# LogisticReg.R

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```r
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
library(ggplot2)
library(caret)
```

```
## Loading required package: lattice
```

```r
groundwater_data <- read.csv("/Users/theruinedking/Documents/Math 4322/groundwater_data.csv")

# Convert 'Classification.1' to binary
groundwater_data$Classification.1 <- ifelse(groundwater_data$Classification.1 == "P.S.", 1, 0)

# Select specific columns and remove missing values
selected_data <- groundwater_data %>%
  select(RSC, SAR, Na, E.C, TDS, HCO3, pH, mandal, village, Classification.1) %>%
  na.omit()


str(selected_data)  # Should show the expected structure
```

```
## 'data.frame':    972 obs. of  10 variables:
##  $ RSC            : num  -3 -0.4 2 -0.2 -1.6 -1.8 -0.8 -0.4 -0.4 0 ...
##  $ SAR            : num  1.9 0.79 3.31 2.61 1.87 2.65 1.12 1.35 0.65 1.17 ...
##  $ Na             : int  85 14 118 104 84 125 40 44 15 36 ...
##  $ E.C            : int  1065 122 945 1028 1110 1389 620 582 242 504 ...
##  $ TDS            : num  682 78 605 658 710 889 397 372 155 323 ...
##  $ HCO3           : int  230 40 340 290 300 330 200 180 80 180 ...
##  $ pH             : num  8.04 8.21 7.99 8.01 8.11 7.84 8.14 8.02 7.74 7.89 ...
##  $ mandal         : chr  "Adilabad" "Bazarhatnur" "Bela" "Bheempur" ...
##  $ village        : chr  "Adilabad" "Bazarhatnur" "Chandpally" "Arli" ...
##  $ Classification.1: num  1 1 0 1 1 1 1 1 1 1 ...
##  - attr(*, "na.action")= 'omit' Named int [1:52] 108 110 111 119 120 125 129 147 239 258 ...
##   ..- attr(*, "names")= chr [1:52] "108" "110" "111" "119" ...
```

```r
colnames(selected_data)  # Confirm the selected columns
```

```
## [1] "RSC"             "SAR"            "Na"             "E.C"
## [5] "TDS"             "HCO3"           "pH"             "mandal"
## [9] "village"         "Classification.1"
```

```r
# Convert categorical variables to factors
selected_data$mandal <- as.factor(selected_data$mandal)
selected_data$village <- as.factor(selected_data$village)

# One-hot encode categorical variables except the response variable
dummy_vars <- model.matrix(~ mandal + village, data = selected_data)

numerical_vars <- selected_data[, c("RSC", "SAR", "Na", "E.C", "TDS", "HCO3", "pH")]  # Numerical predi
response_var <- selected_data$Classification.1  # Response variable
final_data <- cbind(as.data.frame(dummy_vars), numerical_vars, Classification.1 = response_var)  # Comb


# Check that 'final_data' is a data frame
is.data.frame(final_data)  # Should return TRUE
```

```
## [1] TRUE
```

```r
# Check the structure of 'final_data'
str(final_data)
```

```
## 'data.frame':    972 obs. of  1444 variables:
##  $ (Intercept)                               : num  1 1 1 1 1 1 1 1 1 1 ...
##  $ mandalAchampet                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAddakal                             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAdilabad                            : num  1 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAdvidevulapally                     : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAkkannapet                          : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAlair                               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAlampur                             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAllapalli                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAlwal                               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAmangal                             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAmarabad                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAmarchintha                         : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAmeenpur                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAmeerpet                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAndole                              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAnnapureddypalli                    : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAntergaon                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAnumula                             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalArmoor                              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalArvapally                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAshwapuram                          : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAsifabad                            : num  0 0 0 0 0 1 0 0 0 0 ...
##  $ mandalAsifnagar                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAswaraopet (S)                      : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAswaraopeta                         : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAtmakur                             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAtmakur(m)                          : num  0 0 0 0 0 0 0 0 0 0 ...
```

```
##  $ mandalAtmakur(s)              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalAtmakuru               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalB.Pochampalli          : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBachannapet            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBachupalli             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBalanagar              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBalapur                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBalmur                 : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBandlaguda             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBansawada              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBantwaram              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBasheerabad            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBayyaram               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBazarhatnur            : num  0 1 0 0 0 0 0 0 0 0 ...
##  $ mandalBeerpur                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBejjanki               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBejjur                 : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBela                   : num  0 0 1 0 0 0 0 0 0 0 ...
##  $ mandalBellampally            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhadrachalam           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhadurpura             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBheemadevarapallly     : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBheemgal               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBheempur               : num  0 0 0 1 1 0 0 0 0 0 ...
##  $ mandalBhiknoor               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhimini                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhongiri               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhoothpur              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBhupalpally            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBibinagar              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBibipet                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBICHKUNDA              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBijinepalli            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBirkur                 : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBoath                  : num  0 0 0 0 0 1 0 0 0 0 ...
##  $ mandalBodhan                 : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBoinpally              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBomraspet              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBonakal                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalBurgampad              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalCC Kunta               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChandampet             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChandrugonda           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChandur                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChandurthy             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalCharakonda             : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalCharminar              : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChegunta               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChennaraopet           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChennur                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalCherila                : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalCherla                 : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChevella               : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChigurumamidi          : num  0 0 0 0 0 0 0 0 0 0 ...
```

```
##  $ mandalChilipade                          : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChilkur                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChilpur                            : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChinna Gudur                       : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChinnakodur                        : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChintakani                         : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChinthalapalem ( mallareddygudem)  : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChinthapally                       : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChityala                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChivemla                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChoppadandi                        : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChouderigudem                      : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChoutuppal                         : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalChunchupalli                       : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalDahegaon                           : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalDamargidda                         : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ mandalDamera                             : num  0 0 0 0 0 0 0 0 0 0 ...
##   [list output truncated]
```

```r
# Partition the data into training and testing sets
set.seed(123)
trainIndex <- createDataPartition(final_data$Classification.1, p = 0.7, list = FALSE)
trainData <- final_data[trainIndex, ]
testData <- final_data[-trainIndex, ]

# Build a logistic regression model with 'Classification.1' as the response variable
model <- glm(Classification.1 ~ ., data = trainData, family = binomial)
```

```
## Warning: glm.fit: algorithm did not converge
```

```r
summary(model)
```

```
##
## Call:
## glm(formula = Classification.1 ~ ., family = binomial, data = trainData)
##
## Coefficients: (763 not defined because of singularities)
##                                   Estimate Std. Error z value
## (Intercept)                      4.054e+01  7.239e+05       0
## `(Intercept)`                          NA         NA      NA
## mandalAchampet                         NA         NA      NA
## mandalAddakal                    6.761e-02  6.892e+05       0
## mandalAdilabad                         NA         NA      NA
## mandalAdvidevulapally           -1.568e+00  7.823e+05       0
## mandalAkkannapet                -4.496e+00  1.708e+06       0
## mandalAlair                     -3.368e+00  6.359e+05       0
## mandalAlampur                   -8.764e+00  1.431e+06       0
## mandalAllapalli                 -3.887e-01  8.278e+05       0
## mandalAlwal                     -3.578e-01  8.245e+05       0
## mandalAmangal                          NA         NA      NA
## mandalAmarabad                  -2.485e+00  6.390e+05       0
## mandalAmarchintha                1.694e+00  5.304e+05       0
## mandalAmeenpur                         NA         NA      NA
## mandalAmeerpet                   1.308e+00  1.236e+06       0
## mandalAndole                    -4.749e-01  6.555e+05       0
```

4

```
## mandalAnnapureddypalli                        NA        NA     NA
## mandalAntergaon                        -1.476e+01  8.551e+05      0
## mandalAnumula                          -7.696e+01  4.059e+06      0
## mandalArmoor                           -1.991e+00  6.921e+05      0
## mandalArvapally                                NA        NA     NA
## mandalAshwapuram                        4.683e-01  5.046e+05      0
## mandalAsifabad                          2.570e-02  8.662e+05      0
## mandalAsifnagar                         4.674e+00  5.547e+05      0
## `mandalAswaraopet (S)`                 -6.894e-01  7.258e+05      0
## mandalAswaraopeta                       4.958e+00  2.155e+06      0
## mandalAtmakur                                  NA        NA     NA
## `mandalAtmakur(m)`                             NA        NA     NA
## `mandalAtmakur(s)`                             NA        NA     NA
## mandalAtmakuru                          1.149e+01  1.460e+06      0
## mandalB.Pochampalli                    -1.554e+01  1.349e+06      0
## mandalBachannapet                       7.118e+00  8.686e+05      0
## mandalBachupalli                       -2.729e+00  1.332e+06      0
## mandalBalanagar                        -3.715e+00  6.153e+05      0
## mandalBalapur                          -3.576e-01  1.099e+06      0
## mandalBalmur                            2.647e+00  1.440e+06      0
## mandalBandlaguda                       -5.004e-01  1.050e+06      0
## mandalBansawada                         4.296e-01  6.631e+05      0
## mandalBantwaram                         5.927e-01  1.520e+06      0
## mandalBasheerabad                       6.349e+01  2.275e+06      0
## mandalBayyaram                          8.883e+00  5.751e+05      0
## mandalBazarhatnur                      -1.973e+00  8.634e+05      0
## mandalBeerpur                           1.235e-01  8.029e+05      0
## mandalBejjanki                          8.750e+00  5.410e+05      0
## mandalBejjur                           -3.021e+00  8.316e+05      0
## mandalBela                                     NA        NA     NA
## mandalBellampally                              NA        NA     NA
## mandalBhadrachalam                             NA        NA     NA
## mandalBhadurpura                       -4.850e+01  1.445e+06      0
## mandalBheemadevarapallly                5.973e+00  5.753e+05      0
## mandalBheemgal                          7.747e-01  7.452e+05      0
## mandalBheempur                          5.947e+00  1.326e+06      0
## mandalBhiknoor                         -1.525e-01  5.575e+05      0
## mandalBhimini                                  NA        NA     NA
## mandalBhongiri                         -5.079e+01  2.257e+06      0
## mandalBhoothpur                         6.055e-01  5.354e+05      0
## mandalBhupalpally                       1.844e+01  5.833e+05      0
## mandalBibinagar                                NA        NA     NA
## mandalBibipet                           1.163e+00  1.224e+06      0
## mandalBICHKUNDA                                NA        NA     NA
## mandalBijinepalli                              NA        NA     NA
## mandalBirkur                           -1.990e+01  1.120e+06      0
## mandalBoath                             4.734e-01  9.326e+05      0
## mandalBodhan                            2.458e+01  8.635e+05      0
## mandalBoinpally                                NA        NA     NA
## mandalBomraspet                        -7.945e+00  7.763e+05      0
## mandalBonakal                           2.093e+00  7.323e+05      0
## mandalBurgampad                        -5.390e+01  1.369e+06      0
## `mandalCC Kunta`                       -2.895e+00  8.051e+05      0
## mandalChandampet                        6.366e+00  7.912e+05      0
```

```
## mandalChandrugonda                          -2.240e+01  2.178e+06    0
## mandalChandur                                -1.136e+00  1.042e+06    0
## mandalChandurthy                              1.876e+00  5.783e+05    0
## mandalCharakonda                             -1.121e+02  5.584e+06    0
## mandalCharminar                               1.444e+01  5.982e+05    0
## mandalChegunta                               -4.110e+01  6.836e+05    0
## mandalChennaraopet                           -8.553e-01  5.745e+05    0
## mandalChennur                                 3.996e+00  6.232e+05    0
## mandalCherila                                -2.199e+01  1.138e+06    0
## mandalCherla                                 -9.868e+00  7.234e+05    0
## mandalChevella                                       NA        NA   NA
## mandalChigurumamidi                           5.972e+00  5.448e+05    0
## mandalChilipade                              -3.181e+00  9.424e+05    0
## mandalChilkur                                -3.474e+00  7.046e+05    0
## mandalChilpur                                 1.295e+01  5.377e+05    0
## `mandalChinna Gudur`                                 NA        NA   NA
## mandalChinnakodur                             1.958e-01  1.256e+06    0
## mandalChintakani                              1.591e+00  1.592e+06    0
## `mandalChinthalapalem ( mallareddygudem)`    -4.556e-02  7.152e+05    0
## mandalChinthapally                            1.226e+00  1.378e+06    0
## mandalChityala                                6.776e-01  5.712e+05    0
## mandalChivemla                               -3.455e+00  6.877e+05    0
## mandalChoppadandi                             1.746e+00  6.945e+05    0
## mandalChouderigudem                                  NA        NA   NA
## mandalChoutuppal                             -6.908e-01  1.412e+06    0
## mandalChunchupalli                                   NA        NA   NA
## mandalDahegaon                               -5.056e+00  1.000e+06    0
## mandalDamargidda                             -1.592e+01  1.157e+06    0
## mandalDamera                                 -1.716e+01  1.918e+06    0
## mandalDammapeta                               3.894e-01  7.782e+05    0
## mandalDandepally                              2.719e-01  6.801e+05    0
## mandalDarpally                                4.916e+00  5.380e+05    0
## mandalDevarakonda                            -3.554e+01  1.979e+06    0
## mandalDevarkadara                            -9.122e+00  1.056e+06    0
## mandalDevaruppula                             6.501e+00  6.777e+05    0
## mandalDhantalapally                          -1.735e+00  1.069e+06    0
## `mandalDHANWADA `                                    NA        NA   NA
## mandalDharmapuri                             -1.953e-01  5.799e+05    0
## mandalDharmaram                              -1.643e+00  8.073e+05    0
## mandalDharmasagar                             1.203e+01  8.570e+05    0
## mandalDharoor                                 1.283e+00  1.646e+06    0
## mandalDichpally                              -2.616e+00  6.421e+05    0
## mandalDilawarpur                              3.643e+00  5.963e+05    0
## mandalDoma                                    3.125e+00  5.854e+05    0
## mandalDomakonda                               1.731e-01  7.559e+05    0
## mandalDornakal                               -2.370e+00  6.730e+05    0
## mandalDoulathabad                             8.124e+00  1.380e+06    0
## `mandalDoulthabad `                           2.857e+00  1.071e+06    0
## mandalDubbak                                 -2.654e+00  1.051e+06    0
## mandalDuggondi                                2.378e+01  7.777e+05    0
## mandalDummugudem                              1.447e+00  1.652e+06    0
## mandalDundigal                                9.645e+00  5.784e+05    0
## mandalEligedu                                 1.561e+00  1.183e+06    0
## mandalElkathurthy                                    NA        NA   NA
```

```
## `mandalEllandakunta `        7.693e+00  5.767e+05    0
## mandalEnkoor                  1.460e+00  7.457e+05    0
## `mandalEturu Nagaram`         2.520e+00  6.658e+05    0
## mandalFarooqnagar             8.699e+00  2.494e+06    0
## mandalGadwal                        NA        NA   NA
## mandalGajwel                        NA        NA   NA
## mandalGambhiraopet                  NA        NA   NA
## mandalGandeed                 -4.775e+00  7.320e+05    0
## mandalGandhari                5.328e-01  1.791e+06    0
## mandalGangadhara              1.333e+00  5.527e+05    0
## mandalGangaram                -2.353e+00  6.075e+05    0
## mandalGanneruvaram            1.081e+01  1.663e+06    0
## mandalGarla                   -2.039e+00  6.823e+05    0
## mandalGattu                   8.345e+00  6.399e+05    0
## mandalGeesgonda               -6.048e+00  1.414e+06    0
## mandalGhanpur                 5.687e+00  5.731e+05    0
## `mandalGhanpur Mulug`         -1.730e+01  1.040e+06    0
## `mandalGhanpur stn`           3.814e+01  2.139e+06    0
## mandalGhatkesar                     NA        NA   NA
## mandalGollapalli              -5.910e-01  5.967e+05    0
## mandalGopalpet                2.305e+01  1.789e+06    0
## mandalGovindaraopet           -2.526e+01  2.227e+06    0
## mandalGudihatnoor                   NA        NA   NA
## mandalGudur                   3.380e+00  8.974e+05    0
## mandalGummadiddla             5.632e-01  7.465e+05    0
## mandalGundala                 -6.892e-01  1.003e+06    0
## mandalGundlapally             2.259e+02  5.717e+06    0
## mandalGurrampode              6.316e-01  6.138e+05    0
## mandalHanamkonda              3.876e+00  5.498e+05    0
## mandalHanwada                 -1.051e+01  1.100e+06    0
## mandalHasanparthi             -5.675e-01  6.415e+05    0
## mandalHathnoora               5.535e-01  8.022e+05    0
## mandalHavelighanpur           2.354e+00  6.063e+05    0
## mandalHazipur                 1.553e+00  7.305e+05    0
## mandalHimayathnagar           -4.795e+01  1.288e+06    0
## mandalHusnabad                -2.575e+00  1.088e+06    0
## mandalHuzurabad               1.083e+00  9.018e+05    0
## mandalIbrahimpatnam           1.351e+00  1.543e+06    0
## mandalIeeza                   -3.995e+01  3.332e+06    0
## mandalIllanthakunta           -2.937e+01  7.158e+05    0
## mandalIndalwai                      NA        NA   NA
## mandalInvaolu                 1.443e+01  1.270e+06    0
## mandalItikyal                 1.298e+01  8.774e+05    0
## mandalJadcherla               -9.802e+00  7.193e+05    0
## mandalJagdevpur               1.656e+00  1.719e+06    0
## mandalJagityal                9.070e+00  6.292e+05    0
## mandalJainath                 2.614e+00  6.329e+05    0
## mandalJainoor                 5.988e-01  6.069e+05    0
## mandalJaipur                        NA        NA   NA
## mandalJakrampally                   NA        NA   NA
## mandalJammikunta              1.673e-01  1.206e+06    0
## mandalJangaon                 7.540e+00  5.998e+05    0
## mandalJannaram                1.476e+00  7.196e+05    0
## mandalJarasangam              6.821e-01  1.609e+06    0
```

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## mandalJinnaram                                    NA         NA   NA
## mandalJukkal                                3.487e+00  2.453e+06    0
## mandalJulapalli                             7.815e-01  9.289e+05    0
## mandalJulurpadu                            -3.758e+01  1.684e+06    0
## `mandalK-T Doddi`                          -9.902e+00  1.190e+06    0
## mandalK.Mallepally                          1.102e-01  1.085e+06    0
## mandalKadam                                       NA         NA   NA
## mandalKadthal                              -3.595e+00  6.233e+05    0
## mandalKagaznagar                            5.257e-01  6.325e+05    0
## mandalKalher                                9.873e+00  7.647e+05    0
## mandalKallur                                      NA         NA   NA
## `mandalKalvala nagaram*`                   -7.722e+00  1.096e+06    0
## mandalKalwakuthy                           -1.894e+00  1.967e+06    0
## mandalKamalapur                            -2.346e+01  2.684e+06    0
## mandalKamanpur                              1.868e+00  1.621e+06    0
## mandalKamareddy                             5.294e-01  6.798e+05    0
## mandalKamepalli                            -2.174e+00  6.437e+05    0
## mandalKammarapalli                         -3.571e-01  5.668e+05    0
## mandalkanagala                                    NA         NA   NA
## mandalKandi                                -3.030e+00  1.372e+06    0
## mandalKandukur                                    NA         NA   NA
## mandalKangti                                5.654e+01  1.504e+06    0
## mandalKannaigudem                           1.516e+00  1.470e+06    0
## mandalKannepally                            2.661e+00  1.169e+06    0
## mandalKapra                                 2.058e-01  9.554e+05    0
## mandalKarakagudem                           4.476e+00  9.283e+05    0
## mandalKarimnagar                            1.677e+00  5.710e+05    0
## mandalKasipet                               4.476e+00  7.267e+05    0
## mandalKataram                              -2.349e+01  1.019e+06    0
## mandalKathalapur                            1.492e-01  1.332e+06    0
## mandalKattangur                            -1.562e+01  1.740e+06    0
## mandalKeesara                               3.752e+00  7.879e+05    0
## mandalKerameri                              9.552e+00  8.839e+05    0
## mandalKesamudram                           -3.566e+01  8.703e+05    0
## mandalKeshampet                            -2.392e+00  6.198e+05    0
## mandalKeshavpatnam                          1.057e+00  5.907e+05    0
## mandalKethepally                                  NA         NA   NA
## mandalKhairathabad                         -2.498e+00  6.739e+05    0
## `mandalKhammam (R )`                        2.651e+00  5.349e+05    0
## `mandalKhammam(U)`                         -2.081e+00  5.865e+05    0
## mandalKhanapur                              1.708e+00  4.872e+05    0
## mandalKodad                                -3.432e+00  9.884e+05    0
## mandalKodair                                2.527e+00  7.865e+05    0
## mandalKodakandla                            4.182e+00  5.805e+05    0
## mandalKodangal                                    NA         NA   NA
## mandalKodimal                                     NA         NA   NA
## mandalKoheda                                      NA         NA   NA
## mandalKoheer                                      NA         NA   NA
## mandalKoilkonda                                   NA         NA   NA
## mandalKollapur                              1.177e+01  8.715e+05    0
## mandalKomaravelli                          -1.279e-01  7.106e+05    0
## mandalKonaraopet                            3.818e+00  5.349e+05    0
## mandalKondapak                              2.599e+00  8.915e+05    0
## mandalKondapur                             -8.862e-01  8.941e+05    0
```

```
## mandalKondurgu                  5.010e+00  8.046e+05        0
## mandalKonijerla                -1.574e+00  9.551e+05        0
## mandalKoravi                   -2.471e+00  6.811e+05        0
## mandalKorutla                  -1.100e+00  6.196e+05        0
## mandalKosigi                   -9.461e+00  8.020e+05        0
## mandalKotagiri                  2.467e+01  2.213e+06        0
## mandalKotapally                       NA        NA       NA
## mandalKothaguda                -3.499e+00  6.125e+05        0
## mandalKothagudem                      NA        NA       NA
## mandalKothakota                -2.868e+00  6.240e+05        0
## mandalKothur                   -9.143e+00  7.008e+05        0
## mandalKowdipally               -4.590e-01  1.442e+06        0
## mandalKowthala                        NA        NA       NA
## mandalKrishna                  -1.479e+01  1.668e+06        0
## mandalKubeer                    2.704e+00  5.513e+05        0
## mandalKukatpally               -1.664e+00  6.475e+05        0
## mandalKulcharam                -1.973e+00  6.344e+05        0
## mandalKulkacherla              -8.200e+00  8.063e+05        0
## mandalKuntala                   1.691e+00  5.530e+05        0
## mandalKusumanchi                4.255e+00  2.040e+06        0
## mandalLaxettipet               -1.757e-01  1.263e+06        0
## mandalLaxmanchanda                    NA        NA       NA
## mandalLaxmidevipalli            1.091e+00  8.384e+05        0
## mandalLingal                    1.456e+01  5.658e+05        0
## `mandalLingala ghanpur`         2.798e+00  5.806e+05        0
## mandalLingampet                 9.220e-01  1.543e+06        0
## mandalLingapur                  1.252e+01  8.793e+05        0
## mandalLokeswaram               -6.632e-01  6.285e+05        0
## mandalM.Turkapally             -3.871e+01  6.281e+05        0
## mandalMachareddy                      NA        NA       NA
## mandalMaddnur                   1.098e+00  8.724e+05        0
## mandalMaddur                          NA        NA       NA
## mandalMadgula                  -7.188e-01  9.811e+05        0
## mandalMadhira                  -2.340e+00  6.293e+05        0
## mandalMadoor                   -4.579e-01  1.322e+06        0
## mandalMadugulapally                   NA        NA       NA
## mandalMaganur                  -9.089e+00  9.046e+05        0
## `mandalMaha Mutharam`          -3.826e+00  6.320e+05        0
## mandalMahabubabad               1.035e+01  5.229e+05        0
## `mandalMahabubnagar (R) `      -3.956e+00  9.640e+05        0
## `mandalMahabubnagar(U)`        -8.248e+00  5.392e+05        0
## mandalMahadevpur               -5.414e+00  1.133e+06        0
## mandalMaheswaram               -5.796e+01  1.141e+06        0
## mandalMakloor                  -2.565e+00  7.086e+05        0
## mandalMakthal                  -1.001e+00  1.593e+06        0
## mandalMaldakal                 -3.505e+00  8.030e+05        0
## `mandalMalhar Rao`                    NA        NA       NA
## mandalMalkajgiri                2.698e-01  8.005e+05        0
## mandalMallapur                  3.758e-01  6.028e+05        0
## mandalMallial                   2.554e+00  6.964e+05        0
## mandalMamada                    1.537e+00  5.141e+05        0
## mandalManaharabad                     NA        NA       NA
## mandalManakondur                1.137e+00  5.678e+05        0
## mandalManchal                  -4.117e-01  1.089e+06        0
```

```
## mandalMandamarri              -1.302e+01  1.002e+06    0
## mandalMangapet                 3.785e+00  1.193e+06    0
## mandalManoor                   -1.240e-01  1.319e+06    0
## mandalManopad                         NA        NA   NA
## mandalManthani                 -3.888e+01  2.424e+06    0
## mandalManuguru                 -5.411e+00  5.470e+05    0
## mandalMaredpally                4.907e-01  7.599e+05    0
## mandalMarikal                  -3.949e+01  7.545e+05    0
## mandalMarkood                  -4.004e+00  8.194e+05    0
## mandalMarpalli                  1.891e+01  9.782e+05    0
## mandalMarriguda                -2.204e+01  1.292e+06    0
## mandalMarripeda                -2.404e+01  1.421e+06    0
## mandalMattampalle              -1.095e+01  8.380e+05    0
## mandalMedak                     4.648e+00  5.415e+05    0
## mandalMedchal                         NA        NA   NA
## mandalMedipally                 7.104e-01  5.721e+05    0
## mandalMEDIPALLY                 6.012e+00  6.117e+05    0
## mandalMellacheruvu              2.907e+00  9.030e+05    0
## mandalMendora                         NA        NA   NA
## mandalMetpalli                  1.951e-01  5.432e+05    0
## mandalMidjil                   -5.141e+00  5.570e+05    0
## mandalMirdoddi                 -1.328e+00  1.061e+06    0
## mandalMiryalguda                3.288e+00  5.299e+05    0
## mandalMogudampally                    NA        NA   NA
## mandalMogullapalli              1.423e+01  1.151e+06    0
## mandalMoinabad                 -4.786e+00  1.356e+06    0
## mandalMominpet                        NA        NA   NA
## mandalMOOSPET                         NA        NA   NA
## mandalMorthad                   9.168e+00  8.397e+05    0
## mandalMothey                   -9.657e-01  6.481e+05    0
## mandalMothukur                  5.507e+00  1.077e+06    0
## mandalMudhole                   4.619e+00  5.267e+05    0
## mandalMudigonda                 4.132e+00  7.557e+05    0
## mandalMugpal                   -7.271e-01  9.419e+05    0
## mandalMulakalapalli             1.022e+00  1.481e+06    0
## mandalMulugu                    1.396e+00  6.230e+05    0
## mandalMunagala                  6.716e+00  6.590e+05    0
## mandalMunipally                       NA        NA   NA
## mandalMunugode                  6.206e+01  2.997e+06    0
## mandalMupkal                    2.664e+00  5.509e+05    0
## mandalMustabad                  3.459e+00  7.509e+05    0
## `mandalMutharam (Man)`          1.583e+01  6.233e+05    0
## mandalNadigudem                -7.589e+00  5.305e+05    0
## mandalNagalgidda                      NA        NA   NA
## mandalNagarkurnool              4.265e+00  1.887e+06    0
## mandalNagireddipet              1.223e+00  1.635e+06    0
## mandalNakrekal                  3.579e+00  1.152e+06    0
## mandalNalgonda                  2.451e+00  6.264e+05    0
## mandalNallabelli                      NA        NA   NA
## mandalNampally                  2.542e+00  6.504e+05    0
## mandalNandipet                 -1.746e-01  6.713e+05    0
## mandalNanganur                  2.188e+00  5.675e+05    0
## mandalNarasampet                1.395e-02  8.579e+05    0
## mandalNarasapur                -3.780e+01  6.214e+05    0
```

```
## mandalNarasihulapet                 -4.667e+01  6.035e+05        0
## mandalNarasingi                       2.076e+01  5.995e+05        0
## mandalNarayankhed                    -1.627e+00  7.898e+05        0
## mandalNarayanpet                     -3.502e+01  1.393e+06        0
## mandalNarketpalli                    -5.142e+01  3.350e+06        0
## mandalNarmetta                        1.607e+01  8.896e+05        0
## mandalNarnoor                         1.790e+00  6.748e+05        0
## `mandalNarsapur `                    -1.004e+00  5.798e+05        0
## mandalNarva                                  NA        NA       NA
## mandalNasurullabad                    2.506e+00  1.037e+06        0
## mandalNavipet                         1.557e+01  7.624e+05        0
## mandalNawabpet                        1.863e+00  2.044e+06        0
## mandalNekkonda                        1.894e+00  8.759e+05        0
## mandalNelakondapalli                  9.907e-02  1.306e+06        0
## mandalNellikudur                     -4.854e+01  6.585e+05        0
## mandalNennel                          4.391e+00  5.656e+05        0
## mandalNeradigonda                     1.590e+00  8.298e+05        0
## mandalNeredgomma                      1.272e+00  5.739e+05        0
## mandalNereducharla                    3.362e+00  5.362e+05        0
## mandalNidamanuru                     -4.281e+01  1.769e+06        0
## mandalNirmal                                 NA        NA       NA
## mandalNizamabad                       8.231e-01  1.479e+06        0
## `mandalNizamabad Rural`               3.255e+00  5.472e+05        0
## mandalNizampet                       -9.619e-01  5.867e+05        0
## mandalNizamsagar                     -2.814e+00  1.687e+06        0
## mandalNuthankal                       1.250e+01  2.116e+06        0
## mandalNyalkal                        -6.475e+00  6.627e+05        0
## mandalOdella                          6.653e+00  5.639e+05        0
## `mandalP.A Pally`                     1.056e+01  9.642e+05        0
## mandalP.Kondaram                             NA        NA       NA
## mandalPadra                                  NA        NA       NA
## mandalPalakeedu                       1.386e+00  1.202e+06        0
## mandalPalakurthi                      1.427e+01  8.693e+05        0
## mandalPalimela                       -2.355e+00  6.007e+05        0
## mandalPalwancha                      -9.683e-01  6.976e+05        0
## mandalPangal                                 NA        NA       NA
## mandalPapannapet                     -8.908e-01  1.056e+06        0
## mandalParigi                          1.052e+00  1.615e+06        0
## mandalParkal                          1.391e+00  6.116e+05        0
## mandalParvathagiri                    2.718e+00  6.295e+05        0
## `mandalPatancheru `                   6.567e-01  8.602e+05        0
## mandalPebbair                                NA        NA       NA
## `mandalPedda Kodapgal`                1.747e+00  2.163e+06        0
## mandalPeddakothapally                        NA        NA       NA
## mandalPeddamandadi                    8.547e+00  1.043e+06        0
## mandalPeddamul                       -2.999e+00  6.464e+05        0
## mandalPeddapalli                     -5.616e+00  6.598e+05        0
## mandalPeddavangara                    1.545e+00  5.521e+05        0
## mandalPeddavoora                     -1.990e+01  1.103e+06        0
## mandalPegadapalli                            NA        NA       NA
## mandalPembi                                  NA        NA       NA
## mandalPenchikalpet                    4.546e+00  8.163e+05        0
## mandalPentlavelle                            NA        NA       NA
## mandalPenuballi                      -9.935e+01  2.962e+06        0
```

```
## mandalPinapaka                    3.700e+00  9.004e+05   0
## mandalPitlam                      3.174e+00  5.700e+05   0
## mandalPudur                       2.350e+00  2.141e+06   0
## mandalPulkal                     -1.103e+00  1.122e+06   0
## mandalQutubullapur                4.663e+00  5.668e+05   0
## mandalR.C.Puram                         NA         NA  NA
## mandalRaghunadhapalli             1.589e+01  6.833e+05   0
## mandalRaghundhapalem              1.084e+01  1.007e+06   0
## mandalRaikal                      1.788e+00  6.372e+05   0
## mandalRaipole                    -6.789e-01  1.370e+06   0
## mandalRajampet                    7.825e-01  8.560e+05   0
## mandalRajapet                    -3.409e+00  6.615e+05   0
## mandalRajapur                           NA         NA  NA
## `mandalRajender Nagar`            1.490e+00  1.755e+06   0
## mandalRamadugu                          NA         NA  NA
## mandalRamagundam                  9.610e-01  6.645e+05   0
## mandalRamannapet                 -7.291e-01  7.975e+05   0
## mandalRAMAREDDY                   1.186e+00  5.775e+05   0
## mandalRamayampet                  3.724e+00  5.965e+05   0
## mandalRayaparthy                        NA         NA  NA
## mandalRebbena                    -2.376e-01  6.192e+05   0
## mandalRegonda                     7.942e+00  5.351e+05   0
## mandalRenjal                     -4.867e-01  6.189e+05   0
## mandalRudrur                            NA         NA  NA
## mandalS.Narayanpur                      NA         NA  NA
## mandalSadasivanagar               1.370e-01  1.061e+06   0
## mandalSadasivpet                  5.518e-01  1.392e+06   0
## mandalSaidabad                    1.913e+00  1.189e+06   0
## mandalSaidapur                    2.648e+00  5.689e+05   0
## mandalSangareddy                        NA         NA  NA
## mandalSangem                     -1.626e+01  1.223e+06   0
## mandalSarangapur                  3.463e+00  7.037e+05   0
## mandalSathupalli                 -2.694e+01  1.384e+06   0
## `mandalSecunderabad `            -3.442e+01  1.541e+06   0
## mandalShabad                      7.686e+00  6.208e+05   0
## mandalShahbad                    -2.289e+00  1.195e+06   0
## mandalshahmirpet                  2.372e+00  1.725e+06   0
## mandalShaikpet                          NA         NA  NA
## mandalShaligowraram               4.259e+00  8.670e+05   0
## mandalShamshabad                  5.214e+00  1.624e+06   0
## `mandalShankarampet `             2.001e+00  5.279e+05   0
## `mandalShankarampet R`           -4.704e+01  8.309e+05   0
## mandalShankarpalli                1.142e+01  5.798e+05   0
## mandalShayampet                   1.659e+01  8.070e+05   0
## mandalShivampet                   2.218e+00  5.323e+05   0
## mandalSiddipet                   -7.916e-01  1.253e+06   0
## mandalSingareni                  -1.701e+00  6.126e+05   0
## mandalSircilla                   -7.124e+00  1.080e+06   0
## mandalSirgapoor                   2.308e-01  1.432e+06   0
## mandalSirikonda                   3.148e+00  1.129e+06   0
## `mandalSirput-T`                  1.558e+00  5.897e+05   0
## mandalSrirampuram                 1.592e+01  7.286e+05   0
## mandalSujathanagar                8.478e-01  6.318e+05   0
## mandalSuryapet                   -5.009e+01  8.275e+05   0
```

```
## mandalTadoor                    -3.844e+01  1.291e+06      0
## mandalTadvai                    -3.183e+01  6.853e+05      0
## mandalTadwai                     2.462e+00  1.619e+06      0
## mandalTalakondapalli             4.704e-01  1.690e+06      0
## mandalTalamadugu                -4.498e+00  6.935e+05      0
## mandalTamsi                      7.674e-01  1.026e+06      0
## mandalTandur                     1.224e+00  6.558e+05      0
## mandalTanur                             NA         NA     NA
## mandalTarigopulla                       NA         NA     NA
## mandalTekmal                     1.764e+00  2.004e+06      0
## mandalTekulapalli               -1.500e+01  1.532e+06      0
## mandalTekumatla                         NA         NA     NA
## mandalTelkapally                 2.344e+00  2.971e+06      0
## mandalThallada                   1.848e+00  1.597e+06      0
## mandalThangalapally              8.248e-01  5.798e+05      0
## mandalThimmajipet                       NA         NA     NA
## mandalThimmapur                         NA         NA     NA
## mandalThiparthy                  4.757e+00  9.418e+05      0
## mandalThirumalayapalem           1.538e+00  1.062e+06      0
## mandalThoguta                   -3.608e+00  1.665e+06      0
## mandalThungathurthi                     NA         NA     NA
## mandalThurkapally               -5.257e+00  3.128e+06      0
## mandalTirmalgiri                 1.404e+00  1.120e+06      0
## mandalTirumalagiri              -2.045e+01  1.256e+06      0
## `mandalTirumalagiri(Sagar)`      1.688e+00  6.087e+05      0
## mandalTiryani                    9.530e+00  5.582e+05      0
## mandalToopran                   -3.215e+01  1.080e+06      0
## mandalTorrur                    -2.699e+01  9.782e+05      0
## mandalUndavally                 -9.285e+01  4.302e+06      0
## mandalUppal                             NA         NA     NA
## mandalUppununuthala             -4.512e+01  2.435e+06      0
## mandalUrkonda                           NA         NA     NA
## mandalUtkoor                    -1.101e+02  4.984e+06      0
## mandalUtnoor                            NA         NA     NA
## mandalVailpoor                   3.043e+00  6.530e+05      0
## mandalValigonda                  3.563e+00  6.448e+05      0
## mandalVangoor                           NA         NA     NA
## mandalVankatapur                -7.604e+01  3.252e+06      0
## mandalVarni                      7.422e-01  1.858e+06      0
## mandalVatpally                          NA         NA     NA
## mandalVeernapally                1.136e+00  5.904e+05      0
## mandalVeldanda                  -3.577e-01  8.821e+05      0
## mandalVelgatur                   7.726e-01  6.551e+05      0
## mandalVemanpally                 5.708e+00  6.167e+05      0
## mandalVemsur                     2.638e+02  7.447e+06      0
## mandalVemulapally               -6.082e+01  1.251e+06      0
## mandalVemulawada                 4.469e-01  6.378e+05      0
## mandalVenkatapuram               1.809e+00  7.112e+05      0
## `mandalVikarabad `               3.057e+00  1.162e+06      0
## mandalWaddepalli                -4.620e+01  3.027e+06      0
## mandalWanaparthy                -3.159e+00  8.783e+05      0
## mandalWankidi                    1.598e+01  1.242e+06      0
## mandalwarangal                   7.596e+00  5.449e+05      0
## mandalWardhannapet               1.982e+01  6.412e+05      0
```

```
## mandalWargal                    -2.501e+01  7.062e+05    0
## mandalWazeedu                    3.602e+00  1.054e+06    0
## mandalWeepangandla               4.655e+00  5.450e+05    0
## mandalWyra                       2.499e+00  8.261e+05    0
## mandalY.Gutta                   -2.767e+00  1.108e+06    0
## mandalYacharam                  -1.489e+00  1.383e+06    0
## mandalYalal                      2.483e+01  1.518e+06    0
## mandalYedapalli                  4.554e+00  7.243e+05    0
## mandalYeldurthy                  2.445e+00  6.579e+05    0
## mandalYellandu                   3.889e+00  5.737e+05    0
## mandalYellareddipet              3.652e+00  7.041e+05    0
## mandalYergatla                         NA        NA   NA
## mandalYerrupalem                -9.670e-01  8.403e+05    0
## mandalZafergad                   2.760e+00  5.642e+05    0
## mandalZaheerabad                       NA        NA   NA
## villageAchampet                  1.093e+01  2.932e+06    0
## villageAddakal                         NA        NA   NA
## villageAdilabad                        NA        NA   NA
## villageAdivimajid                4.748e+00  6.474e+05    0
## villageAdloor                    2.337e+00  7.700e+05    0
## villageAilapoor                  2.841e-01  7.430e+05    0
## villageAinapur                   2.578e+00  1.045e+06    0
## villageAipur                           NA        NA   NA
## villageAkkenepally                     NA        NA   NA
## villageAknepally                       NA        NA   NA
## villageAkupamula                       NA        NA   NA
## villageAlampur                         NA        NA   NA
## villageAllapalli                       NA        NA   NA
## villageAllipur                   1.558e-01  5.183e+05    0
## villageAllor                           NA        NA   NA
## `villageAlubaka ***`            -5.827e+00  1.079e+06    0
## villageAlugunur                        NA        NA   NA
## villageAlur                            NA        NA   NA
## villageAmanagal                 -1.345e+01  7.034e+05    0
## villageAmangal                         NA        NA   NA
## villageAmbala                   -4.142e+01  2.519e+06    0
## villageAmbatipalli                     NA        NA   NA
## villageAmbatipally              -2.157e+01  1.432e+06    0
## villageAmeenpet                        NA        NA   NA
## villageAmmagaripalli            -1.347e+01  9.385e+05    0
## villageAnanthagiri               3.346e+01  8.779e+05    0
## villageAnanthasagar             -6.808e-01  5.407e+05    0
## villageAngadipet                -5.275e+01  7.531e+05    0
## villageAnjanapuram              -7.442e+00  9.314e+05    0
## villageAnkireddypally           -1.681e+00  1.601e+06    0
## villageAnkushpur                -1.686e+00  8.784e+05    0
## villageAnnapureddypalli                NA        NA   NA
## villageAnnaram                   1.502e-01  5.842e+05    0
## `villageAnnaram shariff`         1.351e+01  9.989e+05    0
## villageAntampet                  2.926e+01  1.421e+06    0
## villageAntharam                        NA        NA   NA
## villageAnumula                   3.423e+01  3.380e+06    0
## `villageAppireddypally `               NA        NA   NA
## villageArgonda                  -2.873e-01  9.673e+05    0
```

```
## villageArlagaddagudam                 -1.801e+01  2.168e+06        0
## villageArli                                   NA        NA       NA
## villageArror                                  NA        NA       NA
## villageArsapally                              NA        NA       NA
## villageAsifabad                         3.006e+00  6.323e+05        0
## villageAswapuram                              NA        NA       NA
## `villageASWARAOPET (D)`                       NA        NA       NA
## `villageAswaraopet (S)`                       NA        NA       NA
## villageAtmakur                                NA        NA       NA
## villageAtmakuru                               NA        NA       NA
## villageAvunoor                          2.312e+00  7.218e+05        0
## villageAyyagaripally                          NA        NA       NA
## villageAyyavaripalli                          NA        NA       NA
## villageAzmapur                                NA        NA       NA
## `villageB. Chandupatla`                       NA        NA       NA
## villageB.Annaram                        2.793e+00  6.458e+05        0
## villageB.Pochampalli                          NA        NA       NA
## villageBachannapet                      -3.234e+00  7.656e+05        0
## villageBachapally                             NA        NA       NA
## villageBachode                          5.068e-01  6.951e+05        0
## villageBadguni                          1.538e+00  1.433e+06        0
## villageBagayapalli                            NA        NA       NA
## villageBahadurpura                            NA        NA       NA
## villageBaironibanda                     -3.329e+00  7.610e+05        0
## `villageBalaji Nagar`                         NA        NA       NA
## villageBalajipeta                       6.400e+00  5.658e+05        0
## `villageBalanagar 1`                    -1.664e+01  2.761e+06        0
## `villageBalanagar 2`                     2.940e+01  4.135e+06        0
## `villageBalapur (Leninnagar)`            1.478e+00  5.276e+05        0
## villageBalmur                           -1.167e+00  8.535e+05        0
## villageBanala                           -2.876e+00  1.056e+06        0
## villageBanapuram                        -4.760e+00  5.789e+05        0
## villageBandalingapur                     4.566e+00  7.759e+05        0
## villageBandirevu                        -5.648e-01  7.139e+05        0
## villageBangarigadda                           NA        NA       NA
## villageBangaruchelka                    -4.319e-01  7.315e+05        0
## villageBanigandlapadu                    3.638e+00  5.864e+05        0
## `villageBanjara Thanda`                 -2.141e+00  1.032e+06        0
## villageBansawada                        -1.890e+01  2.067e+06        0
## villageBantwaram                              NA        NA       NA
## villageBasheerabad                            NA        NA       NA
## villageBatasingaram                           NA        NA       NA
## villageBazarhatnur                            NA        NA       NA
## villageBeeravelly                       -2.967e+00  7.426e+05        0
## villageBeerelli                               NA        NA       NA
## villageBejjur                                 NA        NA       NA
## villageBekkal                                 NA        NA       NA
## `villageBellampally I`                        NA        NA       NA
## villageBethampudi                        1.556e+01  1.687e+06        0
## villageBethevole                        -6.269e+00  7.327e+05        0
## villageBhadrachalam                           NA        NA       NA
## villageBhairampally                           NA        NA       NA
## villageBhavanipet                             NA        NA       NA
## villageBheemangondi                           NA        NA       NA
```

```
## villageBheemavaram                               NA          NA    NA
## villageBheemgal                             1.729e+00   7.238e+05     0
## villageBheempur                            -4.601e+00   5.904e+05     0
## villageBhiknoor                                  NA          NA    NA
## villageBhongiri                             4.999e+01   2.513e+06     0
## villageBhoompalli                          -5.474e+00   1.364e+06     0
## villageBhoothpur                                 NA          NA    NA
## villageBhoraj                                    NA          NA    NA
## villageBhosi                                     NA          NA    NA
## villageBhupalpally                         -1.078e+01   5.986e+05     0
## villageBibinagar                                 NA          NA    NA
## villageBibipet                                   NA          NA    NA
## villageBijinepalli                               NA          NA    NA
## villageBirkur                                    NA          NA    NA
## villageBoath                                     NA          NA    NA
## villageBodakonda                           -1.656e+00   5.126e+05     0
## villageBodhan                                    NA          NA    NA
## villageBodu                                      NA          NA    NA
## villageBodulabanda                               NA          NA    NA
## villageBommakal                             5.602e+01   6.352e+05     0
## villageBommanapalli                        -4.925e+00   5.445e+05     0
## villageBomraspet                            1.641e+01   1.027e+06     0
## villageBondugala                                 NA          NA    NA
## villageBorapatla                           -1.086e-03   1.328e+06     0
## villageBornapally                                NA          NA    NA
## villageBuddaram                                  NA          NA    NA
## `villageBuddoni thanda`                          NA          NA    NA
## villageBudera                                    NA          NA    NA
## villageBudimi                                    NA          NA    NA
## villageBurugupally                          2.013e+00   5.048e+05     0
## villageByathole                                  NA          NA    NA
## villageCh.Laxmapur                               NA          NA    NA
## villageChada                                     NA          NA    NA
## villageChagal                              -9.458e+00   6.342e+05     0
## villageChandampet                                NA          NA    NA
## villageChandiapet                                NA          NA    NA
## villageChandpally                                NA          NA    NA
## villageChandraingutta                            NA          NA    NA
## villageChandupatla                          4.979e+01   2.253e+06     0
## villageChandur                                   NA          NA    NA
## villageChandurthy                                NA          NA    NA
## villageCharakonda                                NA          NA    NA
## villageCharbowli                                 NA          NA    NA
## villageChatlapally                         -7.861e-01   1.849e+06     0
## villageCheemanpally                              NA          NA    NA
## villageChegunta                             6.500e+00   3.306e+06     0
## villageChegyam                              2.443e+00   5.269e+05     0
## villageChekkapalli                          3.271e+00   5.253e+05     0
## `villageChelpur(D)`                         2.179e+01   1.297e+06     0
## `villageChelpur(S)`                         1.897e+01   1.243e+06     0
## villageChengamala                           4.157e+00   2.407e+06     0
## villageChennaraopet                              NA          NA    NA
## `villageChennur I`                               NA          NA    NA
## villageChepial                                   NA          NA    NA
```

```
## villageCherila                      2.801e+01  1.280e+06    0
## villageCherla                       2.211e+01  2.497e+06    0
## villageCherlapally                  8.584e+00  8.563e+05    0
## villageCherukupalli                 3.035e+01  1.376e+06    0
## `villageCheruvu Annaram`                  NA        NA   NA
## villageChigurumamidi                      NA        NA   NA
## villageChilipade                          NA        NA   NA
## villageChilkuru                           NA        NA   NA
## villageChinmedisileru                     NA        NA   NA
## `villageChinna Gudur`                     NA        NA   NA
## `villageChinna Nagaram`             5.038e+01  6.957e+05    0
## villageChinnamavandi                      NA        NA   NA
## villageChinnaporla                  1.184e+02  4.752e+06    0
## villageChinnarajmoor                1.199e+01  7.769e+05    0
## villageChintagudem                  7.971e+01  4.449e+06    0
## villageChittapur                    5.527e+00  1.058e+06    0
## villageChityala                     9.131e+00  6.843e+05    0
## villageChoutpalli                         NA        NA   NA
## villageChunchupalli                       NA        NA   NA
## villageD.Malkapur                         NA        NA   NA
## villageDacharam                    -1.201e+02  4.517e+06    0
## villageDahegaon                           NA        NA   NA
## villageDamagnapur                  -1.535e+00  9.894e+05    0
## villageDamera                             NA        NA   NA
## villageDammaipally                        NA        NA   NA
## villageDanthalaboru                       NA        NA   NA
## `villageDarul Shifa`                      NA        NA   NA
## villageDesaipet                           NA        NA   NA
## villageDevapur                            NA        NA   NA
## villageDevarakadra                        NA        NA   NA
## villageDevaruppula                  4.240e+01  2.102e+06    0
## villageDhantalapally                      NA        NA   NA
## `villageDHANWADA `                        NA        NA   NA
## villageDharmapuri                  -1.063e+01  1.488e+06    0
## villageDharmaram                   -2.369e+00  5.347e+05    0
## villageDharmasagar                        NA        NA   NA
## villageDharoor                     -2.104e+00  1.001e+06    0
## villageDhindi                             NA        NA   NA
## villageDilawarpur                         NA        NA   NA
## villageDirsenapally                       NA        NA   NA
## villageDirsencherla                       NA        NA   NA
## villageDoma                               NA        NA   NA
## villageDomakonda                          NA        NA   NA
## villageDomalapenta                  6.038e+00  7.260e+05    0
## villageDondapadu                          NA        NA   NA
## villageDoulathabad                        NA        NA   NA
## villageDugenepalli                        NA        NA   NA
## villageDuggondi                           NA        NA   NA
## villageDulapally                   -9.227e+00  1.521e+06    0
## villageDummugudem                         NA        NA   NA
## villageDundigal                    -3.264e+01  4.450e+06    0
## villageDupally                            NA        NA   NA
## villageDuradapadu                  -3.233e+00  5.264e+05    0
## `villageDurgam Cheruvu`                   NA        NA   NA
```

```
## `villageEdira ***`                                   1.767e+00  1.069e+06         0
## villageEdulapally                                            NA         NA        NA
## villageEglaspur                                       4.614e+01  2.475e+06         0
## villageEklaspur                                       1.826e+01  2.623e+06         0
## villageEligedu                                               NA         NA        NA
## villageElimenadu                                             NA         NA        NA
## villageElkathurthy                                           NA         NA        NA
## villageElkicherla                                            NA         NA        NA
## villageEnkoor                                                NA         NA        NA
## villageErlapudi                                              NA         NA        NA
## `villageEturu Nagaram (D)`                            3.864e+00  5.217e+05         0
## `villageEturu Nagaram (S)`                                   NA         NA        NA
## villageFethenagar                                     3.865e+00  1.368e+06         0
## `villageFever Hospital, Nallakunta`                          NA         NA        NA
## villageGadkole                                       -5.784e+00  1.376e+06         0
## villageGadwal                                                NA         NA        NA
## villageGajasingaram                                          NA         NA        NA
## `villageGajularamaram 1`                             -3.917e+00  1.268e+06         0
## `villageGajularamaram 2`                                     NA         NA        NA
## villageGajwel                                                NA         NA        NA
## villageGambeerpur                                            NA         NA        NA
## villageGandamalla                                            NA         NA        NA
## villageGandhari                                       7.629e-01  6.192e+05         0
## villageGangadhara                                            NA         NA        NA
## villageGangaram                                       3.807e+00  5.080e+05         0
## villageGannaram                                              NA         NA        NA
## villageGarjanapalle                                          NA         NA        NA
## `villageGatla Narsingapur`                            1.682e+00  7.824e+05         0
## villageGattu                                         -2.352e+00  6.911e+05         0
## `villageGattuthummena   `                                    NA         NA        NA
## villageGavvalapalli                                          NA         NA        NA
## villageGeesgonda                                      6.834e+00  1.860e+06         0
## villageGhanapur                                              NA         NA        NA
## villageGhatkesar                                             NA         NA        NA
## villageGhattuppal                                            NA         NA        NA
## villageGiripuram                                             NA         NA        NA
## villageGoliwada                                              NA         NA        NA
## villageGollacherla                                    6.619e-01  5.157e+05         0
## villageGollapalli                                            NA         NA        NA
## villageGongoppula                                    -8.183e-01  6.829e+05         0
## villageGopalpet                                      -1.576e+01  5.872e+05         0
## villageGorikothapally                                -3.425e+00  6.931e+05         0
## villageGouraipally                                           NA         NA        NA
## `villageGovt.Jr.College,West Maredpally`              2.430e+00  1.138e+06         0
## villageGubbagurthi                                    4.728e+00  7.077e+05         0
## villageGudadpally                                    -3.855e+00  6.169e+05         0
## villageGudihatnoor                                           NA         NA        NA
## villageGudimalkapur                                  -5.794e+00  6.250e+05         0
## villageGudur                                         -5.109e+00  6.812e+05         0
## villageGuggilla                                      -1.181e+01  9.272e+05         0
## villageGummadiddla                                           NA         NA        NA
## villageGummadivalli                                          NA         NA        NA
## villageGummakonda                                            NA         NA        NA
## `villageGumpula Tirumalagiri`                                NA         NA        NA
```

18

```
## villageGundala                        -1.628e+00  5.720e+05    0
## villageGundi                                  NA         NA   NA
## `villageGundla pochampally`                   NA         NA   NA
## villageGUNDUR                         2.434e+00  1.750e+06    0
## villageGunjapadugu                    4.390e+01  1.889e+06    0
## villageGurijakunta                    2.195e+01  1.129e+06    0
## `villageGurimalla***`                         NA         NA   NA
## villageGurrampode                             NA         NA   NA
## `villageHadnoor - s`                          NA         NA   NA
## villageHanumkonda                             NA         NA   NA
## villageHanwada                                NA         NA   NA
## villageHaripirala                             NA         NA   NA
## villageHazipur                                NA         NA   NA
## villageHimayanagar                            NA         NA   NA
## villageHindhupur                              NA         NA   NA
## villageHonnajipet                     -4.728e+01  5.605e+05    0
## villageHusnabad                               NA         NA   NA
## villageHuzurabad                              NA         NA   NA
## villageIbrahimpatnam                  -4.603e+00  1.476e+06    0
## villageIbrahimpur                     -8.206e+00  8.561e+05    0
## villageIeeza                                  NA         NA   NA
## villageIlapur                         2.268e-01  5.058e+05    0
## `villageIllanthukunta `                       NA         NA   NA
## villageInayathnagar                           NA         NA   NA
## villageIndanpally                             NA         NA   NA
## `villageIndira Park`                          NA         NA   NA
## villageInduvasi                               NA         NA   NA
## villageIrvin                                  NA         NA   NA
## villageIslampur                       3.518e+01  1.243e+06    0
## villageIsnapur                        1.873e+01  2.279e+06    0
## villageIssannapally                   -5.894e+00  5.670e+05    0
## villageItikyal                                NA         NA   NA
## villageJadalpet                               NA         NA   NA
## villageJadaraopet                             NA         NA   NA
## villageJadcherla                              NA         NA   NA
## `villageJagannadhapuram ***`          3.834e+00  1.360e+06    0
## villageJagiryal                               NA         NA   NA
## villageJagityal                       -7.079e+00  5.464e+05    0
## villageJaina                                  NA         NA   NA
## villageJainath                                NA         NA   NA
## villageJaipur                                 NA         NA   NA
## villageJajireddigudem                         NA         NA   NA
## villageJakkapally                     -7.355e+00  1.412e+06    0
## `villageJakkaram(D)`                          NA         NA   NA
## `villageJakkaram(S)`                  -1.567e+00  1.068e+06    0
## villageJakrampally                            NA         NA   NA
## villageJalalpur                       -2.978e-01  1.454e+06    0
## villageJambugaon                              NA         NA   NA
## villageJangaon                        5.788e+00  8.199e+05    0
## villageJangapally                             NA         NA   NA
## villageJankapur                               NA         NA   NA
## villageJanpahad                               NA         NA   NA
## villageJarasangam                             NA         NA   NA
## villageJeedikal                       1.832e+01  1.408e+06    0
```

```
## villageJogipet                          NA         NA        NA
## villageJukkal                           NA         NA        NA
## villageJulapalli                        NA         NA        NA
## `villageJuvinile home`                  NA         NA        NA
## villageK.Mallepally                     NA         NA        NA
## villageKadam                            NA         NA        NA
## villageKadthal                     1.977e+00  6.960e+05         0
## villageKagaznagar                       NA         NA        NA
## villageKaithalapur                -4.264e+01  1.253e+06         0
## villageKakaravai                   1.158e+00  6.229e+05         0
## villageKaleswaram                  3.399e+00  7.681e+05         0
## villageKallur                           NA         NA        NA
## villageKallurigudem                     NA         NA        NA
## villageKalwakuthy                  1.056e+01  1.410e+06         0
## villageKalwala                     3.208e+01  1.032e+06         0
## villageKamalapur                   3.443e+01  3.172e+06         0
## villageKamalapuram                -1.254e+01  1.464e+06         0
## villageKamaluddinpur                    NA         NA        NA
## villageKamanpally                       NA         NA        NA
## villageKambalapally                     NA         NA        NA
## villageKammarpally                      NA         NA        NA
## villagekanagala                         NA         NA        NA
## villageKanaipally                       NA         NA        NA
## villageKanchanapalli              -3.706e+00  1.265e+06         0
## villageKandanelli                  4.272e+00  1.593e+06         0
## villageKandikatkur                      NA         NA        NA
## villageKandlapalle                      NA         NA        NA
## villageKandukur                         NA         NA        NA
## villageKandukuru                  -2.593e+02  7.817e+06         0
## villageKangti                           NA         NA        NA
## villageKannaigudem                      NA         NA        NA
## villageKannekal                         NA         NA        NA
## villageKanukurthy                       NA         NA        NA
## villagekarakagudem                      NA         NA        NA
## villageKarakagudem                      NA         NA        NA
## villageKarimnagar                  1.591e+00  6.885e+05         0
## villageKarkalpad                        NA         NA        NA
## villageKarvanga                         NA         NA        NA
## villageKasimdevpet                      NA         NA        NA
## villageKatha                      -3.801e-01  5.574e+05         0
## villageKathalapur                       NA         NA        NA
## villageKattangur                  -1.531e+01  1.859e+06         0
## villageKerameri                         NA         NA        NA
## villageKesamudram                       NA         NA        NA
## villageKeshampet                        NA         NA        NA
## villageKessara                          NA         NA        NA
## villageKethepally                       NA         NA        NA
## villageKethereddipally                  NA         NA        NA
## villageKhairathabad                2.669e+00  1.040e+06         0
## `villageKhammam I`                -7.182e+00  7.178e+05         0
## `villageKhammam-II`                     NA         NA        NA
## villageKhammampally                     NA         NA        NA
## villageKhanapur                         NA         NA        NA
## villageKhannapur                        NA         NA        NA
```

```
## villageKhansaipet                      4.739e+01  2.536e+06      0
## villageKhilavanparthy                         NA        NA     NA
## `villageKhudabhaksh pally`             2.277e+01  1.896e+06      0
## villageKistajigudem                          NA        NA     NA
## villageKistapur                              NA        NA     NA
## villageKistareddypet                         NA        NA     NA
## villageKodair                          -4.033e-01  8.952e+05      0
## villageKodakandla                            NA        NA     NA
## villageKodandapur                            NA        NA     NA
## villageKodangal                              NA        NA     NA
## villageKodarajpally                     4.498e+00  7.419e+05      0
## villageKodur                                 NA        NA     NA
## villageKoheda                                NA        NA     NA
## villageKoilkonda                             NA        NA     NA
## villageKolanpaka                             NA        NA     NA
## villageKolanur                         -8.098e+00  8.158e+05      0
## villageKollampally                           NA        NA     NA
## villageKollapur                              NA        NA     NA
## villageKomalavancha                          NA        NA     NA
## villageKomararam                             NA        NA     NA
## villageKomaravelli                           NA        NA     NA
## villageKomatlagudem                          NA        NA     NA
## villageKommera                               NA        NA     NA
## villageKommuguda                             NA        NA     NA
## villageKompalli                              NA        NA     NA
## `villageKonda Bheemanapally`            4.742e+01  1.694e+06      0
## villageKondapur                        -1.053e-01  6.216e+05      0
## villageKonded                                NA        NA     NA
## villageKondur                                NA        NA     NA
## villageKongarkalan                      8.100e-01  7.312e+05      0
## villageKonijerla                             NA        NA     NA
## villageKoppole                               NA        NA     NA
## villageKorem                                 NA        NA     NA
## villageKorutla                               NA        NA     NA
## villageKosigi                                NA        NA     NA
## `villageKota Basupally`                -3.114e+00  8.464e+05      0
## villageKotagiri                        -2.332e+01  2.562e+06      0
## villageKotakonda                             NA        NA     NA
## villageKotapally                             NA        NA     NA
## villageKothaguda                        2.675e+00  5.237e+05      0
## villageKothagudem                            NA        NA     NA
## `villageKothagudem***`                       NA        NA     NA
## villageKothalingala                     3.615e+00  1.071e+06      0
## villageKothapalli                       3.729e+00  7.291e+05      0
## villageKothapally                       2.948e+00  6.638e+05      0
## `villageKothapet (NC)`                       NA        NA     NA
## `villageKothapeta***`                        NA        NA     NA
## villageKothur                                NA        NA     NA
## `villageKothur (D)`                          NA        NA     NA
## villageKoukuntla                             NA        NA     NA
## villageKowdipally                            NA        NA     NA
## villageKowthala                              NA        NA     NA
## villageKrishnasagar                     5.796e+01  8.678e+05      0
## villageKubeer                                NA        NA     NA
```

```
## villageKuchinerla                    7.715e+00  1.375e+06     0
## `villageKukatpally 1`                2.691e+00  1.791e+06     0
## `villageKukatpally 2`                       NA         NA    NA
## villageKuknoorpally                        NA         NA    NA
## villageKukunoor                      -1.345e+00  5.124e+05     0
## villageKulkacherla                    8.921e+00  1.033e+06     0
## villageKulkulpally                          NA         NA    NA
## villageKulsanapur                           NA         NA    NA
## villageKundaram                             NA         NA    NA
## villageKuntala                              NA         NA    NA
## villageKuntloor                             NA         NA    NA
## villageKunur                          4.259e+00  5.954e+05     0
## `villageKurmed Gate`                        NA         NA    NA
## villageKurraram                      -2.188e-01  6.742e+05     0
## villageKurumurthy                     5.482e+00  1.692e+06     0
## villageKusumanchi                           NA         NA    NA
## villageLankapalli                     1.008e+02  2.808e+06     0
## villageLavvala                        3.006e+00  8.797e+05     0
## villageLaxmanchanda                         NA         NA    NA
## villageLaxmapur                             NA         NA    NA
## villageLaxmidevipalli                       NA         NA    NA
## villageLaxmidevipet                         NA         NA    NA
## villageLaxmipur                             NA         NA    NA
## villageLaxmipuram                           NA         NA    NA
## `villageLenkala pally`                1.723e+01  1.033e+06     0
## villageLenkalagadda                         NA         NA    NA
## villageLingal                               NA         NA    NA
## `villageLingala ghanpur`              2.469e+00  6.238e+05     0
## villageLoddiguda                            NA         NA    NA
## villageLokeswaram                     4.521e+00  5.233e+05     0
## villageLuxettipet                           NA         NA    NA
## villageM.Banjara                            NA         NA    NA
## villageM.V.Palem                            NA         NA    NA
## villageMachareddy                           NA         NA    NA
## villageMacharla                       1.722e+00  5.549e+05     0
## villageMachupahad                    -1.655e+01  1.106e+06     0
## villageMadagudem                            NA         NA    NA
## villageMadanapally                    4.538e+00  1.307e+06     0
## `villageMaddela Cheruvu`                    NA         NA    NA
## `villageMaddivancha***`                     NA         NA    NA
## villageMaddukuru                            NA         NA    NA
## villageMaddur                               NA         NA    NA
## villageMadgula                              NA         NA    NA
## villageMadharam                             NA         NA    NA
## villageMadhavanipally                       NA         NA    NA
## villageMadhira                        1.634e+00  8.177e+05     0
## villageMadnapally                           NA         NA    NA
## villageMadnapur                             NA         NA    NA
## villageMadoor                         1.602e+00  1.230e+06     0
## villageMaganur                              NA         NA    NA
## villageMahabubabad                          NA         NA    NA
## `villageMahadevpur -125D`             2.736e+00  8.519e+05     0
## `villageMahadevpur 199D`                    NA         NA    NA
## `villageMahadevpur 75NC`              5.129e+00  7.898e+05     0
```

```
## villageMaheswaram                5.749e+01  1.574e+06    0
## villageMaildevarpally                     NA        NA   NA
## villageMajidpalli                         NA        NA   NA
## villageMakloor                            NA        NA   NA
## villageMakthal                            NA        NA   NA
## villageMaldakal                           NA        NA   NA
## villageMalkajgiri                         NA        NA   NA
## villageMalkapur                           NA        NA   NA
## villageMalkaram                   -5.416e+00  1.148e+06    0
## villageMallapur                    1.271e+00  5.224e+05    0
## villageMallapuram                  2.625e+00  7.569e+05    0
## villageMallaram                           NA        NA   NA
## villageMallareddigudem                    NA        NA   NA
## villageMallur                             NA        NA   NA
## villageMalthummeda                        NA        NA   NA
## villageMamada                             NA        NA   NA
## villageMamakannu                          NA        NA   NA
## villageMamidala                   -1.338e+01  6.819e+05    0
## villageMamidipalli                -3.642e+00  5.194e+05    0
## villageMamillaguda                        NA        NA   NA
## villageMamnoor                            NA        NA   NA
## villageManaharabad                        NA        NA   NA
## villageManchal                            NA        NA   NA
## villageManchippa                          NA        NA   NA
## villageMandalapalli               -4.140e+00  8.590e+05    0
## villageMandamarri                         NA        NA   NA
## villageMangalpally                        NA        NA   NA
## villageManmad                     -1.512e+00  6.342e+05    0
## villageMannanoor                          NA        NA   NA
## villageMannegudem                         NA        NA   NA
## villageManoor                             NA        NA   NA
## villageManopad                            NA        NA   NA
## `villageManthani `                        NA        NA   NA
## villageManthati                           NA        NA   NA
## villageManuguru                   -3.546e+00  1.407e+06    0
## villageMarchala                           NA        NA   NA
## `villageMaredpally(s)`                    NA        NA   NA
## villageMaredumandinne                     NA        NA   NA
## villageMarikal                            NA        NA   NA
## villageMarkodu                            NA        NA   NA
## villageMarkood                            NA        NA   NA
## villageMarpalli                   -6.948e+01  1.847e+06    0
## villageMarriguda                   3.117e+01  1.402e+06    0
## villageMarripeda                          NA        NA   NA
## villageMasanpalli                 -7.929e+00  7.680e+05    0
## villageMattampalli                        NA        NA   NA
## villageMedak                      -2.263e+01  1.244e+06    0
## villageMedaram                     3.621e+01  6.925e+05    0
## villageMedchal                            NA        NA   NA
## villageMedipally                   2.498e+01  1.386e+06    0
## villageMEDIPALLY                          NA        NA   NA
## villageMeenuguvanipally                   NA        NA   NA
## villageMeerkhanpally                      NA        NA   NA
## villageMellacheruvu                       NA        NA   NA
```

```
## villageMendora                      1.357e+00  5.622e+05      0
## villageMenoor                             NA        NA      NA
## `villageMetla Chittapur`                  NA        NA      NA
## villageMetpalli                           NA        NA      NA
## villageMidjil                             NA        NA      NA
## villageMogilicherla                  9.603e+00  5.333e+05      0
## villageMogudampally                       NA        NA      NA
## villageMohammadabad                       NA        NA      NA
## villageMohammadnagar                      NA        NA      NA
## villageMoinabad                           NA        NA      NA
## villageMolachintalapally                  NA        NA      NA
## villageMominpet                           NA        NA      NA
## villageMOOSPET                            NA        NA      NA
## villageMorapally                          NA        NA      NA
## villageMorthad                            NA        NA      NA
## villageMotakondur                         NA        NA      NA
## villageMothe                              NA        NA      NA
## villageMothukur                     -4.451e+01  1.734e+06      0
## villageMubaraspur                         NA        NA      NA
## villageMuddaipet                          NA        NA      NA
## villageMudhole                            NA        NA      NA
## villageMudigonda                          NA        NA      NA
## `villageMulakalapalli (D)`          -1.877e+00  1.283e+06      0
## `villageMULAKALAPALLI (S)`          -1.857e+00  8.613e+05      0
## villageMulugu                        9.240e+00  7.320e+05      0
## villageMunigadapa                   -2.884e+00  1.864e+06      0
## villageMunugode                           NA        NA      NA
## villageMupkal                             NA        NA      NA
## villageMushampally                   1.065e+01  6.156e+05      0
## villageMustikunta                         NA        NA      NA
## villageMutayapally                   7.818e+00  7.861e+05      0
## villageMutyalampadu                  1.859e+01  1.110e+06      0
## villageMyadaripet                         NA        NA      NA
## villageMylaram                      -7.667e+00  1.651e+06      0
## `villageN. Jaganadhapuram`          -7.531e-01  5.264e+05      0
## villageNadhargull                         NA        NA      NA
## villageNadikuda                     -1.413e+00  5.248e+05      0
## villageNagapuri                      2.277e+01  2.184e+06      0
## villageNagaram                            NA        NA      NA
## `villageNagaram (Fareedpur)`              NA        NA      NA
## villageNagarkurnool                       NA        NA      NA
## villageNagnur                             NA        NA      NA
## villageNakrekal                           NA        NA      NA
## villageNamapur                       1.627e+01  1.295e+06      0
## villageNamiligonda                        NA        NA      NA
## villageNampally                           NA        NA      NA
## villageNandanam                           NA        NA      NA
## villageNandigama                          NA        NA      NA
## villageNANDIPADU                          NA        NA      NA
## villageNarakkapet                         NA        NA      NA
## villageNarasampet                         NA        NA      NA
## villageNarasannapally                     NA        NA      NA
## villageNarasapur                     5.374e+01  9.766e+05      0
## villageNarasingi                          NA        NA      NA
```

```
## villageNarayanagiri                              NA         NA      NA
## villageNarayanakhed                               NA         NA      NA
## villageNarayanapet                                NA         NA      NA
## `villageNarayanapuram D`                   -4.128e+00  1.051e+06       0
## `villageNARAYANAPURAM S`                          NA         NA      NA
## villageNarketpalli                                NA         NA      NA
## villageNarmal                                     NA         NA      NA
## villageNarnoor                                    NA         NA      NA
## villageNarsapur                                   NA         NA      NA
## villageNarsingbhatla                        5.405e+01  2.809e+06       0
## villageNarva                                      NA         NA      NA
## villageNaskal                                     NA         NA      NA
## villageNasthipur                                  NA         NA      NA
## villageNasurullabad                               NA         NA      NA
## villageNawabpet                             1.260e+01  3.336e+06       0
## villageNedunur                                    NA         NA      NA
## villageNeelahally                                 NA         NA      NA
## villageNeelwai                                    NA         NA      NA
## villageNellikal                                   NA         NA      NA
## villageNellikudur                           5.453e+01  6.671e+05       0
## villageNennel                                     NA         NA      NA
## villageNeradigonda                                NA         NA      NA
## villageNeradugomma                                NA         NA      NA
## villageNermata                             -1.043e+02  6.638e+06       0
## villageNidamanur                                  NA         NA      NA
## villageNidhanapuram                               NA         NA      NA
## villageNidigonda                                  NA         NA      NA
## `villageNIMH,Hasmathpet`                          NA         NA      NA
## villageNirmal                                     NA         NA      NA
## villageNizamabad                                  NA         NA      NA
## villageNizampet                                   NA         NA      NA
## villageNizampur                            -1.753e+01  8.402e+05       0
## `villageNuguru ***`                               NA         NA      NA
## villageNukapalli                                  NA         NA      NA
## villageNuthankal                                  NA         NA      NA
## villageNutpally                                   NA         NA      NA
## villageOdella                                     NA         NA      NA
## `villageOld Alwal`                                NA         NA      NA
## villageOotkuru                                    NA         NA      NA
## villageOotla                                      NA         NA      NA
## villageOotlapally                          -4.335e+00  7.944e+05       0
## `villageP. Narsapuram`                            NA         NA      NA
## villageP.D.Mallareddy                             NA         NA      NA
## villageP.Kondaram                          -1.762e+00  2.091e+06       0
## `villagePadamati Keshapur`                        NA         NA      NA
## villagePadamtipally                         3.376e+01  2.635e+06       0
## villagePadra                                      NA         NA      NA
## villagePagideru                                   NA         NA      NA
## villagePakala                              -1.520e+00  6.328e+05       0
## villagePaladugu                                   NA         NA      NA
## villagePalakeedu                                  NA         NA      NA
## villagePalakurthi                          -1.184e+01  1.267e+06       0
## villagePalem                                      NA         NA      NA
## villagePalmokole                           -6.685e+00  1.115e+06       0
```

```
## villagePalvai                                  NA        NA      NA
## villagePamangundla                              NA        NA      NA
## villagePanagal                                  NA        NA      NA
## villagePandillapalli                            NA        NA      NA
## villagePangal                                   NA        NA      NA
## villagePangidimadra                       8.828e-01  1.367e+06       0
## villagePanthini                                 NA        NA      NA
## villagePapakollu                                NA        NA      NA
## villagePapannapet                               NA        NA      NA
## villageParigi                                   NA        NA      NA
## villageParkal                                   NA        NA      NA
## villageParvathagiri                             NA        NA      NA
## villagePasra                                    NA        NA      NA
## villagePatancheruvu                             NA        NA      NA
## villagePathapalwancha                     8.669e+00  5.291e+05       0
## `villagePathipaka(Abendent)`                    NA        NA      NA
## villagePatwarigudem                             NA        NA      NA
## villagePedabeeravalli                           NA        NA      NA
## `villagePedda Suraram`                          NA        NA      NA
## `villagePedda Umintyal`                         NA        NA      NA
## villagePeddacheekode                            NA        NA      NA
## `villagePeddagollagudem ***`              -2.765e+00  1.259e+06       0
## villagePeddagudem                               NA        NA      NA
## villagePeddakodur                               NA        NA      NA
## villagePeddamandadi                             NA        NA      NA
## villagePeddamul                           2.027e+00  7.513e+05       0
## villagePeddapadishala                     2.101e+00  8.958e+05       0
## villagePeddapalli                               NA        NA      NA
## villagePeddavolgote                       -3.335e+00  1.249e+06       0
## villagePeddavoora                         2.001e+01  1.088e+06       0
## villagePegadapalli                              NA        NA      NA
## villagePembi                                    NA        NA      NA
## villagePentlavelle                              NA        NA      NA
## villagePenuballi                                NA        NA      NA
## villageperkit                                   NA        NA      NA
## `villagePerumalla Sankeesa`                     NA        NA      NA
## `villagePerur ***`                        -2.584e+00  8.561e+05       0
## villagePillalamarry                       2.355e+01  1.056e+06       0
## villagePillikotal                               NA        NA      NA
## villagePodichedu                                NA        NA      NA
## villagePondiyala                                NA        NA      NA
## `villagePonkur (Swarna)`                  -3.199e+00  7.728e+05       0
## villagePonnaram                                 NA        NA      NA
## villagePothaipally                        -7.254e+00  1.719e+06       0
## villagePothireddypet                            NA        NA      NA
## `villagePotlapalli `                            NA        NA      NA
## villagePrakashnagar                             NA        NA      NA
## `villageProject Nagar`                          NA        NA      NA
## villagePudur                                    NA        NA      NA
## villagePulicherla                         2.229e+01  1.047e+06       0
## villagePulimamidi                         7.608e+01  4.043e+06       0
## villagePulkal                                   NA        NA      NA
## villagePullemla                           -7.822e+00  5.210e+05       0
## villagePullur                                   NA        NA      NA
```

```
## villagePunnelu                                             NA         NA    NA
## villagePusalpad                                            NA         NA    NA
## `villagePusugudem            (Pakeer thanda)`              NA         NA    NA
## `villagePuttaphad `                                        NA         NA    NA
## villageR.C.Puram                                           NA         NA    NA
## villageRachapalli                                          NA         NA    NA
## `villageRacherla Boppaspur`              1.114e+00   6.143e+05     0
## villageRagavapur                         1.284e+00   1.669e+06     0
## villageRaghunadapuram                                      NA         NA    NA
## villageRaghunadhapalli                                     NA         NA    NA
## villageRaikal                                              NA         NA    NA
## villageRaipole                                             NA         NA    NA
## villageRajannapet                                          NA         NA    NA
## villageRajapet                                             NA         NA    NA
## villageRajapur                                             NA         NA    NA
## villageRajavaram                                           NA         NA    NA
## `villageRajender Nagar`                                    NA         NA    NA
## villageRajupet                                             NA         NA    NA
## villageRallapet                                            NA         NA    NA
## villageRamadugu                                            NA         NA    NA
## villageRamagundam                                          NA         NA    NA
## villageRamakrishnapuram                                    NA         NA    NA
## villageRamanapet                        -1.171e+00   8.228e+05     0
## villageRamancha                                            NA         NA    NA
## villageRamanjapuram                                        NA         NA    NA
## villageRamayampet                                          NA         NA    NA
## villageRamayapally                      -1.311e+01   6.570e+05     0
## villageRamchandrapaur                                      NA         NA    NA
## villageRamlaxmanpally                   -6.789e-01   7.905e+05     0
## villageRampur                                              NA         NA    NA
## villageRangampet                                           NA         NA    NA
## villageRangapur                                            NA         NA    NA
## `villageRanzole-I`                                         NA         NA    NA
## villageRasimetta                                           NA         NA    NA
## villageRavikampadu                                         NA         NA    NA
## villageRavulapally                                         NA         NA    NA
## villageRayakur                                             NA         NA    NA
## villageRayaparthy                                          NA         NA    NA
## villageRebbana                                             NA         NA    NA
## `villageRebbena II`                                        NA         NA    NA
## villageReddypally                                          NA         NA    NA
## villageReddypet                                            NA         NA    NA
## villageREGELLA                                             NA         NA    NA
## villageRegonda                                             NA         NA    NA
## villageRegulagudem                       1.977e+01   1.352e+06     0
## villageRenjarla                                            NA         NA    NA
## villageRepaka                                              NA         NA    NA
## villageRompedu                                             NA         NA    NA
## villageRompikunta                                          NA         NA    NA
## `villageRudraram (D)`                                      NA         NA    NA
## villageRudrur                           -8.497e+00   3.173e+06     0
## villageRukmapur                                            NA         NA    NA
## `villageS L B C G V guda`               -3.649e+00   7.195e+05     0
## villageS.Narayanpur                                        NA         NA    NA
```

```
## villageS.R.Nagar                                 NA         NA    NA
## villageSadasivanagar                             NA         NA    NA
## villageSadasivpet                                NA         NA    NA
## villageSaidapur                                  NA         NA    NA
## villageSainapalli                                NA         NA    NA
## villageSalakpur                                  NA         NA    NA
## villageSalkerpet                                 NA         NA    NA
## villageSaloor                                    NA         NA    NA
## villageSangareddy                                NA         NA    NA
## villageSangem                                    NA         NA    NA
## villageSanginonipally                            NA         NA    NA
## `villageSanjeevaiah Park, Hussian Sagar.`        NA         NA    NA
## villageSanthinagar                               NA         NA    NA
## villageSarajipet                                 NA         NA    NA
## villageSarampet                                  NA         NA    NA
## villageSarangapur                                NA         NA    NA
## villageSarvaipet                                 NA         NA    NA
## villageSarvapoor                                 NA         NA    NA
## `villageSarvaram (Gudithanda)`            -3.671e+00  7.450e+05     0
## villageSatapoor                                  NA         NA    NA
## villageSavargao                                  NA         NA    NA
## villageSavathi                            5.664e+01  2.320e+06     0
## villageSeetarampuram                      7.927e+00  6.589e+05     0
## villageSeethampet                                NA         NA    NA
## villageSettipalem                                NA         NA    NA
## villageSettupalli                        -5.767e+00  1.121e+06     0
## villageShadnagar                                 NA         NA    NA
## villageShahbad                                   NA         NA    NA
## villageShahmirpet                         3.734e+01  4.563e+06     0
## villageShambhirpur                               NA         NA    NA
## `villageShankarampally 125(D)`           -9.930e+00  7.752e+05     0
## `villageShankarampally 47`                       NA         NA    NA
## villageShankarampet                              NA         NA    NA
## villageShankarpalli                              NA         NA    NA
## villageShanthapur                                NA         NA    NA
## villageShivampet                         -1.481e+01  7.056e+05     0
## villageShivannagudam                             NA         NA    NA
## villageSiddanki                                  NA         NA    NA
## villageSiddipet                                  NA         NA    NA
## villageSidireddypally                            NA         NA    NA
## villageSingampet                                 NA         NA    NA
## villageSingarajupalli                            NA         NA    NA
## `villageSir singandla`                           NA         NA    NA
## `villageSircilla(urban)`                         NA         NA    NA
## villageSirdepally                                NA         NA    NA
## villageSirikonda                         -4.778e+01  5.785e+05     0
## villageSiripuram                                 NA         NA    NA
## `villageSirput-T`                                NA         NA    NA
## villageSomaram                                   NA         NA    NA
## villageSOMUR                                     NA         NA    NA
## villageSreerampur                                NA         NA    NA
## villageSrirampuram                               NA         NA    NA
## villageStambampally                              NA         NA    NA
## villageSuddala                                   NA         NA    NA
```

```
## villageSudimalla                    NA    NA    NA
## villageSujathanagar                  NA    NA    NA
## villageSulanagar                     NA    NA    NA
## `villageT. somaram`                  NA    NA    NA
## villageT.Narsapur                    NA    NA    NA
## villageT.S..Secretariat              NA    NA    NA
## villageTadvai                        NA    NA    NA
## villageTakli                         NA    NA    NA
## villageTalakondapalli                NA    NA    NA
## villageTalamadugu                    NA    NA    NA
## villageTallapenta                    NA    NA    NA
## villageTamsi                         NA    NA    NA
## villageTandur                        NA    NA    NA
## `villageTandur `                     NA    NA    NA
## villageTarigopulla                   NA    NA    NA
## villageTatikole                      NA    NA    NA
## villageTeeded                        NA    NA    NA
## villageTeegapur                      NA    NA    NA
## villageTekmal                        NA    NA    NA
## `villageTekulagudem ***`             NA    NA    NA
## villageTelkapally                    NA    NA    NA
## villageThadikal                      NA    NA    NA
## villageThallapally                   NA    NA    NA
## villageThattepalli                   NA    NA    NA
## villageTheegarajupally               NA    NA    NA
## villageTheerthala                    NA    NA    NA
## villageThelidevarapally              NA    NA    NA
## villageThimmampet                    NA    NA    NA
## villageThipparthy                    NA    NA    NA
## villageThirmalapur                   NA    NA    NA
## villageThogarrai                     NA    NA    NA
## villageThummadam                     NA    NA    NA
## villageThumpally                     NA    NA    NA
## villageThungathurthi                 NA    NA    NA
## villageThurkadinne                   NA    NA    NA
## villageTimmaraopeta                  NA    NA    NA
## villageTippareddigudem               NA    NA    NA
## villageTirumalayapalem               NA    NA    NA
## villageTiryani                       NA    NA    NA
## villageToopran                       NA    NA    NA
## villageTornal                        NA    NA    NA
## villageTorrur                        NA    NA    NA
## `villageTumotoniguda (Mall)`         NA    NA    NA
## villageTurkapally                    NA    NA    NA
## villageUdityal                       NA    NA    NA
## villageUlavanoor                     NA    NA    NA
## villageUlsaipalem                    NA    NA    NA
## villageUndavally                     NA    NA    NA
## villageUppal                        NA    NA    NA
## villageUpperagudem                   NA    NA    NA
## villageUppununthala                  NA    NA    NA
## villageUrkonda                       NA    NA    NA
## villageUrlaguda                      NA    NA    NA
## villageUrumadla                      NA    NA    NA
```

```
## villageUsrikapally                                     NA        NA        NA
## villageUtkoor                                          NA        NA        NA
## villageUtnoor                                          NA        NA        NA
## villageVadicherla                                      NA        NA        NA
## `villageVaila Singaram`                                NA        NA        NA
## villageVailpoor                                        NA        NA        NA
## villageVallabhapur                                     NA        NA        NA
## villageVallala                                         NA        NA        NA
## villageVanampalli                                      NA        NA        NA
## villageVanchanagiri                                    NA        NA        NA
## villageVangara                                         NA        NA        NA
## villageVangoor                                         NA        NA        NA
## villageVarikolu                                        NA        NA        NA
## villageVarkatpally                                     NA        NA        NA
## villageVarni                                           NA        NA        NA
## villageVatpally                                        NA        NA        NA
## `villageVattinenipally(s)`                             NA        NA        NA
## villageVavikole                                        NA        NA        NA
## villageVavilala                                        NA        NA        NA
## villageVeerannapet                                     NA        NA        NA
## villageVeernapally                                     NA        NA        NA
## villageVelair                                          NA        NA        NA
## villageVeldanda                                        NA        NA        NA
## villageVelgatur                                        NA        NA        NA
## villageVeliminedu                                      NA        NA        NA
## villageVelmaguda                                       NA        NA        NA
## villageVelmajala                                       NA        NA        NA
## villageVelmal                                          NA        NA        NA
## villageVelthurlapally                                  NA        NA        NA
## villageVelugupally                                     NA        NA        NA
## villageVemsur                                          NA        NA        NA
## villageVemulakonda                                     NA        NA        NA
## `villageVemulawada(rural)`                             NA        NA        NA
## `villageVengal Rao Park, Srinagar colony`             NA        NA        NA
## villageVengampally                                     NA        NA        NA
## villageVenkatapur                                      NA        NA        NA
## villageVepur                                           NA        NA        NA
## `villageVijayapuri North`                              NA        NA        NA
## `villageVikarabad(S)`                                  NA        NA        NA
## villageVinayakapuram                                   NA        NA        NA
## `villageVodde lingapur`                                NA        NA        NA
## `villageVodlur Begampet`                               NA        NA        NA
## `villageVV Raopet`                                     NA        NA        NA
## villageWaddekothapalli                                 NA        NA        NA
## villageWankidi                                         NA        NA        NA
## villageWardhannapet                                    NA        NA        NA
## villageWasar                                           NA        NA        NA
## villageYacharam                                        NA        NA        NA
## villageYadgarpally                                     NA        NA        NA
## villageYalal                                   -2.926e+01  1.764e+06         0
## villageYanampally                                      NA        NA        NA
## villageYanmbailu                                       NA        NA        NA
## villageYatnaram                                        NA        NA        NA
## villageYedapalli                                       NA        NA        NA
```

```
## villageYedutla                                       NA        NA    NA
## villageYeldurthy                                      NA        NA    NA
## villageYelkapally                                     NA        NA    NA
## villageYellampet                                      NA        NA    NA
## villageYellanki                                   1.716e+00 5.154e+05    0
## villageYemcha                                         NA        NA    NA
## villageYenkapally                                     NA        NA    NA
## villageYenkiryal                                      NA        NA    NA
## villageYennaram                                       NA        NA    NA
## villageYenugonda                                      NA        NA    NA
## villageYeravaguda                                     NA        NA    NA
## villageYergatla                                       NA        NA    NA
## villageYerkaram                                       NA        NA    NA
## villageYerrapahad                                     NA        NA    NA
## villageZafergad                                       NA        NA    NA
## villageZaptisingaipally                               NA        NA    NA
## RSC                                              -3.714e-01 3.454e+05    0
## SAR                                              -2.264e+01 3.876e+05    0
## Na                                                5.943e-01 2.324e+04    0
## E.C                                              -2.116e-02 3.707e+03    0
## TDS                                                   NA        NA    NA
## HCO3                                                  NA        NA    NA
## pH                                                    NA        NA    NA
##                                                  Pr(>|z|)
## (Intercept)                                            1
## `(Intercept)`                                         NA
## mandalAchampet                                        NA
## mandalAddakal                                          1
## mandalAdilabad                                        NA
## mandalAdvidevulapally                                  1
## mandalAkkannapet                                       1
## mandalAlair                                            1
## mandalAlampur                                          1
## mandalAllapalli                                        1
## mandalAlwal                                            1
## mandalAmangal                                         NA
## mandalAmarabad                                         1
## mandalAmarchintha                                      1
## mandalAmeenpur                                        NA
## mandalAmeerpet                                         1
## mandalAndole                                           1
## mandalAnnapureddypalli                                NA
## mandalAntergaon                                        1
## mandalAnumula                                          1
## mandalArmoor                                           1
## mandalArvapally                                       NA
## mandalAshwapuram                                       1
## mandalAsifabad                                         1
## mandalAsifnagar                                        1
## `mandalAswaraopet (S)`                                 1
## mandalAswaraopeta                                      1
## mandalAtmakur                                         NA
## `mandalAtmakur(m)`                                    NA
## `mandalAtmakur(s)`                                    NA
```

```
## mandalAtmakuru                          1
## mandalB.Pochampalli                     1
## mandalBachannapet                       1
## mandalBachupalli                        1
## mandalBalanagar                         1
## mandalBalapur                           1
## mandalBalmur                            1
## mandalBandlaguda                        1
## mandalBansawada                         1
## mandalBantwaram                         1
## mandalBasheerabad                       1
## mandalBayyaram                          1
## mandalBazarhatnur                       1
## mandalBeerpur                           1
## mandalBejjanki                          1
## mandalBejjur                            1
## mandalBela                             NA
## mandalBellampally                      NA
## mandalBhadrachalam                     NA
## mandalBhadurpura                        1
## mandalBheemadevarapallly               1
## mandalBheemgal                          1
## mandalBheempur                          1
## mandalBhiknoor                          1
## mandalBhimini                          NA
## mandalBhongiri                          1
## mandalBhoothpur                         1
## mandalBhupalpally                       1
## mandalBibinagar                        NA
## mandalBibipet                           1
## mandalBICHKUNDA                        NA
## mandalBijinepalli                      NA
## mandalBirkur                            1
## mandalBoath                             1
## mandalBodhan                            1
## mandalBoinpally                        NA
## mandalBomraspet                         1
## mandalBonakal                           1
## mandalBurgampad                         1
## `mandalCC Kunta`                        1
## mandalChandampet                        1
## mandalChandrugonda                      1
## mandalChandur                           1
## mandalChandurthy                        1
## mandalCharakonda                        1
## mandalCharminar                         1
## mandalChegunta                          1
## mandalChennaraopet                      1
## mandalChennur                           1
## mandalCherila                           1
## mandalCherla                            1
## mandalChevella                         NA
## mandalChigurumamidi                     1
## mandalChilipade                         1
```

32

```
## mandalChilkur                                      1
## mandalChilpur                                      1
## `mandalChinna Gudur`                              NA
## mandalChinnakodur                                  1
## mandalChintakani                                   1
## `mandalChinthalapalem ( mallareddygudem)`          1
## mandalChinthapally                                 1
## mandalChityala                                     1
## mandalChivemla                                     1
## mandalChoppadandi                                  1
## mandalChouderigudem                               NA
## mandalChoutuppal                                   1
## mandalChunchupalli                                NA
## mandalDahegaon                                     1
## mandalDamargidda                                   1
## mandalDamera                                       1
## mandalDammapeta                                    1
## mandalDandepally                                   1
## mandalDarpally                                     1
## mandalDevarakonda                                  1
## mandalDevarkadara                                  1
## mandalDevaruppula                                  1
## mandalDhantalapally                                1
## `mandalDHANWADA `                                 NA
## mandalDharmapuri                                   1
## mandalDharmaram                                    1
## mandalDharmasagar                                  1
## mandalDharoor                                      1
## mandalDichpally                                    1
## mandalDilawarpur                                   1
## mandalDoma                                         1
## mandalDomakonda                                    1
## mandalDornakal                                     1
## mandalDoulathabad                                  1
## `mandalDoulthabad `                                1
## mandalDubbak                                       1
## mandalDuggondi                                     1
## mandalDummugudem                                   1
## mandalDundigal                                     1
## mandalEligedu                                      1
## mandalElkathurthy                                 NA
## `mandalEllandakunta `                              1
## mandalEnkoor                                       1
## `mandalEturu Nagaram`                              1
## mandalFarooqnagar                                  1
## mandalGadwal                                      NA
## mandalGajwel                                      NA
## mandalGambhiraopet                                NA
## mandalGandeed                                      1
## mandalGandhari                                     1
## mandalGangadhara                                   1
## mandalGangaram                                     1
## mandalGanneruvaram                                 1
## mandalGarla                                        1
```

```
## mandalGattu                            1
## mandalGeesgonda                        1
## mandalGhanpur                          1
## `mandalGhanpur Mulug`                  1
## `mandalGhanpur stn`                    1
## mandalGhatkesar                       NA
## mandalGollapalli                       1
## mandalGopalpet                         1
## mandalGovindaraopet                    1
## mandalGudihatnoor                     NA
## mandalGudur                            1
## mandalGummadiddla                      1
## mandalGundala                          1
## mandalGundlapally                      1
## mandalGurrampode                       1
## mandalHanamkonda                       1
## mandalHanwada                          1
## mandalHasanparthi                      1
## mandalHathnoora                        1
## mandalHavelighanpur                    1
## mandalHazipur                          1
## mandalHimayathnagar                    1
## mandalHusnabad                         1
## mandalHuzurabad                        1
## mandalIbrahimpatnam                    1
## mandalIeeza                            1
## mandalIllanthakunta                    1
## mandalIndalwai                        NA
## mandalInvaolu                          1
## mandalItikyal                          1
## mandalJadcherla                        1
## mandalJagdevpur                        1
## mandalJagityal                         1
## mandalJainath                          1
## mandalJainoor                          1
## mandalJaipur                          NA
## mandalJakrampally                     NA
## mandalJammikunta                       1
## mandalJangaon                          1
## mandalJannaram                         1
## mandalJarasangam                       1
## mandalJinnaram                        NA
## mandalJukkal                           1
## mandalJulapalli                        1
## mandalJulurpadu                        1
## `mandalK-T Doddi`                      1
## mandalK.Mallepally                     1
## mandalKadam                           NA
## mandalKadthal                          1
## mandalKagaznagar                       1
## mandalKalher                           1
## mandalKallur                          NA
## `mandalKalvala nagaram*`               1
## mandalKalwakuthy                       1
```

```
## mandalKamalapur                                 1
## mandalKamanpur                                  1
## mandalKamareddy                                 1
## mandalKamepalli                                 1
## mandalKammarapalli                              1
## mandalkanagala                                  NA
## mandalKandi                                     1
## mandalKandukur                                  NA
## mandalKangti                                    1
## mandalKannaigudem                               1
## mandalKannepally                                1
## mandalKapra                                     1
## mandalKarakagudem                               1
## mandalKarimnagar                                1
## mandalKasipet                                   1
## mandalKataram                                   1
## mandalKathalapur                                1
## mandalKattangur                                 1
## mandalKeesara                                   1
## mandalKerameri                                  1
## mandalKesamudram                                1
## mandalKeshampet                                 1
## mandalKeshavpatnam                              1
## mandalKethepally                                NA
## mandalKhairathabad                              1
## `mandalKhammam (R )`                            1
## `mandalKhammam(U)`                              1
## mandalKhanapur                                  1
## mandalKodad                                     1
## mandalKodair                                    1
## mandalKodakandla                                1
## mandalKodangal                                  NA
## mandalKodimal                                   NA
## mandalKoheda                                    NA
## mandalKoheer                                    NA
## mandalKoilkonda                                 NA
## mandalKollapur                                  1
## mandalKomaravelli                               1
## mandalKonaraopet                                1
## mandalKondapak                                  1
## mandalKondapur                                  1
## mandalKondurgu                                  1
## mandalKonijerla                                 1
## mandalKoravi                                    1
## mandalKorutla                                   1
## mandalKosigi                                    1
## mandalKotagiri                                  1
## mandalKotapally                                 NA
## mandalKothaguda                                 1
## mandalKothagudem                                NA
## mandalKothakota                                 1
## mandalKothur                                    1
## mandalKowdipally                                1
## mandalKowthala                                  NA
```

```
## mandalKrishna                         1
## mandalKubeer                          1
## mandalKukatpally                      1
## mandalKulcharam                       1
## mandalKulkacherla                     1
## mandalKuntala                         1
## mandalKusumanchi                      1
## mandalLaxettipet                      1
## mandalLaxmanchanda                   NA
## mandalLaxmidevipalli                  1
## mandalLingal                          1
## `mandalLingala ghanpur`               1
## mandalLingampet                       1
## mandalLingapur                        1
## mandalLokeswaram                      1
## mandalM.Turkapally                    1
## mandalMachareddy                     NA
## mandalMaddnur                         1
## mandalMaddur                         NA
## mandalMadgula                         1
## mandalMadhira                         1
## mandalMadoor                          1
## mandalMadugulapally                  NA
## mandalMaganur                         1
## `mandalMaha Mutharam`                 1
## mandalMahabubabad                     1
## `mandalMahabubnagar (R) `             1
## `mandalMahabubnagar(U)`               1
## mandalMahadevpur                      1
## mandalMaheswaram                      1
## mandalMakloor                         1
## mandalMakthal                         1
## mandalMaldakal                        1
## `mandalMalhar Rao`                   NA
## mandalMalkajgiri                      1
## mandalMallapur                        1
## mandalMallial                         1
## mandalMamada                          1
## mandalManaharabad                    NA
## mandalManakondur                      1
## mandalManchal                         1
## mandalMandamarri                      1
## mandalMangapet                        1
## mandalManoor                          1
## mandalManopad                        NA
## mandalManthani                        1
## mandalManuguru                        1
## mandalMaredpally                      1
## mandalMarikal                         1
## mandalMarkood                         1
## mandalMarpalli                        1
## mandalMarriguda                       1
## mandalMarripeda                       1
## mandalMattampalle                     1
```

```
## mandalMedak                            1
## mandalMedchal                          NA
## mandalMedipally                         1
## mandalMEDIPALLY                         1
## mandalMellacheruvu                      1
## mandalMendora                          NA
## mandalMetpalli                          1
## mandalMidjil                            1
## mandalMirdoddi                          1
## mandalMiryalguda                        1
## mandalMogudampally                      NA
## mandalMogullapalli                      1
## mandalMoinabad                          1
## mandalMominpet                          NA
## mandalMOOSPET                           NA
## mandalMorthad                           1
## mandalMothey                            1
## mandalMothukur                          1
## mandalMudhole                           1
## mandalMudigonda                         1
## mandalMugpal                            1
## mandalMulakalapalli                     1
## mandalMulugu                            1
## mandalMunagala                          1
## mandalMunipally                         NA
## mandalMunugode                          1
## mandalMupkal                            1
## mandalMustabad                          1
## `mandalMutharam (Man)`                  1
## mandalNadigudem                         1
## mandalNagalgidda                        NA
## mandalNagarkurnool                      1
## mandalNagireddipet                      1
## mandalNakrekal                          1
## mandalNalgonda                          1
## mandalNallabelli                        NA
## mandalNampally                          1
## mandalNandipet                          1
## mandalNanganur                          1
## mandalNarasampet                        1
## mandalNarasapur                         1
## mandalNarasihulapet                     1
## mandalNarasingi                         1
## mandalNarayankhed                       1
## mandalNarayanpet                        1
## mandalNarketpalli                       1
## mandalNarmetta                          1
## mandalNarnoor                           1
## `mandalNarsapur `                       1
## mandalNarva                            NA
## mandalNasurullabad                      1
## mandalNavipet                           1
## mandalNawabpet                          1
## mandalNekkonda                          1
```

```
## mandalNelakondapalli                           1
## mandalNellikudur                                1
## mandalNennel                                    1
## mandalNeradigonda                               1
## mandalNeredgomma                                1
## mandalNereducharla                              1
## mandalNidamanuru                                1
## mandalNirmal                                   NA
## mandalNizamabad                                 1
## `mandalNizamabad Rural`                         1
## mandalNizampet                                  1
## mandalNizamsagar                                1
## mandalNuthankal                                 1
## mandalNyalkal                                   1
## mandalOdella                                    1
## `mandalP.A Pally`                               1
## mandalP.Kondaram                               NA
## mandalPadra                                    NA
## mandalPalakeedu                                 1
## mandalPalakurthi                                1
## mandalPalimela                                  1
## mandalPalwancha                                 1
## mandalPangal                                   NA
## mandalPapannapet                                1
## mandalParigi                                    1
## mandalParkal                                    1
## mandalParvathagiri                              1
## `mandalPatancheru `                             1
## mandalPebbair                                  NA
## `mandalPedda Kodapgal`                          1
## mandalPeddakothapally                          NA
## mandalPeddamandadi                              1
## mandalPeddamul                                  1
## mandalPeddapalli                                1
## mandalPeddavangara                              1
## mandalPeddavoora                                1
## mandalPegadapalli                              NA
## mandalPembi                                    NA
## mandalPenchikalpet                              1
## mandalPentlavelle                              NA
## mandalPenuballi                                 1
## mandalPinapaka                                  1
## mandalPitlam                                    1
## mandalPudur                                     1
## mandalPulkal                                    1
## mandalQutubullapur                              1
## mandalR.C.Puram                                NA
## mandalRaghunadhapalli                           1
## mandalRaghundhapalem                            1
## mandalRaikal                                    1
## mandalRaipole                                   1
## mandalRajampet                                  1
## mandalRajapet                                   1
## mandalRajapur                                  NA
```

```
## `mandalRajender Nagar`                        1
## mandalRamadugu                                NA
## mandalRamagundam                              1
## mandalRamannapet                             1
## mandalRAMAREDDY                               1
## mandalRamayampet                             1
## mandalRayaparthy                             NA
## mandalRebbena                                1
## mandalRegonda                                1
## mandalRenjal                                 1
## mandalRudrur                                 NA
## mandalS.Narayanpur                           NA
## mandalSadasivanagar                          1
## mandalSadasivpet                             1
## mandalSaidabad                               1
## mandalSaidapur                               1
## mandalSangareddy                             NA
## mandalSangem                                 1
## mandalSarangapur                             1
## mandalSathupalli                             1
## `mandalSecunderabad `                        1
## mandalShabad                                 1
## mandalShahbad                                1
## mandalshahmirpet                             1
## mandalShaikpet                               NA
## mandalShaligowraram                          1
## mandalShamshabad                             1
## `mandalShankarampet `                        1
## `mandalShankarampet R`                       1
## mandalShankarpalli                           1
## mandalShayampet                              1
## mandalShivampet                              1
## mandalSiddipet                               1
## mandalSingareni                              1
## mandalSircilla                               1
## mandalSirgapoor                              1
## mandalSirikonda                              1
## `mandalSirput-T`                             1
## mandalSrirampuram                            1
## mandalSujathanagar                           1
## mandalSuryapet                               1
## mandalTadoor                                 1
## mandalTadvai                                 1
## mandalTadwai                                 1
## mandalTalakondapalli                         1
## mandalTalamadugu                             1
## mandalTamsi                                  1
## mandalTandur                                 1
## mandalTanur                                  NA
## mandalTarigopulla                            NA
## mandalTekmal                                 1
## mandalTekulapalli                            1
## mandalTekumatla                              NA
## mandalTelkapally                             1
```

```
## mandalThallada                         1
## mandalThangalapally                    1
## mandalThimmajipet                      NA
## mandalThimmapur                        NA
## mandalThiparthy                        1
## mandalThirumalayapalem                 1
## mandalThoguta                          1
## mandalThungathurthi                    NA
## mandalThurkapally                      1
## mandalTirmalgiri                       1
## mandalTirumalagiri                     1
## `mandalTirumalagiri(Sagar)`            1
## mandalTiryani                          1
## mandalToopran                          1
## mandalTorrur                           1
## mandalUndavally                        1
## mandalUppal                            NA
## mandalUppununuthala                    1
## mandalUrkonda                          NA
## mandalUtkoor                           1
## mandalUtnoor                           NA
## mandalVailpoor                         1
## mandalValigonda                        1
## mandalVangoor                          NA
## mandalVankatapur                       1
## mandalVarni                            1
## mandalVatpally                         NA
## mandalVeernapally                      1
## mandalVeldanda                         1
## mandalVelgatur                         1
## mandalVemanpally                       1
## mandalVemsur                           1
## mandalVemulapally                      1
## mandalVemulawada                       1
## mandalVenkatapuram                     1
## `mandalVikarabad `                     1
## mandalWaddepalli                       1
## mandalWanaparthy                       1
## mandalWankidi                          1
## mandalwarangal                         1
## mandalWardhannapet                     1
## mandalWargal                           1
## mandalWazeedu                          1
## mandalWeepangandla                     1
## mandalWyra                             1
## mandalY.Gutta                          1
## mandalYacharam                         1
## mandalYalal                            1
## mandalYedapalli                        1
## mandalYeldurthy                        1
## mandalYellandu                         1
## mandalYellareddipet                    1
## mandalYergatla                         NA
## mandalYerrupalem                       1
```

```
## mandalZafergad                        1
## mandalZaheerabad                       NA
## villageAchampet                        1
## villageAddakal                         NA
## villageAdilabad                        NA
## villageAdivimajid                      1
## villageAdloor                          1
## villageAilapoor                        1
## villageAinapur                         1
## villageAipur                           NA
## villageAkkenepally                     NA
## villageAknepally                       NA
## villageAkupamula                       NA
## villageAlampur                         NA
## villageAllapalli                       NA
## villageAllipur                         1
## villageAllor                           NA
## `villageAlubaka ***`                   1
## villageAlugunur                        NA
## villageAlur                            NA
## villageAmanagal                        1
## villageAmangal                         NA
## villageAmbala                          1
## villageAmbatipalli                     NA
## villageAmbatipally                     1
## villageAmeenpet                        NA
## villageAmmagaripalli                   1
## villageAnanthagiri                     1
## villageAnanthasagar                    1
## villageAngadipet                       1
## villageAnjanapuram                     1
## villageAnkireddypally                  1
## villageAnkushpur                       1
## villageAnnapureddypalli                NA
## villageAnnaram                         1
## `villageAnnaram shariff`               1
## villageAntampet                        1
## villageAntharam                        NA
## villageAnumula                         1
## `villageAppireddypally  `              NA
## villageArgonda                         1
## villageArlagaddagudam                  1
## villageArli                            NA
## villageArror                           NA
## villageArsapally                       NA
## villageAsifabad                        1
## villageAswapuram                       NA
## `villageASWARAOPET (D)`                NA
## `villageAswaraopet (S)`                NA
## villageAtmakur                         NA
## villageAtmakuru                        NA
## villageAvunoor                         1
## villageAyyagaripally                   NA
## villageAyyavaripalli                   NA
```

```
## villageAzmapur                       NA
## `villageB. Chandupatla`               NA
## villageB.Annaram                      1
## villageB.Pochampalli                  NA
## villageBachannapet                    1
## villageBachapally                     NA
## villageBachode                        1
## villageBadguni                        1
## villageBagayapalli                    NA
## villageBahadurpura                    NA
## villageBaironibanda                   1
## `villageBalaji Nagar`                 NA
## villageBalajipeta                     1
## `villageBalanagar 1`                  1
## `villageBalanagar 2`                  1
## `villageBalapur (Leninnagar)`         1
## villageBalmur                         1
## villageBanala                         1
## villageBanapuram                      1
## villageBandalingapur                  1
## villageBandirevu                      1
## villageBangarigadda                   NA
## villageBangaruchelka                  1
## villageBanigandlapadu                 1
## `villageBanjara Thanda`               1
## villageBansawada                      1
## villageBantwaram                      NA
## villageBasheerabad                    NA
## villageBatasingaram                   NA
## villageBazarhatnur                    NA
## villageBeeravelly                     1
## villageBeerelli                       NA
## villageBejjur                         NA
## villageBekkal                         NA
## `villageBellampally I`                NA
## villageBethampudi                     1
## villageBethevole                      1
## villageBhadrachalam                   NA
## villageBhairampally                   NA
## villageBhavanipet                     NA
## villageBheemangondi                   NA
## villageBheemavaram                    NA
## villageBheemgal                       1
## villageBheempur                       1
## villageBhiknoor                       NA
## villageBhongiri                       1
## villageBhoompalli                     1
## villageBhoothpur                      NA
## villageBhoraj                         NA
## villageBhosi                          NA
## villageBhupalpally                    1
## villageBibinagar                      NA
## villageBibipet                        NA
## villageBijinepalli                    NA
```

```
## villageBirkur                      NA
## villageBoath                       NA
## villageBodakonda                    1
## villageBodhan                      NA
## villageBodu                        NA
## villageBodulabanda                 NA
## villageBommakal                     1
## villageBommanapalli                 1
## villageBomraspet                    1
## villageBondugala                   NA
## villageBorapatla                    1
## villageBornapally                  NA
## villageBuddaram                     NA
## `villageBuddoni thanda`            NA
## villageBudera                      NA
## villageBudimi                      NA
## villageBurugupally                  1
## villageByathole                    NA
## villageCh.Laxmapur                 NA
## villageChada                       NA
## villageChagal                       1
## villageChandampet                  NA
## villageChandiapet                  NA
## villageChandpally                  NA
## villageChandraingutta              NA
## villageChandupatla                  1
## villageChandur                     NA
## villageChandurthy                  NA
## villageCharakonda                  NA
## villageCharbowli                   NA
## villageChatlapally                  1
## villageCheemanpally                NA
## villageChegunta                     1
## villageChegyam                      1
## villageChekkapalli                  1
## `villageChelpur(D)`                 1
## `villageChelpur(S)`                 1
## villageChengamala                   1
## villageChennaraopet                NA
## `villageChennur I`                 NA
## villageChepial                     NA
## villageCherila                      1
## villageCherla                       1
## villageCherlapally                  1
## villageCherukupalli                 1
## `villageCheruvu Annaram`           NA
## villageChigurumamidi               NA
## villageChilipade                   NA
## villageChilkuru                    NA
## villageChinmedisileru              NA
## `villageChinna Gudur`              NA
## `villageChinna Nagaram`             1
## villageChinnamavandi               NA
## villageChinnaporla                  1
```

```
## villageChinnarajmoor                           1
## villageChintagudem                             1
## villageChittapur                               1
## villageChityala                                1
## villageChoutpalli                             NA
## villageChunchupalli                           NA
## villageD.Malkapur                             NA
## villageDacharam                                1
## villageDahegaon                               NA
## villageDamagnapur                              1
## villageDamera                                 NA
## villageDammaipally                            NA
## villageDanthalaboru                           NA
## `villageDarul Shifa`                          NA
## villageDesaipet                               NA
## villageDevapur                                NA
## villageDevarakadra                            NA
## villageDevaruppula                             1
## villageDhantalapally                          NA
## `villageDHANWADA `                            NA
## villageDharmapuri                              1
## villageDharmaram                               1
## villageDharmasagar                            NA
## villageDharoor                                 1
## villageDhindi                                 NA
## villageDilawarpur                             NA
## villageDirsenapally                           NA
## villageDirsencherla                           NA
## villageDoma                                   NA
## villageDomakonda                              NA
## villageDomalapenta                             1
## villageDondapadu                              NA
## villageDoulathabad                            NA
## villageDugenepalli                            NA
## villageDuggondi                               NA
## villageDulapally                               1
## villageDummugudem                             NA
## villageDundigal                                1
## villageDupally                                NA
## villageDuradapadu                              1
## `villageDurgam Cheruvu`                       NA
## `villageEdira ***`                             1
## villageEdulapally                             NA
## villageEglaspur                                1
## villageEklaspur                                1
## villageEligedu                                NA
## villageElimenadu                              NA
## villageElkathurthy                            NA
## villageElkicherla                             NA
## villageEnkoor                                 NA
## villageErlapudi                               NA
## `villageEturu Nagaram (D)`                     1
## `villageEturu Nagaram (S)`                    NA
## villageFethenagar                              1
```

```
## `villageFever Hospital, Nallakunta`              NA
## villageGadkole                                    1
## villageGadwal                                     NA
## villageGajasingaram                               NA
## `villageGajularamaram 1`                          1
## `villageGajularamaram 2`                          NA
## villageGajwel                                     NA
## villageGambeerpur                                 NA
## villageGandamalla                                 NA
## villageGandhari                                   1
## villageGangadhara                                 NA
## villageGangaram                                   1
## villageGannaram                                   NA
## villageGarjanapalle                               NA
## `villageGatla Narsingapur`                        1
## villageGattu                                      1
## `villageGattuthummena   `                         NA
## villageGavvalapalli                               NA
## villageGeesgonda                                  1
## villageGhanapur                                   NA
## villageGhatkesar                                  NA
## villageGhattuppal                                 NA
## villageGiripuram                                  NA
## villageGoliwada                                   NA
## villageGollacherla                                1
## villageGollapalli                                 NA
## villageGongoppula                                 1
## villageGopalpet                                   1
## villageGorikothapally                             1
## villageGouraipally                                NA
## `villageGovt.Jr.College,West Maredpally`          1
## villageGubbagurthi                                1
## villageGudadpally                                 1
## villageGudihatnoor                                NA
## villageGudimalkapur                               1
## villageGudur                                      1
## villageGuggilla                                   1
## villageGummadiddla                                NA
## villageGummadivalli                               NA
## villageGummakonda                                 NA
## `villageGumpula Tirumalagiri`                     NA
## villageGundala                                    1
## villageGundi                                      NA
## `villageGundla pochampally`                       NA
## villageGUNDUR                                     1
## villageGunjapadugu                                1
## villageGurijakunta                                1
## `villageGurimalla***`                             NA
## villageGurrampode                                 NA
## `villageHadnoor - s`                              NA
## villageHanumkonda                                 NA
## villageHanwada                                    NA
## villageHaripirala                                 NA
## villageHazipur                                    NA
```

```
## villageHimayanagar                           NA
## villageHindhupur                             NA
## villageHonnajipet                             1
## villageHusnabad                              NA
## villageHuzurabad                             NA
## villageIbrahimpatnam                          1
## villageIbrahimpur                             1
## villageIeeza                                 NA
## villageIlapur                                 1
## `villageIllanthukunta `                      NA
## villageInayathnagar                          NA
## villageIndanpally                            NA
## `villageIndira Park`                         NA
## villageInduvasi                              NA
## villageIrvin                                 NA
## villageIslampur                               1
## villageIsnapur                                1
## villageIssannapally                           1
## villageItikyal                               NA
## villageJadalpet                              NA
## villageJadaraopet                            NA
## villageJadcherla                             NA
## `villageJagannadhapuram ***`                  1
## villageJagiryal                              NA
## villageJagityal                               1
## villageJaina                                 NA
## villageJainath                               NA
## villageJaipur                                NA
## villageJajireddigudem                        NA
## villageJakkapally                             1
## `villageJakkaram(D)`                         NA
## `villageJakkaram(S)`                          1
## villageJakrampally                           NA
## villageJalalpur                               1
## villageJambugaon                             NA
## villageJangaon                                1
## villageJangapally                            NA
## villageJankapur                              NA
## villageJanpahad                              NA
## villageJarasangam                            NA
## villageJeedikal                               1
## villageJogipet                               NA
## villageJukkal                                NA
## villageJulapalli                             NA
## `villageJuvinile home`                       NA
## villageK.Mallepally                          NA
## villageKadam                                 NA
## villageKadthal                                1
## villageKagaznagar                            NA
## villageKaithalapur                            1
## villageKakaravai                              1
## villageKaleswaram                             1
## villageKallur                                NA
## villageKallurigudem                          NA
```

```
## villageKalwakuthy                            1
## villageKalwala                               1
## villageKamalapur                             1
## villageKamalapuram                           1
## villageKamaluddinpur                        NA
## villageKamanpally                           NA
## villageKambalapally                         NA
## villageKammarpally                          NA
## villagekanagala                             NA
## villageKanaipally                           NA
## villageKanchanapalli                         1
## villageKandanelli                            1
## villageKandikatkur                          NA
## villageKandlapalle                          NA
## villageKandukur                             NA
## villageKandukuru                             1
## villageKangti                               NA
## villageKannaigudem                          NA
## villageKannekal                             NA
## villageKanukurthy                           NA
## villagekarakagudem                          NA
## villageKarakagudem                          NA
## villageKarimnagar                            1
## villageKarkalpad                            NA
## villageKarvanga                             NA
## villageKasimdevpet                          NA
## villageKatha                                 1
## villageKathalapur                           NA
## villageKattangur                             1
## villageKerameri                             NA
## villageKesamudram                           NA
## villageKeshampet                            NA
## villageKessara                              NA
## villageKethepally                           NA
## villageKethereddipally                      NA
## villageKhairathabad                          1
## `villageKhammam I`                           1
## `villageKhammam-II`                         NA
## villageKhammampally                         NA
## villageKhanapur                             NA
## villageKhannapur                            NA
## villageKhansaipet                            1
## villageKhilavanparthy                       NA
## `villageKhudabhaksh pally`                   1
## villageKistajigudem                         NA
## villageKistapur                             NA
## villageKistareddypet                        NA
## villageKodair                                1
## villageKodakandla                           NA
## villageKodandapur                           NA
## villageKodangal                             NA
## villageKodarajpally                          1
## villageKodur                                NA
## villageKoheda                               NA
```

```
## villageKoilkonda                              NA
## villageKolanpaka                              NA
## villageKolanur                                 1
## villageKollampally                            NA
## villageKollapur                               NA
## villageKomalavancha                           NA
## villageKomararam                              NA
## villageKomaravelli                            NA
## villageKomatlagudem                           NA
## villageKommera                                NA
## villageKommuguda                              NA
## villageKompalli                               NA
## `villageKonda Bheemanapally`                   1
## villageKondapur                                1
## villageKonded                                 NA
## villageKondur                                 NA
## villageKongarkalan                             1
## villageKonijerla                              NA
## villageKoppole                                NA
## villageKorem                                  NA
## villageKorutla                                NA
## villageKosigi                                 NA
## `villageKota Basupally`                        1
## villageKotagiri                                1
## villageKotakonda                              NA
## villageKotapally                              NA
## villageKothaguda                               1
## villageKothagudem                             NA
## `villageKothagudem***`                        NA
## villageKothalingala                            1
## villageKothapalli                              1
## villageKothapally                              1
## `villageKothapet (NC)`                        NA
## `villageKothapeta***`                         NA
## villageKothur                                 NA
## `villageKothur (D)`                           NA
## villageKoukuntla                              NA
## villageKowdipally                             NA
## villageKowthala                               NA
## villageKrishnasagar                            1
## villageKubeer                                 NA
## villageKuchinerla                              1
## `villageKukatpally 1`                          1
## `villageKukatpally 2`                         NA
## villageKuknoorpally                           NA
## villageKukunoor                                1
## villageKulkacherla                             1
## villageKulkulpally                            NA
## villageKulsanapur                             NA
## villageKundaram                               NA
## villageKuntala                                NA
## villageKuntloor                               NA
## villageKunur                                   1
## `villageKurmed Gate`                          NA
```

```
## villageKurraram                      1
## villageKurumurthy                     1
## villageKusumanchi                    NA
## villageLankapalli                      1
## villageLavvala                         1
## villageLaxmanchanda                   NA
## villageLaxmapur                       NA
## villageLaxmidevipalli                 NA
## villageLaxmidevipet                   NA
## villageLaxmipur                       NA
## villageLaxmipuram                     NA
## `villageLenkala pally`                 1
## villageLenkalagadda                   NA
## villageLingal                         NA
## `villageLingala ghanpur`               1
## villageLoddiguda                      NA
## villageLokeswaram                      1
## villageLuxettipet                     NA
## villageM.Banjara                      NA
## villageM.V.Palem                      NA
## villageMachareddy                     NA
## villageMacharla                        1
## villageMachupahad                      1
## villageMadagudem                      NA
## villageMadanapally                     1
## `villageMaddela Cheruvu`              NA
## `villageMaddivancha***`               NA
## villageMaddukuru                      NA
## villageMaddur                         NA
## villageMadgula                        NA
## villageMadharam                       NA
## villageMadhavanipally                 NA
## villageMadhira                         1
## villageMadnapally                     NA
## villageMadnapur                       NA
## villageMadoor                          1
## villageMaganur                        NA
## villageMahabubabad                    NA
## `villageMahadevpur -125D`              1
## `villageMahadevpur 199D`              NA
## `villageMahadevpur 75NC`               1
## villageMaheswaram                      1
## villageMaildevarpally                 NA
## villageMajidpalli                     NA
## villageMakloor                        NA
## villageMakthal                        NA
## villageMaldakal                       NA
## villageMalkajgiri                     NA
## villageMalkapur                       NA
## villageMalkaram                        1
## villageMallapur                        1
## villageMallapuram                      1
## villageMallaram                       NA
## villageMallareddigudem                NA
```

```
## villageMallur                    NA
## villageMalthummeda                NA
## villageMamada                     NA
## villageMamakannu                  NA
## villageMamidala                   1
## villageMamidipalli                1
## villageMamillaguda                NA
## villageMamnoor                    NA
## villageManaharabad                NA
## villageManchal                    NA
## villageManchippa                  NA
## villageMandalapalli               1
## villageMandamarri                 NA
## villageMangalpally                NA
## villageManmad                     1
## villageMannanoor                  NA
## villageMannegudem                 NA
## villageManoor                     NA
## villageManopad                    NA
## `villageManthani `                NA
## villageManthati                   NA
## villageManuguru                   1
## villageMarchala                   NA
## `villageMaredpally(s)`            NA
## villageMaredumandinne             NA
## villageMarikal                    NA
## villageMarkodu                    NA
## villageMarkood                    NA
## villageMarpalli                   1
## villageMarriguda                  1
## villageMarripeda                  NA
## villageMasanpalli                 1
## villageMattampalli                NA
## villageMedak                      1
## villageMedaram                    1
## villageMedchal                    NA
## villageMedipally                  1
## villageMEDIPALLY                  NA
## villageMeenuguvanipally           NA
## villageMeerkhanpally              NA
## villageMellacheruvu               NA
## villageMendora                    1
## villageMenoor                     NA
## `villageMetla Chittapur`          NA
## villageMetpalli                   NA
## villageMidjil                     NA
## villageMogilicherla               1
## villageMogudampally               NA
## villageMohammadabad               NA
## villageMohammadnagar              NA
## villageMoinabad                   NA
## villageMolachintalapally          NA
## villageMominpet                   NA
## villageMOOSPET                    NA
```

```
## villageMorapally                        NA
## villageMorthad                          NA
## villageMotakondur                       NA
## villageMothe                            NA
## villageMothukur                          1
## villageMubaraspur                       NA
## villageMuddaipet                        NA
## villageMudhole                          NA
## villageMudigonda                        NA
## `villageMulakalapalli (D)`              1
## `villageMULAKALAPALLI (S)`              1
## villageMulugu                            1
## villageMunigadapa                        1
## villageMunugode                         NA
## villageMupkal                           NA
## villageMushampally                       1
## villageMustikunta                       NA
## villageMutayapally                       1
## villageMutyalampadu                      1
## villageMyadaripet                       NA
## villageMylaram                           1
## `villageN. Jaganadhapuram`               1
## villageNadhargull                       NA
## villageNadikuda                          1
## villageNagapuri                          1
## villageNagaram                          NA
## `villageNagaram (Fareedpur)`            NA
## villageNagarkurnool                     NA
## villageNagnur                           NA
## villageNakrekal                         NA
## villageNamapur                           1
## villageNamiligonda                      NA
## villageNampally                         NA
## villageNandanam                         NA
## villageNandigama                        NA
## villageNANDIPADU                        NA
## villageNarakkapet                       NA
## villageNarasampet                       NA
## villageNarasannapally                   NA
## villageNarasapur                         1
## villageNarasingi                        NA
## villageNarayanagiri                     NA
## villageNarayanakhed                     NA
## villageNarayanapet                      NA
## `villageNarayanapuram D`                 1
## `villageNARAYANAPURAM S`                NA
## villageNarketpalli                      NA
## villageNarmal                           NA
## villageNarnoor                          NA
## villageNarsapur                         NA
## villageNarsingbhatla                     1
## villageNarva                            NA
## villageNaskal                           NA
## villageNasthipur                        NA
```

```
## villageNasurullabad                              NA
## villageNawabpet                                    1
## villageNedunur                                     NA
## villageNeelahally                                  NA
## villageNeelwai                                     NA
## villageNellikal                                    NA
## villageNellikudur                                   1
## villageNennel                                      NA
## villageNeradigonda                                 NA
## villageNeradugomma                                 NA
## villageNermata                                      1
## villageNidamanur                                   NA
## villageNidhanapuram                                NA
## villageNidigonda                                   NA
## `villageNIMH,Hasmathpet`                           NA
## villageNirmal                                      NA
## villageNizamabad                                   NA
## villageNizampet                                    NA
## villageNizampur                                     1
## `villageNuguru ***`                                NA
## villageNukapalli                                   NA
## villageNuthankal                                   NA
## villageNutpally                                    NA
## villageOdella                                      NA
## `villageOld Alwal`                                 NA
## villageOotkuru                                     NA
## villageOotla                                       NA
## villageOotlapally                                   1
## `villageP. Narsapuram`                             NA
## villageP.D.Mallareddy                              NA
## villageP.Kondaram                                   1
## `villagePadamati Keshapur`                         NA
## villagePadamtipally                                 1
## villagePadra                                       NA
## villagePagideru                                    NA
## villagePakala                                       1
## villagePaladugu                                    NA
## villagePalakeedu                                   NA
## villagePalakurthi                                   1
## villagePalem                                       NA
## villagePalmokole                                    1
## villagePalvai                                      NA
## villagePamangundla                                 NA
## villagePanagal                                     NA
## villagePandillapalli                               NA
## villagePangal                                      NA
## villagePangidimadra                                 1
## villagePanthini                                    NA
## villagePapakollu                                   NA
## villagePapannapet                                  NA
## villageParigi                                      NA
## villageParkal                                      NA
## villageParvathagiri                                NA
## villagePasra                                       NA
```

```
## villagePatancheruvu                                   NA
## villagePathapalwancha                                 1
## `villagePathipaka(Abendent)`                          NA
## villagePatwarigudem                                   NA
## villagePedabeeravalli                                 NA
## `villagePedda Suraram`                                NA
## `villagePedda Umintyal`                               NA
## villagePeddacheekode                                  NA
## `villagePeddagollagudem ***`                          1
## villagePeddagudem                                     NA
## villagePeddakodur                                     NA
## villagePeddamandadi                                   NA
## villagePeddamul                                       1
## villagePeddapadishala                                 1
## villagePeddapalli                                     NA
## villagePeddavolgote                                   1
## villagePeddavoora                                     1
## villagePegadapalli                                    NA
## villagePembi                                          NA
## villagePentlavelle                                    NA
## villagePenuballi                                      NA
## villageperkit                                         NA
## `villagePerumalla Sankeesa`                           NA
## `villagePerur ***`                                    1
## villagePillalamarry                                   1
## villagePillikotal                                     NA
## villagePodichedu                                      NA
## villagePondiyala                                      NA
## `villagePonkur (Swarna)`                              1
## villagePonnaram                                       NA
## villagePothaipally                                    1
## villagePothireddypet                                  NA
## `villagePotlapalli `                                  NA
## villagePrakashnagar                                   NA
## `villageProject Nagar`                                NA
## villagePudur                                          NA
## villagePulicherla                                     1
## villagePulimamidi                                     1
## villagePulkal                                         NA
## villagePullemla                                       1
## villagePullur                                         NA
## villagePunnelu                                        NA
## villagePusalpad                                       NA
## `villagePusugudem          (Pakeer thanda)`           NA
## `villagePuttaphad `                                   NA
## villageR.C.Puram                                      NA
## villageRachapalli                                     NA
## `villageRacherla Boppaspur`                           1
## villageRagavapur                                      1
## villageRaghunadapuram                                 NA
## villageRaghunadhapalli                                NA
## villageRaikal                                         NA
## villageRaipole                                        NA
## villageRajannapet                                     NA
```

```
## villageRajapet                                        NA
## villageRajapur                                        NA
## villageRajavaram                                      NA
## `villageRajender Nagar`                               NA
## villageRajupet                                        NA
## villageRallapet                                       NA
## villageRamadugu                                       NA
## villageRamagundam                                     NA
## villageRamakrishnapuram                               NA
## villageRamanapet                                       1
## villageRamancha                                       NA
## villageRamanjapuram                                   NA
## villageRamayampet                                     NA
## villageRamayapally                                     1
## villageRamchandrapaur                                 NA
## villageRamlaxmanpally                                  1
## villageRampur                                         NA
## villageRangampet                                      NA
## villageRangapur                                       NA
## `villageRanzole-I`                                    NA
## villageRasimetta                                      NA
## villageRavikampadu                                    NA
## villageRavulapally                                    NA
## villageRayakur                                        NA
## villageRayaparthy                                     NA
## villageRebbana                                        NA
## `villageRebbena II`                                   NA
## villageReddypally                                     NA
## villageReddypet                                       NA
## villageREGELLA                                        NA
## villageRegonda                                        NA
## villageRegulagudem                                     1
## villageRenjarla                                       NA
## villageRepaka                                         NA
## villageRompedu                                        NA
## villageRompikunta                                     NA
## `villageRudraram (D)`                                 NA
## villageRudrur                                          1
## villageRukmapur                                       NA
## `villageS L B C G V guda`                              1
## villageS.Narayanpur                                   NA
## villageS.R.Nagar                                      NA
## villageSadasivanagar                                  NA
## villageSadasivpet                                     NA
## villageSaidapur                                       NA
## villageSainapalli                                     NA
## villageSalakpur                                       NA
## villageSalkerpet                                      NA
## villageSaloor                                         NA
## villageSangareddy                                     NA
## villageSangem                                         NA
## villageSanginonipally                                 NA
## `villageSanjeevaiah Park, Hussian Sagar.`             NA
## villageSanthinagar                                    NA
```

```
## villageSarajipet                          NA
## villageSarampet                           NA
## villageSarangapur                         NA
## villageSarvaipet                          NA
## villageSarvapoor                          NA
## `villageSarvaram (Gudithanda)`            1
## villageSatapoor                           NA
## villageSavargao                           NA
## villageSavathi                            1
## villageSeetarampuram                      1
## villageSeethampet                         NA
## villageSettipalem                         NA
## villageSettupalli                         1
## villageShadnagar                          NA
## villageShahbad                            NA
## villageShahmirpet                         1
## villageShambhirpur                        NA
## `villageShankarampally 125(D)`            1
## `villageShankarampally 47`                NA
## villageShankarampet                       NA
## villageShankarpalli                       NA
## villageShanthapur                         NA
## villageShivampet                          1
## villageShivannagudam                      NA
## villageSiddanki                           NA
## villageSiddipet                           NA
## villageSidireddypally                     NA
## villageSingampet                          NA
## villageSingarajupalli                     NA
## `villageSir singandla`                    NA
## `villageSircilla(urban)`                  NA
## villageSirdepally                         NA
## villageSirikonda                          1
## villageSiripuram                          NA
## `villageSirput-T`                         NA
## villageSomaram                            NA
## villageSOMUR                              NA
## villageSreerampur                         NA
## villageSrirampuram                        NA
## villageStambampally                       NA
## villageSuddala                            NA
## villageSudimalla                          NA
## villageSujathanagar                       NA
## villageSulanagar                          NA
## `villageT. somaram`                       NA
## villageT.Narsapur                         NA
## villageT.S..Secretariat                   NA
## villageTadvai                             NA
## villageTakli                              NA
## villageTalakondapalli                     NA
## villageTalamadugu                         NA
## villageTallapenta                         NA
## villageTamsi                              NA
## villageTandur                             NA
```

```
## `villageTandur `                      NA
## villageTarigopulla                    NA
## villageTatikole                       NA
## villageTeeded                         NA
## villageTeegapur                       NA
## villageTekmal                         NA
## `villageTekulagudem ***`              NA
## villageTelkapally                     NA
## villageThadikal                       NA
## villageThallapally                    NA
## villageThattepalli                    NA
## villageTheegarajupally                NA
## villageTheerthala                     NA
## villageThelidevarapally               NA
## villageThimmampet                     NA
## villageThipparthy                     NA
## villageThirmalapur                    NA
## villageThogarrai                      NA
## villageThummadam                      NA
## villageThumpally                      NA
## villageThungathurthi                  NA
## villageThurkadinne                    NA
## villageTimmaraopeta                   NA
## villageTippareddigudem                NA
## villageTirumalayapalem                NA
## villageTiryani                        NA
## villageToopran                        NA
## villageTornal                         NA
## villageTorrur                         NA
## `villageTumotoniguda (Mall)`          NA
## villageTurkapally                     NA
## villageUdityal                        NA
## villageUlavanoor                      NA
## villageUlsaipalem                     NA
## villageUndavally                      NA
## villageUppal                          NA
## villageUpperagudem                    NA
## villageUppununthala                   NA
## villageUrkonda                        NA
## villageUrlaguda                       NA
## villageUrumadla                       NA
## villageUsrikapally                    NA
## villageUtkoor                         NA
## villageUtnoor                         NA
## villageVadicherla                     NA
## `villageVaila Singaram`               NA
## villageVailpoor                       NA
## villageVallabhapur                    NA
## villageVallala                        NA
## villageVanampalli                     NA
## villageVanchanagiri                   NA
## villageVangara                        NA
## villageVangoor                        NA
## villageVarikolu                       NA
```

```
## villageVarkatpally                          NA
## villageVarni                                NA
## villageVatpally                             NA
## `villageVattinenipally(s)`                  NA
## villageVavikole                             NA
## villageVavilala                             NA
## villageVeerannapet                          NA
## villageVeernapally                          NA
## villageVelair                               NA
## villageVeldanda                             NA
## villageVelgatur                             NA
## villageVeliminedu                           NA
## villageVelmaguda                            NA
## villageVelmajala                            NA
## villageVelmal                               NA
## villageVelthurlapally                       NA
## villageVelugupally                          NA
## villageVemsur                               NA
## villageVemulakonda                          NA
## `villageVemulawada(rural)`                  NA
## `villageVengal Rao Park, Srinagar colony`   NA
## villageVengampally                          NA
## villageVenkatapur                           NA
## villageVepur                                NA
## `villageVijayapuri North`                   NA
## `villageVikarabad(S)`                       NA
## villageVinayakapuram                        NA
## `villageVodde lingapur`                     NA
## `villageVodlur Begampet`                    NA
## `villageVV Raopet`                          NA
## villageWaddekothapalli                      NA
## villageWankidi                              NA
## villageWardhannapet                         NA
## villageWasar                                NA
## villageYacharam                             NA
## villageYadgarpally                          NA
## villageYalal                                 1
## villageYanampally                           NA
## villageYanmbailu                            NA
## villageYatnaram                             NA
## villageYedapalli                            NA
## villageYedutla                              NA
## villageYeldurthy                            NA
## villageYelkapally                           NA
## villageYellampet                            NA
## villageYellanki                              1
## villageYemcha                               NA
## villageYenkapally                           NA
## villageYenkiryal                            NA
## villageYennaram                             NA
## villageYenugonda                            NA
## villageYeravaguda                           NA
## villageYergatla                             NA
## villageYerkaram                             NA
```

```
## villageYerrapahad                                    NA
## villageZafergad                                      NA
## villageZaptisingaipally                              NA
## RSC                                                   1
## SAR                                                   1
## Na                                                    1
## E.C                                                   1
## TDS                                                  NA
## HCO3                                                 NA
## pH                                                   NA
##
## (Dispersion parameter for binomial family taken to be 1)
##
##      Null deviance: 3.9664e+02  on 680  degrees of freedom
## Residual deviance: 3.9509e-09  on    0  degrees of freedom
## AIC: 1362
##
## Number of Fisher Scoring iterations: 25
```

```r
# Make predictions on the test set
predictions <- predict(model, newdata = testData, type = "response")
```

```
## Warning in predict.lm(object, newdata, se.fit, scale = 1, type = if (type == :
## prediction from rank-deficient fit; attr(*, "non-estim") has doubtful cases
```

```r
predictedClass <- ifelse(predictions > 0.5, 1, 0)

# Create a confusion matrix and calculate accuracy
confusionMatrix <- table(Predicted = predictedClass, Actual = testData$Classification.1)
accuracy <- sum(diag(confusionMatrix)) / sum(confusionMatrix)

# Display results
print("Confusion Matrix:")
```

```
## [1] "Confusion Matrix:"
```

```r
print(confusionMatrix)
```

```
##          Actual
## Predicted   0    1
##         0   9   23
##         1  12  247
```

```r
print(paste("Accuracy:", round(accuracy, 4)))
```

```
## [1] "Accuracy: 0.8797"
```