Kenya Data - First Look and Cleaning

Loading Data

Load in the data with new column headings:

```
# Load the mapping table of new to old column names and make into a vector
ColumnNameData <- read.csv("NewColumnNameMapping.csv")
ColumnNameMap <- ColumnNameData$NewColName
names(ColumnNameMap) <- ColumnNameData$OldColName
#Make proposed names syntactically valid for R
ColumnNameMap <- make.names(ColumnNameMap, unique=TRUE)
#Load in data using new column names
Kenya <- read.csv("Addressing the -1 for DataKind - KENYA SURVEY - KMM UPDATES 22 JAN cleaned data - Sh
                  header = FALSE, stringsAsFactors = FALSE, skip = 2,
                  col.names = ColumnNameMap)

#Also add a function to make proper case
properCase <- function(x) {
  lower <- tolower(x)
  s <- strsplit(lower, " ")[[1]]
  paste(toupper(substring(s, 1,1)), substring(s, 2),
      sep="", collapse=" ")
}
```

Show the dimensions of the loaded data to make sure it was loaded ok (rows, columns)

```
dim(Kenya)
```

```
## [1] 206 398
```

Analysing breakdown of gender and age

For Q10 on sex, 1: Male, 2: Female

For Q11 on age, 1: <=30, 2: 31-41, 3: 41-50, 4: 57-70, 5: >70

```
table(Kenya$Q10.Sex)
```

```
##
##   1   2
## 157  49
```

```
table(Kenya$Q11.Age)
```

```
##
##  1  2  3  4  5
##  9 49 58 73 17
```

```
table(Kenya$Q10.Sex, Kenya$Q11.Age)
```

```
##
##      1  2  3  4  5
##   1  6 36 36 62 17
##   2  3 13 22 11  0
```

Standardising text fields (Q3, 4 and 7)

Convert the 'Cooperative Society' field, Question 3, to proper case then make a table of all values.

(Question: Are any of these similar spellings actually the same?)

```
Kenya$Q3.CoopSociety <- sapply(Kenya$Q3.CoopSociety, properCase)
table(Kenya$Q3.CoopSociety)
```

```
##
##              Barasendu              Barazendu              Barezendu
##                     19                      6                      1
##               Barsendu                Chaiyat        Chaiyat/kolenge
##                      1                     33                      2
##             Cheptabach              Chuiyat Does Not Belong To Any
##                     10                      1                      1
##             Kapsiliboi                Kechem                Ketchem
##                      9                      6                      5
##                 Keteng              Kipsebwo                Kolenge
##                      2                      4                     19
##                Kosiywo              Kosoiywo              Luguitany
##                      1                     32                      6
##                 Malot                 Mosine                    N/a
##                      1                      2                      2
##      Nandi Cooperative          Nandi Farmers                  Sarma
##                      1                      5                     21
##           Sireet   Oep                 Siret                  Sokot
##                      1                      3                      1
##                 Temso                     Ye
##                     10                      1
```

Convert the 'Village' field, Question 4, to proper case then make a table of all values.

(Question: Are any of these similarly-spelled villages actually the same?)

```
Kenya$Q4.Village <- sapply(Kenya$Q4.Village, properCase)
table(Kenya$Q4.Village)
```

```
##
##     Chemoru  Chepkaitit   Chepkiwen    Chepsire  Cheptabach Cheptililik
##           8           1           7           2          12           2
##     Choimim     Choimin     Kabirer      Kaboch     Kabokwa     Kabooch
##           7           1           2           3           6           4
##     Kaborer      Kabote     Kamagei    Kamanang     Kamaram   Kamung'ei
##           1           3           1           5           1           1
```

```
##    Kamungei     Kapboch Kapchouriai   Kapchuria  Kapchuriai  Kapkagaron
##           1           1           1           7           5           1
##   Kapkembur    Kapkilel     Kapkioo    Kapkorio    Kapkoros    Kaplamai
##           4           1           1           1           2           1
##  Kaplamaywo     Kapsila     Kapsile    Kapsilei  Kapsiliboi     Kaptien
##           1           1           1           1           2           5
##    Kaptoroi      Keburo      Keteng     Kiminda    Kipkoiyo    Kipsebwo
##           2           1          15           2           2           7
##    Kipsigak    Kipsikak  Kiptemuria      Koilel     Kokamei   Kong'asis
##           2           2           1           1           1           3
##      Lelwak   Luguitany       Meswo      Mosine    Mosobejo   Mosobesho
##           2           1           4          12           2           1
##    Mosombor     Nduroto    Nduroton     Nduruto      Olotwo      Samoei
##           3           4           1           1           1           2
##       Sarma      Siksik    Singorwa    Singorwo       Sosio      Sosion
##           1           7           1           1           3           1
##       Soson    Taboiyat    Tachasis       Taito    Taretmoi       Temso
##           1           1           1           1           1           6
##     Tendwet      Tenwet      Tururo        Urhf
##           1           1           1           1
```

Convert the 'Producer organisation' field, Question 7, to proper case then make a table of all values.

(Question: Are any of these similarly-spelled orgs actallly the same?)

```
Kenya$Q7.ProducerOrg <- sapply(Kenya$Q7.ProducerOrg, properCase)
table(Kenya$Q7.ProducerOrg)
```

```
##
##    Chemomi        Epk       Hfhf       None     Sireet Sireet Eop
##          1          2          1          1         47          1
## Sireet Oep      Siret
##        149          4
```

Columns with only one value

Identify which columns only have one unique value

```
names(Filter(function(x)(length(unique(x))<2), Kenya))
```

```
##  [1] "Filter"
##  [2] "SbjNam"
##  [3] "UsrUnq"
##  [4] "SubjData"
##  [5] "RvwTime"
##  [6] "RvwComment"
##  [7] "SrvyrComment"
##  [8] "Complete"
##  [9] "StopQ"
## [10] "Test"
## [11] "ParentID"
## [12] "Status"
```

```
## [13] "QAScore"
## [14] "FrScName"
## [15] "ExReNum"
## [16] "RvwName"
## [17] "Q8.Consent"
## [18] "Q13.Role.O4"
## [19] "Q30.Other.Text"
## [20] "Q43.MainFarmingChallenges.O7"
## [21] "Q48.HarvestRice"
## [22] "Q50.HarvestPlantains"
## [23] "Q52.HarvestMango"
## [24] "Q73"
## [25] "Q74"
## [26] "Q75"
## [27] "Q76"
## [28] "Q89.MainSourcesIncome.O10"
## [29] "Q89.MainSourcesIncome.O16"
## [30] "Q89.MainSourcesIncome.O20"
## [31] "Q89.MainSourcesIncome.O22"
## [32] "Q100.OtherFinancingFacilities"
## [33] "Q101.NameOtherFinancingFacilities"
## [34] "Q102.OtherHowOften"
## [35] "Q103.OtherChalenges"
## [36] "Q105.GoodAgPracticeTrained.O14"
## [37] "Q117.FromWhereLearned.O7.Text"
## [38] "Q130.AgExperimentsFrequency.Text"
## [39] "Q132.FarmPromotorGuidanceFrequency.Text"
## [40] "Q133.CoopExtensionSupportFrequency.Text"
## [41] "Q135.RadioStationFrequency.Text"
## [42] "Q136.WeFarmFrequency.Text"
## [43] "Q137.MobileFrequency.Text"
## [44] "Q138.NewspaperFrequency.Text"
## [45] "Q139.TVFrequency.Text"
## [46] "Q142.LocalGroupFrequency.Text"
## [47] "Q143.TrainingSessionFrequency.Text"
## [48] "Q144.TrainingMaterialsFrequency.Text"
## [49] "Q145.MostValuableSources.O14"
## [50] "Q165.ShareNewFarmingPractice.Other"
```

Duplicate columns

Check if Q155 values are identical to Q158 values

```
table(Kenya$Q155.HowLongUsingIdea == Kenya$Q158.HowLongUsingIdea)
```

```
##
## TRUE
##  100
```

Eliminate one field from the dataset since they are identical

```
Kenya$Q158.HowLongUsingIdea <- NULL
```

Cleaning free-text number fields (Q38-40, 61-3, 69-72, 77-9, 113, 118)

Note: Look into Q73-76 since column descriptions appear duplicative to 69-71

Show unique values in Q38:

```
unique(Kenya$Q38.CashCropEarnings)
```

```
##   [1] "240000"        "360000"        "60000"         "50000"
##   [5] "117000"        "300000"        "75000"         "180000"
##   [9] "15000"         "Ksh 70000"     "Ksh160,000"    "Ksh48000"
##  [13] "150000"        "Ksh 500,000"   "Ksh 40,000"    "144000"
##  [17] "336,000"       "20100"         "240,000"       "160,000"
##  [21] "160000"        "54000"         "124 000"       "350 000"
##  [25] "87500"         "146000"        "124000"        "750000"
##  [29] "350000"        "ff"            "125,000"       "200,000"
##  [33] "211,200"       "ksh.250,000"   "ksh. 138,000"  "ksh.500,000"
##  [37] "ksh. 14000"    "ksh.11,250"    "ksh. 30,000"   "ksh.150,000"
##  [41] "ksh. 200,000"  "ksh.5000"      "ksh. 625,000"  "ksh.60,000"
##  [45] "ksh. 115,000"  "ksh.7000"      "3000"          "ksh.75000"
##  [49] "ksh. 300,000"  "ksh.825,000"   "ksh.300,000"   "ksh.175,000"
##  [53] "ksh. 100,000"  "ksh.75,000"    "ksh.176,000"   "ksh. 50,000"
##  [57] "ksh. 125,000"  "ksh. 150,000"  "ksh. 75,000"   "ksh.50,000"
##  [61] "ksh.37,500"    "ksh.200,000"   "ksh.100,000"   "ksh. 37500"
##  [65] "ksh.125,000"   "ksh.120,000"   "ksh. 25000"    "ksh.450,000"
##  [69] "90000"         "900000"        "120000"        "12000"
##  [73] "270000"        "450000"        "600000"        "420000"
##  [77] "30000"         "280,000"       "200000"        "84000"
##  [81] "120,000"       "210000"        "34800"         "18000"
##  [85] "240 000"       "ksh.1000,000"  "863000"        "573000"
##  [89] "108000"        "37000"         "9000"          "330000"
##  [93] "14400"         "220000"        "100,000"       "360,000"
##  [97] "56,000"        "215080"        "10,000"        "14,000"
## [101] "180,000"       "32400"         "12960000 KSHS" "11400 KSHS"
## [105] "97200 KSHS"    "108000 KSHS"   "257,143 kshs"  "180000 kshs"
## [109] "250000 kshs"   "150000 kshs"   "161000 kshs"   "25000 kshs"
## [113] "260000 kshs"   "50000 kshs"    "10000 kshs"    "127000 kshs"
## [117] "122000 kshs"   "209000 kshs"   "230000 kshs"   "42000 kshs"
## [121] "103000 kshs"   "142000 kshs"   "152000 kshs"   "15000 kshs"
## [125] "299000 kshs"   "79000 kshs"    "14500 kshs"    "87000 kshs"
## [129] "60000 kshs"    "52800 kshs"    "157500 kshs"
```

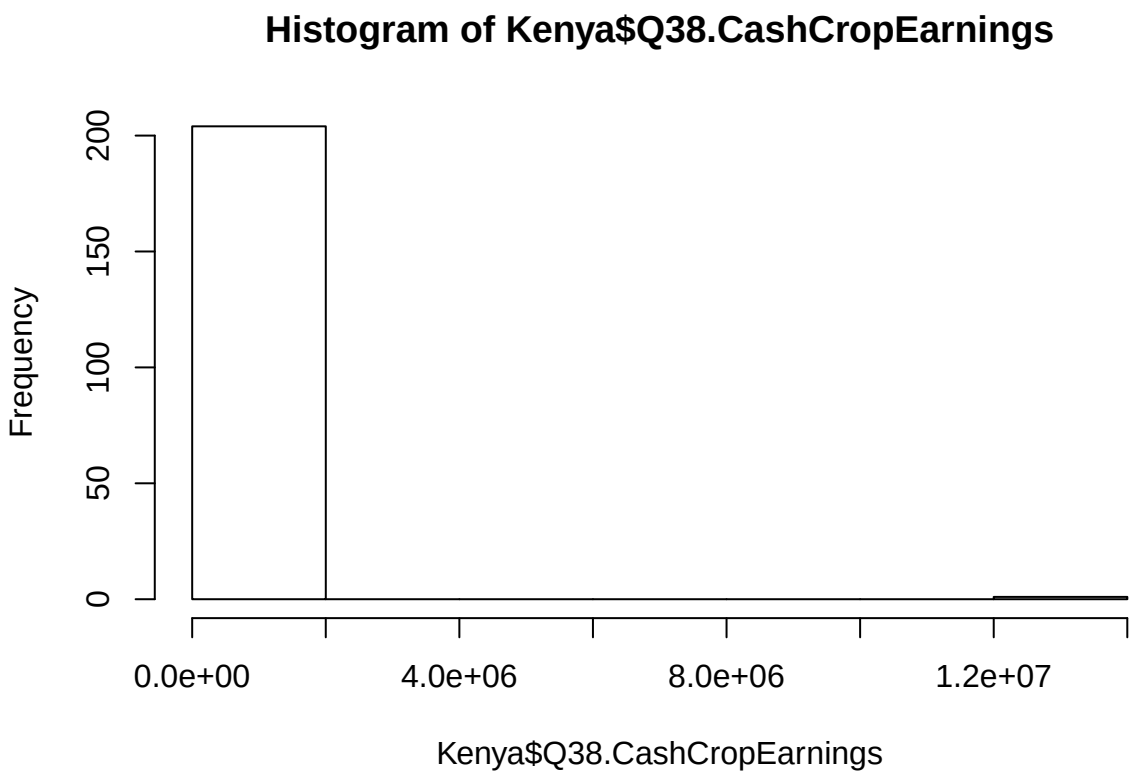
Replace all non-digit characters with blank space, convert field to integer, then show unique values in Q38 and also plot histogram:

```
Kenya$Q38.CashCropEarnings <- as.integer(gsub("[^0-9]", "", Kenya$Q38.CashCropEarnings))
unique(Kenya$Q38.CashCropEarnings)
```

```
##  [1]   240000   360000    60000    50000   117000   300000    75000
```

```
##  [8]    180000     15000     70000    160000     48000    150000    500000
## [15]     40000    144000    336000     20100     54000    124000    350000
## [22]     87500    146000    750000        NA    125000    200000    211200
## [29]    250000    138000     14000     11250     30000      5000    625000
## [36]    115000      7000      3000    825000    175000    100000    176000
## [43]     37500    120000     25000    450000     90000    900000     12000
## [50]    270000    600000    420000    280000     84000    210000     34800
## [57]     18000   1000000    863000    573000    108000     37000      9000
## [64]    330000     14400    220000     56000    215080     10000     32400
## [71] 12960000     11400     97200    257143    161000    260000    127000
## [78]    122000    209000    230000     42000    103000    142000    152000
## [85]    299000     79000     14500     87000     52800    157500
```

```
hist(Kenya$Q38.CashCropEarnings)
```



Show unique values in Q39

```
unique(Kenya$Q39.CashCropPx)
```

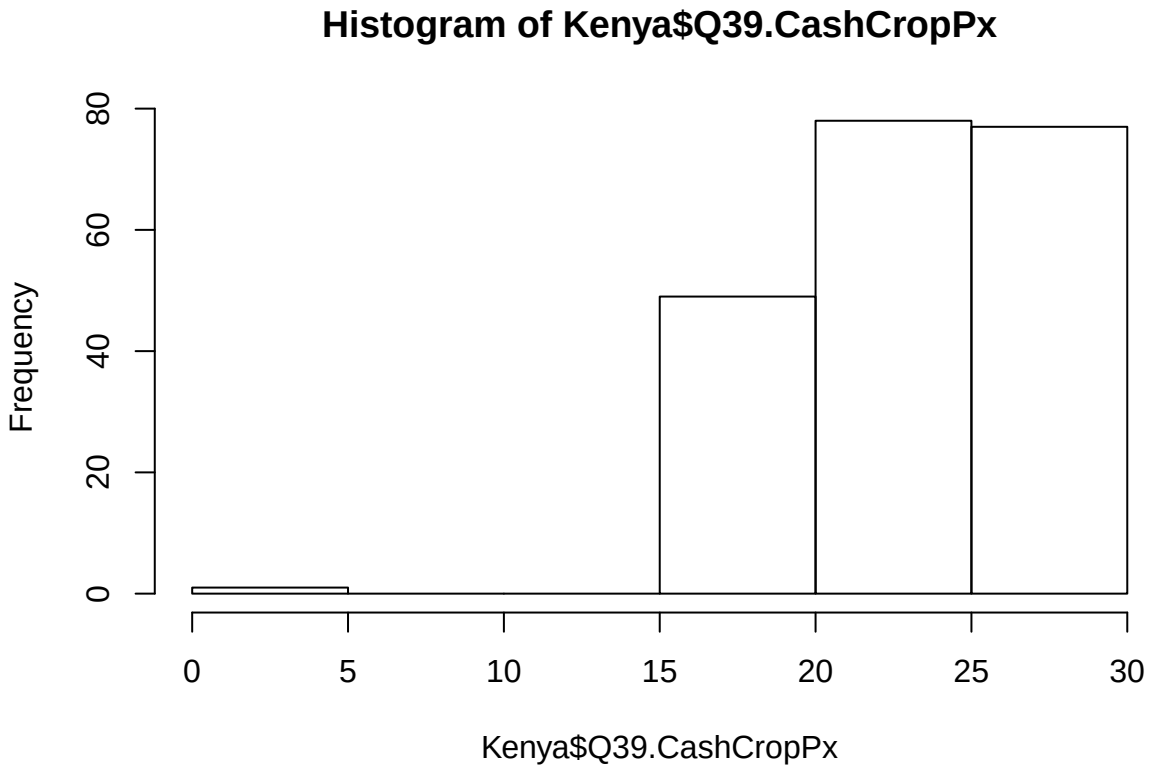
```
##  [1] "30"           "Ksh 20"       "20"           "27 ksh"
##  [5] "27"           "25 shilings"  "25 per kg"    "25 sh per kg"
##  [9] "29 sh per kg" "ff"           "18"           "16"
## [13] "25"           "29"           "22"           "26 sh"
## [17] "29 per kg"    "ksh. 25"      "ksh 25"       "29 sh perkg"
## [21] "26 per kg"    "25 perkg"     "18 KSHS"      "27 KSHS"
## [25] "29 kshs"      "20 kshs"      "18 kshs"      "28 kshs"
## [29] "25 kshs"      "27 kshs"      "22 kshs"      "22.50 kshs"
```

Replace all non-digit and non "." characters with blank space, convert field to numeric, then show unique values in Q39 and also plot histogram

```
Kenya$Q39.CashCropPx <- as.numeric(gsub("[^.0-9]", "", Kenya$Q39.CashCropPx))
unique(Kenya$Q39.CashCropPx)
```

```
##  [1] 30.00 20.00 27.00 25.00 29.00    NA 18.00 16.00 22.00 26.00  0.25
## [12] 28.00 22.50
```

```
hist(Kenya$Q39.CashCropPx)
```



Show unique values in Q40

```
unique(Kenya$Q40.CostOfProduction)
```

```
##   [1] "70000"         "50000"         "20000"         "23000"
##   [5] "40000"         "30000"         "100000"        "44000"
##   [9] "Ksh 35000"     "Ksh 30,000"    "25000"         "Ksh 280,000"
##  [13] "15,000"        "35,000"        "3000"          "10000"
##  [17] "Ksh 90,000"    "50 000 ksh"    "80,000"        "200,000"
##  [21] "60 000"        "75000"         "78000"         "72000"
##  [25] "200000"        "240000"        "190000"        "gg"
##  [29] "59000"         "113,200"       "104,400"       "70,000"
##  [33] "ksh. 70,000"   "ksh 56000"     "ksh. 200,000"  "ksh.200,000"
##  [37] "ksh.3920"      "ksh.4000"      "ksh.15000"     "ksh. 15000"
##  [41] "ksh.60,000"    "ksh. 120,000"  "ksh. 2000"     "ksh.300,000"
##  [45] "ksh3000"       "ksh,23,000"    "ksh.44,200"    "ksh.28,800"
##  [49] "ksh.70,000"    "ksh.3500"      "ksh.30,000"    "ksh.100,000"
##  [53] "ksh. 175,000"  "ksh.350,000"   "ksh.175,000"   "ksh,67,000"
##  [57] "ksh80,000"     "ksh.2950"      "ksh.45000"     "ksh. 35,000"
```

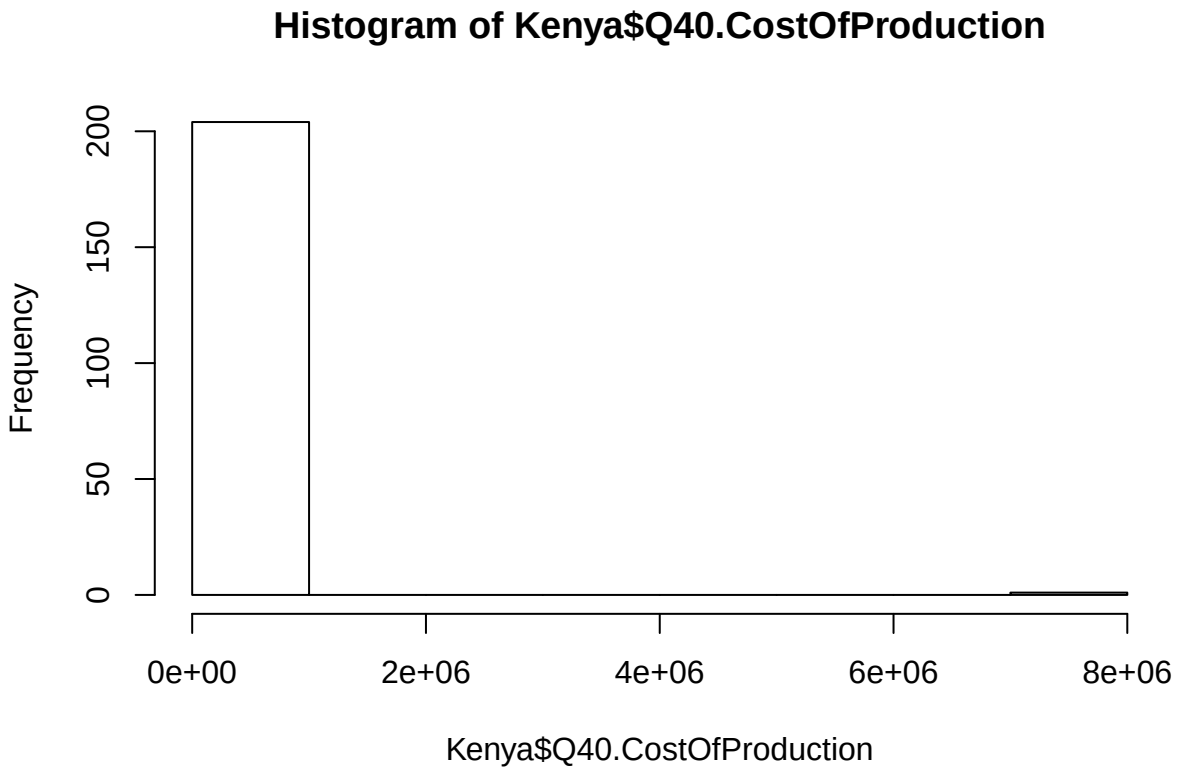
```
##  [61] "ksh. 94,000"  "ksh.26,000"   "ksh.75,000"   "ksh.45,000"
##  [65] "ksh. 20,000"  "ksh.20,000"   "ksh.90,000"   "ksh. 80,000"
##  [69] "ksh.18,000"   "ksh.35,000"   "ksh. 40,000"  "ksh.120,000"
##  [73] "ksh.124,000"  "ksh.190,000"  "ksh.80,000"   "250000"
##  [77] "ksh. 246,000" "60000"        "41000"        "2800"
##  [81] "90000"        "27000"        "280000"       "148000"
##  [85] "65000"        "158000"       "15000"        "ksh.50,000"
##  [89] "153,400"      "135,000"      "50,000"       "102,000"
##  [93] "85400"        "127000"       "120000"       "400000"
##  [97] "40800"        "1000"         "ksh,600000"   "ksh. 150,000"
## [101] "500076"       "300000"       "203000"       "21000"
## [105] "86000"        "5000"         "80000"        "55000"
## [109] "44,000"       "4800"         "112000"       "25,000"
## [113] "138,000"      "40,000"       "14,000"       "130,000"
## [117] "9500"         "6000"         "Ksh 90000"    "8000"
## [121] "8000000 KSHS" "6500 KSHS"    "20000 KSHS"   "10000 KSHS"
## [125] "116,069 kshs" "25000 kshs"   "150000 kshs"  "24000 kshs"
## [129] "30000 kshs"   "5000 kshs"    "50000 kahs"   "15000 kshs"
## [133] "10000 kshs"   "82000 kshs"   "200000 kshs"  "26000 kshs"
## [137] "79000 kshs"   "45500 kshs"   "17000 kshs"   "32500 kshs"
## [141] "70000 kshs"   "46000 kshs"   "13600 kshs"   "147000 kshs"
## [145] "55000 kshs"   "5600 kshs"    "129000 kshs"
```

Replace all non-digit and non "." characters with blank space, convert field to numeric, then show unique values in Q40 and also plot histogram

```
Kenya$Q40.CostOfProduction <- as.integer(gsub("[^0-9]", "", Kenya$Q40.CostOfProduction))
unique(Kenya$Q40.CostOfProduction)
```

```
##  [1]   70000   50000   20000   23000   40000   30000  100000   44000
##  [9]   35000   25000  280000   15000    3000   10000   90000   80000
## [17]  200000   60000   75000   78000   72000  240000  190000      NA
## [25]   59000  113200  104400   56000    3920    4000  120000    2000
## [33]  300000   44200   28800    3500  175000  350000   67000    2950
## [41]   45000   94000   26000   18000  124000  250000  246000   41000
## [49]    2800   27000  148000   65000  158000  153400  135000  102000
## [57]   85400  127000  400000   40800    1000  600000  150000  500076
## [65]  203000   21000   86000    5000   55000    4800  112000  138000
## [73]   14000  130000    9500    6000    8000 8000000    6500  116069
## [81]   24000   82000   79000   45500   17000   32500   46000   13600
## [89]  147000    5600  129000
```

```
hist(Kenya$Q40.CostOfProduction)
```



Show unique values in Q61

```
unique(Kenya$Q61.CropEarning)
```

```
##  [1] "4000"               "1000"               "3000"
##  [4] NA                   "2100"               "9000"
##  [7] "14400"              "1800"               "0"
## [10] "8800"               "Ksh 150,000"        "30000"
## [13] "60,000"             "100000"             "56000"
## [16] "00"                 "not recorded"       "dd"
## [19] "3100"               "9700"               "12000"
## [22] "5000"               "ksh.10,125"         "None"
## [25] "ksh.2000"           "ksh. 3000"          "Ksh. 0"
## [28] "ksh. 0"             "ksh.0"              "ksh.12,000"
## [31] "ksh.1000"           "ksh.  0"            "ksh.25,000"
## [34] "ksh.5000"           "ksh.13,000"         "ksh.100,000"
## [37] "ksh.7500"           "ksh.10,000"         "ksh.144,000"
## [40] "family use"         "0(use at home only)" "family use only"
## [43] "7000"               "84,000"             "for family use only"
## [46] "5600"               "no sold as was food" "1500"
## [49] "30000 Kshs"         "13800 KSHS"         "57500 KSHS"
## [52] "50000 KSHS"         "11000 KSHS"         "1000 kshs"
## [55] "18000 kshs"         "13000 kshs"         "36000 kshs"
## [58] "47000 kshs"         "3000 kshs"          "500 kshs"
## [61] "20000 kshs"         "5500 kshs"          "2000 kshs"
## [64] "8000 kshs"          "700 kshs"           "3500 kshs"
## [67] "ksh.3000"           "31000 kshs"
```

Show unique values in Q62 Note: Q62 appears to be all in different units (sack, kg, bundle, punch, crate)

```
unique(Kenya$Q62.CropSalePx)
```

```
##  [1] "500"                              "200"
##  [3] NA                                 "700"
##  [5] "3000"                             "180per tin"
##  [7] "300"                              "0"
##  [9] "400"                              "Ksh 1500 per Crate"
## [11] "50"                               "59"
## [13] "40 per kg"                        "00"
## [15] "not sold"                         "tt"
## [17] "ksh.200per kg"                    "ksh 45 per kg"
## [19] "ksh 2000 per sack"                "ksh 1000 per bunch"
## [21] "ksh 75 per kg"                    "ksh 0"
## [23] "ksh.540"                          "ksh. 40 per kg"
## [25] "ksh.0"                            "N/A"
## [27] "ksh. 0"                           "ksh. 100"
## [29] "ksh.500 per sack"                 "ksh.12500 per sack"
## [31] "ksh.1000 per sack"                "ksh.3200 per sack"
## [33] "ksh0"                             "ksh.300 per punch"
## [35] "ksh.75 per kg"                    "ksh.200 per punch"
## [37] "ksh.100 per kg"                   "ksh.20 per bundle of vegetables"
## [39] "20 per kilogram"                  "4000"
## [41] "60per tin"                        "100"
## [43] "70 Kshs"                          "100 KSHS PER KG"
## [45] "575 KSHS"                         "120 KSHS"
## [47] "3000 PER KG"                      "70 Per kg"
## [49] "180 kshs"                         "150 kshs"
## [51] "100 kshs"                         "5 kshs"
## [53] "750 kshs"                         "10 kshs"
## [55] "5kshs"                            "1300 kshs"
## [57] "535 kshs"                         "15 kshs"
## [59] "ksh.70"                           "400kshs"
## [61] "800 kshs"
```

Show unique values in Q63

```
unique(Kenya$Q63.ProductionCost)
```

```
##  [1] "2000"         "2400"         "30000"        NA
##  [5] "3000"         "7000"         "1000"         "5000"
##  [9] "Ksh 300,000"  "4000"         "Ksh 15,000"   "60000"
## [13] "10000"        "not recorded" "rr"           "1500"
## [17] "10,000"       "ksh 2500"     "ksh. 5000"    "ksh. 2000"
## [21] "ksh. 30,000"  "ksh. 1500"    "ksh. 3000"    "ksh. 500"
## [25] "ksh.20,000"   "ksh. 10,000"  "ksh. 4000"    "ksh.1000"
## [29] "ksh. 0"       "ksh.5000"     "ksh.  30,000" "ksh.50,000"
## [33] "ksh.25,000"   "ksh. 2500"    "ksh.2000"     "ksh.10,000"
## [37] "ksh. 20,000"  "ksh.15,000"   "ksh. 50,000"  "ksh.4000"
## [41] "ksh. 5,000"   "ksh.30,000"   "ksh.3000"     "ksh.70,000"
## [45] "ks.30,000"    "ksh.40,000"   "15000"        "1200"
## [49] "12000"        "1300"         "16000"        "500"
## [53] "0"            "ksh. 35,000"  "5,000"        "6000"
```

```
## [57] "20000"        "67000"        "Ksh 10,000"   "13,000"
## [61] "5000 KSHS"    "4000 KSHS"    "2000 KSHS"    "10000 kshs"
## [65] "2000 kshs"    "5000 kshs"    "7500 kshs"    "10500 kshs"
## [69] "35000 kshs"   "6500 kshs"    "27000 kshs"   "7000 kshs"
## [73] "4000 kshs"    "3500 kss"     "8500 kshs"    "1200 kshs"
## [77] "1300 kshs"    "250 kshs"     "3000 kshs"    "4500 kshs"
## [81] "3300 kshs"    "3750 kshs"
```

TO-DO: do similar analysis for individual crop results in 69-79

Show unique values in Q113

```
unique(Kenya$Q113.CostOfChange)
```

```
##  [1] NA                    "0"                   "4000"
##  [4] "1000"                "ksh.45000"           "ksh,50,000"
##  [7] "ksh. 10,000"         "ksh. 5000"           "ksh. 3000"
## [10] "ksh. 200,000"        "ksh.1000"            "ksh.10,000"
## [13] "ksh.60,000"          "ksh.30,000"          "ksh.40,000"
## [16] "ksh.20,000"          "ksh. 100,000"        "ksh.62,000"
## [19] "50000"               "13000"               "ksh.2000"
## [22] "ksh.55,000"          "32,000"              "40000"
## [25] "0(i was given free)" "ksh.5000"            "2000"
## [28] "50,000"              "500"                 "150 kshs"
## [31] "5000 KSHS"           "500 kshs"            "58000 kshs"
```

Show unique values in Q118

```
unique(Kenya$Q118.CostStarting)
```

```
##  [1] NA               "100(1972)"      "Ksh 120,000"    "500"
##  [5] "85,000"         "10000 ksh"      "ksh,84,000"     "ksh.3000"
##  [9] "ksh. 2,800,000" "ksh. 5000"      "ksh.20,000"     "ksh.1000"
## [13] "15,000"         "20,000"         "5000"           "2000"
## [17] "2500"           "3000"           "3000 kshs"      "50000 kshs"
```

Longitude and Latitude values

First check how many values are present (not NA), then plot histogram showing distribution

```
length(which(!is.na(Kenya$Latitude)))
```

```
## [1] 142
```

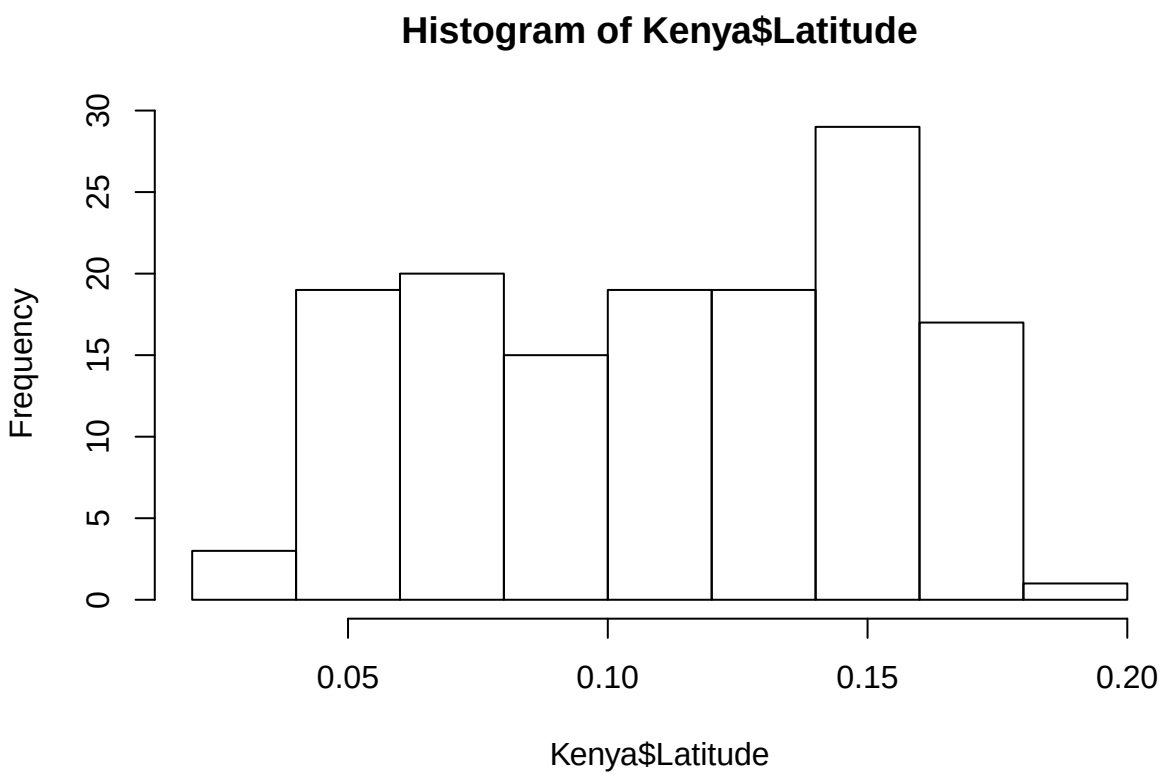
```
length(which(!is.na(Kenya$Longitude)))
```

```
## [1] 142
```

```r
summary(Kenya$Latitude)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
## 0.03699 0.07817 0.10870 0.11100 0.14980 0.18490      64
```

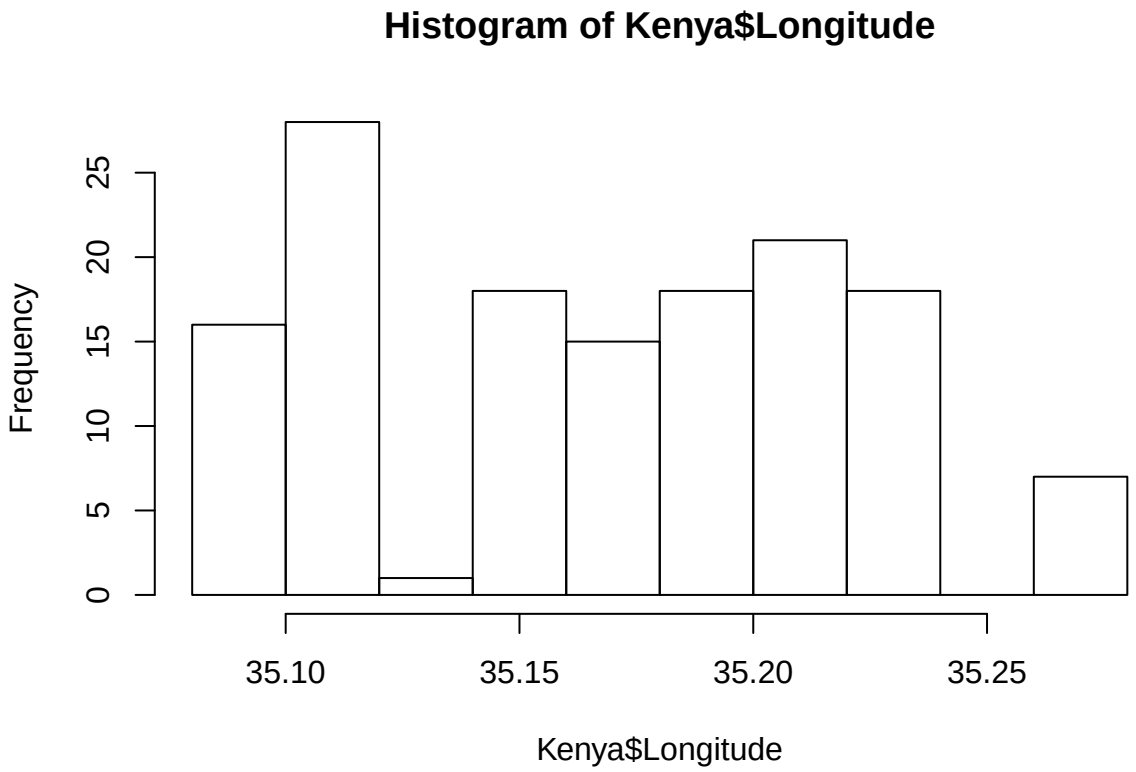
```r
hist(Kenya$Latitude)
```




```r
summary(Kenya$Longitude)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   35.08   35.11   35.17   35.17   35.21   35.27      64
```

```r
hist(Kenya$Longitude)
```


Histogram of Kenya$Longitude
Frequency
0
5
10
15
20
25
35.10
35.15
35.20
35.25
Kenya$Longitude