Calculation formulas of the Sustainable Society Index, SSI-2016

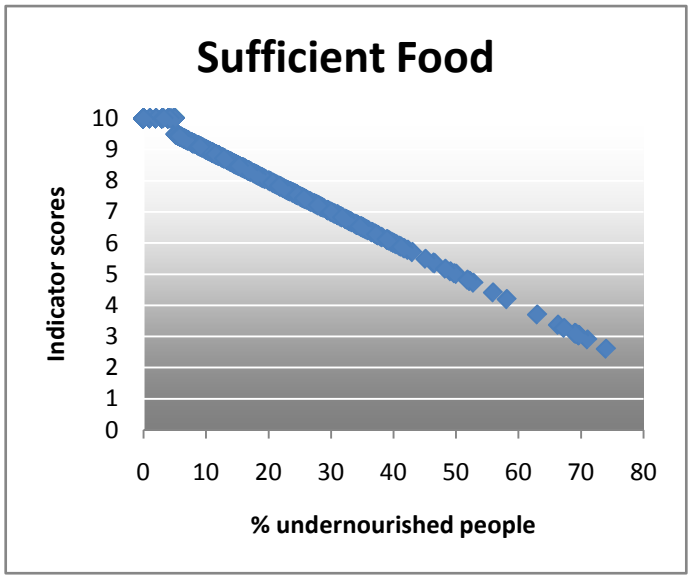
December 2016

Sustainable Society Foundation

www.ssfindex.com

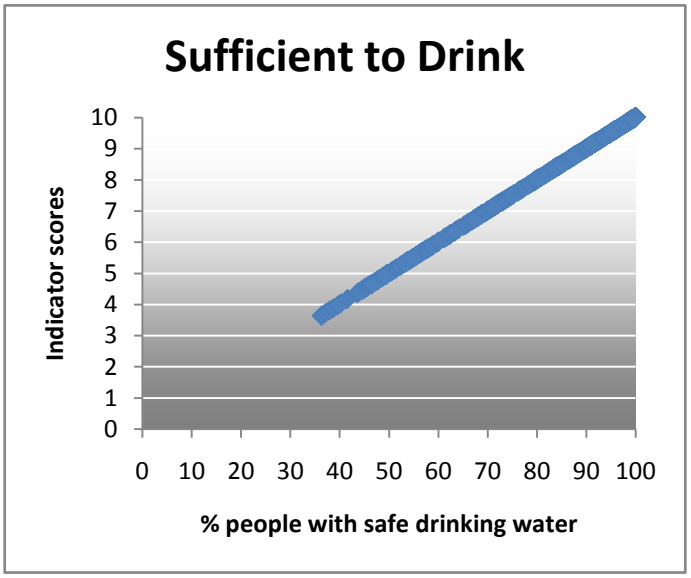
Indicator 1 – Sufficient food

Formula:
F(X)=(100-X)/10 if 5≤X≤100
F(X)=10 if X<5, since FAO doesn't specify values < 5.



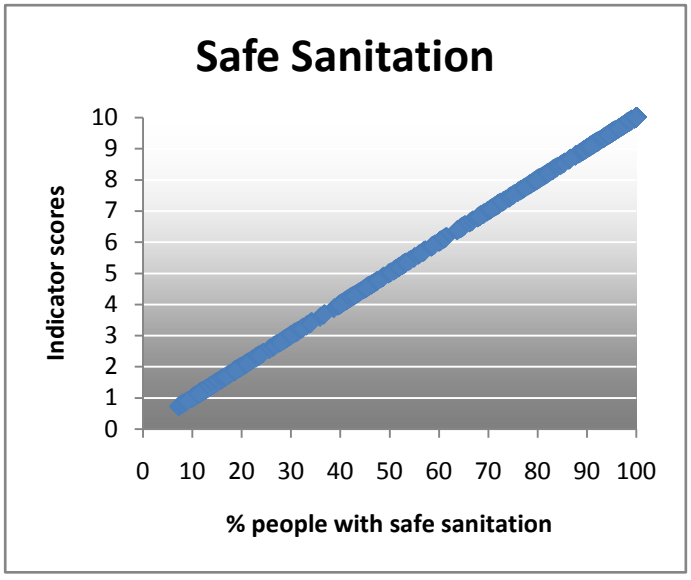
Indicator 2 – Sufficient to Drink

Formula: F(X)=X/10
Range of validity: 0≤X≤100



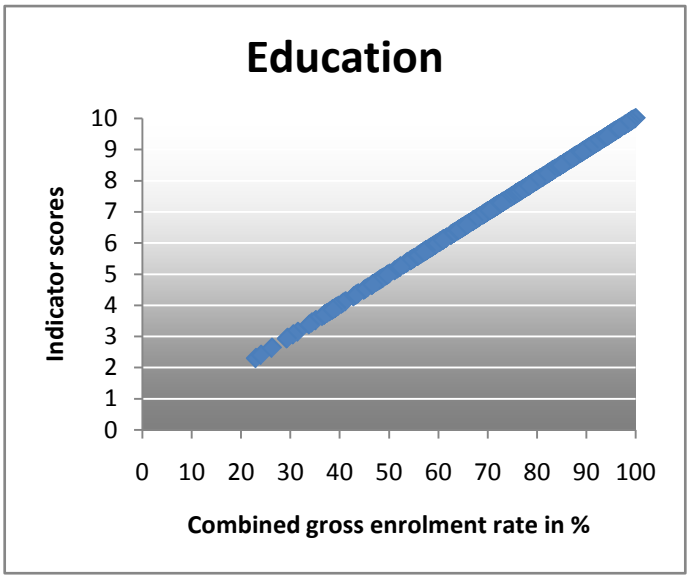
Indicator 3 – Safe Sanitation

Formula: F(X)=X/10
Range of validity: 0≤X≤100



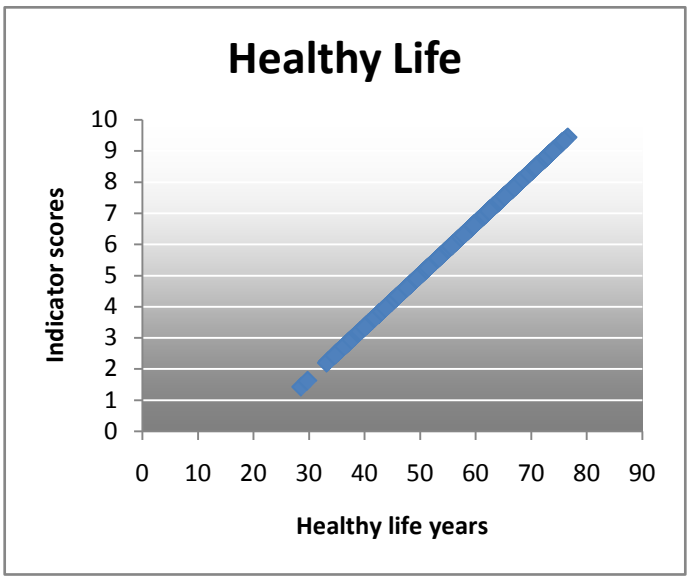
Indicator 4 – Education

Formula: F(X)=X/10 if 0≤X≤100
F(X)=10 if X>100



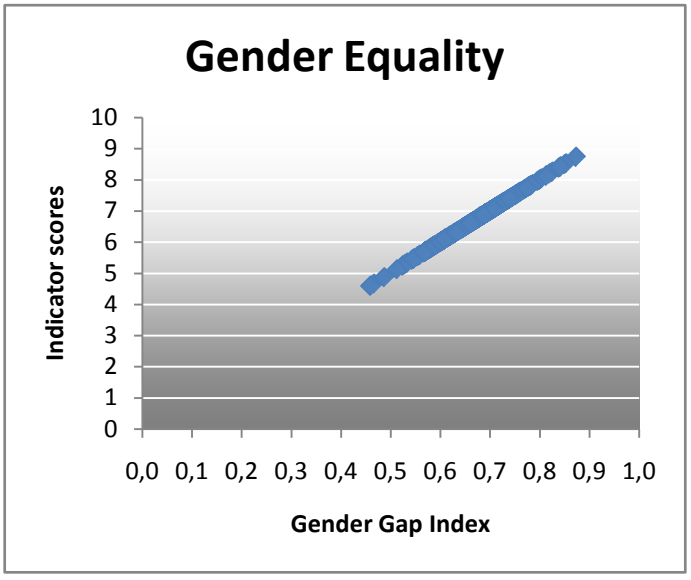
Indicator 5 – Healthy Life

Formula: F(X)=((X-20)/60)*10
Range of validity: 20≤X≤80



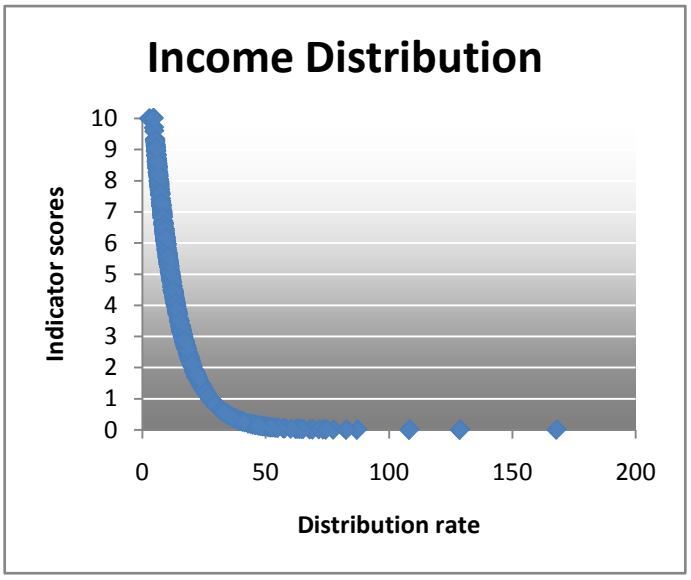
Indicator 6 – Gender Equality

Formula: F(X)=X*10
Range of validity: 0≤X≤1



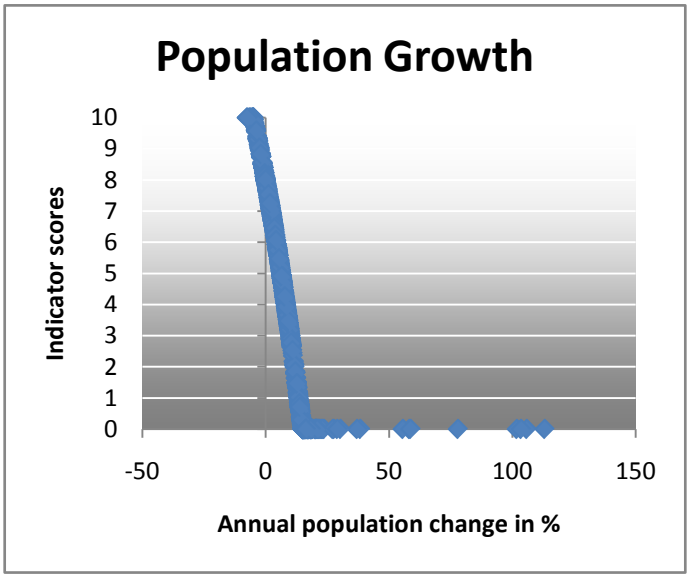
Indicator 7 – Income Distribution

Formula:
F(X)=EXP(-0.1*(X-4.5))*10 if 4.5≤X≤168
F(X)=0 if X>168



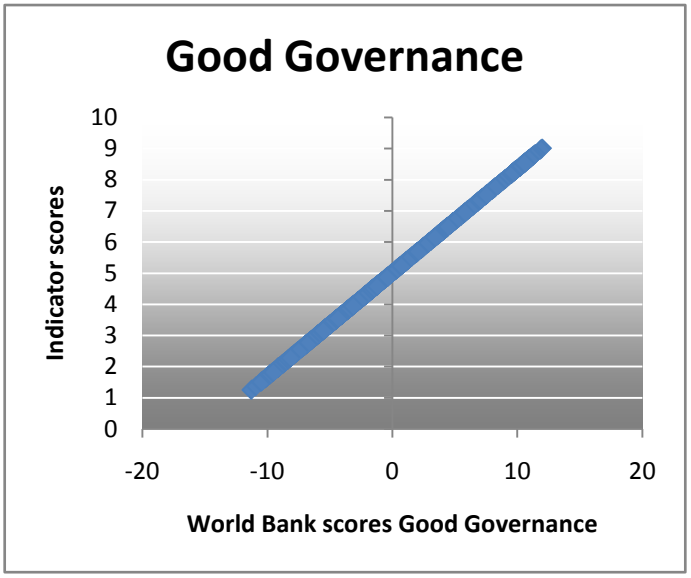
Indicator 8 – Population Growth

Formula:
F(X)=-0.0067*X^2-0.4333*X+8 if -5<X<15
F(X)=0 if X≥15
F(X)=10 if X<-5



Indicator 9 – Good Governance

Formula: F(X)=((X+15)/30)*10
Range of validity: -15≤X≤+15



Indicator 10 – Biodiversity

Formula: $F(X)=(F(X_1)+F(X_2))/2$

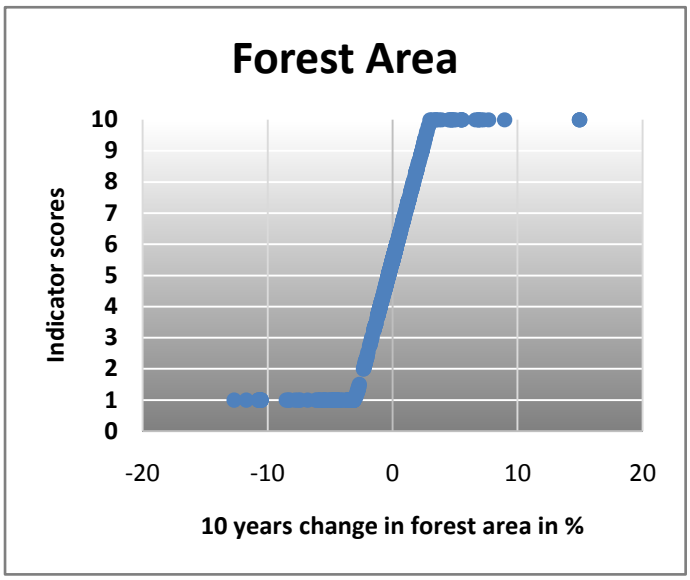
Forest Area: $F(X_1)=0.15*X_1*10+5.5$ if $-3<X_1<3$

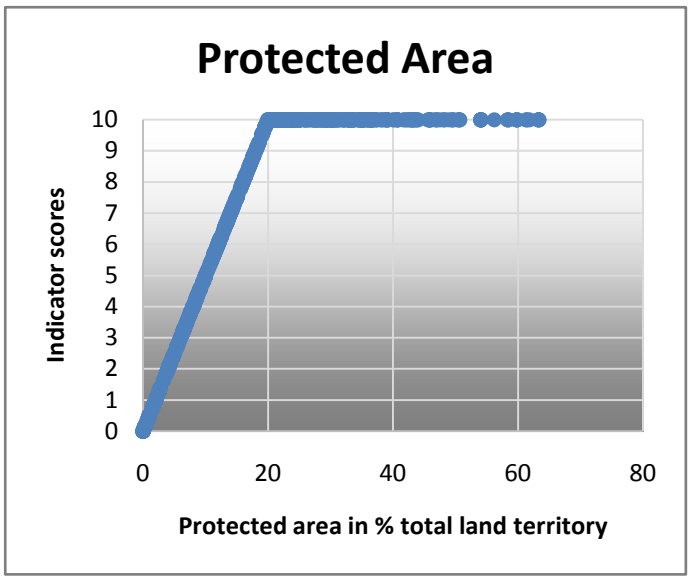
$F(X_1)=10$ if $X_1\geq 3$

$F(X_1)=1$ if $X_1<-3$

Protected Area: $F(X_2)=X_2/20*10$ if $X_2<20$

$F(X_2)=10$ if $X_2\geq 20$



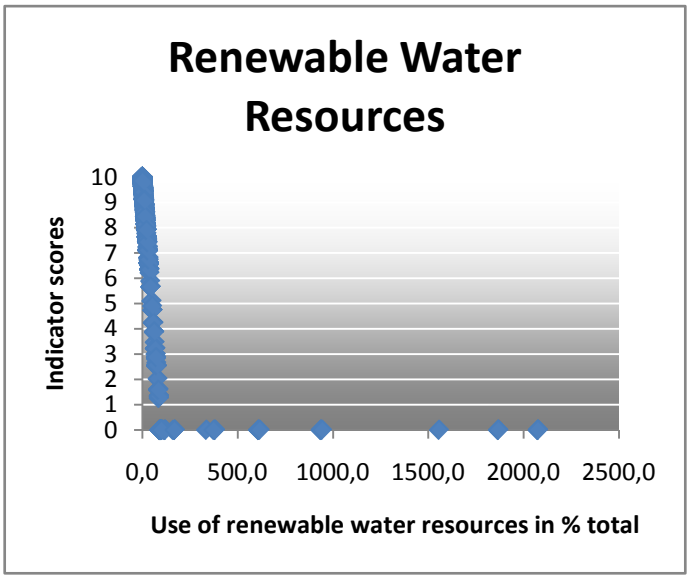


Indicator 11 – Renewable Water Resources

Formula:

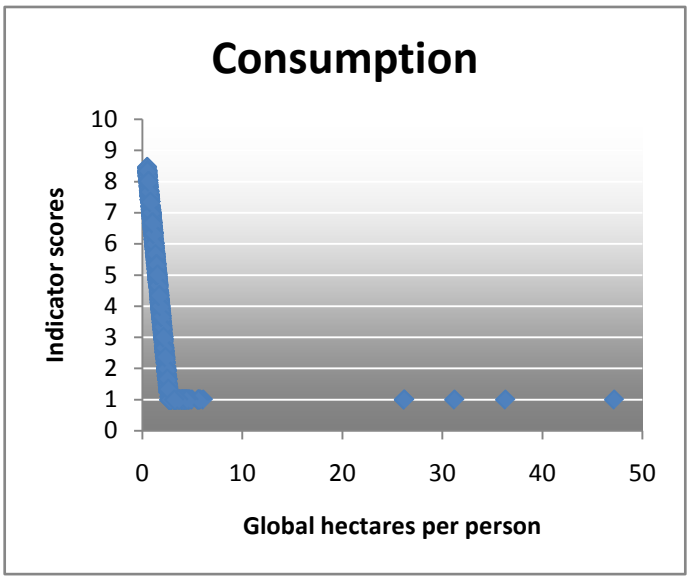
$F(X)=(100-X)/10$ if $0\leq X\leq 90$

$F(X)=0$ if $X>90$



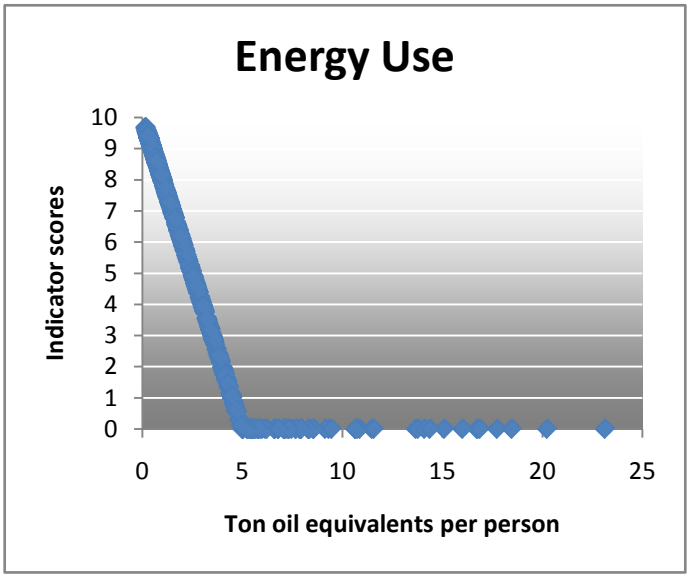
Indicator 12 – Consumption

Formula:
F(X)=10-3*X*2/1.8 if 0≤X≤2.7
F(X)=0 if X>2.7



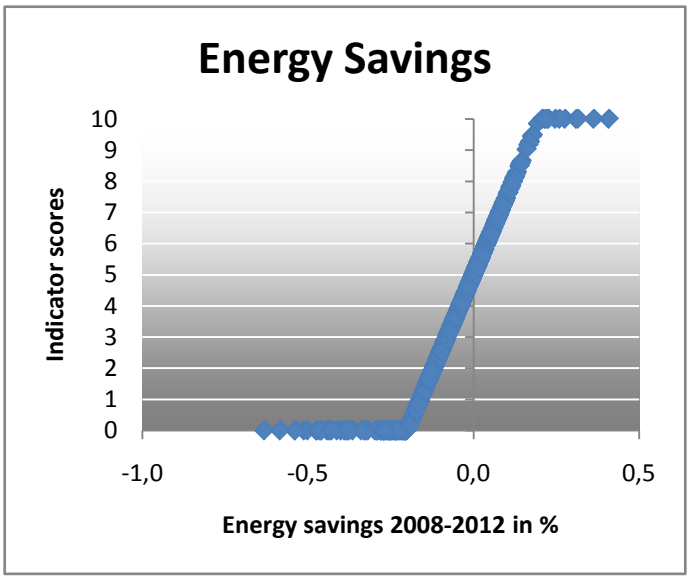
Indicator 13 – Energy Use

Formula:
F(X)=-2*X+10 ifX≤5
F(X)=0 if X>5



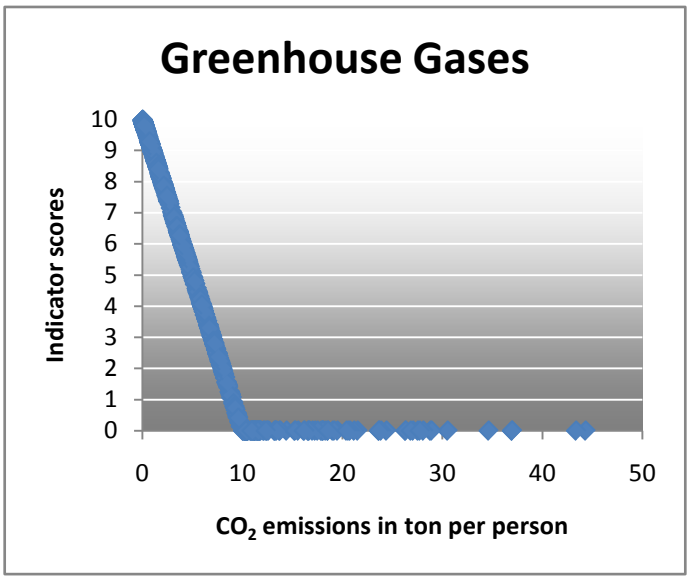
Indicator 14 – Energy Savings

Formula:
F(X)=25*X+5 if -0.2≤X≤0.2
F(X)=0 if X<-0.2
F(X)=10 if X>0.2



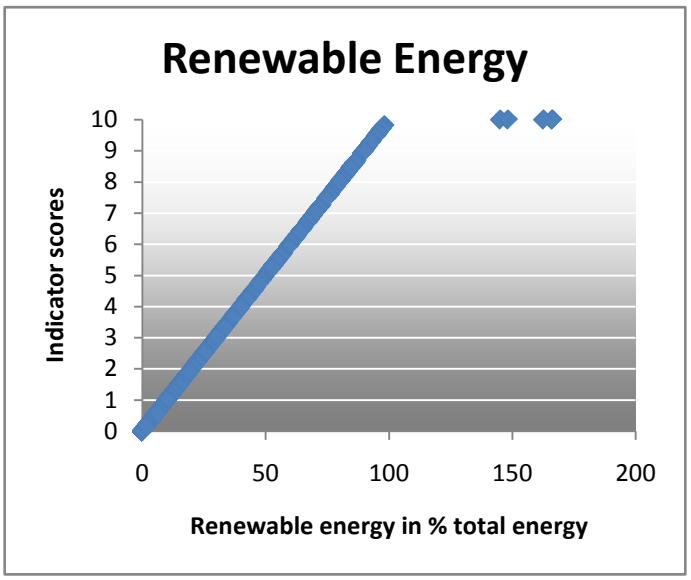
Indicator 15 – Greenhouse Gases

Formula: F(X)=10-X if 0≤X≤10
F(X)=0 if X>10



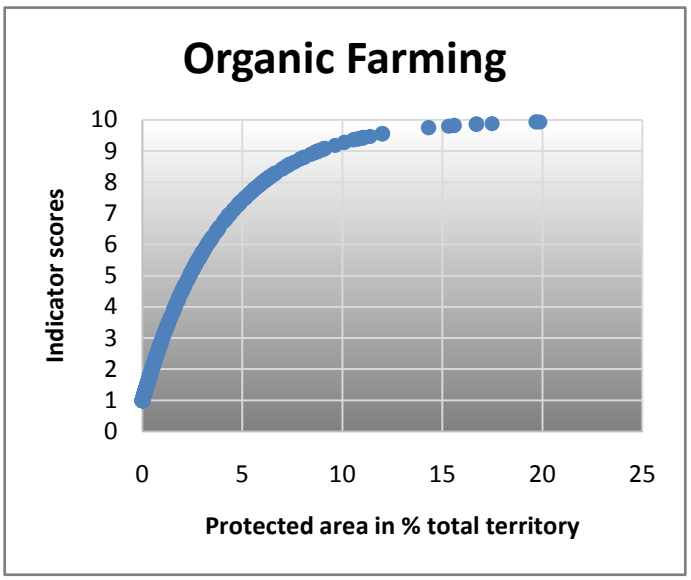
Indicator 16 –Renewable Energy

Formula:
F(X)=X/10 if 0≤X≤100
F(X)=10 if X>100



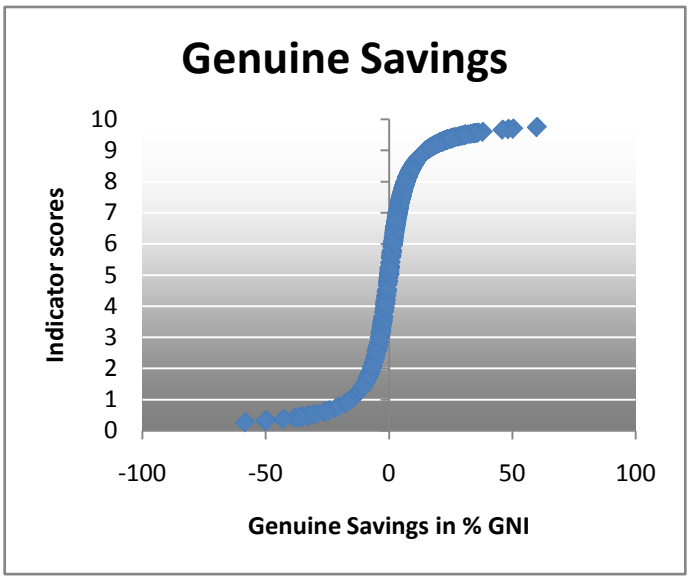
Indicator 17 – Organic Farming

Formula: F(X)=9*(1-EXP(-0.25*X)) +1



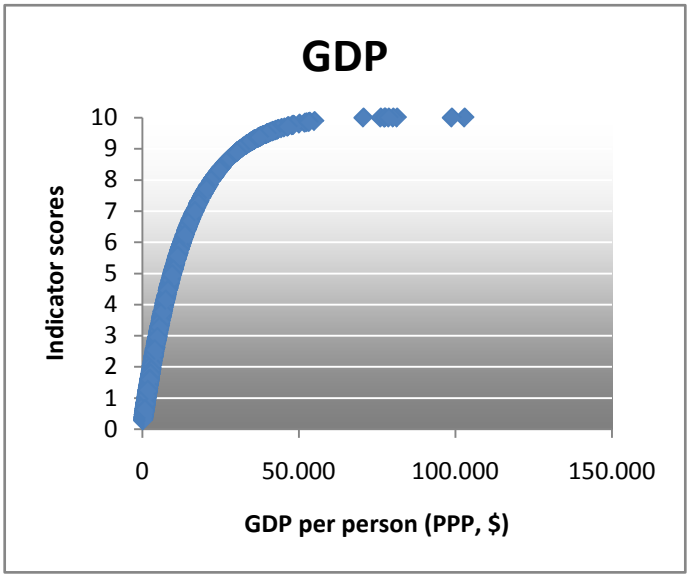
Indicator 18 – Genuine Savings

Formula: F(X)=10*ARCTAN(0.2*X)/π +5



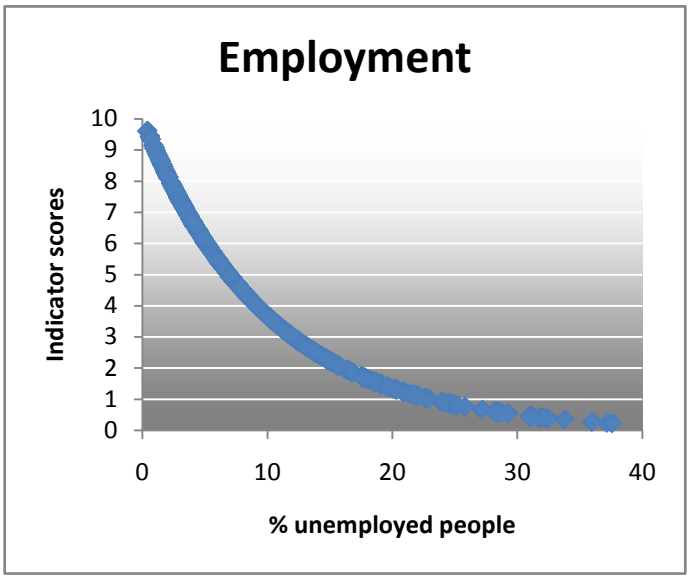
Indicator 19 – Gross Domestic Product

Formula:
F(X)=10*(1.01-EXP(-0.000065*X)) if 0≤X≤70000
F(X)=10 if X>70000



Indicator 20 – Employment

Formula:
F(X)=EXP(-0.1*X)*10 if 0≤X≤60
F(X)=1 if X>60



Indicator 21 – Public Debt

Formula:

F(X)=-3.8*ARCTAN(0.06*X-3.5)+5 if 2.5≤X<117

F(X)=0 if X≥117

F(X)=10 if X<2.5