                        | 0.0   | 18  | 4.38   | 1.73 | 0.17 | 0.01 | 0.06 | 0.47 | 1.97    | 2.44 |
| Mekok                                                      | Ebo    | 2   | 29  | 2     | 0.74 | 0.094 | 7.9 | 22.6 | 69.1 | 8.3  | 4.77                                                        | 0.2   | 21  | 4.05   | 0.85 | 0.09 | 0.01 | 0.06 | 1.24 | 1.01    | 2.25 |
| Bissam                                                     | Ebo    | 2   | 30  | 2     | 0.68 | 0.103 | 6.6 | 31.6 | 60.0 | 8.4  | 5.43                                                        | 0.2   | 14  | 4.43   | 3.21 | 0.11 | 0.01 | 0.03 | 0.30 | 3.36    | 3.66 |
| Okpwegngoe                                                 | Ebo    | 2   | 31  | 2     | 0.55 | 0.083 | 6.6 | 43.8 | 47.2 | 9.0  | 4.22                                                        | 0.0   | 43  | 3.80   | 0.08 | 0.05 | 0.01 | 0.05 | 3.23 | 0.19    | 3.42 |
| Nyazanga                                                   | Ebo    | 2   | 32  | 2     | 0.58 | 0.085 | 6.8 | 36.8 | 58.2 | 5.0  | 4.51                                                        | 0.2   | 25  | 3.92   | 0.19 | 0.02 | 0.01 | 0.05 | 2.47 | 0.27    | 2.74 |
| Akak Metom                                                 | Ebo    | 2   | 33  | 2     | 0.66 | 0.084 | 7.9 | 38.8 | 54.2 | 7.0  | 4.47                                                        | 0.2   | 39  | 3.77   | 1.22 | 0.19 | 0.01 | 0.08 | 2.95 | 1.50    | 4.45 |
| Akonekye                                                   | Ebo    | 2   | 34  | 2     | 0.45 | 0.088 | 5.1 | 39.9 | 54.0 | 6.1  | 4.75                                                        | 0.5   | 27  | 4.03   | 0.91 | 0.07 | 0.01 | 0.04 | 1.73 | 1.03    | 2.76 |
| Biyii                                                      | Ebo    | 2   | 35  | 2     | 0.65 | 0.074 | 8.9 | 37.6 | 54.0 | 8.4  | 4.25                                                        | 0.1   | 192 | 3.76   | 0.24 | 0.14 | 0.01 | 0.06 | 3.19 | 0.45    | 3.64 |
| Ntem River                                                 | Ebo    | 2   | 36  | 2     | 0.53 | 0.080 | 6.7 | 35.6 | 57.0 | 7.4  | 4.87                                                        | 1.0   | 24  | 4.08   | 1.14 | 0.18 | 0.01 | 0.05 | 1.24 | 1.38    | 2.62 |
| Ekoumedoum                                                 | Ebo    | 2   | 37  | 2     | 1.16 | 0.154 | 7.6 | 45.0 | 44.6 | 10.4 | 5.72                                                        | 0.3   | 28  | 4.80   | 3.45 | 0.51 | 0.01 | 0.06 | 0.00 | 4.03    | 4.03 |
| Mvieng                                                     | Ebo    | 2   | 38  | 2     | 0.45 | 0.066 | 6.9 | 53.6 | 37.0 | 9.4  | 4.35                                                        | 0.2   | 34  | 3.77   | 0.11 | 0.06 | 0.01 | 0.03 | 2.68 | 0.21    | 2.89 |
| Nkoloveng                                                  | Ebo    | 2   | 39  | 2     | 0.52 | 0.087 | 5.9 | 39.6 | 48.0 | 12.4 | 4.75                                                        | 0.0   | 23  | 3.94   | 0.46 | 0.14 | 0.01 | 0.05 | 2.56 | 0.66    | 3.22 |
| Ebemvok                                                    | Ebo    | 2   | 40  | 2     | 0.80 | 0.111 | 7.2 | 31.6 | 62.0 | 6.4  | 4.52                                                        | 0.0   | 31  | 3.88   | 0.27 | 0.10 | 0.01 | 0.06 | 3.42 | 0.44    | 3.86 |
| Efoulam                                                    | Ebo    | 2   | 46  | 2     | 0.59 | 0.084 | 7.1 | 38.1 | 56.2 | 5.7  | 4.38                                                        | 0.0   | 31  | 3.80   | 0.04 | 0.05 | 0.01 | 0.05 | 3.42 | 0.15    | 3.57 |
| Mengale                                                    | Ebo    | 2   | 47  | 2     | 0.51 | 0.070 | 7.3 | 56.8 | 35.2 | 8.0  | 4.92                                                        | 0.5   | 18  | 4.01   | 0.26 | 0.05 | 0.01 | 0.05 | 1.95 | 0.37    | 2.32 |
| Akom                                                       | Ebo    | 2   | 48  | 2     | 0.47 | 0.076 | 6.2 | 36.8 | 56.2 | 7.0  | 4.88                                                        | 0.0   | 23  | 4.16   | 0.43 | 0.35 | 0.00 | 0.13 | 1.50 | 0.91    | 2.41 |
| Mengong                                                    | Ebo    | 2   | 49  | 2     | 0.65 | 0.095 | 6.8 | 43.8 | 50.2 | 6.0  | 4.31                                                        | 0.0   | 38  | 3.72   | 0.10 | 0.10 | 0.01 | 0.08 | 4.22 | 0.29    | 4.51 |
| Ntomba                                                     | Ebo    | 2   | 50  | 2     | 0.62 | 0.106 | 5.8 | 27.5 | 67.9 | 4.6  | 4.37                                                        | 0.1   | 56  | 3.89   | 0.44 | 0.20 | 0.00 | 0.12 | 2.43 | 0.76    | 3.19 |
| Ngoulemakong                                               | Ebo    | 2   | 51  | 2     | 0.94 | 0.123 | 7.7 | 24.1 | 71.2 | 4.7  | 4.24                                                        | 0.0   | 39  | 3.74   | 0.05 | 0.09 | 0.01 | 0.06 | 4.53 | 0.21    | 4.74 |
| Nemeyong                                                   | Ebo    | 2   | 74  | 2     | 0.61 | 0.082 | 7.4 | 46.7 | 48.6 | 4.7  | 4.36                                                        | 0.0   | 41  | 3.72   | 0.40 | 0.07 | 0.01 | 0.06 | 1.91 | 0.54    | 2.45 |
| Mvangué                                                    | Ebo    | 2   | 75  | 2     | 0.54 | 0.082 | 6.6 | 34.7 | 59.0 | 6.3  | 4.39                                                        | 0.0   | 32  | 3.74   | 0.51 | 0.09 | 0.01 | 0.05 | 3.16 | 0.66    | 3.82 |
| Momjenom                                                   | Ebo    | 2   | 110 | 2     | 0.42 | 0.089 | 4.7 | 51.3 | 34.2 | 14.5 | 6.50                                                        | 0.0   | 34  | 5.73   | 4.10 | 1.49 | 0.00 | 0.08 | 0.01 | 5.67    | 5.68 |
| Madjwe                                                     | Ebo    | 2   | 111 | 2     | 0.51 | 0.097 | 5.2 | 50.5 | 35.4 | 14.1 | 7.59                                                        | 0.0   | 40  | 6.86   | 6.35 | 0.96 | 0.00 | 0.09 | 0.00 | 7.40    | 7.40 |
| Bandekok                                                   | Ebo    | 2   | 112 | 2     | 0.70 | 0.152 | 4.6 | 28.5 | 50.4 | 21.1 | 4.48                                                        | 0.0   | 25  | 4.02   | 0.43 | 0.12 | 0.00 | 0.12 | 7.13 | 0.67    | 7.80 |
| Ntang                                                      | Ebo    | 2   | 23  | 3     | 0.42 | 0.078 | 5.4 | 30.8 | 64.8 | 4.4  | 4.60                                                        | 0.1   | 25  | 4.06   | 0.17 | 0.19 | 0.03 | 0.05 | 2.78 | 0.44    | 3.22 |
| Mvengve                                                    | Ebo    | 2   | 24  | 3     | 0.63 | 0.090 | 7.0 | 33.5 | 60.2 | 6.3  | 5.31                                                        | 0.1   | 14  | 4.28   | 2.26 | 0.33 | 0.04 | 0.09 | 1.45 | 2.72    | 4.17 |
| Ngomedzap                                                  | Ebo    | 2   | 25  | 3     | 0.54 | 0.086 | 6.3 | 31.6 | 62.0 | 6.4  | 4.76                                                        | 0.1   | 24  | 4.04   | 0.56 | 0.38 | 0.01 | 0.09 | 3.17 | 1.04    | 4.21 |
| Nkoenvone                                                  | Ebo    | 2   | 26  | 3     | 0.49 | 0.066 | 7.4 | 26.2 | 67.0 | 6.8  | 4.91                                                        | 0.3   | 15  | 4.08   | 0.58 | 0.08 | 0.01 | 0.05 | 2.50 | 0.72    | 3.22 |
| Akookas                                                    | Ebo    | 2   | 27  | 3     | 0.46 | 0.075 | 6.2 | 32.2 | 62.4 | 5.4  | 4.50                                                        | 0.1   | 23  | 3.89   | 0.04 | 0.04 | 0.01 | 0.05 | 2.43 | 0.14    | 2.57 |
| Minkok                                                     | Ebo    | 2   | 28  | 3     | 0.34 | 0.061 | 5.6 | 38.6 | 58.4 | 3.0  | 5.07                                                        | 0.1   | 12  | 4.22   | 0.92 | 0.07 | 0.01 | 0.05 | 1.27 | 1.05    | 2.32 |
| Mekok                                                      | Ebo    | 2   | 29  | 3     | 0.55 | 0.079 | 7.0 | 23.6 | 70.0 | 6.4  | 4.91                                                        | 0.2   | 14  | 4.11   | 0.75 | 0.08 | 0.01 | 0.04 | 1.16 | 0.88    | 2.04 |
| Bissam                                                     | Ebo    | 2   | 30  | 3     | 0.59 | 0.086 | 6.9 | 25.6 | 59.7 | 14.7 | 5.51                                                        | 0.1   | 8   | 4.41   | 2.59 | 0.08 | 0.01 | 0.03 | 0.51 | 2.71    | 3.22 |
| Okpwegngoe                                                 | Ebo    | 2   | 31  | 3     | 0.50 | 0.077 | 6.5 | 40.8 | 51.2 | 8.0  | 4.42                                                        | 0.1   | 32  | 3.88   | 0.20 | 0.05 | 0.01 | 0.04 | 3.09 | 0.30    | 3.39 |
| Nyazanga                                                   | Ebo    | 2   | 32  | 3     | 0.51 | 0.073 | 7.0 | 33.8 | 62.2 | 4.0  | 4.52                                                        | 0.2   | 24  | 3.97   | 0.13 | 0.02 | 0.01 | 0.03 | 2.55 | 0.19    | 2.74 |
| Akak Metom                                                 | Ebo    | 2   | 33  | 3     | 0.51 | 0.087 | 5.9 | 35.8 | 56.2 | 8.0  | 4.62                                                        | 0.1   | 20  | 3.91   | 0.30 | 0.08 | 0.01 | 0.05 | 3.35 | 0.44    | 3.79 |
| Akonekye                                                   | Ebo    | 2   | 34  | 3     | 0.41 | 0.076 | 5.5 | 33.0 | 62.4 | 4.6  | 4.70                                                        | 0.0   | 21  | 3.98   | 0.49 | 0.04 | 0.01 | 0.03 | 2.29 | 0.57    | 2.86 |
| Biyii                                                      | Ebo    | 2   | 35  | 3     | 0.48 | 0.078 | 6.2 | 35.6 | 56.0 | 8.4  | 4.37                                                        | 0.1   | 31  | 3.77   | 0.15 | 0.08 | 0.01 | 0.05 | 3.17 | 0.29    | 3.46 |
| Ntem River                                                 | Ebo    | 2   | 36  | 3     | 0.40 | 0.073 | 5.5 | 25.0 | 71.2 | 3.7  | 5.01                                                        | 1.1   | 12  | 4.05   | 1.19 | 0.08 | 0.01 | 0.04 | 1.61 | 1.32    | 2.93 |
| Ekoumedoum                                                 | Ebo    | 2   | 37  | 3     | 0.59 | 0.095 | 6.3 | 35.9 | 56.0 | 8.1  | 5.62                                                        | 0.0   | 17  | 4.68   | 3.67 | 0.35 | 0.01 | 0.05 | 0.00 | 4.08    | 4.08 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |      |      |      |      |      |       |    |        |      |      |      |      |      |         |       |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|------|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|-------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |      |      |      |      |      |       |    |        |      |      |      |      |      |         |       |
| RAW DATA                                                    |        |     |     |       |      |       |      |      |      |      |      |       |    |        |      |      |      |      |      |         |       |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |      |      |      |      |      |       |    |        |      |      |      |      |      |         |       |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N  | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC  |
| Mvieng                                                      | Ebo    | 2   | 38  | 3     | 0.37 | 0.058 | 6.4  | 47.6 | 42.0 | 10.4 | 4.51 | 0.2   | 24 | 3.90   | 0.10 | 0.05 | 0.01 | 0.03 | 2.79 | 0.19    | 2.98  |
| Nkoloveng                                                   | Ebo    | 2   | 39  | 3     | 0.42 | 0.073 | 5.9  | 41.0 | 52.0 | 7.0  | 4.83 | 0.0   | 15 | 3.99   | 0.39 | 0.06 | 0.01 | 0.04 | 2.66 | 0.50    | 3.16  |
| Ebenvok                                                     | Ebo    | 2   | 40  | 3     | 0.67 | 0.093 | 7.2  | 29.6 | 64.0 | 6.4  | 4.62 | 0.0   | 20 | 3.97   | 0.22 | 0.04 | 0.01 | 0.04 | 3.03 | 0.31    | 3.34  |
| Efoulan                                                     | Ebo    | 2   | 46  | 3     | 0.47 | 0.078 | 6.1  | 35.1 | 59.5 | 5.4  | 4.49 | 0.2   | 21 | 3.94   | 0.06 | 0.03 | 0.01 | 0.05 | 3.40 | 0.15    | 3.55  |
| Mengale                                                     | Ebo    | 2   | 47  | 3     | 0.43 | 0.074 | 5.8  | 42.8 | 51.2 | 6.0  | 4.93 | 0.3   | 15 | 4.15   | 0.32 | 0.05 | 0.00 | 0.05 | 2.68 | 0.42    | 3.10  |
| Akom                                                        | Ebo    | 2   | 48  | 3     | 0.38 | 0.071 | 5.4  | 28.8 | 62.2 | 9.0  | 4.84 | 0.0   | 18 | 4.13   | 0.29 | 0.11 | 0.00 | 0.09 | 2.21 | 0.49    | 2.70  |
| Mengong                                                     | Ebo    | 2   | 49  | 3     | 0.55 | 0.085 | 6.5  | 38.8 | 56.8 | 4.4  | 4.43 | 0.0   | 27 | 3.86   | 0.06 | 0.07 | 0.00 | 0.05 | 4.67 | 0.18    | 4.85  |
| Ntomba                                                      | Ebo    | 2   | 50  | 3     | 0.52 | 0.085 | 6.1  | 21.5 | 72.9 | 5.6  | 4.48 | 0.1   | 39 | 3.95   | 0.38 | 0.18 | 0.00 | 0.07 | 2.38 | 0.63    | 3.01  |
| Ngoulemakong                                                | Ebo    | 2   | 51  | 3     | 0.67 | 0.091 | 7.3  | 22.1 | 73.6 | 4.3  | 4.50 | 0.0   | 22 | 3.88   | 0.02 | 0.06 | 0.01 | 0.04 | 4.05 | 0.13    | 4.18  |
| Nemeyong                                                    | Ebo    | 2   | 74  | 3     | 0.48 | 0.072 | 6.7  | 33.7 | 63.6 | 2.7  | 4.81 | 0.0   | 15 | 3.91   | 0.70 | 0.07 | 0.00 | 0.03 | 1.70 | 0.80    | 2.50  |
| Mvangué                                                     | Ebo    | 2   | 75  | 3     | 0.43 | 0.067 | 6.4  | 33.1 | 61.9 | 5.0  | 4.48 | 0.0   | 20 | 3.76   | 0.21 | 0.02 | 0.00 | 0.03 | 3.41 | 0.26    | 3.67  |
| Momjenom                                                    | Ebo    | 2   | 110 | 3     | 0.36 | 0.069 | 5.2  | 46.1 | 40.2 | 13.7 | 6.12 | 0.2   | 19 | 5.43   | 3.36 | 1.57 | 0.00 | 0.10 | 0.02 | 5.03    | 5.05  |
| Madjwe                                                      | Ebo    | 2   | 111 | 3     | 0.29 | 0.058 | 4.9  | 41.5 | 47.4 | 11.1 | 7.58 | 0.0   | 28 | 6.69   | 5.79 | 1.43 | 0.00 | 0.09 | 0.00 | 7.31    | 7.31  |
| Bandekok                                                    | Ebo    | 2   | 112 | 3     | 0.60 | 0.153 | 3.9  | 26.3 | 54.9 | 19.0 | 4.62 | 0.2   | 20 | 4.13   | 0.23 | 0.06 | 0.00 | 0.11 | 8.52 | 0.40    | 8.92  |
| Ntang                                                       | Ebo    | 2   | 23  | 4     | 0.33 | 0.066 | 5.0  | 26.8 | 68.8 | 4.4  | 4.78 | 0.1   | 17 | 4.13   | 0.32 | 0.17 | 0.01 | 0.04 | 2.62 | 0.54    | 3.16  |
| Mvengve                                                     | Ebo    | 2   | 24  | 4     | 0.46 | 0.082 | 5.6  | 27.1 | 68.2 | 4.7  | 5.16 | 0.0   | 10 | 4.16   | 1.26 | 0.23 | 0.01 | 0.07 | 2.43 | 1.57    | 4.00  |
| Ngomedzap                                                   | Ebo    | 2   | 25  | 4     | 0.39 | 0.075 | 5.2  | 27.6 | 67.4 | 5.0  | 4.77 | 0.1   | 15 | 4.06   | 0.30 | 0.17 | 0.01 | 0.05 | 3.48 | 0.53    | 4.01  |
| Nkoenvone                                                   | Ebo    | 2   | 26  | 4     | 0.35 | 0.069 | 5.1  | 24.6 | 67.4 | 8.0  | 4.95 | 0.2   | 11 | 4.09   | 0.26 | 0.04 | 0.01 | 0.04 | 2.68 | 0.35    | 3.03  |
| Akookas                                                     | Ebo    | 2   | 27  | 4     | 0.37 | 0.062 | 5.9  | 29.2 | 65.4 | 5.4  | 4.56 | 0.1   | 18 | 3.97   | 0.03 | 0.03 | 0.01 | 0.04 | 2.29 | 0.11    | 2.40  |
| Minkok                                                      | Ebo    | 2   | 28  | 4     | 0.28 | 0.051 | 5.5  | 38.6 | 58.4 | 3.0  | 4.85 | 0.1   | 13 | 4.11   | 0.32 | 0.21 | 0.01 | 0.04 | 1.78 | 0.58    | 2.36  |
| Mekok                                                       | Ebo    | 2   | 29  | 4     | 0.47 | 0.065 | 7.3  | 23.9 | 71.0 | 5.1  | 4.82 | 0.2   | 16 | 4.20   | 0.55 | 0.08 | 0.01 | 0.03 | 1.10 | 0.67    | 1.77  |
| Bissam                                                      | Ebo    | 2   | 30  | 4     | 0.48 | 0.074 | 6.5  | 24.6 | 68.0 | 7.4  | 5.47 | 0.1   | 9  | 4.50   | 2.10 | 0.12 | 0.01 | 0.02 | 0.41 | 2.25    | 2.66  |
| Okpwegngoe                                                  | Ebo    | 2   | 31  | 4     | 0.48 | 0.064 | 7.6  | 39.8 | 52.2 | 8.0  | 4.54 | 0.1   | 26 | 3.94   | 0.24 | 0.07 | 0.01 | 0.03 | 2.93 | 0.35    | 3.28  |
| Nyazanga                                                    | Ebo    | 2   | 32  | 4     | 0.47 | 0.067 | 7.0  | 29.8 | 66.2 | 4.0  | 4.59 | 0.2   | 18 | 4.01   | 0.09 | 0.02 | 0.01 | 0.02 | 2.49 | 0.14    | 2.63  |
| Akonekye                                                    | Ebo    | 2   | 34  | 4     | 0.40 | 0.070 | 5.7  | 30.9 | 64.0 | 5.1  | 4.68 | 0.4   | 25 | 3.96   | 0.27 | 0.03 | 0.01 | 0.03 | 2.52 | 0.34    | 2.86  |
| Biyii                                                       | Ebo    | 2   | 35  | 4     | 0.45 | 0.062 | 7.3  | 34.6 | 58.0 | 7.4  | 4.48 | 0.1   | 23 | 3.88   | 0.07 | 0.03 | 0.01 | 0.03 | 3.11 | 0.14    | 3.25  |
| Ntem River                                                  | Ebo    | 2   | 36  | 4     | 0.32 | 0.062 | 5.1  | 25.0 | 71.6 | 3.4  | 5.10 | 0.9   | 11 | 4.17   | 1.24 | 0.08 | 0.01 | 0.03 | 1.35 | 1.36    | 2.71  |
| Ekoumedoum                                                  | Ebo    | 2   | 37  | 4     | 0.49 | 0.074 | 6.6  | 25.9 | 67.0 | 7.1  | 5.71 | 0.1   | 8  | 4.69   | 3.00 | 0.16 | 0.01 | 0.04 | 0.00 | 3.21    | 3.21  |
| Mvieng                                                      | Ebo    | 2   | 38  | 4     | 0.31 | 0.052 | 5.9  | 44.6 | 46.0 | 9.4  | 4.59 | 0.1   | 20 | 3.91   | 0.13 | 0.03 | 0.01 | 0.02 | 2.72 | 0.19    | 2.91  |
| Nkoloveng                                                   | Ebo    | 2   | 39  | 4     | 0.41 | 0.071 | 5.8  | 35.6 | 57.0 | 7.4  | 4.91 | 0.0   | 12 | 3.98   | 0.37 | 0.05 | 0.01 | 0.05 | 2.77 | 0.48    | 3.25  |
| Ebenvok                                                     | Ebo    | 2   | 40  | 4     | 0.59 | 0.081 | 7.3  | 27.6 | 65.0 | 7.4  | 4.72 | 0.0   | 17 | 4.07   | 0.25 | 0.04 | 0.01 | 0.03 | 2.80 | 0.33    | 3.13  |
| Efoulan                                                     | Ebo    | 2   | 46  | 4     | 0.48 | 0.072 | 6.6  | 33.1 | 61.9 | 5.0  | 4.56 | 0.0   | 22 | 3.85   | 0.10 | 0.03 | 0.01 | 0.05 | 3.36 | 0.19    | 3.55  |
| Mengale                                                     | Ebo    | 2   | 47  | 4     |      |       |      |      |      |      | 4.98 | 0.4   | 12 | 4.06   | 0.23 | 0.03 | 0.00 | 0.05 | 0.00 | 0.31    | 0.31  |
| Akom                                                        | Ebo    | 2   | 48  | 4     | 0.26 | 0.060 | 4.4  | 27.8 | 66.2 | 6.0  | 4.85 | 0.7   | 13 | 4.09   | 0.23 | 0.07 | 0.00 | 0.05 | 2.17 | 0.35    | 2.52  |
| Mengong                                                     | Ebo    | 2   | 49  | 4     | 0.54 | 0.084 | 6.5  | 35.8 | 57.4 | 6.8  | 4.48 | 0.7   | 23 | 3.86   | 0.07 | 0.07 | 0.00 | 0.05 | 4.56 | 0.19    | 4.75  |
| Ntomba                                                      | Ebo    | 2   | 50  | 4     | 0.39 | 0.072 | 5.4  | 21.5 | 74.9 | 3.6  | 4.46 | 0.3   | 36 | 3.98   | 0.32 | 0.15 | 0.00 | 0.06 | 2.39 | 0.53    | 2.92  |
| Ngoulemakong                                                | Ebo    | 2   | 51  | 4     | 0.61 | 0.078 | 7.8  | 23.1 | 71.6 | 5.3  | 4.48 | 0.2   | 24 | 3.86   | 0.02 | 0.16 | 0.01 | 0.05 | 3.71 | 0.24    | 3.95  |
| Nemeyong                                                    | Ebo    | 2   | 74  | 4     | 0.37 | 0.057 | 6.5  | 28.7 | 67.0 | 4.3  | 5.00 | 0.9   | 8  | 3.98   | 0.61 | 0.05 | 0.00 | 0.03 | 1.57 | 0.69    | 2.26  |
| Mvangué                                                     | Ebo    | 2   | 75  | 4     | 0.36 | 0.063 | 5.7  | 32.1 | 61.9 | 6.0  | 4.52 | 0.6   | 17 | 3.79   | 0.18 | 0.01 | 0.00 | 0.04 | 3.13 | 0.23    | 3.36  |
| Madjwe                                                      | Ebo    | 2   | 111 | 4     | 0.28 | 0.059 | 4.7  | 37.5 | 53.4 | 9.1  | 7.30 | 0.6   | 23 | 6.47   | 5.53 | 1.43 | 0.01 | 0.09 | 0.00 | 7.06    | 7.06  |
| Bikok                                                       | Mba    | 4   | 2   | 1     | 2.18 | 0.161 | 13.5 | 53.2 | 39.0 | 7.5  | 5.84 | 0.6   | 77 | 5.36   | 9.95 | 1.07 | 0.02 | 0.12 | 0.00 | 11.16   | 11.16 |
| Ekali                                                       | Mba    | 4   | 3   | 1     | 1.69 | 0.183 | 9.2  | 44.8 | 45.0 | 10.2 | 5.58 | 1.1   | 81 | 5.02   | 4.52 | 1.65 | 0.02 | 0.45 | 0.00 | 6.64    | 6.64  |
| Zamakoe                                                     | Mba    | 4   | 4   | 1     | 0.85 | 0.112 | 7.6  | 51.0 | 39.8 | 9.2  | 4.61 | 0.3   | 39 | 4.01   | 0.76 | 0.34 | 0.02 | 0.11 | 2.57 | 1.23    | 3.80  |



| Reconnaissance soil survey of southcentral Cameroon (1991) |        |     |     |       |      |       |      |      |      |      |                                                             |       |     |        |      |      |      |      |      |         |      |
|------------------------------------------------------------|--------|-----|-----|-------|------|-------|------|------|------|------|-------------------------------------------------------------|-------|-----|--------|------|------|------|------|------|---------|------|
| RAW DATA                                                   |        |     |     |       |      |       |      |      |      |      |                                                             |       |     |        |      |      |      |      |      |         |      |
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm  |        |     |     |       |      |       |      |      |      |      | samples were taken in cocoa plantations or secondary forest |       |     |        |      |      |      |      |      |         |      |
| Village                                                    | region | rno | ID  | depth | Corg | Norg  | C/N  | sand | clay | silt | pH                                                          | old P | EC  | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Akono                                                      | Mba    | 4   | 5   | 1     | 1.56 | 0.179 | 8.7  | 61.7 | 30.3 | 8.0  | 4.84                                                        | 0.0   | 82  | 4.38   | 2.05 | 0.74 | 0.01 | 0.14 | 0.97 | 2.94    | 3.91 |
| Mfida                                                      | Mba    | 4   | 6   | 1     | 0.90 | 0.140 | 6.5  | 49.7 | 37.7 | 12.6 | 4.79                                                        | 0.0   | 40  | 4.15   | 1.26 | 0.45 | 0.02 | 0.18 | 2.27 | 1.91    | 4.18 |
| Abang                                                      | Mba    | 4   | 7   | 1     | 1.35 | 0.151 | 8.9  | 69.7 | 18.3 | 12.0 | 4.84                                                        | 0.5   | 83  | 4.29   | 1.47 | 0.45 | 0.03 | 0.12 | 0.68 | 2.07    | 2.75 |
| Obout                                                      | Mba    | 4   | 8   | 1     | 1.45 | 0.206 | 7.0  | 51.4 | 34.0 | 14.6 | 4.68                                                        | 1.3   | 115 | 4.24   | 1.64 | 0.47 | 0.02 | 0.17 | 1.53 | 2.30    | 3.83 |
| Nkoyla                                                     | Mba    | 4   | 9   | 1     | 1.22 | 0.164 | 7.4  | 61.5 | 21.8 | 16.7 | 6.16                                                        | 0.8   | 84  | 5.65   | 5.38 | 1.52 | 0.02 | 0.10 | 0.00 | 7.02    | 7.02 |
| Nvoutessi 1                                                | Mba    | 4   | 10  | 1     | 0.84 | 0.113 | 7.4  | 57.8 | 34.4 | 7.8  | 4.39                                                        | 0.7   | 59  | 3.87   | 1.36 | 0.54 | 0.02 | 0.07 | 2.10 | 1.99    | 4.09 |
| Nsimi                                                      | Mba    | 4   | 11  | 1     | 1.00 | 0.144 | 6.9  | 56.3 | 35.8 | 7.9  | 5.30                                                        | 0.8   | 81  | 4.80   | 1.31 | 0.60 | 0.02 | 0.11 | 0.22 | 2.04    | 2.26 |
| Oveng                                                      | Mba    | 4   | 12  | 1     | 1.17 | 0.138 | 8.4  | 54.8 | 40.2 | 5.0  | 4.92                                                        | 0.9   | 74  | 4.45   | 2.10 | 0.84 | 0.02 | 0.15 | 0.72 | 3.11    | 3.83 |
| Ngoulemakong                                               | Mba    | 4   | 19  | 1     | 0.70 | 0.091 | 7.7  | 54.8 | 38.5 | 6.7  | 4.66                                                        | 0.0   | 35  | 4.03   | 0.54 | 0.15 | 0.02 | 0.06 | 2.25 | 0.77    | 3.02 |
| Matomb                                                     | Mba    | 4   | 20  | 1     | 1.52 | 0.143 | 10.6 | 68.8 | 28.2 | 3.0  | 4.41                                                        | 0.8   | 78  | 3.93   | 0.59 | 0.22 | 0.02 | 0.12 | 2.04 | 0.95    | 2.99 |
| Pouma                                                      | Mba    | 4   | 21  | 1     | 1.12 | 0.112 | 10.0 | 73.5 | 24.8 | 1.7  | 4.55                                                        | 1.1   | 52  | 3.97   | 0.25 | 0.16 | 0.02 | 0.11 | 1.63 | 0.54    | 2.17 |
| Azap                                                       | Mba    | 4   | 22  | 1     | 1.16 | 0.127 | 9.1  | 67.2 | 29.8 | 3.0  | 4.65                                                        | 0.1   | 65  | 4.09   | 1.34 | 0.37 | 0.02 | 0.17 | 1.44 | 1.90    | 3.34 |
| Nkonmekak                                                  | Mba    | 4   | 41  | 1     | 1.51 | 0.150 | 10.1 | 64.6 | 30.0 | 5.4  | 4.39                                                        | 1.2   | 68  | 3.77   | 0.71 | 0.14 | 0.01 | 0.10 | 2.04 | 0.96    | 3.00 |
| Nlonkeng                                                   | Mba    | 4   | 42  | 1     | 0.97 | 0.102 | 9.5  | 60.6 | 29.0 | 10.4 | 4.55                                                        | 0.7   | 69  | 3.87   | 0.98 | 0.29 | 0.01 | 0.18 | 1.73 | 1.46    | 3.19 |
| Bipindi                                                    | Mba    | 4   | 43  | 1     | 1.00 | 0.126 | 8.0  | 63.0 | 26.0 | 11.0 | 7.00                                                        | 0.7   | 63  | 6.28   | 7.12 | 0.58 | 0.02 | 0.15 | 0.00 | 7.87    | 7.87 |
| Bikala                                                     | Mba    | 4   | 44  | 1     | 1.04 | 0.114 | 9.1  | 63.9 | 27.0 | 9.1  | 6.06                                                        | 0.3   | 64  | 5.37   | 4.31 | 0.36 | 0.01 | 0.16 | 0.00 | 4.84    | 4.84 |
| Bingambo                                                   | Mba    | 4   | 45  | 1     | 1.60 | 0.141 | 11.3 | 58.8 | 37.2 | 4.0  | 4.34                                                        | 0.6   | 68  | 3.79   | 0.46 | 0.15 | 0.01 | 0.10 | 2.36 | 0.72    | 3.08 |
| Nkolessas                                                  | Mba    | 4   | 86  | 1     | 1.18 | 0.173 | 6.8  | 70.5 | 12.9 | 16.6 | 4.98                                                        | 0.3   | 121 | 4.38   | 2.60 | 0.28 | 0.01 | 0.16 | 0.20 | 3.05    | 3.25 |
| Nkoumadjap                                                 | Mba    | 4   | 87  | 1     | 1.74 | 0.129 | 13.4 | 66.1 | 27.2 | 6.7  | 5.32                                                        | 0.0   | 76  | 4.63   | 2.12 | 1.03 | 0.01 | 0.12 | 0.16 | 3.28    | 3.44 |
| Apou                                                       | Mba    | 4   | 121 | 1     | 0.49 | 0.069 | 7.2  | 54.4 | 37.2 | 8.4  | 5.30                                                        | 0.7   | 14  | 4.64   | 0.86 | 0.08 | 0.01 | 0.01 | 1.46 | 0.96    | 2.42 |
| Bikok                                                      | Mba    | 4   | 2   | 2     | 0.97 | 0.092 | 10.6 | 53.9 | 36.0 | 10.1 | 6.86                                                        | 0.3   | 32  | 6.09   | 8.57 | 0.28 | 0.01 | 0.11 | 0.00 | 8.97    | 8.97 |
| Ekali                                                      | Mba    | 4   | 3   | 2     | 0.58 | 0.100 | 5.8  | 35.9 | 57.0 | 7.1  | 5.10                                                        | 0.4   | 32  | 4.37   | 1.49 | 0.86 | 0.02 | 0.22 | 1.05 | 2.59    | 3.64 |
| Zamakoe                                                    | Mba    | 4   | 4   | 2     | 0.49 | 0.093 | 5.2  | 37.7 | 54.8 | 7.5  | 4.71                                                        | 0.3   | 25  | 3.99   | 0.50 | 0.26 | 0.02 | 0.10 | 3.52 | 0.88    | 4.40 |
| Akono                                                      | Mba    | 4   | 5   | 2     | 0.35 | 0.067 | 5.2  | 49.6 | 40.3 | 10.1 | 4.68                                                        | 0.0   | 35  | 4.08   | 0.76 | 0.25 | 0.01 | 0.10 | 2.28 | 1.12    | 3.40 |
| Mfida                                                      | Mba    | 4   | 6   | 2     | 0.62 | 0.100 | 6.2  | 42.7 | 44.7 | 12.6 | 5.02                                                        | 0.0   | 31  | 4.23   | 1.52 | 0.55 | 0.02 | 0.17 | 2.30 | 2.26    | 4.56 |
| Abang                                                      | Mba    | 4   | 7   | 2     | 0.42 | 0.067 | 6.3  | 55.7 | 32.3 | 12.0 | 4.85                                                        | 0.6   | 30  | 4.12   | 0.75 | 0.32 | 0.02 | 0.08 | 1.85 | 1.17    | 3.02 |
| Obout                                                      | Mba    | 4   | 8   | 2     | 0.66 | 0.089 | 7.4  | 45.9 | 45.0 | 9.1  | 4.79                                                        | 0.4   | 33  | 4.08   | 0.22 | 0.57 | 0.01 | 0.09 | 2.37 | 0.89    | 3.26 |
| Nkoyla                                                     | Mba    | 4   | 9   | 2     | 0.40 | 0.057 | 7.1  | 57.8 | 27.4 | 14.8 | 5.83                                                        | 0.3   | 16  | 4.80   | 2.04 | 0.37 | 0.02 | 0.06 | 0.00 | 2.49    | 2.49 |
| Nvoutessi 1                                                | Mba    | 4   | 10  | 2     | 0.44 | 0.074 | 6.0  | 47.8 | 43.4 | 8.8  | 4.64                                                        | 0.7   | 19  | 3.91   | 0.28 | 0.22 | 0.02 | 0.05 | 2.66 | 0.57    | 3.23 |
| Nsimi                                                      | Mba    | 4   | 11  | 2     | 0.56 | 0.078 | 7.1  | 42.8 | 51.6 | 5.6  | 4.91                                                        | 0.0   | 33  | 4.23   | 0.55 | 0.40 | 0.01 | 0.06 | 1.29 | 1.02    | 2.31 |
| Oveng                                                      | Mba    | 4   | 12  | 2     | 0.65 | 0.098 | 6.7  | 38.8 | 55.2 | 6.0  | 4.62                                                        | 0.0   | 39  | 4.01   | 0.65 | 0.42 | 0.02 | 0.09 | 2.02 | 1.18    | 3.20 |
| Ngoulemakong                                               | Mba    | 4   | 19  | 2     | 0.58 | 0.085 | 6.9  | 41.1 | 52.5 | 6.4  | 4.75                                                        | 0.1   | 21  | 4.02   | 0.45 | 0.08 | 0.02 | 0.04 | 2.94 | 0.59    | 3.53 |
| Matomb                                                     | Mba    | 4   | 20  | 2     | 0.55 | 0.076 | 7.3  | 56.1 | 39.2 | 4.7  | 4.55                                                        | 0.1   | 28  | 3.99   | 0.07 | 0.07 | 0.01 | 0.05 | 2.38 | 0.20    | 2.58 |
| Pouma                                                      | Mba    | 4   | 21  | 2     | 0.63 | 0.075 | 8.5  | 65.5 | 31.8 | 2.7  | 4.58                                                        | 0.3   | 37  | 4.05   | 0.07 | 0.08 | 0.01 | 0.10 | 1.63 | 0.26    | 1.89 |
| Azap                                                       | Mba    | 4   | 22  | 2     | 0.55 | 0.083 | 6.6  | 47.1 | 48.2 | 4.7  | 4.63                                                        | 0.0   | 39  | 4.01   | 0.78 | 0.28 | 0.02 | 0.14 | 2.75 | 1.22    | 3.97 |
| Nkonmekak                                                  | Mba    | 4   | 41  | 2     | 0.57 | 0.078 | 7.3  | 50.6 | 42.0 | 7.4  | 4.58                                                        | 0.2   | 30  | 3.96   | 0.26 | 0.05 | 0.01 | 0.06 | 1.99 | 0.38    | 2.37 |
| Nlonkeng                                                   | Mba    | 4   | 42  | 2     | 0.52 | 0.063 | 8.2  | 52.0 | 36.7 | 7.3  | 4.38                                                        | 0.2   | 52  | 3.80   | 0.10 | 0.09 | 0.01 | 0.15 | 2.61 | 0.35    | 2.96 |
| Bipindi                                                    | Mba    | 4   | 43  | 2     | 0.27 | 0.048 | 5.7  | 53.0 | 37.0 | 10.0 | 5.60                                                        | 0.1   | 25  | 4.92   | 1.57 | 0.32 | 0.01 | 0.08 | 0.00 | 1.98    | 1.98 |
| Bikala                                                     | Mba    | 4   | 44  | 2     | 0.35 | 0.052 | 6.8  | 57.0 | 37.0 | 6.0  | 5.22                                                        | 0.0   | 15  | 4.33   | 0.91 | 0.11 | 0.01 | 0.07 | 0.82 | 1.10    | 1.92 |
| Bingambo                                                   | Mba    | 4   | 45  | 2     | 0.54 | 0.081 | 6.6  | 47.8 | 46.2 | 6.0  | 4.76                                                        | 0.1   | 23  | 3.99   | 0.29 | 0.05 | 0.01 | 0.06 | 2.11 | 0.41    | 2.52 |
| Nkolessas                                                  | Mba    | 4   | 86  | 2     | 0.25 | 0.041 | 6.0  | 67.5 | 14.9 | 17.6 | 4.75                                                        | 0.0   | 37  | 4.03   | 0.34 | 0.05 | 0.00 | 0.11 | 0.88 | 0.50    | 1.38 |
| Nkoumadjap                                                 | Mba    | 4   | 87  | 2     | 0.57 | 0.079 | 7.3  | 48.1 | 46.2 | 5.7  | 4.87                                                        | 0.0   | 23  | 4.10   | 0.69 | 0.27 | 0.00 | 0.07 | 1.65 | 1.03    | 2.68 |
| Apou                                                       | Mba    | 4   | 121 | 2     | 0.42 | 0.058 | 7.3  | 54.8 | 36.2 | 9.0  | 5.42                                                        | 0.7   | 10  | 4.67   | 0.33 | 0.06 | 0.00 | 0.00 | 1.38 | 0.39    | 1.77 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|-----|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| RAW DATA                                                    |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Bikok                                                       | Mba    | 4   | 2   | 3     | 0.43 | 0.066 | 6.5 | 54.3 | 49.0 | 3.3  | 6.94 | 0.2   | 24 | 6.07   | 5.88 | 0.30 | 0.02 | 0.11 | 0.00 | 6.31    | 6.31 |
| Ekali                                                       | Mba    | 4   | 3   | 3     | 0.55 | 0.101 | 5.4 | 34.0 | 61.8 | 4.2  | 4.95 | 0.4   | 17 | 4.12   | 0.48 | 0.29 | 0.02 | 0.08 | 2.64 | 0.87    | 3.51 |
| Zamakoe                                                     | Mba    | 4   | 4   | 3     | 0.44 | 0.081 | 5.4 | 35.3 | 57.8 | 6.9  | 4.86 | 0.3   | 16 | 4.06   | 0.41 | 0.14 | 0.01 | 0.09 | 3.57 | 0.65    | 4.22 |
| Akono                                                       | Mba    | 4   | 5   | 3     | 0.27 | 0.064 | 4.3 | 46.6 | 43.0 | 10.4 | 4.88 | 0.0   | 22 | 4.18   | 0.98 | 0.28 | 0.01 | 0.08 | 2.20 | 1.35    | 3.55 |
| Mfida                                                       | Mba    | 4   | 6   | 3     | 0.47 | 0.085 | 5.5 | 38.7 | 52.3 | 9.0  | 5.06 | 0.0   | 23 | 4.28   | 1.63 | 0.46 | 0.02 | 0.13 | 2.52 | 2.24    | 4.76 |
| Abang                                                       | Mba    | 4   | 7   | 3     | 0.44 | 0.066 | 6.6 | 42.4 | 48.3 | 9.3  | 4.73 | 0.3   | 20 | 3.99   | 0.53 | 0.21 | 0.01 | 0.07 | 3.54 | 0.82    | 4.36 |
| Obout                                                       | Mba    | 4   | 8   | 3     | 0.38 | 0.067 | 5.7 | 35.4 | 58.6 | 6.0  | 5.05 | 0.0   | 15 | 4.12   | 1.37 | 0.35 | 0.02 | 0.07 | 2.84 | 1.81    | 4.65 |
| Nkoyla                                                      | Mba    | 4   | 9   | 3     | 0.33 | 0.058 | 5.6 | 42.8 | 46.4 | 10.8 | 5.77 | 0.4   | 10 | 4.73   | 3.21 | 0.48 | 0.02 | 0.04 | 0.00 | 3.75    | 3.75 |
| Nvoutessi 1                                                 | Mba    | 4   | 10  | 3     | 0.38 | 0.063 | 6.1 | 41.8 | 51.4 | 6.8  | 4.63 | 0.5   | 19 | 3.94   | 0.18 | 0.12 | 0.02 | 0.04 | 2.86 | 0.36    | 3.22 |
| Nsimi                                                       | Mba    | 4   | 11  | 3     | 0.44 | 0.064 | 6.9 | 30.3 | 65.6 | 4.1  | 4.91 | 0.0   | 16 | 4.16   | 0.42 | 0.17 | 0.01 | 0.03 | 1.96 | 0.63    | 2.59 |
| Oveng                                                       | Mba    | 4   | 12  | 3     | 0.60 | 0.080 | 7.6 | 31.1 | 64.9 | 4.0  | 4.70 | 0.0   | 24 | 4.02   | 0.57 | 0.32 | 0.02 | 0.08 | 2.30 | 0.99    | 3.29 |
| Ngoulemakong                                                | Mba    | 4   | 19  | 3     | 0.60 | 0.090 | 6.7 | 36.8 | 56.9 | 6.3  | 4.77 | 0.1   | 25 | 4.07   | 0.56 | 0.16 | 0.08 | 0.05 | 2.92 | 0.85    | 3.77 |
| Matomb                                                      | Mba    | 4   | 20  | 3     | 0.43 | 0.061 | 7.1 | 50.1 | 43.8 | 6.1  | 4.63 | 0.1   | 20 | 4.05   | 0.06 | 0.05 | 0.01 | 0.02 | 2.45 | 0.14    | 2.59 |
| Pouma                                                       | Mba    | 4   | 21  | 3     | 0.49 | 0.062 | 7.9 | 61.1 | 35.8 | 3.1  | 4.61 | 0.2   | 30 | 4.08   | 0.45 | 0.07 | 0.01 | 0.07 | 1.64 | 0.60    | 2.24 |
| Azap                                                        | Mba    | 4   | 22  | 3     | 0.42 | 0.069 | 6.1 | 40.1 | 54.2 | 5.7  | 4.64 | 0.1   | 26 | 4.00   | 0.35 | 0.21 | 0.02 | 0.08 | 3.39 | 0.66    | 4.05 |
| Nkonmekak                                                   | Mba    | 4   | 41  | 3     | 0.43 | 0.063 | 6.8 | 42.6 | 50.0 | 7.4  | 4.65 | 0.0   | 20 | 4.04   | 0.14 | 0.03 | 0.01 | 0.04 | 1.97 | 0.22    | 2.19 |
| Nlonkeng                                                    | Mba    | 4   | 42  | 3     | 0.36 | 0.050 | 7.2 | 48.0 | 42.7 | 9.3  | 4.51 | 0.0   | 29 | 3.99   | 0.06 | 0.07 | 0.01 | 0.09 | 2.53 | 0.23    | 2.76 |
| Bipindi                                                     | Mba    | 4   | 43  | 3     | 0.21 | 0.043 | 4.9 | 40.0 | 53.0 | 7.0  | 5.83 | 0.0   | 9  | 5.18   | 1.96 | 0.21 | 0.01 | 0.06 | 0.00 | 2.24    | 2.24 |
| Bikala                                                      | Mba    | 4   | 44  | 3     | 0.32 | 0.054 | 5.8 | 49.9 | 42.0 | 8.1  | 5.18 | 0.0   | 12 | 4.21   | 0.67 | 0.08 | 0.01 | 0.04 | 1.10 | 0.80    | 1.90 |
| Bingambo                                                    | Mba    | 4   | 45  | 3     | 0.50 | 0.058 | 8.5 | 45.8 | 48.2 | 6.0  | 4.80 | 0.0   | 18 | 4.11   | 0.23 | 0.03 | 0.01 | 0.03 | 1.78 | 0.30    | 2.08 |
| Nkolellas                                                   | Mba    | 4   | 86  | 3     | 0.29 | 0.047 | 6.1 | 54.5 | 32.9 | 12.6 | 4.79 | 0.0   | 14 | 3.90   | 0.55 | 0.04 | 0.01 | 0.07 | 2.88 | 0.67    | 3.55 |
| Nkoumadjap                                                  | Mba    | 4   | 87  | 3     | 0.50 | 0.069 | 7.2 | 34.1 | 62.2 | 3.7  | 4.91 | 0.0   | 13 | 4.10   | 0.67 | 0.13 | 0.00 | 0.19 | 2.05 | 0.99    | 3.04 |
| Apou                                                        | Mba    | 4   | 121 | 3     | 0.41 | 0.056 | 7.3 | 51.1 | 41.4 | 7.5  | 5.46 | 0.5   | 8  | 4.67   | 0.31 | 0.05 | 0.01 | 0.01 | 1.44 | 0.38    | 1.82 |
| Bikok                                                       | Mba    | 4   | 2   | 4     | 0.29 | 0.061 | 4.8 | 36.3 | 58.0 | 5.7  | 6.93 | 0.2   | 19 | 6.02   | 5.09 | 0.47 | 0.02 | 0.10 | 0.00 | 5.68    | 5.68 |
| Ekali                                                       | Mba    | 4   | 3   | 4     | 0.51 | 0.077 | 6.7 | 30.0 | 63.8 | 6.2  | 5.06 | 0.4   | 21 | 4.27   | 1.25 | 0.66 | 0.02 | 0.11 | 1.86 | 2.04    | 3.90 |
| Zamakoe                                                     | Mba    | 4   | 4   | 4     | 0.40 | 0.074 | 5.4 | 38.7 | 55.3 | 6.0  | 4.76 | 0.6   | 18 | 4.05   | 0.28 | 0.09 | 0.01 | 0.08 | 3.44 | 0.46    | 3.90 |
| Akono                                                       | Mba    | 4   | 5   | 4     | 0.25 | 0.057 | 4.4 | 45.0 | 45.0 | 10.0 | 4.93 | 0.6   | 19 | 4.20   | 0.92 | 0.24 | 0.01 | 0.07 | 2.24 | 1.24    | 3.48 |
| Abang                                                       | Mba    | 4   | 7   | 4     | 0.35 | 0.063 | 5.5 | 37.4 | 55.0 | 7.6  | 4.67 | 0.2   | 19 | 3.98   | 0.26 | 0.16 | 0.01 | 0.09 | 4.12 | 0.52    | 4.64 |
| Obout                                                       | Mba    | 4   | 8   | 4     | 0.39 | 0.064 | 6.0 | 32.5 | 61.8 | 5.7  | 5.19 | 0.0   | 13 | 4.29   | 2.26 | 0.32 | 0.02 | 0.07 | 1.89 | 2.67    | 4.56 |
| Nkoyla                                                      | Mba    | 4   | 9   | 4     | 0.28 | 0.053 | 5.3 | 35.3 | 58.4 | 6.3  | 5.76 | 0.3   | 8  | 4.76   | 3.45 | 0.32 | 0.03 | 0.04 | 0.00 | 3.84    | 3.84 |
| Nvoutessi 1                                                 | Mba    | 4   | 10  | 4     | 0.39 | 0.061 | 6.4 | 37.8 | 57.8 | 4.4  | 4.52 | 0.5   | 25 | 3.94   | 0.17 | 0.07 | 0.04 | 0.03 | 3.12 | 0.31    | 3.43 |
| Nsimi                                                       | Mba    | 4   | 11  | 4     | 0.32 | 0.052 | 6.2 | 28.1 | 69.2 | 2.7  | 4.90 | 0.0   | 16 | 4.22   | 0.48 | 0.13 | 0.01 | 0.04 | 1.77 | 0.66    | 2.43 |
| Oveng                                                       | Mba    | 4   | 12  | 4     | 0.48 | 0.071 | 6.8 | 27.1 | 68.9 | 4.0  | 4.79 | 0.0   | 17 | 4.04   | 0.43 | 0.22 | 0.02 | 0.06 | 2.35 | 0.73    | 3.08 |
| Ngoulemakong                                                | Mba    | 4   | 19  | 4     | 0.50 | 0.075 | 6.6 | 37.8 | 55.9 | 6.3  | 4.78 | 0.1   | 18 | 4.05   | 0.27 | 0.06 | 0.02 | 0.03 | 3.00 | 0.38    | 3.38 |
| Matomb                                                      | Mba    | 4   | 20  | 4     | 0.32 | 0.050 | 6.4 | 47.5 | 45.8 | 6.7  | 4.65 | 0.0   | 19 | 4.08   | 0.05 | 0.05 | 0.02 | 0.03 | 2.24 | 0.15    | 2.39 |
| Azap                                                        | Mba    | 4   | 22  | 4     | 0.42 | 0.066 | 6.3 | 38.5 | 56.2 | 5.3  | 4.72 | 0.1   | 21 | 4.00   | 0.23 | 0.18 | 0.02 | 0.10 | 3.46 | 0.53    | 3.99 |
| Nkonmekak                                                   | Mba    | 4   | 41  | 4     | 0.36 | 0.061 | 6.0 | 39.6 | 54.0 | 6.4  | 4.73 | 0.0   | 17 | 4.08   | 0.16 | 0.03 | 0.01 | 0.03 | 1.90 | 0.23    | 2.13 |
| Nlonkeng                                                    | Mba    | 4   | 42  | 4     | 0.29 | 0.044 | 6.6 | 43.4 | 46.7 | 9.9  | 4.58 | 0.0   | 22 | 3.96   | 0.05 | 0.05 | 0.01 | 0.06 | 2.46 | 0.17    | 2.63 |
| Bipindi                                                     | Mba    | 4   | 43  | 4     | 0.16 | 0.040 | 4.0 | 36.9 | 56.0 | 7.1  | 5.84 | 0.1   | 6  | 5.33   | 2.10 | 0.15 | 0.01 | 0.05 | 0.00 | 2.31    | 2.31 |
| Bikala                                                      | Mba    | 4   | 44  | 4     | 0.28 | 0.045 | 6.1 | 43.8 | 49.2 | 7.0  | 5.26 | 0.0   | 9  | 4.33   | 0.56 | 0.07 | 0.01 | 0.03 | 1.08 | 0.67    | 1.75 |
| Bingambo                                                    | Mba    | 4   | 45  | 4     | 0.35 | 0.052 | 6.8 | 46.8 | 48.2 | 5.0  | 4.77 | 0.0   | 17 | 4.01   | 0.10 | 0.03 | 0.01 | 0.04 | 1.86 | 0.18    | 2.04 |
| Nkolellas                                                   | Mba    | 4   | 86  | 4     | 0.27 | 0.050 | 5.4 | 45.5 | 39.9 | 14.6 | 4.68 | 0.6   | 12 | 3.88   | 0.39 | 0.02 | 0.00 | 0.16 | 3.63 | 0.57    | 4.20 |
| Nkoumadjap                                                  | Mba    | 4   | 87  | 4     | 0.39 | 0.057 | 6.7 | 31.1 | 66.6 | 2.3  | 4.77 | 0.5   | 11 | 4.18   | 0.41 | 0.05 | 0.00 | 0.07 | 2.14 | 0.53    | 2.67 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |     |      |      |      |      |       |     |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|-----|------|------|------|------|-------|-----|--------|------|------|------|------|------|---------|------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |     |      |      |      |      |       |     |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |     |      |      |      |      |       |     |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC  | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Apou                                                        | Mba    | 4   | 121 | 4     | 0.32 | 0.052 | 6.2 | 49.1 | 44.8 | 6.1  | 5.43 | 0.0   | 7   | 4.68   | 0.24 | 0.05 | 0.00 | 0.00 | 1.34 | 0.29    | 1.63 |
| Nkoloutououtou                                              | San    | 3   | 52  | 1     | 1.82 | 0.218 | 8.3 | 42.4 | 45.6 | 12.0 | 6.24 | 0.0   | 57  | 5.51   | 9.16 | 0.55 | 0.01 | 0.12 | 0.00 | 9.84    | 9.84 |
| Tekmo                                                       | San    | 3   | 53  | 1     | 1.10 | 0.138 | 8.0 | 50.1 | 45.6 | 4.3  | 4.90 | 0.2   | 66  | 4.09   | 1.45 | 0.23 | 0.01 | 0.49 | 1.27 | 2.18    | 3.45 |
| bibouloumam                                                 | San    | 3   | 54  | 1     | 0.86 | 0.105 | 8.1 | 71.1 | 23.2 | 5.7  | 4.96 | 0.2   | 51  | 4.16   | 0.90 | 0.28 | 0.00 | 0.07 | 0.76 | 1.25    | 2.01 |
| Andom                                                       | San    | 3   | 55  | 1     | 0.52 | 0.078 | 6.7 | 72.1 | 22.9 | 5.0  | 4.69 | 0.1   | 44  | 4.01   | 0.39 | 0.14 | 0.00 | 0.06 | 1.06 | 0.59    | 1.65 |
| Nyzunger                                                    | San    | 3   | 56  | 1     | 1.41 | 0.188 | 7.5 | 43.1 | 50.9 | 6.0  | 5.28 | 0.1   | 63  | 4.59   | 4.73 | 0.38 | 0.00 | 0.10 | 0.16 | 5.21    | 5.37 |
| Olounou                                                     | San    | 3   | 57  | 1     | 1.10 | 0.144 | 7.6 | 44.0 | 50.0 | 6.0  | 4.24 | 0.0   | 95  | 3.81   | 0.43 | 0.15 | 0.01 | 0.13 | 2.30 | 0.72    | 3.02 |
| Bikoula                                                     | San    | 3   | 58  | 1     | 1.10 | 0.151 | 7.3 | 36.0 | 59.0 | 5.0  | 4.43 | 0.0   | 67  | 3.93   | 0.38 | 0.29 | 0.01 | 0.09 | 2.61 | 0.77    | 3.38 |
| Mveng                                                       | San    | 3   | 59  | 1     | 1.48 | 0.174 | 8.5 | 47.8 | 44.9 | 7.3  | 4.95 | 0.2   | 69  | 4.26   | 2.53 | 0.98 | 0.01 | 0.12 | 1.10 | 3.64    | 4.74 |
| Efoulan                                                     | San    | 3   | 60  | 1     | 1.53 | 0.206 | 7.4 | 46.4 | 50.6 | 3.0  | 3.97 | 0.2   | 118 | 3.66   | 0.29 | 0.14 | 0.00 | 0.08 | 2.68 | 0.51    | 3.19 |
| Essong                                                      | San    | 3   | 61  | 1     | 1.26 | 0.183 | 6.9 | 55.9 | 32.4 | 11.7 | 5.93 | 0.0   | 81  | 5.34   | 5.68 | 1.55 | 0.00 | 0.08 | 0.05 | 7.31    | 7.36 |
| Nkolenyeng                                                  | San    | 3   | 62  | 1     | 0.87 | 0.138 | 6.4 | 47.2 | 43.4 | 9.4  | 5.08 | 0.0   | 69  | 4.45   | 1.66 | 1.20 | 0.00 | 0.10 | 0.11 | 2.96    | 3.07 |
| Oveng                                                       | San    | 3   | 63  | 1     | 1.19 | 0.187 | 6.4 | 39.0 | 53.4 | 7.6  | 4.89 | 0.0   | 48  | 4.27   | 1.26 | 0.79 | 0.01 | 0.10 | 0.58 | 2.16    | 2.74 |
| Akoabas                                                     | San    | 3   | 64  | 1     | 0.79 | 0.126 | 6.3 | 44.8 | 49.1 | 6.1  | 4.46 | 0.1   | 47  | 3.95   | 0.69 | 0.23 | 0.01 | 0.09 | 1.65 | 1.02    | 2.67 |
| Elom                                                        | San    | 3   | 65  | 1     | 1.48 | 0.211 | 7.0 | 50.4 | 38.2 | 11.4 | 5.18 | 0.1   | 122 | 4.75   | 3.47 | 1.24 | 0.01 | 0.24 | 0.11 | 4.96    | 5.07 |
| Endengue                                                    | San    | 3   | 66  | 1     | 0.84 | 0.110 | 7.6 | 62.8 | 29.2 | 8.0  | 4.79 | 0.2   | 64  | 4.16   | 1.09 | 0.16 | 0.01 | 0.08 | 0.64 | 1.34    | 1.98 |
| Meboo Ngoe                                                  | San    | 3   | 67  | 1     | 0.90 | 0.116 | 7.8 | 57.1 | 36.5 | 6.4  | 5.25 | 0.0   | 43  | 4.46   | 1.41 | 0.73 | 0.00 | 0.06 | 0.15 | 2.20    | 2.35 |
| Aboelon                                                     | San    | 3   | 68  | 1     | 1.02 | 0.130 | 7.9 | 63.1 | 27.2 | 9.7  | 5.15 | 0.2   | 72  | 4.39   | 2.14 | 1.48 | 0.01 | 0.06 | 0.14 | 3.69    | 3.83 |
| Bikong                                                      | San    | 3   | 69  | 1     | 0.73 | 0.115 | 6.4 | 49.4 | 43.6 | 7.0  | 4.55 | 0.0   | 86  | 3.87   | 0.77 | 0.15 | 0.01 | 0.18 | 1.22 | 1.11    | 2.33 |
| Ekowong                                                     | San    | 3   | 70  | 1     | 1.45 | 0.168 | 8.7 | 46.4 | 47.6 | 6.0  | 4.56 | 0.2   | 80  | 3.85   | 1.67 | 0.33 | 0.01 | 0.10 | 1.34 | 2.11    | 3.45 |
| Akak                                                        | San    | 3   | 71  | 1     | 1.55 | 0.182 | 8.5 | 40.4 | 51.6 | 8.0  | 5.12 | 0.4   | 102 | 4.40   | 2.79 | 1.33 | 0.01 | 0.16 | 0.25 | 4.29    | 4.54 |
| Avebe-Esse                                                  | San    | 3   | 72  | 1     | 0.59 | 0.091 | 6.5 | 70.4 | 22.0 | 7.6  | 4.80 | 0.0   | 48  | 3.96   | 0.73 | 0.29 | 0.01 | 0.05 | 0.74 | 1.08    | 1.82 |
| Evelessi                                                    | San    | 3   | 73  | 1     | 1.76 | 0.198 | 8.9 | 56.6 | 34.0 | 9.4  | 4.55 | 0.0   | 86  | 3.87   | 2.01 | 1.07 | 0.01 | 0.09 | 1.52 | 3.18    | 4.70 |
| Nkoloutououtou                                              | San    | 3   | 52  | 2     | 0.86 | 0.106 | 8.1 | 26.4 | 67.6 | 6.0  | 5.63 | 0.0   | 20  | 4.62   | 3.52 | 0.35 | 0.01 | 0.08 | 0.00 | 3.96    | 3.96 |
| Tekmo                                                       | San    | 3   | 53  | 2     | 0.57 | 0.098 | 5.8 | 44.1 | 51.6 | 4.3  | 4.35 | 0.2   | 54  | 3.78   | 0.27 | 0.21 | 0.00 | 0.19 | 2.71 | 0.67    | 3.38 |
| bibouloumam                                                 | San    | 3   | 54  | 2     | 0.40 | 0.056 | 7.2 | 61.1 | 34.2 | 4.7  | 4.76 | 0.0   | 28  | 4.02   | 0.55 | 0.20 | 0.00 | 0.05 | 1.18 | 0.80    | 1.98 |
| Andom                                                       | San    | 3   | 55  | 2     | 0.37 | 0.060 | 6.2 | 58.1 | 36.9 | 5.0  | 4.51 | 0.0   | 27  | 3.82   | 0.21 | 0.05 | 0.00 | 0.06 | 1.82 | 0.32    | 2.14 |
| Nyzunger                                                    | San    | 3   | 56  | 2     | 0.91 | 0.115 | 7.9 | 34.4 | 61.6 | 4.0  | 5.27 | 0.0   | 27  | 4.46   | 3.45 | 0.25 | 0.00 | 0.06 | 0.26 | 3.76    | 4.02 |
| Olounou                                                     | San    | 3   | 57  | 2     | 0.69 | 0.094 | 7.3 | 33.4 | 61.6 | 5.0  | 4.45 | 0.0   | 40  | 3.92   | 0.18 | 0.07 | 0.01 | 0.08 | 2.40 | 0.34    | 2.74 |
| Bikoula                                                     | San    | 3   | 58  | 2     | 0.70 | 0.110 | 6.4 | 26.8 | 68.6 | 4.6  | 4.36 | 0.0   | 37  | 3.82   | 0.09 | 0.06 | 0.00 | 0.05 | 2.98 | 0.20    | 3.18 |
| Mveng                                                       | San    | 3   | 59  | 2     | 0.77 | 0.102 | 7.6 | 44.8 | 51.9 | 3.3  | 5.09 | 0.0   | 27  | 4.29   | 2.17 | 0.61 | 0.00 | 0.06 | 0.60 | 2.84    | 3.44 |
| Efoulan                                                     | San    | 3   | 60  | 2     | 0.86 | 0.126 | 6.8 | 40.4 | 57.6 | 2.0  | 4.02 | 0.0   | 66  | 3.82   | 0.15 | 0.05 | 0.00 | 0.05 | 2.91 | 0.25    | 3.16 |
| Essong                                                      | San    | 3   | 61  | 2     | 0.52 | 0.085 | 6.2 | 36.4 | 56.6 | 7.0  | 5.23 | 0.0   | 26  | 4.63   | 1.94 | 0.37 | 0.00 | 0.05 | 0.13 | 2.36    | 2.49 |
| Nkolenyeng                                                  | San    | 3   | 62  | 2     | 0.48 | 0.099 | 4.9 | 41.6 | 51.4 | 7.0  | 4.94 | 0.0   | 31  | 4.27   | 0.96 | 0.30 | 0.00 | 0.07 | 0.66 | 1.33    | 1.99 |
| Oveng                                                       | San    | 3   | 63  | 2     | 0.73 | 0.111 | 6.6 | 29.0 | 65.6 | 5.4  | 4.88 | 0.0   | 22  | 4.14   | 0.89 | 0.19 | 0.01 | 0.05 | 1.30 | 1.14    | 2.44 |
| Akoabas                                                     | San    | 3   | 64  | 2     | 0.62 | 0.087 | 7.2 | 37.8 | 56.4 | 5.8  | 4.66 | 0.0   | 26  | 3.97   | 0.56 | 0.07 | 0.00 | 0.06 | 1.84 | 0.69    | 2.53 |
| Elom                                                        | San    | 3   | 65  | 2     | 0.58 | 0.086 | 6.7 | 44.4 | 46.2 | 9.4  | 4.77 | 0.0   | 40  | 4.17   | 0.66 | 0.19 | 0.00 | 0.09 | 1.00 | 0.94    | 1.94 |
| Endengue                                                    | San    | 3   | 66  | 2     | 0.39 | 0.067 | 5.9 | 56.4 | 35.9 | 7.7  | 4.81 | 0.0   | 20  | 4.01   | 0.26 | 0.04 | 0.01 | 0.04 | 1.26 | 0.35    | 1.61 |
| Meboo Ngoe                                                  | San    | 3   | 67  | 2     | 0.46 | 0.081 | 5.7 | 43.1 | 49.9 | 7.0  | 5.15 | 0.0   | 17  | 4.26   | 1.49 | 0.22 | 0.01 | 0.03 | 0.34 | 1.75    | 2.09 |
| Aboelon                                                     | San    | 3   | 68  | 2     | 0.39 | 0.067 | 5.8 | 57.8 | 33.6 | 8.6  | 4.82 | 0.0   | 18  | 3.89   | 0.38 | 0.15 | 0.01 | 0.02 | 0.96 | 0.56    | 1.52 |
| Bikong                                                      | San    | 3   | 69  | 2     | 0.53 | 0.080 | 6.6 | 40.4 | 53.6 | 6.0  | 4.78 | 0.0   | 18  | 3.87   | 0.53 | 0.04 | 0.00 | 0.03 | 1.69 | 0.60    | 2.29 |
| Ekowong                                                     | San    | 3   | 70  | 2     | 0.66 | 0.108 | 6.1 | 40.4 | 55.6 | 4.0  | 4.61 | 0.2   | 35  | 3.82   | 0.67 | 0.19 | 0.00 | 0.04 | 1.71 | 0.90    | 2.61 |
| Akak                                                        | San    | 3   | 71  | 2     | 0.74 | 0.116 | 6.4 | 34.4 | 59.6 | 6.0  | 4.67 | 0.2   | 47  | 3.92   | 0.90 | 0.37 | 0.01 | 0.11 | 1.82 | 1.39    | 3.21 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|----|-------|------|-------|-----|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| RAW DATA                                                    |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |    |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Avebe-Esse                                                  | San    | 3   | 72 | 2     | 0.39 | 0.058 | 6.6 | 56.8 | 35.6 | 7.6  | 4.84 | 0.0   | 17 | 3.90   | 0.49 | 0.20 | 0.01 | 0.03 | 1.21 | 0.73    | 1.94 |
| Evelessi                                                    | San    | 3   | 73 | 2     | 0.90 | 0.116 | 7.7 | 36.4 | 57.9 | 5.7  | 4.67 | 0.0   | 29 | 3.85   | 1.05 | 0.42 | 0.01 | 0.05 | 2.61 | 1.53    | 4.14 |
| Nkoloutououtor                                              | San    | 3   | 52 | 3     | 0.42 | 0.079 | 5.4 | 22.1 | 73.6 | 4.3  | 5.26 | 0.0   | 11 | 4.23   | 1.36 | 0.44 | 0.01 | 0.07 | 1.38 | 1.88    | 3.26 |
| Tekmo                                                       | San    | 3   | 53 | 3     | 0.50 | 0.077 | 6.5 | 39.1 | 55.6 | 5.3  | 4.56 | 0.1   | 30 | 3.88   | 0.10 | 0.13 | 0.00 | 0.12 | 2.92 | 0.35    | 3.27 |
| bibouloumam                                                 | San    | 3   | 54 | 3     | 0.37 | 0.056 | 6.6 | 52.1 | 44.6 | 3.7  | 5.07 | 0.0   | 20 | 4.15   | 1.14 | 0.14 | 0.01 | 0.04 | 1.18 | 1.33    | 2.51 |
| Andom                                                       | San    | 3   | 55 | 3     | 0.36 | 0.055 | 6.6 | 43.1 | 52.9 | 4.0  | 4.90 | 0.0   | 15 | 4.02   | 0.47 | 0.04 | 0.00 | 0.03 | 2.39 | 0.54    | 2.93 |
| Nyzunger                                                    | San    | 3   | 56 | 3     | 0.61 | 0.078 | 7.8 | 28.4 | 69.6 | 2.0  | 5.06 | 0.0   | 18 | 4.25   | 0.93 | 0.34 | 0.00 | 0.03 | 1.46 | 1.30    | 2.76 |
| Olounou                                                     | San    | 3   | 57 | 3     | 0.48 | 0.075 | 6.4 | 30.0 | 64.0 | 6.0  | 4.56 | 0.0   | 31 | 4.04   | 0.17 | 0.06 | 0.01 | 0.05 | 2.09 | 0.29    | 2.38 |
| Bikoula                                                     | San    | 3   | 58 | 3     | 0.49 | 0.084 | 5.9 | 29.0 | 68.1 | 2.9  | 4.58 | 0.0   | 21 | 4.00   | 0.09 | 0.06 | 0.00 | 0.02 | 2.77 | 0.17    | 2.94 |
| Mveng                                                       | San    | 3   | 59 | 3     | 0.54 | 0.076 | 7.2 | 41.1 | 57.2 | 1.7  | 5.37 | 0.0   | 17 | 4.35   | 1.87 | 0.64 | 0.00 | 0.03 | 0.56 | 2.54    | 3.10 |
| Efoulan                                                     | San    | 3   | 60 | 3     | 0.60 | 0.080 | 7.5 | 36.4 | 61.6 | 2.0  | 4.34 | 0.0   | 36 | 3.92   | 0.12 | 0.01 | 0.00 | 0.03 | 2.61 | 0.16    | 2.77 |
| Essong                                                      | San    | 3   | 61 | 3     | 0.43 | 0.072 | 6.0 | 34.0 | 60.0 | 5.6  | 5.07 | 0.0   | 20 | 4.30   | 1.19 | 0.13 | 0.00 | 0.03 | 0.65 | 1.35    | 2.00 |
| Nkolenyeng                                                  | San    | 3   | 62 | 3     | 0.45 | 0.079 | 5.8 | 35.2 | 59.1 | 5.7  | 5.03 | 0.0   | 19 | 4.31   | 1.08 | 0.32 | 0.00 | 0.05 | 0.84 | 1.45    | 2.29 |
| Oveng                                                       | San    | 3   | 63 | 3     | 0.55 | 0.093 | 5.9 | 22.6 | 72.0 | 5.4  | 4.92 | 0.0   | 14 | 4.13   | 0.59 | 0.06 | 0.01 | 0.04 | 1.74 | 0.70    | 2.44 |
| Akoabas                                                     | San    | 3   | 64 | 3     | 0.51 | 0.079 | 6.4 | 32.8 | 63.4 | 3.8  | 4.69 | 0.2   | 20 | 4.00   | 0.56 | 0.03 | 0.00 | 0.05 | 2.14 | 0.64    | 2.78 |
| Elom                                                        | San    | 3   | 65 | 3     | 0.37 | 0.069 | 5.4 | 34.8 | 55.9 | 9.3  | 4.84 | 0.0   | 21 | 4.19   | 0.49 | 0.15 | 0.00 | 0.06 | 1.33 | 0.70    | 2.03 |
| Endengue                                                    | San    | 3   | 66 | 3     | 0.36 | 0.062 | 5.8 | 42.4 | 51.9 | 5.7  | 5.02 | 0.0   | 13 | 4.13   | 0.87 | 0.06 | 0.00 | 0.03 | 1.27 | 0.96    | 2.23 |
| Meboo Ngoe                                                  | San    | 3   | 67 | 3     | 0.44 | 0.074 | 5.8 | 34.1 | 62.9 | 3.0  | 5.24 | 0.0   | 12 | 4.35   | 1.68 | 0.30 | 0.01 | 0.03 | 0.42 | 2.02    | 2.44 |
| Aboelon                                                     | San    | 3   | 68 | 3     | 0.34 | 0.063 | 5.3 | 40.1 | 53.2 | 6.7  | 5.07 | 0.0   | 10 | 4.04   | 1.13 | 0.11 | 0.01 | 0.02 | 1.01 | 1.27    | 2.28 |
| Bikong                                                      | San    | 3   | 69 | 3     | 0.40 | 0.075 | 5.3 | 31.4 | 63.6 | 5.0  | 4.78 | 0.0   | 14 | 3.87   | 0.34 | 0.02 | 0.01 | 0.02 | 2.00 | 0.39    | 2.39 |
| Ekowong                                                     | San    | 3   | 70 | 3     | 0.71 | 0.104 | 6.8 | 34.4 | 61.6 | 4.0  | 4.67 | 0.0   | 32 | 3.85   | 0.65 | 0.26 | 0.01 | 0.05 | 1.73 | 0.97    | 2.70 |
| Akak                                                        | San    | 3   | 71 | 3     | 0.54 | 0.087 | 6.2 | 30.4 | 65.6 | 4.0  | 4.67 | 0.0   | 29 | 3.90   | 0.48 | 0.14 | 0.01 | 0.06 | 2.24 | 0.69    | 2.93 |
| Avebe-Esse                                                  | San    | 3   | 72 | 3     | 0.43 | 0.064 | 6.7 | 36.4 | 58.9 | 4.7  | 5.01 | 0.0   | 13 | 4.03   | 1.09 | 0.19 | 0.01 | 0.02 | 1.34 | 1.31    | 2.65 |
| Evelessi                                                    | San    | 3   | 73 | 3     | 0.67 | 0.091 | 7.4 | 22.0 | 69.6 | 8.4  | 4.72 | 0.0   | 13 | 3.85   | 0.64 | 0.21 | 0.01 | 0.03 | 3.63 | 0.89    | 4.52 |
| Nkoloutououtor                                              | San    | 3   | 52 | 4     | 0.42 | 0.070 | 6.0 | 19.1 | 75.6 | 5.3  | 5.04 | 0.6   | 11 | 4.13   | 0.76 | 0.19 | 0.01 | 0.05 | 1.95 | 1.01    | 2.96 |
| Tekmo                                                       | San    | 3   | 53 | 4     | 0.47 | 0.066 | 7.0 | 34.1 | 61.6 | 4.3  | 4.58 | 0.7   | 24 | 3.85   | 0.06 | 0.11 | 0.01 | 0.12 | 3.13 | 0.30    | 3.43 |
| bibouloumam                                                 | San    | 3   | 54 | 4     | 0.31 | 0.045 | 6.9 | 47.1 | 49.6 | 3.3  | 5.06 | 0.4   | 12 | 4.10   | 0.95 | 0.04 | 0.00 | 0.03 | 1.42 | 1.02    | 2.44 |
| Andom                                                       | San    | 3   | 55 | 4     | 0.31 | 0.049 | 6.3 | 39.1 | 58.9 | 2.0  | 4.77 | 0.3   | 13 | 3.91   | 0.17 | 0.02 | 0.00 | 0.03 | 2.65 | 0.22    | 2.87 |
| Nyzunger                                                    | San    | 3   | 56 | 4     | 0.42 | 0.064 | 6.5 | 25.4 | 71.2 | 3.4  | 4.87 | 0.3   | 12 | 4.03   | 0.09 | 0.14 | 0.00 | 0.03 | 2.11 | 0.26    | 2.37 |
| Olounou                                                     | San    | 3   | 57 | 4     | 0.34 | 0.062 | 5.5 | 30.0 | 65.6 | 4.4  | 4.53 | 0.4   | 30 | 4.10   | 0.19 | 0.06 | 0.00 | 0.03 | 1.86 | 0.28    | 2.14 |
| Bikoula                                                     | San    | 3   | 58 | 4     | 0.32 | 0.061 | 5.2 | 28.1 | 68.9 | 3.0  | 4.61 | 0.8   | 18 | 3.95   | 0.05 | 0.05 | 0.00 | 0.03 | 2.61 | 0.13    | 2.74 |
| Mveng                                                       | San    | 3   | 59 | 4     | 0.51 | 0.074 | 6.9 | 36.8 | 59.2 | 4.0  | 5.08 | 0.8   | 17 | 4.33   | 1.48 | 0.37 | 0.00 | 0.03 | 0.89 | 1.88    | 2.77 |
| Efoulan                                                     | San    | 3   | 60 | 4     | 0.43 | 0.066 | 6.6 | 35.4 | 61.6 | 3.0  | 4.52 | 0.3   | 20 | 4.10   | 0.05 | 0.01 | 0.00 | 0.02 | 2.16 | 0.08    | 2.24 |
| Essong                                                      | San    | 3   | 61 | 4     | 0.30 | 0.059 | 5.1 | 28.2 | 69.4 | 2.4  | 5.03 | 0.2   | 13 | 4.39   | 0.85 | 0.07 | 0.00 | 0.02 | 0.77 | 0.94    | 1.71 |
| Nkolenyeng                                                  | San    | 3   | 62 | 4     | 0.32 | 0.075 | 4.2 | 26.2 | 67.4 | 6.4  | 5.07 | 0.3   | 11 | 4.40   | 1.06 | 0.16 | 0.00 | 0.04 | 0.91 | 1.26    | 2.17 |
| Oveng                                                       | San    | 3   | 63 | 4     | 0.38 | 0.069 | 5.5 | 24.0 | 71.6 | 4.4  | 4.90 | 0.5   | 13 | 4.15   | 0.35 | 0.05 | 0.01 | 0.03 | 1.78 | 0.44    | 2.22 |
| Akoabas                                                     | San    | 3   | 64 | 4     | 0.41 | 0.067 | 6.2 | 29.8 | 64.4 | 5.8  | 4.61 | 0.9   | 20 | 3.95   | 0.25 | 0.01 | 0.00 | 0.04 | 2.34 | 0.30    | 2.64 |
| Elom                                                        | San    | 3   | 65 | 4     | 0.32 | 0.056 | 5.7 | 32.8 | 61.2 | 6.0  | 4.84 | 0.7   | 16 | 4.24   | 0.49 | 0.14 | 0.00 | 0.04 | 1.42 | 0.67    | 2.09 |
| Endengue                                                    | San    | 3   | 66 | 4     | 0.24 | 0.053 | 4.5 | 35.1 | 60.9 | 4.0  | 5.20 | 0.2   | 8  | 4.24   | 0.85 | 0.06 | 0.00 | 0.02 | 1.17 | 0.93    | 2.10 |
| Meboo Ngoe                                                  | San    | 3   | 67 | 4     | 0.33 | 0.063 | 5.3 | 29.1 | 67.2 | 3.7  | 5.08 | 0.6   | 13 | 4.12   | 0.90 | 0.30 | 0.01 | 0.03 | 1.06 | 1.24    | 2.30 |
| Aboelon                                                     | San    | 3   | 68 | 4     | 0.27 | 0.055 | 4.9 | 35.8 | 59.6 | 4.6  | 5.08 | 0.3   | 9  | 4.10   | 1.00 | 0.14 | 0.00 | 0.02 | 1.03 | 1.16    | 2.19 |
| Bikong                                                      | San    | 3   | 69 | 4     | 0.33 | 0.063 | 5.3 | 29.8 | 63.6 | 6.6  | 4.76 | 0.7   | 15 | 3.88   | 0.26 | 0.02 | 0.01 | 0.02 | 2.01 | 0.31    | 2.32 |
| Ekowong                                                     | San    | 3   | 70 | 4     | 0.39 | 0.081 | 4.8 | 32.4 | 63.6 | 4.0  | 4.75 | 0.8   | 21 | 3.91   | 0.45 | 0.22 | 0.01 | 0.12 | 1.67 | 0.80    | 2.47 |



| Reconnaissance soil survey of southcentral Cameroon (1991) |        |     |     |       |      |       |      |      |      |      |                                                             |       |     |        |       |      |      |      |      |         |       |
|------------------------------------------------------------|--------|-----|-----|-------|------|-------|------|------|------|------|-------------------------------------------------------------|-------|-----|--------|-------|------|------|------|------|---------|-------|
| RAW DATA                                                   |        |     |     |       |      |       |      |      |      |      |                                                             |       |     |        |       |      |      |      |      |         |       |
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm  |        |     |     |       |      |       |      |      |      |      | samples were taken in cocoa plantations or secondary forest |       |     |        |       |      |      |      |      |         |       |
| Village                                                    | region | rno | ID  | depth | Corg | Norg  | C/N  | sand | clay | silt | pH                                                          | old P | EC  | pHBaCl | Ca    | Mg   | Na   | K    | Al   | SUMBASE | ECEC  |
| Akak                                                       | San    | 3   | 71  | 4     | 0.40 | 0.070 | 5.7  | 26.4 | 69.6 | 4.0  | 4.72                                                        | 0.6   | 60  | 3.91   | 0.32  | 0.06 | 0.01 | 0.05 | 2.33 | 0.44    | 2.77  |
| Avebe-Esse                                                 | San    | 3   | 72  | 4     | 0.35 | 0.051 | 6.9  | 31.4 | 64.9 | 3.7  | 4.93                                                        | 0.3   | 10  | 4.02   | 0.59  | 0.06 | 0.01 | 0.03 | 1.79 | 0.69    | 2.48  |
| Evelessi                                                   | San    | 3   | 73  | 4     | 0.51 | 0.075 | 6.8  | 15.4 | 79.2 | 5.4  | 4.64                                                        | 1.2   | 25  | 3.89   | 0.34  | 0.09 | 0.01 | 0.03 | 3.76 | 0.47    | 4.23  |
| Nkolmeyang                                                 | Yao    | 5   | 13  | 1     | 1.43 | 0.140 | 10.2 | 49.1 | 39.9 | 11.0 | 4.80                                                        | 0.8   | 81  | 4.32   | 1.11  | 0.63 | 0.02 | 0.17 | 1.06 | 1.93    | 2.99  |
| Essamintsang                                               | Yao    | 5   | 14  | 1     | 0.92 | 0.106 | 8.7  | 58.1 | 32.9 | 9.0  | 4.71                                                        | 0.7   | 66  | 4.21   | 1.05  | 0.46 | 0.01 | 0.09 | 1.09 | 1.61    | 2.70  |
| Nkolbisson                                                 | Yao    | 5   | 18  | 1     | 1.52 | 0.188 | 8.1  | 49.1 | 34.9 | 16.0 | 5.60                                                        |       | 58  | 5.06   | 2.96  | 1.00 | 0.02 | 0.12 | 4.10 | 4.10    | 1.10  |
| Bigwens                                                    | Yao    | 5   | 99  | 1     | 0.68 | 0.159 | 4.3  | 49.8 | 44.4 | 5.8  | 4.47                                                        | 0.2   | 88  | 4.01   | 0.65  | 0.45 | 0.00 | 0.13 | 2.20 | 1.23    | 3.43  |
| Nkouak                                                     | Yao    | 5   | 100 | 1     | 1.31 | 0.164 | 8.0  | 51.8 | 39.4 | 8.8  | 5.34                                                        | 0.2   | 91  | 4.70   | 2.64  | 1.07 | 0.00 | 0.57 | 0.22 | 4.28    | 4.50  |
| Malen                                                      | Yao    | 5   | 101 | 1     |      | 0.247 |      | 43.8 | 51.4 | 4.8  | 4.28                                                        | 0.4   | 95  | 3.66   | 0.66  | 0.30 | 0.01 | 0.34 | 3.81 | 1.31    | 5.12  |
| Mindourou                                                  | Yao    | 5   | 102 | 1     | 2.07 | 0.206 | 10.0 | 37.6 | 58.8 | 3.6  | 4.63                                                        | 0.2   | 116 | 3.90   | 1.96  | 0.89 | 0.01 | 0.01 | 2.81 | 2.87    | 5.68  |
| Koungoulou                                                 | Yao    | 5   | 103 | 1     | 1.74 | 0.195 | 8.9  | 34.5 | 42.8 | 22.7 | 4.45                                                        | 0.1   | 147 | 3.88   | 1.76  | 1.03 | 0.01 | 0.01 | 3.21 | 2.81    | 6.02  |
| Karagwa                                                    | Yao    | 5   | 104 | 1     | 1.37 | 0.178 | 7.7  | 59.1 | 33.2 | 7.7  | 4.01                                                        | 0.2   | 172 | 3.65   | 0.29  | 0.17 | 0.00 | 0.01 | 4.02 | 0.47    | 4.49  |
| Bapile                                                     | Yao    | 5   | 105 | 1     | 2.15 | 0.206 | 10.4 | 44.5 | 50.2 | 5.3  | 4.07                                                        | 0.3   | 149 | 3.76   | 0.25  | 0.20 | 0.01 | 0.01 | 4.48 | 0.47    | 4.95  |
| Nkoum                                                      | Yao    | 5   | 106 | 1     | 1.56 | 0.191 | 8.2  | 42.1 | 47.4 | 10.5 | 5.05                                                        | 0.0   | 101 | 4.37   | 2.81  | 1.23 | 0.00 | 0.00 | 0.58 | 4.04    | 4.62  |
| Yola                                                       | Yao    | 5   | 107 | 1     | 1.18 | 0.148 | 8.0  | 54.5 | 34.8 | 10.7 | 5.48                                                        | 0.2   | 70  | 4.84   | 3.44  | 0.82 | 0.00 | 0.00 | 0.10 | 4.26    | 4.36  |
| Bompelo                                                    | Yao    | 5   | 108 | 1     | 1.23 | 0.180 | 6.8  | 45.8 | 41.4 | 12.8 | 4.70                                                        | 0.0   | 85  | 4.12   | 1.47  | 0.92 | 0.02 | 0.02 | 2.28 | 2.43    | 4.71  |
| Menziewg                                                   | Yao    | 5   | 109 | 1     | 2.90 | 0.379 | 7.6  | 11.8 | 75.4 | 12.8 | 6.01                                                        | 0.0   | 109 | 5.45   | 7.80  | 2.23 | 0.01 | 0.01 | 0.07 | 10.05   | 10.12 |
| Kongo-Bange                                                | Yao    | 5   | 113 | 1     |      | 0.351 |      | 40.1 | 42.5 | 17.4 | 8.27                                                        | 0.0   | 166 | 7.80   | 19.70 | 2.23 | 0.00 | 0.31 | 0.07 | 22.24   | 22.31 |
| Mimbo Mimbo                                                | Yao    | 5   | 114 | 1     | 2.51 | 0.363 | 6.9  | 18.1 | 65.4 | 16.5 | 7.74                                                        | 0.0   | 146 | 7.36   | 16.72 | 2.57 | 0.00 | 0.15 | 0.02 | 19.44   | 19.46 |
| Brazzaville                                                | Yao    | 5   | 115 | 1     | 2.57 | 0.274 | 9.4  | 20.1 | 72.2 | 7.7  | 4.32                                                        | 0.3   | 144 | 4.12   | 0.80  | 0.44 | 0.00 | 0.25 | 2.75 | 1.49    | 4.24  |
| Ngoula                                                     | Yao    | 5   | 116 | 1     | 1.27 | 0.184 | 6.9  | 53.8 | 34.2 | 12.0 | 5.04                                                        | 0.0   | 88  | 4.57   | 1.87  | 1.26 | 0.00 | 0.56 | 1.00 | 3.69    | 4.69  |
| Moudimdim                                                  | Yao    | 5   | 117 | 1     | 2.46 | 0.341 | 7.2  | 26.8 | 46.2 | 27.0 | 6.72                                                        | 0.0   | 114 | 6.30   | 12.70 | 2.59 | 0.00 | 0.37 | 0.07 | 15.66   | 15.73 |
| Gribi                                                      | Yao    | 5   | 118 | 1     | 1.45 | 0.173 | 8.4  | 50.8 | 40.2 | 9.0  | 4.94                                                        | 0.3   | 111 | 4.50   | 1.63  | 0.09 | 0.00 | 0.67 | 1.33 | 2.39    | 3.72  |
| Lom                                                        | Yao    | 5   | 119 | 1     | 1.83 | 0.232 | 7.9  | 47.8 | 44.2 | 8.0  | 5.82                                                        | 0.3   | 119 | 5.34   | 3.66  | 1.38 | 0.01 | 0.01 | 0.06 | 5.06    | 5.12  |
| Diso-Ngoundi                                               | Yao    | 5   | 120 | 1     | 1.75 | 0.196 | 9.0  | 59.1 | 29.2 | 11.7 | 6.15                                                        | 0.4   | 61  | 5.62   | 6.56  | 1.12 | 0.00 | 0.00 | 0.01 | 7.68    | 7.69  |
| Nkolmeyang                                                 | Yao    | 5   | 13  | 2     | 0.65 | 0.090 | 7.3  | 41.5 | 48.9 | 9.6  | 4.88                                                        | 0.0   | 32  | 4.24   | 0.26  | 0.32 | 0.02 | 0.10 | 1.39 | 0.70    | 2.09  |
| Essamintsang                                               | Yao    | 5   | 14  | 2     | 0.61 | 0.073 | 8.3  | 49.1 | 44.2 | 6.7  | 4.65                                                        | 0.1   | 36  | 4.08   | 0.40  | 0.22 | 0.02 | 0.08 | 1.84 | 0.72    | 2.56  |
| Nkolbisson                                                 | Yao    | 5   | 18  | 2     | 1.19 | 0.124 | 9.6  | 40.1 | 46.9 | 13.0 | 5.37                                                        | 0.3   | 22  | 4.55   | 2.79  | 0.59 | 0.02 | 0.08 | 0.48 | 3.48    | 3.96  |
| Bigwens                                                    | Yao    | 5   | 99  | 2     | 0.76 | 0.100 | 7.6  | 39.8 | 53.4 | 6.8  | 4.59                                                        | 0.2   | 32  | 4.01   | 0.08  | 0.18 | 0.00 | 0.07 | 2.75 | 0.33    | 3.08  |
| Nkouak                                                     | Yao    | 5   | 100 | 2     | 0.75 | 0.103 | 7.3  | 38.2 | 57.4 | 4.4  | 5.09                                                        | 0.0   | 33  | 4.28   | 1.27  | 0.45 | 0.00 | 0.26 | 1.14 | 1.98    | 3.12  |
| Malen                                                      | Yao    | 5   | 101 | 2     | 1.33 | 0.139 | 9.6  | 37.8 | 57.4 | 4.8  | 4.40                                                        | 0.2   | 60  | 3.91   | 0.11  | 0.08 | 0.00 | 0.13 | 3.35 | 0.32    | 3.67  |
| Mindourou                                                  | Yao    | 5   | 102 | 2     | 0.96 | 0.126 | 7.7  | 26.1 | 66.2 | 7.7  | 4.50                                                        | 0.2   | 53  | 3.79   | 0.41  | 0.33 | 0.00 | 0.00 | 3.99 | 0.74    | 4.73  |
| Koungoulou                                                 | Yao    | 5   | 103 | 2     | 1.27 | 0.138 | 9.2  | 30.8 | 45.8 | 23.4 | 4.60                                                        | 0.0   | 76  | 3.94   | 0.91  | 0.81 | 0.00 | 0.00 | 4.22 | 1.72    | 5.94  |
| Karagwa                                                    | Yao    | 5   | 104 | 2     | 0.58 | 0.103 | 5.7  | 54.1 | 40.2 | 5.7  | 4.35                                                        | 0.0   | 54  | 3.89   | 0.06  | 0.06 | 0.00 | 0.00 | 4.17 | 0.12    | 4.29  |
| Bapile                                                     | Yao    | 5   | 105 | 2     | 0.81 | 0.116 | 7.0  | 42.8 | 52.2 | 5.0  | 4.35                                                        | 0.0   | 57  | 3.96   | 0.04  | 0.08 | 0.00 | 0.00 | 3.84 | 0.12    | 3.96  |
| Nkoum                                                      | Yao    | 5   | 106 | 2     | 0.62 | 0.085 | 7.3  | 30.5 | 64.4 | 5.1  | 5.26                                                        | 0.0   | 24  | 4.49   | 1.68  | 0.33 | 0.00 | 0.00 | 0.51 | 2.01    | 2.52  |
| Yola                                                       | Yao    | 5   | 107 | 2     | 0.82 | 0.121 | 6.8  | 62.8 | 28.2 | 9.0  | 6.05                                                        | 0.0   | 42  | 5.07   | 3.24  | 0.43 | 0.00 | 0.00 | 0.03 | 3.67    | 3.70  |
| Bompelo                                                    | Yao    | 5   | 108 | 2     | 0.60 | 0.104 | 5.8  | 42.8 | 43.4 | 13.8 | 4.75                                                        | 0.0   | 32  | 4.13   | 0.28  | 0.23 | 0.01 | 0.01 | 3.03 | 0.53    | 3.56  |
| Menziewg                                                   | Yao    | 5   | 109 | 2     | 1.11 | 0.184 | 6.0  | 6.8  | 86.2 | 7.0  | 5.98                                                        | 0.0   | 45  | 5.20   | 2.46  | 1.24 | 0.01 | 0.01 | 0.04 | 3.72    | 3.76  |
| Kongo-Bange                                                | Yao    | 5   | 113 | 2     | 0.92 | 0.118 | 7.8  | 43.5 | 46.2 | 10.3 | 8.43                                                        | 0.0   | 54  | 7.86   | 8.95  | 0.42 | 0.00 | 0.11 | 0.02 | 9.48    | 9.50  |
| Mimbo Mimbo                                                | Yao    | 5   | 114 | 2     | 0.95 | 0.169 | 5.7  | 10.1 | 77.8 | 12.1 | 7.28                                                        | 0.0   | 43  | 6.66   | 6.77  | 2.06 | 0.00 | 0.09 | 0.00 | 8.92    | 8.92  |
| Brazzaville                                                | Yao    | 5   | 115 | 2     | 1.38 | 0.158 | 8.8  | 14.8 | 78.9 | 6.3  | 4.54                                                        | 0.0   | 88  | 4.31   | 0.28  | 0.21 | 0.00 | 0.24 | 2.65 | 0.73    | 3.38  |
| Ngoula                                                     | Yao    | 5   | 116 | 2     | 0.52 | 0.087 | 5.9  | 43.1 | 46.2 | 10.7 | 4.87                                                        | 0.0   | 30  | 4.34   | 0.47  | 0.29 | 0.00 | 0.31 | 3.14 | 1.07    | 4.21  |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|-----|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| RAW DATA                                                    |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Moudimdim                                                   | Yao    | 5   | 117 | 2     | 0.84 | 0.158 | 5.3 | 20.8 | 56.2 | 23.0 | 6.49 | 0.0   | 31 | 5.70   | 5.59 | 1.77 | 0.00 | 0.11 | 0.04 | 7.47    | 7.51 |
| Gribi                                                       | Yao    | 5   | 118 | 2     | 0.72 | 0.102 | 7.1 | 43.5 | 49.2 | 7.3  | 5.11 | 0.0   | 28 | 4.43   | 0.60 | 0.29 | 0.00 | 0.18 | 1.82 | 1.07    | 2.89 |
| Lom                                                         | Yao    | 5   | 119 | 2     | 0.69 | 0.106 | 6.5 | 39.8 | 53.8 | 6.4  | 5.38 | 0.0   | 40 | 4.70   | 0.81 | 0.41 | 0.00 | 0.00 | 0.75 | 1.22    | 1.97 |
| Diso-Ngoundi                                                | Yao    | 5   | 120 | 2     | 0.63 | 0.079 | 8.0 | 57.5 | 34.2 | 8.3  | 5.80 | 0.5   | 16 | 4.88   | 1.97 | 0.19 | 0.00 | 0.00 | 0.32 | 2.16    | 2.48 |
| Nkolmeyang                                                  | Yao    | 5   | 13  | 3     | 0.40 | 0.068 | 5.9 | 35.5 | 56.9 | 7.6  | 4.80 | 0.0   | 24 | 4.19   | 0.12 | 0.32 | 0.02 | 0.07 | 1.66 | 0.53    | 2.19 |
| Essamintsang                                                | Yao    | 5   | 14  | 3     | 0.37 | 0.055 | 6.7 | 40.1 | 53.2 | 6.7  | 4.67 | 0.0   | 27 | 4.12   | 0.30 | 0.18 | 0.01 | 0.05 | 1.91 | 0.54    | 2.45 |
| Nkolbisson                                                  | Yao    | 5   | 18  | 3     | 0.82 | 0.092 | 9.0 | 37.1 | 52.9 | 10.0 | 5.35 | 0.2   | 21 | 4.54   | 2.11 | 0.51 | 0.02 | 0.11 | 0.53 | 2.75    | 3.28 |
| Bigwens                                                     | Yao    | 5   | 99  | 3     | 0.62 | 0.073 | 8.4 | 36.8 | 57.8 | 5.4  | 4.73 | 0.0   | 20 | 4.11   | 0.04 | 0.11 | 0.00 | 0.05 | 2.67 | 0.20    | 2.87 |
| Nkouak                                                      | Yao    | 5   | 100 | 3     | 0.53 | 0.075 | 7.1 | 30.6 | 63.4 | 6.0  | 5.10 | 0.0   | 24 | 4.31   | 0.75 | 0.39 | 0.00 | 0.11 | 1.19 | 1.25    | 2.44 |
| Malen                                                       | Yao    | 5   | 101 | 3     | 0.72 | 0.074 | 9.7 | 37.8 | 58.4 | 3.8  | 4.54 | 0.0   | 34 | 4.07   | 0.03 | 0.03 | 0.00 | 0.07 | 2.40 | 0.13    | 2.53 |
| Mindourou                                                   | Yao    | 5   | 102 | 3     | 0.78 | 0.104 | 7.5 | 27.9 | 67.4 | 4.7  | 4.59 | 0.0   | 38 | 3.85   | 0.28 | 0.19 | 0.00 | 0.00 | 3.95 | 0.47    | 4.42 |
| Koungoulou                                                  | Yao    | 5   | 103 | 3     | 0.71 | 0.106 | 6.7 | 28.1 | 50.8 | 21.1 | 4.67 | 0.0   | 46 | 3.97   | 0.58 | 0.37 | 0.00 | 0.00 | 4.78 | 0.95    | 5.73 |
| Karagwa                                                     | Yao    | 5   | 104 | 3     | 0.36 | 0.067 | 5.3 | 51.1 | 42.2 | 6.7  | 4.67 | 0.0   | 21 | 4.07   | 0.04 | 0.04 | 0.00 | 0.00 | 3.82 | 0.08    | 3.90 |
| Bapile                                                      | Yao    | 5   | 105 | 3     | 0.54 | 0.077 | 7.0 | 41.8 | 53.4 | 4.8  | 4.51 | 0.0   | 33 | 4.06   | 0.02 | 0.05 | 0.00 | 0.00 | 3.39 | 0.07    | 3.46 |
| Nkoum                                                       | Yao    | 5   | 106 | 3     | 0.50 | 0.076 | 6.5 | 23.1 | 73.4 | 3.5  | 5.72 | 0.0   | 16 | 4.88   | 2.11 | 0.19 | 0.00 | 0.00 | 0.12 | 2.30    | 2.42 |
| Yola                                                        | Yao    | 5   | 107 | 3     | 0.34 | 0.052 | 6.6 | 55.8 | 37.8 | 6.4  | 6.35 | 0.0   | 14 | 5.45   | 1.96 | 0.28 | 0.00 | 0.00 | 0.01 | 2.24    | 2.25 |
| Bompelo                                                     | Yao    | 5   | 108 | 3     | 0.45 | 0.085 | 5.3 | 36.8 | 53.4 | 9.8  | 4.78 | 0.0   | 24 | 4.14   | 0.19 | 0.15 | 0.01 | 0.01 | 3.35 | 0.36    | 3.71 |
| Menziewg                                                    | Yao    | 5   | 109 | 3     | 0.56 | 0.088 | 6.4 | 5.8  | 90.2 | 4.0  | 5.40 | 0.0   | 22 | 4.63   | 0.72 | 0.70 | 0.01 | 0.01 | 0.23 | 1.44    | 1.67 |
| Kongo-Bange                                                 | Yao    | 5   | 113 | 3     | 0.52 | 0.080 | 6.5 | 25.1 | 68.2 | 6.7  | 8.16 | 0.0   | 29 | 7.51   | 6.39 | 0.45 | 0.00 | 0.06 | 0.00 | 6.90    | 6.90 |
| Mimbo Mimbo                                                 | Yao    | 5   | 114 | 3     | 0.61 | 0.102 | 5.9 | 10.1 | 81.4 | 8.5  | 5.72 | 0.2   | 31 | 5.19   | 2.34 | 1.25 | 0.00 | 0.10 | 0.02 | 3.69    | 3.71 |
| Brazzaville                                                 | Yao    | 5   | 115 | 3     | 0.74 | 0.098 | 7.6 | 13.8 | 80.5 | 5.7  | 4.77 | 0.0   | 38 | 4.45   | 0.10 | 0.12 | 0.00 | 0.08 | 2.00 | 0.30    | 2.30 |
| Ngoula                                                      | Yao    | 5   | 116 | 3     | 0.35 | 0.064 | 5.4 | 35.1 | 56.2 | 8.7  | 5.07 | 0.0   | 17 | 4.43   | 0.46 | 0.32 | 0.00 | 0.13 | 3.21 | 0.91    | 4.12 |
| Moudimdim                                                   | Yao    | 5   | 117 | 3     | 0.58 | 0.105 | 5.5 | 19.8 | 61.2 | 19.0 | 5.78 | 0.0   | 21 | 5.07   | 3.75 | 0.18 | 0.00 | 0.09 | 0.33 | 4.02    | 4.35 |
| Gribi                                                       | Yao    | 5   | 118 | 3     | 0.51 | 0.077 | 6.6 | 38.5 | 56.2 | 5.3  | 5.28 | 0.7   | 22 | 4.50   | 0.70 | 0.17 | 0.00 | 0.00 | 1.70 | 0.87    | 2.57 |
| Lom                                                         | Yao    | 5   | 119 | 3     | 0.42 | 0.059 | 7.1 | 34.5 | 61.8 | 3.7  | 5.27 | 0.0   | 23 | 4.59   | 0.77 | 0.39 | 0.00 | 0.00 | 1.18 | 1.16    | 2.34 |
| Nkolmeyang                                                  | Yao    | 5   | 13  | 4     | 0.27 | 0.055 | 5.0 | 32.6 | 62.9 | 4.5  | 4.68 | 0.0   | 27 | 4.22   | 0.10 | 0.31 | 0.02 | 0.05 | 1.74 | 0.48    | 2.22 |
| Essamintsang                                                | Yao    | 5   | 14  | 4     | 0.27 | 0.046 | 6.0 | 39.1 | 54.2 | 6.7  | 4.67 | 0.0   | 25 | 4.15   | 0.30 | 0.18 | 0.02 | 0.03 | 1.95 | 0.53    | 2.48 |
| Nkolbisson                                                  | Yao    | 5   | 18  | 4     | 0.44 | 0.071 | 6.1 | 28.8 | 65.5 | 5.7  | 5.37 | 0.0   | 15 | 4.59   | 1.55 | 0.35 | 0.02 | 0.09 | 0.30 | 2.01    | 2.31 |
| Bigwens                                                     | Yao    | 5   | 99  | 4     | 0.60 | 0.062 | 9.7 | 38.8 | 58.4 | 2.8  | 4.86 | 0.6   | 15 | 4.15   | 0.03 | 0.05 | 0.00 | 0.05 | 2.49 | 0.13    | 2.62 |
| Nkouak                                                      | Yao    | 5   | 100 | 4     | 0.42 | 0.059 | 7.0 | 30.8 | 65.4 | 3.8  | 5.13 | 0.0   | 18 | 4.37   | 0.58 | 0.31 | 0.00 | 0.08 | 0.98 | 0.97    | 1.95 |
| Malen                                                       | Yao    | 5   | 101 | 4     | 0.50 | 0.056 | 8.9 | 37.8 | 57.4 | 4.8  | 4.75 | 0.7   | 20 | 4.14   | 0.01 | 0.00 | 0.00 | 0.06 | 1.78 | 0.07    | 1.85 |
| Mindourou                                                   | Yao    | 5   | 102 | 4     | 0.61 | 0.084 | 7.2 | 26.1 | 68.2 | 5.7  | 4.77 | 0.5   | 20 | 4.03   | 0.13 | 0.08 | 0.00 | 0.00 | 3.58 | 0.21    | 3.79 |
| Koungoulou                                                  | Yao    | 5   | 103 | 4     | 0.44 | 0.080 | 5.5 | 29.5 | 52.2 | 18.3 | 4.82 | 0.0   | 20 | 4.10   | 0.15 | 0.14 | 0.00 | 0.00 | 4.93 | 0.29    | 5.22 |
| Karagwa                                                     | Yao    | 5   | 104 | 4     | 0.30 | 0.054 | 5.6 | 49.1 | 42.2 | 8.7  | 4.76 | 0.6   | 18 | 4.13   | 0.01 | 0.02 | 0.00 | 0.00 | 3.37 | 0.03    | 3.40 |
| Bapile                                                      | Yao    | 5   | 105 | 4     | 0.42 | 0.062 | 6.8 | 43.8 | 51.4 | 4.8  | 4.70 | 0.7   | 27 | 4.21   | 0.04 | 0.04 | 0.00 | 0.00 | 3.01 | 0.08    | 3.09 |
| Nkoum                                                       | Yao    | 5   | 106 | 4     | 0.41 | 0.057 | 7.1 | 22.5 | 74.4 | 3.1  | 5.35 | 0.0   | 18 | 4.51   | 1.35 | 0.20 | 0.00 | 0.00 | 0.21 | 1.55    | 1.76 |
| Yola                                                        | Yao    | 5   | 107 | 4     | 0.30 | 0.050 | 6.0 | 49.8 | 43.8 | 6.4  | 6.37 | 0.5   | 17 | 5.48   | 1.47 | 0.93 | 0.00 | 0.00 | 0.01 | 2.40    | 2.41 |
| Bompelo                                                     | Yao    | 5   | 108 | 4     | 0.37 | 0.068 | 5.4 | 33.8 | 57.4 | 8.8  | 4.88 | 0.3   | 20 | 4.00   | 0.20 | 0.18 | 0.00 | 0.00 | 2.95 | 0.38    | 3.33 |
| Menziewg                                                    | Yao    | 5   | 109 | 4     | 0.35 | 0.055 | 6.4 | 4.1  | 91.2 | 4.7  | 5.40 | 0.0   | 12 | 4.60   | 0.34 | 0.45 | 0.00 | 0.00 | 0.27 | 0.79    | 1.06 |
| Kongo-Bange                                                 | Yao    | 5   | 113 | 4     | 0.39 | 0.070 | 5.6 | 22.1 | 72.2 | 5.7  | 8.00 | 0.1   | 34 | 7.31   | 5.55 | 0.42 | 0.00 | 0.06 | 0.00 | 6.03    | 6.03 |
| Mimbo Mimbo                                                 | Yao    | 5   | 114 | 4     | 0.38 | 0.072 | 5.3 | 10.1 | 83.8 | 6.1  | 5.51 | 0.7   | 12 | 5.00   | 1.35 | 1.16 | 0.00 | 0.07 | 0.28 | 2.58    | 2.86 |
| Brazzaville                                                 | Yao    | 5   | 115 | 4     | 0.45 | 0.074 | 6.0 | 13.1 | 81.5 | 5.4  | 4.89 | 0.6   | 23 | 4.47   | 0.07 | 0.06 | 0.00 | 0.05 | 1.61 | 0.18    | 1.79 |
| Ngoula                                                      | Yao    | 5   | 116 | 4     | 0.30 | 0.059 | 5.2 | 35.1 | 56.2 | 8.7  | 5.17 | 0.2   | 15 | 4.50   | 0.33 | 0.32 | 0.00 | 0.13 | 3.07 | 0.78    | 3.85 |



| Reconnaissance soil survey of southcentral Cameroon (1991)  |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
|-------------------------------------------------------------|--------|-----|-----|-------|------|-------|-----|------|------|------|------|-------|----|--------|------|------|------|------|------|---------|------|
| [n=121]; sampling depths: 0-15 / 15-30 / 30-60 / 60-90 cm   |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| samples were taken in cocoa plantations or secondary forest |        |     |     |       |      |       |     |      |      |      |      |       |    |        |      |      |      |      |      |         |      |
| Village                                                     | region | rno | ID  | depth | Corg | Norg  | C/N | sand | clay | silt | pH   | old P | EC | pHBaCl | Ca   | Mg   | Na   | K    | Al   | SUMBASE | ECEC |
| Moudimdim                                                   | Yao    | 5   | 117 | 4     | 0.39 | 0.072 | 5.4 | 19.5 | 62.5 | 18.0 | 5.57 | 1.5   | 16 | 4.91   | 2.73 | 0.15 | 0.00 | 0.09 | 1.11 | 2.97    | 4.08 |
| Lom                                                         | Yao    | 5   | 119 | 4     | 0.31 | 0.055 | 5.7 | 30.1 | 66.2 | 3.7  | 5.29 | 0.6   | 16 | 4.64   | 0.45 | 0.29 | 0.00 | 0.00 | 1.11 | 0.74    | 1.85 |
| Diso-Ngou                                                   | Yao    | 5   | 120 | 4     | 0.30 | 0.045 | 6.5 | 34.4 | 58.5 | 7.1  | 5.67 | 0.5   | 13 | 4.86   | 1.29 | 0.37 | 0.00 | 0.00 | 0.40 | 1.66    | 2.06 |



The Humid Forest Ecoregional Center of IITA in Cameroon has sampled and analyzed quite a number of soil samples and even pits, sometimes. The soils between Yaounde and Ebolowa, where we mostly work, are referred to as Ferralsols (mostly orthic) in the FAO/UNESCO world soil map and the only official soil map of the region at scale 1:1,000,000 names them sols ferrallitiques fortement désaturés (Martin and Segalen, 1966).

In the "World Reference Base for Soil Resources" book, about Ferralsols and on page 73 under "Properties" it is mentioned that "The content of aluminium is usually low but may reach toxic levels, as may manganese" !?

Figures 1 and 2 shows (unpublished) results from sampling 82 plots at 3 depths (0-5 ; 5-10 ; 10-20 cm) in subsistence fields of 6 villages in the region (246 samples overall) – see map 1.

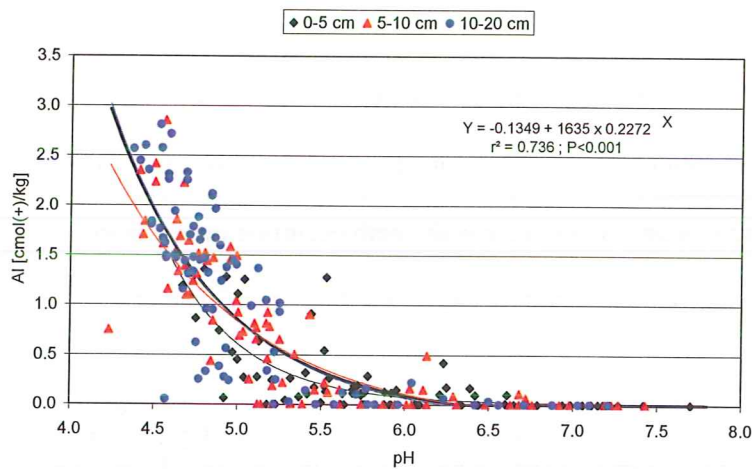


Figure 1

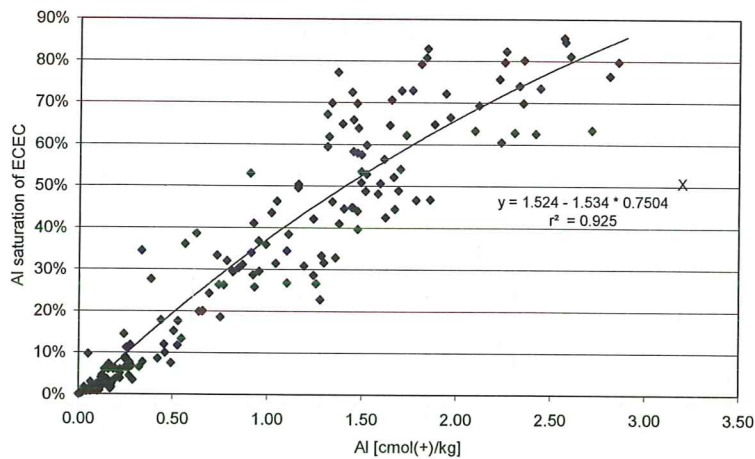
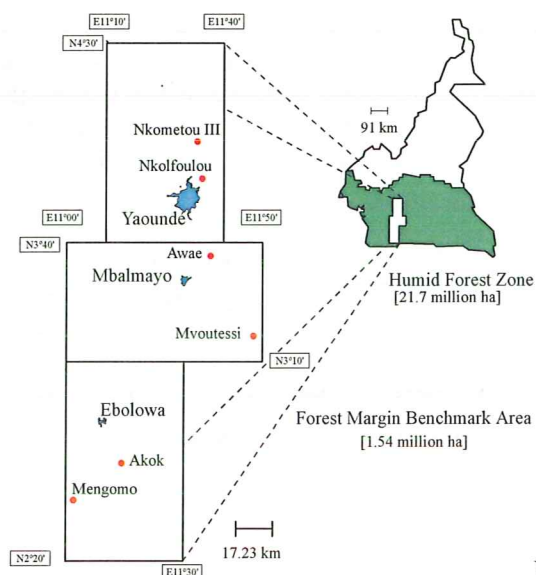


Figure 2

The pH values of 33 plots out of the 82 sampled were  $\leq 5.0$  in 5-10 cm and of 53 plots in 10-20 cm, so that 40% of the plots had  $\geq 30\%$  Al-saturation in 5-10 cm and 65% had  $\geq 30\%$  Al-saturation in 10-20 cm depth.



Map 1 (sampled villages as red points)

The description of Acrisols (or “sols ferrallitiques fortement désaturés, red and yellow earths”) in the book on page 30 under “Properties” mentions:

1. “Most Acrisols are characterized by a sharp clay increase with depth occurring over a short distance (agric horizon)”
2. “Many Acrisols have a high aluminium saturation with values exceeding often 70 percent.”

Figure 3 shows texture analysis from a reconnaissance soil survey in about the same region (a bit larger) in 121 cocoa plantations – sampling depths were different from the first investigation (0-15 ; 15-30 ; 30-60 ; 60-90 cm) – see map 2. Data from that survey have been published by Menzies and Gillman (1997).

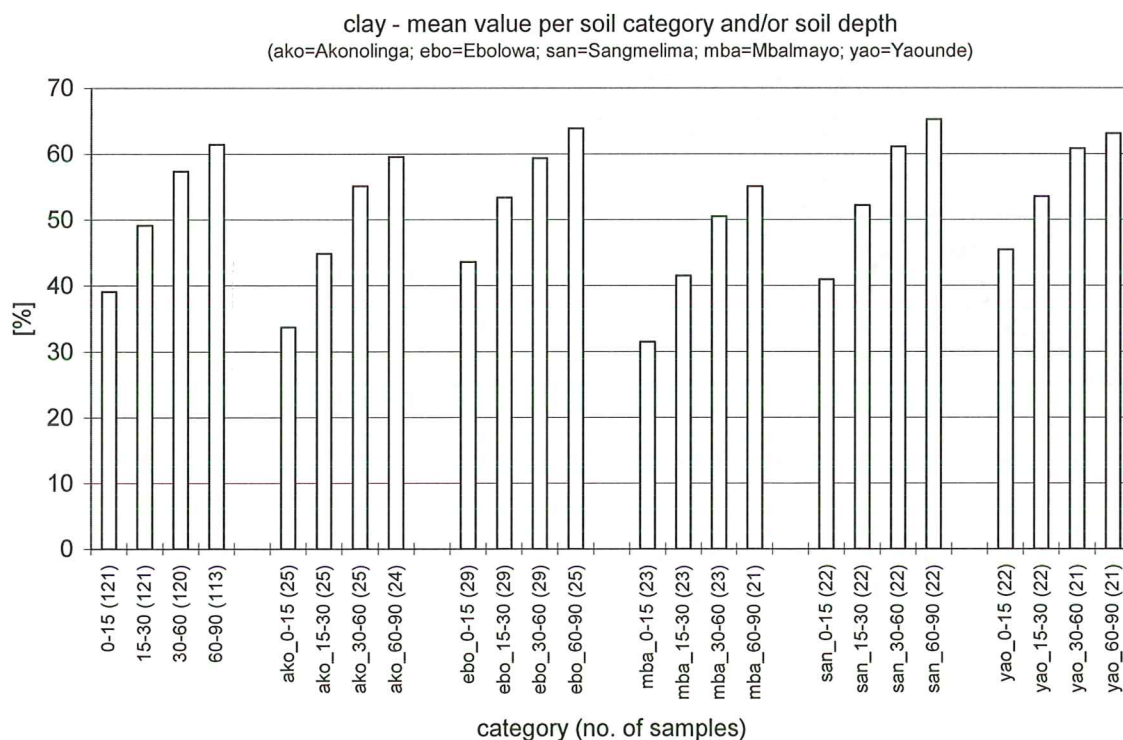
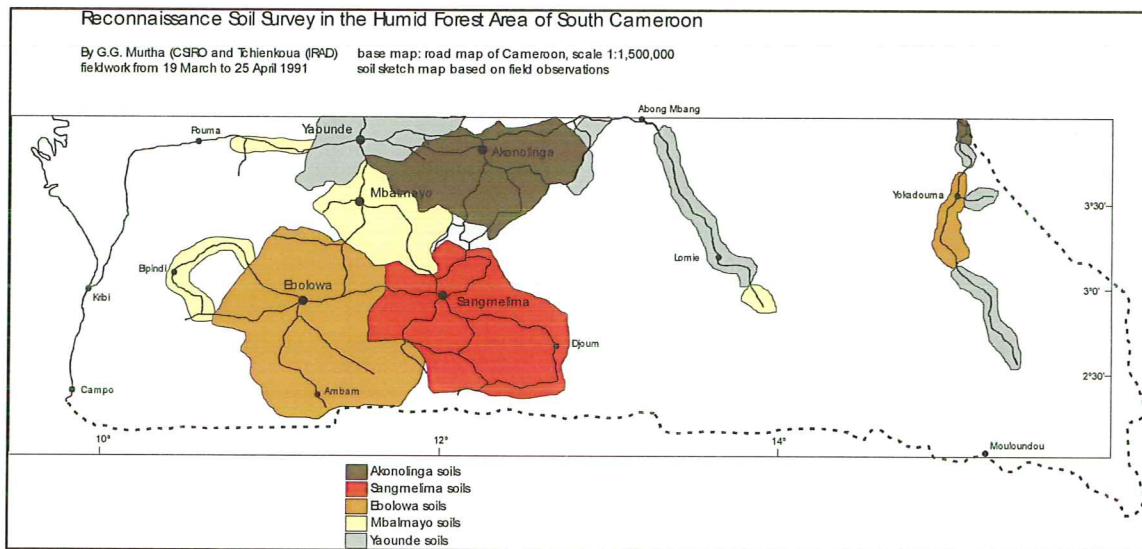


Figure 3





Map 2

Not sure what exactly “sharp clay increase” means, but it doesn’t look to be the case, despite the fact that samples were not taken by soil horizon.

Further, the Atlas accompanying the book shows Ferralsols for southern Cameroon as does the FAO/UNESCO soil map. Prof. Nyeck, pedologist at the University of Yaounde told that the map for southern Cameroon by Martin and Segalen (1966) was apparently drawn in few days, according to a personal communication by the author to Prof. Nyeck.

What dominant types of soils do we likely have here ?

Christian Nolte  
(Agronomist)

PS references:

- Martin, D. and P. Ségalen. 1966. Notice Explicative, Carte Pédologique du Cameroun Oriental au 1:1.000.000, ORSTOM, Centre de Yaoundé.
- Menzies, N.W. and G.P. Gillman. 1997. Chemical characterization of soils of a tropical humid forest zone: a methodology. *Soil Science Society of America Journal* 61(5): 1355-1363.