In [1]:
```
import wbgapi as wb
```

In [3]:
```
#Data Frame-1
#Climate change indicators
indicator_ids1 = ['EG.ELC.ACCS.ZS','ER.H2O.FWTL.ZS','AG.LND.FRST.ZS','AG.LND.IRIG.AG
country_codes = ['USA','CAN','IND','JPN','CHN','THA','CRI','BAN','AUS','AFG']
my_dataframe1  = wb.data.DataFrame(indicator_ids1, country_codes, mrv=10)
print(my_dataframe1)
```

```
                              YR2011      YR2012      YR2013      YR2014  \
economy series
AFG     AG.LND.FRST.ZS       1.850994    1.850994    1.850994    1.850994
        AG.LND.IRIG.AG.ZS    5.391717    5.465576    5.518333    5.742548
        EG.ELC.ACCS.ZS      43.222019   69.100000   68.982941   89.500000
        ER.H2O.FWTL.ZS            NaN   43.015907         NaN         NaN
AUS     AG.LND.FRST.ZS      16.955310   17.047689   17.140067   17.232446
        AG.LND.IRIG.AG.ZS    0.495556    0.553121    0.639634    0.630650
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
        ER.H2O.FWTL.ZS            NaN    3.133875         NaN         NaN
CAN     AG.LND.FRST.ZS      38.734864   38.730258   38.725651   38.721045
        AG.LND.IRIG.AG.ZS         NaN         NaN         NaN         NaN
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
        ER.H2O.FWTL.ZS            NaN    1.278596         NaN         NaN
CHN     AG.LND.FRST.ZS      21.491096   21.696596   21.902095   22.107595
        AG.LND.IRIG.AG.ZS   10.206754         NaN         NaN         NaN
        EG.ELC.ACCS.ZS      99.857224   99.964874   99.997009  100.000000
        ER.H2O.FWTL.ZS            NaN   21.286882         NaN         NaN
CRI     AG.LND.FRST.ZS      56.552409   56.872934   57.193459   57.513984
        AG.LND.IRIG.AG.ZS         NaN         NaN         NaN         NaN
        EG.ELC.ACCS.ZS      99.232348   99.503298   99.563517   99.359291
        ER.H2O.FWTL.ZS            NaN    2.069912         NaN         NaN
IND     AG.LND.FRST.ZS      23.463822   23.553422   23.643023   23.732624
        AG.LND.IRIG.AG.ZS   35.398787   36.329478   36.785607   37.900969
        EG.ELC.ACCS.ZS      67.600000   79.900000   80.738045   83.585213
        ER.H2O.FWTL.ZS            NaN   44.778700         NaN         NaN
JPN     AG.LND.FRST.ZS      68.481756   68.469684   68.457613   68.445542
        AG.LND.IRIG.AG.ZS   34.509976   34.710925   35.191714   34.816290
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
        ER.H2O.FWTL.ZS            NaN   18.888837         NaN         NaN
THA     AG.LND.FRST.ZS      39.285560   39.280863   39.276165   39.271467
        AG.LND.IRIG.AG.ZS         NaN         NaN         NaN         NaN
        EG.ELC.ACCS.ZS      99.359283   99.108624   99.427063   99.483643
        ER.H2O.FWTL.ZS            NaN   25.526503         NaN         NaN
USA     AG.LND.FRST.ZS      33.779470   33.809533   33.839596   33.869659
        AG.LND.IRIG.AG.ZS         NaN    5.604332         NaN         NaN
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
        ER.H2O.FWTL.ZS            NaN   15.224927         NaN         NaN

                              YR2015      YR2016      YR2017      YR2018  \
economy series
AFG     AG.LND.FRST.ZS       1.850994    1.850994    1.850994    1.850994
        AG.LND.IRIG.AG.ZS    5.710894    6.481140    5.990504    5.134629
        EG.ELC.ACCS.ZS      71.500000   97.700000   97.700000   98.715622
        ER.H2O.FWTL.ZS            NaN         NaN   43.015907         NaN
AUS     AG.LND.FRST.ZS      17.324825   17.425488   17.422914   17.421315
        AG.LND.IRIG.AG.ZS    0.617346    0.626675    0.603490    0.640299
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
        ER.H2O.FWTL.ZS            NaN         NaN    3.240854         NaN
CAN     AG.LND.FRST.ZS      38.716438   38.712013   38.707888   38.703763
        AG.LND.IRIG.AG.ZS    1.559886         NaN         NaN         NaN
        EG.ELC.ACCS.ZS     100.000000  100.000000  100.000000  100.000000
```

	ER.H2O.FWTL.ZS	NaN	NaN	1.253684	NaN
CHN	AG.LND.FRST.ZS	22.313094	22.542877	22.742310	22.941735
	AG.LND.IRIG.AG.ZS	NaN	NaN	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	100.000000	100.000000	100.000000
	ER.H2O.FWTL.ZS	NaN	NaN	21.038038	NaN
CRI	AG.LND.FRST.ZS	57.834508	58.155112	58.475715	58.796122
	AG.LND.IRIG.AG.ZS	NaN	NaN	NaN	NaN
	EG.ELC.ACCS.ZS	99.409804	99.500000	99.600000	99.700000
	ER.H2O.FWTL.ZS	NaN	NaN	2.826549	NaN
IND	AG.LND.FRST.ZS	23.822225	23.911825	24.001426	24.091027
	AG.LND.IRIG.AG.ZS	38.059486	NaN	NaN	NaN
	EG.ELC.ACCS.ZS	88.000000	89.534882	92.456833	95.193298
	ER.H2O.FWTL.ZS	NaN	NaN	44.778700	NaN
JPN	AG.LND.FRST.ZS	68.433471	68.422497	68.408779	68.408779
	AG.LND.IRIG.AG.ZS	NaN	NaN	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	100.000000	100.000000	100.000000
	ER.H2O.FWTL.ZS	NaN	NaN	18.888837	NaN
THA	AG.LND.FRST.ZS	39.266770	39.180646	39.110180	39.039715
	AG.LND.IRIG.AG.ZS	NaN	NaN	NaN	NaN
	EG.ELC.ACCS.ZS	99.600000	99.852127	99.900000	99.820000
	ER.H2O.FWTL.ZS	NaN	NaN	25.526503	NaN
USA	AG.LND.FRST.ZS	33.899723	33.899723	33.866926	33.866926
	AG.LND.IRIG.AG.ZS	NaN	NaN	5.785517	NaN
	EG.ELC.ACCS.ZS	100.000000	100.000000	100.000000	100.000000
	ER.H2O.FWTL.ZS	NaN	NaN	15.769912	NaN

		YR2019	YR2020
economy	series		
AFG	AG.LND.FRST.ZS	1.850994	1.850994
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	97.700000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
AUS	AG.LND.FRST.ZS	17.421315	17.421315
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
CAN	AG.LND.FRST.ZS	38.699637	38.695513
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
CHN	AG.LND.FRST.ZS	23.141166	23.340596
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
CRI	AG.LND.FRST.ZS	59.116725	59.437329
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	99.710000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
IND	AG.LND.FRST.ZS	24.180628	24.270228
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	97.815285	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
JPN	AG.LND.FRST.ZS	68.408779	68.408779
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
THA	AG.LND.FRST.ZS	38.969250	38.898784
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	99.900000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN
USA	AG.LND.FRST.ZS	33.866926	33.866926
	AG.LND.IRIG.AG.ZS	NaN	NaN
	EG.ELC.ACCS.ZS	100.000000	NaN
	ER.H2O.FWTL.ZS	NaN	NaN

In [4]:
```
#Data Frame-2
#Agricultural and Rural Development indicators
indicator_ids1 = ['AG.LND.ARBL.ZS','AG.LND.AGRI.ZS','AG.LND.FRST.ZS','AG.LND.CROP.ZS
country_codes = ['USA','CAN','IND','JPN','CHN','THA','CRI','BAN','AUS','AFG']
my_dataframe2  = wb.data.DataFrame(indicator_ids1, country_codes, mrv=10)
print(my_dataframe2)
```

```
                          YR2011     YR2012     YR2013     YR2014     YR2015  \
economy series
AFG     AG.LND.AGRI.ZS  58.067580  58.067580  58.067580  58.067580  58.067580
        AG.LND.ARBL.ZS  11.933646  11.932114  11.924455  11.903011  11.893821
        AG.LND.CROP.ZS   0.182275   0.183807   0.191465   0.212909   0.222100
        AG.LND.FRST.ZS   1.850994   1.850994   1.850994   1.850994   1.850994
AUS     AG.LND.AGRI.ZS  51.562813  50.385431  48.393710  48.738399  45.314424
        AG.LND.ARBL.ZS   4.125705   4.118220   4.063991   4.160251   4.047056
        AG.LND.CROP.ZS   0.049868   0.046288   0.050792   0.045130   0.039871
        AG.LND.FRST.ZS  16.955310  17.047689  17.140067  17.232446  17.324825
CAN     AG.LND.AGRI.ZS   6.435684   6.443636   6.451555   6.459475   6.467505
        AG.LND.ARBL.ZS   4.158678   4.186451   4.214223   4.241996   4.269881
        AG.LND.CROP.ZS   0.019932   0.019965   0.019965   0.019965   0.019965
        AG.LND.FRST.ZS  38.734864  38.730258  38.725651  38.721045  38.716438
CHN     AG.LND.AGRI.ZS  56.116911  56.107828  56.108038  56.096738  56.090201
        AG.LND.ARBL.ZS  12.800417  12.728202  12.707193  12.695893  12.689357
        AG.LND.CROP.ZS   1.635171   1.698303   1.719524   1.719524   1.719524
        AG.LND.FRST.ZS  21.491096  21.696596  21.902095  22.107595  22.313094
CRI     AG.LND.AGRI.ZS  35.624755  35.487662  35.272229  34.821778  34.811986
        AG.LND.ARBL.ZS   4.543674   4.543674   4.543674   4.406580   4.964747
        AG.LND.CROP.ZS   6.169213   6.169213   6.247552   6.247552   5.973365
        AG.LND.FRST.ZS  56.552409  56.872934  57.193459  57.513984  57.834508
IND     AG.LND.AGRI.ZS  60.430043  60.420626  60.439461  60.447196  60.431389
        AG.LND.ARBL.ZS  52.798173  52.652538  52.617559  52.624622  52.608814
        AG.LND.CROP.ZS   4.167241   4.305140   4.372408   4.372408   4.372408
        AG.LND.FRST.ZS  23.463822  23.553422  23.643023  23.732624  23.822225
JPN     AG.LND.AGRI.ZS  12.513032  12.480110  12.449931  12.395062  12.334705
        AG.LND.ARBL.ZS  11.670782  11.648834  11.626886  11.582990  11.536351
        AG.LND.CROP.ZS   0.842250   0.831276   0.823045   0.812071   0.798354
        AG.LND.FRST.ZS  68.481756  68.469684  68.457613  68.445542  68.433471
THA     AG.LND.AGRI.ZS  41.222181  42.788076  43.277418  43.277418  43.277418
        AG.LND.ARBL.ZS  30.848128  32.414023  32.903365  32.903365  32.903365
        AG.LND.CROP.ZS   8.808158   8.808158   8.808158   8.808158   8.808158
        AG.LND.FRST.ZS  39.285560  39.280863  39.276165  39.271467  39.266770
USA     AG.LND.AGRI.ZS  44.278758  44.064999  44.124682  44.184360  44.244027
        AG.LND.ARBL.ZS  17.093563  16.945488  17.005166  17.064845  17.124512
        AG.LND.CROP.ZS   0.295165   0.295165   0.295165   0.295165   0.295165
        AG.LND.FRST.ZS  33.779470  33.809533  33.839596  33.869659  33.899723

                          YR2016     YR2017     YR2018     YR2019     YR2020
economy series
AFG     AG.LND.AGRI.ZS  58.067580  58.067580  58.081365        NaN        NaN
        AG.LND.ARBL.ZS  11.838679  11.792727  11.798854        NaN        NaN
        AG.LND.CROP.ZS   0.277242   0.323193   0.330852        NaN        NaN
        AG.LND.FRST.ZS   1.850994   1.850994   1.850994   1.850994   1.850994
AUS     AG.LND.AGRI.ZS  44.539926  48.340618  46.658095        NaN        NaN
        AG.LND.ARBL.ZS   3.907556   3.997910   4.026771        NaN        NaN
        AG.LND.CROP.ZS   0.041732   0.041862   0.043162        NaN        NaN
        AG.LND.FRST.ZS  17.425488  17.422914  17.421315  17.421315  17.421315
CAN     AG.LND.AGRI.ZS   6.474755   6.471855   6.491374        NaN        NaN
        AG.LND.ARBL.ZS   4.297542   4.295200   4.315053        NaN        NaN
        AG.LND.CROP.ZS   0.019854   0.019296   0.018961        NaN        NaN
        AG.LND.FRST.ZS  38.712013  38.707888  38.703763  38.699637  38.695513
CHN     AG.LND.AGRI.ZS  56.081665  56.079351  56.079083        NaN        NaN
        AG.LND.ARBL.ZS  12.680817  12.678503  12.678246        NaN        NaN
        AG.LND.CROP.ZS   1.719524   1.719524   1.719524        NaN        NaN
```

```
        AG.LND.FRST.ZS  22.542877  22.742310  22.941735  23.141166  23.340596
CRI     AG.LND.AGRI.ZS  34.811986  34.851156  34.909910        NaN        NaN
        AG.LND.ARBL.ZS   5.238935   4.925578   4.945163        NaN        NaN
        AG.LND.CROP.ZS   6.071289   6.423815   6.462985        NaN        NaN
        AG.LND.FRST.ZS  58.155112  58.475715  58.796122  59.116725  59.437329
IND     AG.LND.AGRI.ZS  60.431389  60.431389  60.431389        NaN        NaN
        AG.LND.ARBL.ZS  52.608814  52.608814  52.608814        NaN        NaN
        AG.LND.CROP.ZS   4.372408   4.372408   4.372408        NaN        NaN
        AG.LND.FRST.ZS  23.911825  24.001426  24.091027  24.180628  24.270228
JPN     AG.LND.AGRI.ZS  12.266118  12.192044  12.126200        NaN        NaN
        AG.LND.ARBL.ZS  11.478738  11.415638  11.363512        NaN        NaN
        AG.LND.CROP.ZS   0.787380   0.776406   0.762689        NaN        NaN
        AG.LND.FRST.ZS  68.422497  68.408779  68.408779  68.408779  68.408779
THA     AG.LND.AGRI.ZS  43.277418  43.277418  43.277418        NaN        NaN
        AG.LND.ARBL.ZS  32.903365  32.903365  32.903365        NaN        NaN
        AG.LND.CROP.ZS   8.808158   8.808158   8.808158        NaN        NaN
        AG.LND.FRST.ZS  39.180646  39.110180  39.039715  38.969250  38.898784
USA     AG.LND.AGRI.ZS  44.303705  44.363367  44.363367        NaN        NaN
        AG.LND.ARBL.ZS  17.184190  17.243857  17.243857        NaN        NaN
        AG.LND.CROP.ZS   0.295165   0.295165   0.295165        NaN        NaN
        AG.LND.FRST.ZS  33.899723  33.866926  33.866926  33.866926  33.866926
```

In [5]:

```
#Computing statistics
#Transforming the data
my_dataframe1.groupby('economy').transform(lambda x : x.median())
```

Out[5]:

economy	series	YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	Y
AFG	AG.LND.FRST.ZS	5.391717	24.240742	5.518333	5.742548	5.710894	6.481140	24.!
	AG.LND.IRIG.AG.ZS	5.391717	24.240742	5.518333	5.742548	5.710894	6.481140	24.!
	EG.ELC.ACCS.ZS	5.391717	24.240742	5.518333	5.742548	5.710894	6.481140	24.!
	ER.H2O.FWTL.ZS	5.391717	24.240742	5.518333	5.742548	5.710894	6.481140	24.!
AUS	AG.LND.FRST.ZS	16.955310	10.090782	17.140067	17.232446	17.324825	17.425488	10.:
	AG.LND.IRIG.AG.ZS	16.955310	10.090782	17.140067	17.232446	17.324825	17.425488	10.:
	EG.ELC.ACCS.ZS	16.955310	10.090782	17.140067	17.232446	17.324825	17.425488	10.:
	ER.H2O.FWTL.ZS	16.955310	10.090782	17.140067	17.232446	17.324825	17.425488	10.:
CAN	AG.LND.FRST.ZS	69.367432	38.730258	69.362826	69.360522	38.716438	69.356007	38.:
	AG.LND.IRIG.AG.ZS	69.367432	38.730258	69.362826	69.360522	38.716438	69.356007	38.:
	EG.ELC.ACCS.ZS	69.367432	38.730258	69.362826	69.360522	38.716438	69.356007	38.:
	ER.H2O.FWTL.ZS	69.367432	38.730258	69.362826	69.360522	38.716438	69.356007	38.:
CHN	AG.LND.FRST.ZS	21.491096	21.696596	60.949552	61.053797	61.156547	61.271439	22.:
	AG.LND.IRIG.AG.ZS	21.491096	21.696596	60.949552	61.053797	61.156547	61.271439	22.:
	EG.ELC.ACCS.ZS	21.491096	21.696596	60.949552	61.053797	61.156547	61.271439	22.:
	ER.H2O.FWTL.ZS	21.491096	21.696596	60.949552	61.053797	61.156547	61.271439	22.:
CRI	AG.LND.FRST.ZS	77.892378	56.872934	78.378488	78.436637	78.622156	78.827556	58.4
	AG.LND.IRIG.AG.ZS	77.892378	56.872934	78.378488	78.436637	78.622156	78.827556	58.4
	EG.ELC.ACCS.ZS	77.892378	56.872934	78.378488	78.436637	78.622156	78.827556	58.4

economy	series	YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	Y
	ER.H2O.FWTL.ZS	77.892378	56.872934	78.378488	78.436637	78.622156	78.827556	58.4
IND	AG.LND.FRST.ZS	35.398787	40.554089	36.785607	37.900969	38.059486	56.723353	44.7
	AG.LND.IRIG.AG.ZS	35.398787	40.554089	36.785607	37.900969	38.059486	56.723353	44.7
	EG.ELC.ACCS.ZS	35.398787	40.554089	36.785607	37.900969	38.059486	56.723353	44.7
	ER.H2O.FWTL.ZS	35.398787	40.554089	36.785607	37.900969	38.059486	56.723353	44.7
JPN	AG.LND.FRST.ZS	68.481756	51.590305	68.457613	68.445542	84.216735	84.211248	68.4
	AG.LND.IRIG.AG.ZS	68.481756	51.590305	68.457613	68.445542	84.216735	84.211248	68.4
	EG.ELC.ACCS.ZS	68.481756	51.590305	68.457613	68.445542	84.216735	84.211248	68.4
	ER.H2O.FWTL.ZS	68.481756	51.590305	68.457613	68.445542	84.216735	84.211248	68.4
THA	AG.LND.FRST.ZS	69.322422	39.280863	69.351614	69.377555	69.433385	69.516386	39.7
	AG.LND.IRIG.AG.ZS	69.322422	39.280863	69.351614	69.377555	69.433385	69.516386	39.7
	EG.ELC.ACCS.ZS	69.322422	39.280863	69.351614	69.377555	69.433385	69.516386	39.7
	ER.H2O.FWTL.ZS	69.322422	39.280863	69.351614	69.377555	69.433385	69.516386	39.7
USA	AG.LND.FRST.ZS	66.889735	24.517230	66.919798	66.934830	66.949861	66.949861	24.8
	AG.LND.IRIG.AG.ZS	66.889735	24.517230	66.919798	66.934830	66.949861	66.949861	24.8
	EG.ELC.ACCS.ZS	66.889735	24.517230	66.919798	66.934830	66.949861	66.949861	24.8
	ER.H2O.FWTL.ZS	66.889735	24.517230	66.919798	66.934830	66.949861	66.949861	24.8

In [6]:
```
#Apply function to have idea about the range of values
my_dataframe1.groupby('economy').apply(lambda x: x.astype(float).max() - x.min())
```

Out[6]:

economy	YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	YR2017	YR2018	
AFG	41.371025	67.249006	67.131947	87.649006	69.649006	95.849006	95.849006	96.864628	9
AUS	99.504444	99.446879	99.360366	99.369350	99.382654	99.373325	99.396510	99.359701	8
CAN	61.265136	98.721404	61.274349	61.278955	98.440114	61.287987	98.746316	61.296237	6
CHN	89.650470	78.677992	78.094914	77.892405	77.686906	77.457123	78.961962	77.058265	7
CRI	42.679939	97.433386	42.370058	41.845307	41.575296	41.344888	96.773451	40.903878	4
IND	44.136178	56.346578	57.095022	59.852589	64.177775	65.623056	68.455407	71.102272	7
JPN	65.490024	81.111163	64.808286	65.183710	31.566529	31.577503	81.111163	31.591221	3
THA	60.073723	73.582120	60.150898	60.212175	60.333230	60.671482	74.373497	60.780285	6
USA	66.220530	94.395668	66.160404	66.130341	66.100277	66.100277	94.214483	66.133074	6

In [7]:
```
x = my_dataframe1.groupby('economy')['YR2016'].median()
y = my_dataframe1.groupby('economy')['YR2017'].median()
```

```
z = my_dataframe1.groupby('economy')['YR2018'].median()
print(x,y,z)
```

```
economy
AFG     6.481140
AUS    17.425488
CAN    69.356007
CHN    61.271439
CRI    78.827556
IND    56.723353
JPN    84.211248
THA    69.516386
USA    66.949861
Name: YR2016, dtype: float64 economy
AFG    24.503205
AUS    10.331884
CAN    38.707888
CHN    22.742310
CRI    58.475715
IND    44.778700
JPN    68.408779
THA    39.110180
USA    24.818419
Name: YR2017, dtype: float64 economy
AFG     5.134629
AUS    17.421315
CAN    69.351881
CHN    61.470868
CRI    79.248061
IND    59.642163
JPN    84.204390
THA    69.429858
USA    66.933463
Name: YR2018, dtype: float64
```

In [8]:

```
#Filtering the data
my_dataframe2.groupby('economy').filter(lambda x : x['YR2014'].median() > 25)
```

Out[8]:

economy	series	YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	YR2
IND	AG.LND.AGRI.ZS	60.430043	60.420626	60.439461	60.447196	60.431389	60.431389	60.43
	AG.LND.ARBL.ZS	52.798173	52.652538	52.617559	52.624622	52.608814	52.608814	52.60
	AG.LND.CROP.ZS	4.167241	4.305140	4.372408	4.372408	4.372408	4.372408	4.37
	AG.LND.FRST.ZS	23.463822	23.553422	23.643023	23.732624	23.822225	23.911825	24.00
THA	AG.LND.AGRI.ZS	41.222181	42.788076	43.277418	43.277418	43.277418	43.277418	43.27
	AG.LND.ARBL.ZS	30.848128	32.414023	32.903365	32.903365	32.903365	32.903365	32.90
	AG.LND.CROP.ZS	8.808158	8.808158	8.808158	8.808158	8.808158	8.808158	8.80
	AG.LND.FRST.ZS	39.285560	39.280863	39.276165	39.271467	39.266770	39.180646	39.11
USA	AG.LND.AGRI.ZS	44.278758	44.064999	44.124682	44.184360	44.244027	44.303705	44.36
	AG.LND.ARBL.ZS	17.093563	16.945488	17.005166	17.064845	17.124512	17.184190	17.24
	AG.LND.CROP.ZS	0.295165	0.295165	0.295165	0.295165	0.295165	0.295165	0.29
	AG.LND.FRST.ZS	33.779470	33.809533	33.839596	33.869659	33.899723	33.899723	33.86

In [9]:

```
#Pivot Table
import numpy as np
x = my_dataframe1.pivot_table(index=['series'],aggfunc={'YR2015':np.mean})
y = my_dataframe2.pivot_table(index=['series'],aggfunc={'YR2015':np.mean})
print(x,y)
```

```
                    YR2015
series
AG.LND.FRST.ZS     33.718005
AG.LND.IRIG.AG.ZS  11.486903
EG.ELC.ACCS.ZS     95.389978                    YR2015
series
AG.LND.AGRI.ZS  40.115471
AG.LND.ARBL.ZS  16.893100
AG.LND.CROP.ZS   2.472101
AG.LND.FRST.ZS  33.718005
```

STORY OF THE DATA

The primary objective of this assignment is to load the world bank data directly into Python IDE whereas the secondary objective is to use different python operations or functions that will help to compute the results or values. We have used four indicators each from climate change category and Agricultural and Rural development category. The time frame from which we have collected data is from 2011 to 2020. I have selected 10 countries. These 10 countries are Afghansitan, Australia, Canada, China, Costa Rica, India, Japan, Thailand, USA, and Bangladesh I have performed filtering based on the median condition. I have created pivot table to get the mean values of year 2015 for both of the data frames. I have used apply function to measure the spread of values of each year present in the data. I have also performed data transformation in terms of median. Similarly, groupby function alone has also been used to compute the median values of year 2016 to 2018 of data frame 1.