

Executive Summary

Perhaps one of the most broken down nations in the world today is Afghanistan. Through the numerous wars, including this one against the Taliban and Al Queda, their entire infrastructure has been destroyed. Their infrastructure is mainly composed of the cash crop poppies and opium, which are the main ingredients in heroine. Through their history many parties have ruled, like the Soviet Union who ruled for ten years. They were ousted by the United States backed Mujahidin. Fighting later continued between the Mujahidin and the Islamic Taliban. The Taliban captured most of the country from the Mujahidin in civil strife. In addition to this civil strife, the Taliban opened the country up to the military faction Al Queda. The Taliban went rampaging through the Mujahidin, after which the war went into stalemate. With all of this meaningless warfare going on it is no wonder the economy is in shambles.

Problem Definition

What we want to know is: a dollar amount to how much it will cost to rebuild the infrastructure of Afghanistan; if the agricultural land can support the present population and a future population after a return of refugees. Finally, can Afghanistan sustain itself through trading and selling of its natural resources? This project was chosen because of its relevance with the current events.

Methods

We have limited our program to the following variables: current population, net migration rate out of Afghanistan, net migration rate into Afghanistan from surrounding countries, birth rate, and death rate. There are many more variables such as death rate of the surrounding countries, and also the birth rate, the distance to water and food, the amount of water and food available locally or imported, famine, disease, war, extinction and even baby booms are not considered in our calculations.

Using the basic equation for population growth: $N = n * (e^{r*t})$ where R equals birth minus death and any other variable we decide to incorporate. 'e' is a constant that stands for approximately 2.71. It is known as the natural logarithm, which is used in many exponential growth equations. The uppercase 'N' is the final population after all the other variables have been calculated. The lowercase 'n' is the current population. The 'r' represents the population growth of a period of time ('t') in years.

The program incorporates functions. One function is used to calculate the population of Afghanistan at periodic times from 1988 to present (a 14-year period). Another function will calculate the amount of agricultural land to population present and future taking into account migration into and out of Afghanistan. This will show if the agricultural land will support the current and future populations of Afghanistan.

In developing this project we defined infrastructures as paved/unpaved roads, agricultural lands, utilities, family dwellings, water, railroads, flood control, communication services, immigration factors, and natural resources. From our research using a Central Intelligence Agency web site, it will cost Afghanistan about \$15 billion and take approximately ten years to rebuild. Of course, no price can be placed on untold human suffering and other emotional turbulence.

Results

Population Growth Rate: #3.48%

Birth Rate: 41.42/1000

Net Migration 11.11/1000

Death Rate: 17.72/1000

Infant Mortality Rate: 147.02%
(As quoted from the CIA Factbook)

Conclusion

The project itself is very large, and too overwhelming for our team, so we just took a small part. In developing this project we considered variables such as paved/unpaved roads, agricultural lands, population, population of surrounding country population natural resources birth and death rates, among other things. We found that the cost of rebuilding Afghanistan will

be about \$15 billion and take approximately fourteen years as reported in television news and in various other magazines. This does not take into consideration untold human suffering and other emotional turbulence.

Works Cited

CIA. <http://www.cia.gov/cia/publications/factbook/>

Afghanistan Online. <http://www.afghan-web.com/>

Afghanistan Facts. <http://prorev.com/afghaninfo.html>

Attachment 1: Program Code

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#include <math.h>
#include <iostream.h>
#include <iomanip.h>
const double e=2.71;

void popgrowthafgan(int, double, double, double, double, double, double,
double);
void popgrowthpak(int, double, double, double);
void popgrowthiran(int, double, double, double);
void popgrowthtajik(int, double, double, double);
void popgrowthuzbek(int, double, double, double);

void netmigafgan(float, double, double, double, double, double, double);
void netmigpak(float, double);
void netmigiran(float, double);
void netmiguzbek(float, double);
void netmigtajik(float, double);

int main()

{
int popafgan= 26813057, poppak=144616639, popiran=66128965,
poptajik=6578681,popuzbek=25155064;
double bafgan=.04142, bpak=.03121, biran=.0171, btajik=.03323,
buzbek=.0261;
double dafgan=.01772, dpak=.00926, diran=.00541, dtajik=.0857,
duzbek=.008;
double netmigafgan=.01111, netmigpak=.000084, netmigiran=.00451,
netmigtajik=.00349,netmiguzbek=.00206;
float poppak2, poptajik2, popiran2, popuzbek2, popafgan2;

popafgan2= popgrowthafgan(popafgan, bafgan, dafgan, netmigafgan2,
netmigpak2,
netmigiran2, netmigtajik2, netmiguzbek2);

double netmigpak2, netmigtajik2, netmiguzbek2, netmigiran;

poppak2=popgrowthpak(poppak, bpak, dpak, netmigpak);
popiran2=popgrowthiran(popiran, biran,diran, netmigiran);
poptajik2=popgrowthtajik(poptajik, btajik, dtajik, netmigiran);
popuzbek2=popgrowthuzbek(popuzbek, buzbek, duzbek, netmiguzbek);
netmigafgan2=netmigafgan(popafgan2, netmigpak2, netmigiran2, netmigtajik2,
netmiguzbek2, netmigafgan);

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```

netmigpak2=netmigpak(poppak2, netmigpak);
netmigiran2=netmigiran(popiran2, netmigiran);
netmigtajik2=netmigtajik(poptajik2, netmigtajik);
netmiguzbek2=netmiguzbek(popuzbek2, netmiguzbek);

return 0;
}
void popgrowthpak(int poppak, double bpak, double dpak, double netmigpak)
{
int time, time2;
float poppak2;
cout<<"Enter a year: ";
cin>>time;
time2=time-2002;
poppak2=poppak*pow(e,((bpak-dpak)*time2));
return;
}
void popgrowthpak(int poppak, double bpak, double dpak, double netmigpak)
{
int time, time2;
float poppak2;
cout<<"Enter a year: ";
cin>>time;
time2=time-2002;
poppak2=poppak*pow(e,((bpak-dpak)*time2));
return;
}
void popgrowthtajik(int poptajik, double btajik, double dtajik, double
netmigtajik)
{
int time, time2;
float poptajik2;
cout<<"Enter the same year: ";
cin>>time;
time2=time-2002;
poptajik2=poptajik*pow(e,((btajik-dtajik)*time2));
return;
}
void popuzbek(int popuzbek, double buzbek, double duzbek,
double netmiguzbek)
{
int time, time2;
float popuzbek2;
cout<<"Enter the same year: ";
cin>>time;
time2=time-2002;

```

```
popuzbek2=popuzbek*pow(e, ((buzbek-duzbek)*time2);  
return;  
}
```

```
void popiran(int popiran, double diran, double biran, double netmigiran)  
{  
int time, time2;  
float popiran2;  
cout<<"Enter the same year: ";  
cin>>time;  
time2=time-2002;  
popiran2=popiran*pow(e,((biran-diran)*time2);  
return;  
}
```