

Quality of Life Model				
Sector Of Population				
Variable Name	Equation	Unit	Comment	Intervention Value
Total Population	Growth Rate	People	This is stock variable with initial value of 61235 people in the city	N
Growth Rate	0.025*(Total Population/Calculation Time of Increasing)	People/Year	This is the population growth rate per year in the city	N
Calculation Time of Increasing	1	Year	This is a supplementary value for stabilizing the system	N
Sector Of Green Space Capacity				
Variable Name	Equation	Unit	Comment	Intervention Value
Time for City Greening	1	Year	The time the city takes for greening a specific amount of donums	N
Constant Amount of City Greening	10	Donum	The approximate amount of donums the city is greening every year	55
Greening	Constant Amount of City Greening/Time for City Greening	Donum/Year	The approximate amount of donums per year the city is becoming greener	N
Green Space	Greening-Green Space be Used	Donum	This is stock variable with initial value 8000 of open spaces in the city	N
Time to Turn into Construction Land	2.5	Year	The time it takes to turn green space into construction land	N
Fraction of Construction Land	0.1	Dmnl	The percentage of green space which turns into construction land per year	N
Green Space be Used	(Green Space*Fraction of Construction Land)/Time to Turn into Construction Land	Donum/Year	The amount of donums of green space which turns into construction land per year	N
Amount of Green Space that can be Used per Person	Green Space/Total Population	Donum/People	The ammount of donums which can be used per citizen	N
Dedicated Green Spaces for Use	25	Donum	The amount of lands which is dedicated for citizens to use recreationally as green spaces in the city	252
Actual Amount of Green Space Used per Person	Dedicated Green Spaces for Use/Total Population	Donum/People	The share of citizen form the used green spaces in the city	N
Overusage of Green Space	Amount of Green Space that can be Used per Person-Actual Amount of Green Space Used per Person	Donum/People	The ammount of donums which are overused per citizen	N
Person Share of Green Space In Other Cites	0.0012	Donum/People	The average share of green space for citizen in the other cities	N
Green Space Attractiveness	Overusage of Green Space/Person Share of Green Space In Other Cites	Dmnl	The resulting attractiveness of the city due to the availability of green space	N
Sector Of Land & Housing Capacity				
Variable Name	Equation	Unit	Comment	Intervention Value
Land Becoming Available	(High Building Demolition*Avg. Land for High Building)+(Single Family House Demolition*Avg. Land for Single House)+Green Space be Used	Donum/Year	The amount of donums of green space becoming available for turning into construction land	N
Ammount of Land	Land Becoming Available-Land be Used	Donum	This is stock variable with initial value 2500 of available lands for construction in the city	N
Land be Used	(Single Family House Construction*Avg. Land for Single House)+(High Building Construction*Avg. Land for High Building)	Donum/Year	The amount of donums which are used for constructions in the city	N
Avg. Land for Single House	0.75	Donum/House	The amout of donums necessary to build a single family house	N
Avg. Land for High Building	0.6	Donum/High Building	The amout of donums necessary to build a high building	N
Construction Time of Single Family House	1	Year	The time necessary to build a single family house	N
Construction of Single Family Houses	Needed Single Family Houses-Single Family Houses	House	The amount of single family houses which need to build based on the number of families living in the city	N
Single Family House Construction	Construction of Single Family House/Construction Time of Single Family House	House/Year	The amount of single family houses built per year	N
Single Family Houses	Single Family House Construction-Single Family House Demolition	House	This is stock variable with initial value 1000 of single family houses	N
Single Family House Demolition	Single Family Houses/Avg. Lifetime of a Single House	House/Year	The amount of single family houses demolished per year	N
Avg. Lifetime of a Single House	50	Year	The average lifetime per single family house	N
Needed Single Family Houses	(Families in Need of Houses*Fraction of Families Willing to Live in Single Family Housing)/Avg.Families Living in a Single Family House	House	The amount of single family houses needed in the city	N
Fraction of Families Able to Live in Single Family Housing	18%	Dmnl	The percentage of families who is able to live in a single family house	45%
Avg.Families Living in a Single Family House	2	Family/House	The average amount of families living per single family house	3
Total Amount of Families That can Live in Single Family Houses	Single Family Houses*Avg.Families Living in a Single Family House	Family	The total amount of families living in a single family house	N
High Building Construction	Construction of High Buildings/Construction Time of High Building	High Building/Year	The amount of high buildings built per year	N
High Buildings	High Building Construction-High Building Demolition	High Building	This is stock variable with initial value 2700 of high buildings	N
High Building Demolition	High Buildings/Avg. Lifetime of a High Building	High Building/Year	The amount of high buildings demolished per year	N
Avg. Lifetime of a High Building	50	Year	The average lifetime per high building	N
Construction Time of High Building	3	Year	The Time necessary to build a high building	2.7
Construction of High Buildings	Needed High Buildings-High Buildings	High Building	The amount of high buildings which need to build based on the number of families living in the city	N
Needed High Buildings	(Families in Need of Houses*Fraction of Families Willing to Live in High Building)/Avg. Families Living in High Building	High Building	The amount of High Buildings needed in the city	N
Fraction of Families Able to Live in High Building	82%	Dmnl	The percentage of families who is able to live in a High Building	55%
Avg. Families Living in High Building	4.5	Family/High Building	The average amount of families living per high building	5
Total Amount of Families That can Live in High Buildings	High Buildings*Avg. Families Living in High Building	Family	The total amount of families living in a high building	N
Total Amount of Families That can Live in The City	Total Amount of Families That can Live in Single Family Houses+Total Amount of Families That can Live in High Buildings	Family	The total amount of families that can have an accommodation	N
Families in Need of Houses	Total Amount of Families in The City-Total Amount of Families That can Live in The City	Family	The amount of families that are in need of an accommodation	N
Total Amount of Families in The City	Total Population/Avg. People per Family	Family	The total amount of families living in the city	N
Avg. People per Family	4.7	People/Family	The average amount of people per family	N
Housing Attractiveness	Total Amount of Families That can Live in Single Family Houses/Total Amount of Families in The City	Dmnl	The resulting attractiveness of the city due to the availability of housing	N
Sector Of Job Capacity				
Variable Name	Equation	Unit	Comment	Intervention Value
Constant Amount of Comercial Supplying	15	Donum	The approximate amount of donums dedicated for commercial use every year in the city	23.75
Time of Supplying Commercial Area	1	Year	The time the city takes for supplying a specific amount of donums for comercial use	N
Supplying of Commercial Areas	Constant Amount of Comercial Supplying/Time of Supplying Commercial Area	Donum/Year	The amount of donums of comercial areas which are supplied to the city every year	N
Commercial Areas	Supplying of Commercial Areas	Donum	This is stock variable with initial value 400 of comercial areas	N
Avg. Area for Commercial Unit	0.1	Donum/Unit	The approximate amount of donums required to establish a comercial unit	N
Jobs per Commercial Unit	3.1	Job/Unit	The average number of jobs which are given by one commercial unit	3.3
Available Commercial Jobs	(Commercial Areas/Avg. Area for Commercial Unit)*Jobs per Commercial Unit	Job	The total number of jobs available in the commercial sector in the city	N
Constant Amount of Industrial Supplying	8	Donum	The approximate amount of donums dedicated for industrial use every year in the city	8.35
Time of Supplying Industrial Area	2	Year	The time the city takes for supplying a specific amount of donums for industrial use	1.9
Supplying of Industrial Areas	Constant Amount of Industrial Supplying/Time of Supplying Industrial Area	Donum/Year	The amount of donums of industrial areas which are supplied to the city every year	N
Industrial Areas	Supplying of Industrial Areas	Donum	This is stock variable with initial value 100 of industrial areas	N
Avg. Area for Industrial Unit	0.18	Donum/Unit	The approximate amount of donums required to establish an industrial unit	N
Jobs per Industrial Unit	4.6	Job/Unit	The average number of jobs which are given by one industrial unit	4.75
Available Industrial Jobs	(Industrial Areas/Avg. Area for Industrial Unit)*Jobs per Industrial Unit	Job	The total number of jobs available in the industrial sector in the city	N
Agricultural Lands Amount	-Consumption of Agriculatural Lands	Donum	This is stock variable with initial value 9500 of agricultural areas	N
Consumption of Agricultural Lands	Green Space be Used	Donum/Year	This flow represents the amount of consuming agricultural lands into the favor of other uses	N
Agricultural Lands	MAX(0,Agricultural Lands Amount)	Donum	This is a supplementary value for stabilizing the system and make sure that lands will not take negative value, also it shows the limit of protection for agricultural lands	MAX(4624,Agriculatural Lands Amount)
Avg. Area for Productive Land Unit	2.7	Donum/Unit	The approximate amount of donums required to establish a productive agricultural unit	N
Jobs Per Productive Agri. Land Unit	0.65	Job/Unit	The average number of jobs which are given by one productive agricultural unit	0.67
Available Agricultural Jobs	(Agricultural Lands/Avg. Area for Productive Land Unit)*Jobs Per Productive Agri. Land Unit	Job	The total number of jobs available in the agricultural sector in the city	N
Supplying of Government Jobs	30	Job/Year	The number of government jobs which are introduced to the city every year	32.4
Government Jobs	Supplying of Government Jobs	Job	This is stock variable with initial value 6970 of government jobs	N
Available Jobs in The Construction Sector	((Land be Used/Avg. Area for Workshop)*Jobs Per Workshop)/Number of Workshop per Year per Worker to be Considered Job	Job	The total number of jobs available in the construction sector in the city	N
Avg. Area for Workshop	0.12	Donum/Workshop	The approximate amount of donums required to be considered as a workshop	N
Jobs Per Workshop	12	Job	The average number of jobs which are given by one workshop	N
Number of Workshop per Year per Worker to be Considered Job	14	Workshop/Year	The number of workshop which has to be taken by one worker every year to be considered a regular job	N
Total Jobs Available in The City	Available Commercial Jobs+Available Industrial Jobs+Available Agriculatural Jobs+Government Jobs+Available Jobs in The Construction Sector	Job	The total available jobs in the city from the all sectors	N
Number of People for One Job	1	People/Job	This is a supplementary value for stabilizing the system	N
Unemployed Population	Total Jobs Available in The City-Working Age Population	People	The number of unemployed people in the city	N
Working Age Population	Total Population*Fraction of Working Age	People	The number of people who are considered in the working age group	N
Fraction of Working Age	0.45	Dmnl	The average fraction of working age group in the palestinian community	N
Unemployment Rate	Unemployed Population/Working Age Population	Dmnl	The unemployment rate in the city	N



# Mohammed Itair - Quality of Life Model

