

Research Partnership with Ukraine

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Estimating the Flow of Illegal Drugs Through Ukraine

U.S.-Ukraine Partnership

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Introduction

Ukraine has become a significant conduit for Southwest Asian heroin bound for European markets. Porous borders, understaffed and under funded counter-narcotics entities and the rise of organized crime syndicates have enabled traffickers to utilize Ukraine as a viable transit point. Further, Ukraine has become a legitimate opiate producer in its own right, cultivating approximately 3000 new hectares of illicit poppy fields annually.

Countries on trafficking routes also suffer from drug usage problems, since traffickers often pay intermediaries

with in kind drug product. There is a concomitant increase in property crime and prostitution, as users struggle to finance their drug consumption. As addiction, and especially trafficking, lead to increased in crime and violence, more and more public resources must be channeled into law enforcement.

Ukrainian law enforcement entities responsible for anti-narcotics work are poorly coordinated, relatively inexperienced, understaffed, and under-funded. The U.S. Customs Service and the Drug Enforcement Administration have conducted anti-drug training programs in the areas of interdiction, border control, and money laundering. These activities have been largely tactical and there has been no effort to measure the magnitude of amounts flowing through Ukraine. Creating a consistent yearly estimate of these amounts is the most valuable means of measuring the demand for, and effectiveness of, anti-narcotic activities.

There are extant, credible data on narcotics production (cocaine and heroin) developed yearly by the Crime and Narcotics Center (CNC). These data form the basis for the amount of narcotics available for trafficking through Ukraine. Illicit crop estimates for 20 countries are developed by using statistically valid survey methods similar to those used to estimate the size of licit crops. Potential production, calculated by multiplying survey-based estimates of cultivation by estimates of narcotics crop yield, provides an estimate of the amount of narcotics available for trafficking through Ukraine.

This paper summarizes work done to create a preliminary heroin flow model. Drug flow models attempt to estimate the availability of illicit drugs at various points: source countries, transit countries, and consuming countries. We use a sequential transition and reduction method, which takes a systems approach and breaks heroin movement down into a series of "stages" based on the cultivation, production, transportation, and marketing of the product. A stage is a step in the course of the flow process, associated with a geographic area.

The model transitions availability at one stage to the next through conversions or reductions based on data from multiple sources including the Crime and Narcotics Center (CNC) opium cultivation figures, CNC's calculation of potential production of heroin, seizure data, and consumption estimates.

Heroin

Production

Opium poppy is an annual plant that does best in tropical or semi-tropical areas. When growing conditions are ideal, plants can be harvested twice a year. Harvesting consists of cutting unripe seed capsules for the poppy plants, thus releasing a milky fluid, that, when collected and dried, forms raw opium. Opium is consumed in large quantities in many producing countries.

Processing raw opium into heroin powder is a three-stage process: from morphine base, to heroin base, to heroin power. First the raw opium is soaked, heated, and filtered to produce a brown power. Morphine base is then obtained by compressing the brown power into bricks. To create heroin base, the morphine base is mixed with an acetylating agent, boiled and cooled, thinned with water, and filtered. Then, a second solution of water and sodium carbonate is added and the combination is again filtered, then dried. The resultant gray power, heroin base, is insoluble in water and thus not suitable for injection. Further refinement of the heroin base yields white heroin powder, which can be injected. Yields at each of the three stages can vary depending on the quality of the chemicals and the experience of the chemist. With the exception of the acetylating agent, the processing materials are readily available wherever opium is grown.

Producing Regions

Heroin is supplied from Southwest Asia (Afghanistan and Pakistan), Southeast Asia (Burma, Laos, and Thailand), and Latin America (Mexico and Colombia). Analysts agree that presently Colombia controls the lion share of the United States' heroin market, with Mexican heroin running slightly less. The consensus among law enforcement and policy experts is that 75 percent of the U.S. demand is met by the supply in Colombia and Mexico (approximately 14.5 of 18 metric tons). Thus South American heroin primarily supplies the Americas and does not significantly influence heroin flow through Ukraine. (Although there is some evidence of plane shipments of heroin from Colombia to Ukraine, but this does not seem to be a significant trend).

Potential production of Southeastern heroin has dropped from about 234 metric tons in 1996 to 109 metric tons in 2000. Of this, analysts conclude that approximately 3 metric tons are shipped to the U.S., almost exclusively to the West Coast through transit points in China and Thailand. The overwhelming majority of opiates produced in the Golden Triangle are consumed locally and in China, which makes up the world's largest heroin market. Annual heroin consumption in Southeast Asia is about 35 metric tons and upwards of 40 metric tons in China. Hong Kong, Taiwan, and Canada consume about 2 metric tons each of southeastern heroin per year, and Australian users consume between 6 and 7 metric tons annually. This leaves about 16 metric tons of Southeast Asian heroin unaccounted for. When we consider international seizures, distribution to other non-European countries, eradication, licit use, abandoned fields, etc., we can ignore Southeast Asian heroin as being of significance to Ukraine as a transit country¹.

Based on law enforcement intelligence sources and analysis of heroin seizures in Europe, it is clear that the region's largest heroin demand is met almost exclusively by Southwest Asia region. Analysts agree that European users consume between 22 and 66 metric tons of heroin a year. Data from the European Monitoring Center for Drugs and Drug Abuse indicate the total heroin addict population in Europe is between 1 and 1.5 million people. Hard-core users are using between 60 and 120 mg a day of pure heroin.

"Virtually all of Western Europe's heroin demand is met by Southwest Asian sources; in 1997, according to Interpol, 90 percent of the heroin seized in Europe came from Southwest Asia. All samples of heroin tested by Germany's national drug testing laboratory in recent years were linked to Southwest Asia, according to DEA" (Global Heroin Threat, 2000).

Skyrocketing opium production and the development of a reputable trafficking infrastructure in Afghanistan and Pakistan has made Southwest Asia the world's leading source of heroin. [Figure 1](#) details the potential amount² of heroin produced in Southwest Asia from 1996 through 2000. During the period there has been a 67 percent increase in the amount of heroin available to world markets.

Uncertainty in Production Estimates

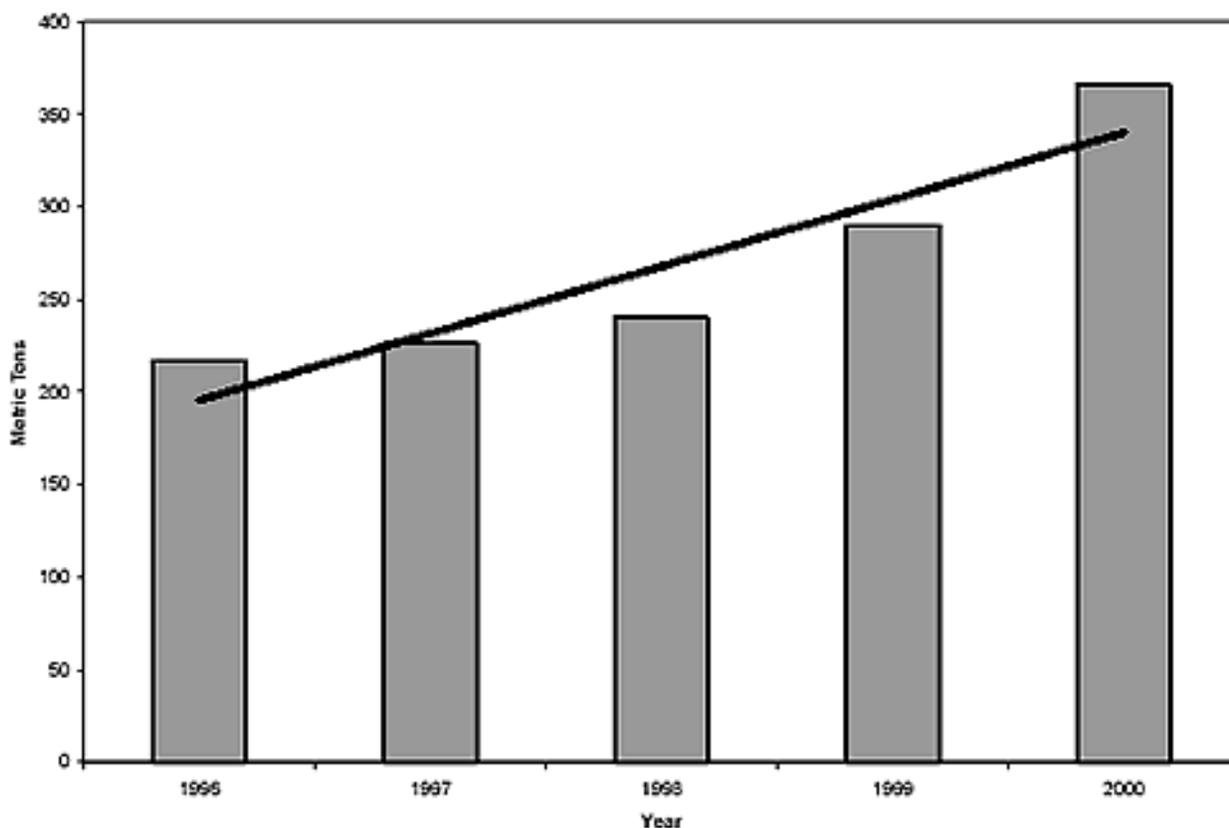
There is considerable uncertainty in opium/heroin cultivation and production estimates. Cultivation data are based on satellite imagery and this methodology is the most reliable part of the estimation process. But, areas to be imaged are selected using sample survey techniques and are subject to some amount of error. Cultivation figures are published as point estimates, rather than with confidence intervals. Thus, it is difficult to know the magnitude of the statistical error for these estimates.

Eradication and seizure data come primarily from the governments of the opium/heroin producing countries and these data are often dubious. Further, there is considerable source-country consumption of opium/heroin;

estimates of these are subject to their own set of uncertainties. Finally, conversion factors for intermediate steps in the production process are also estimated.

Figure 1

Potential Heroin Production in Southwest Asia



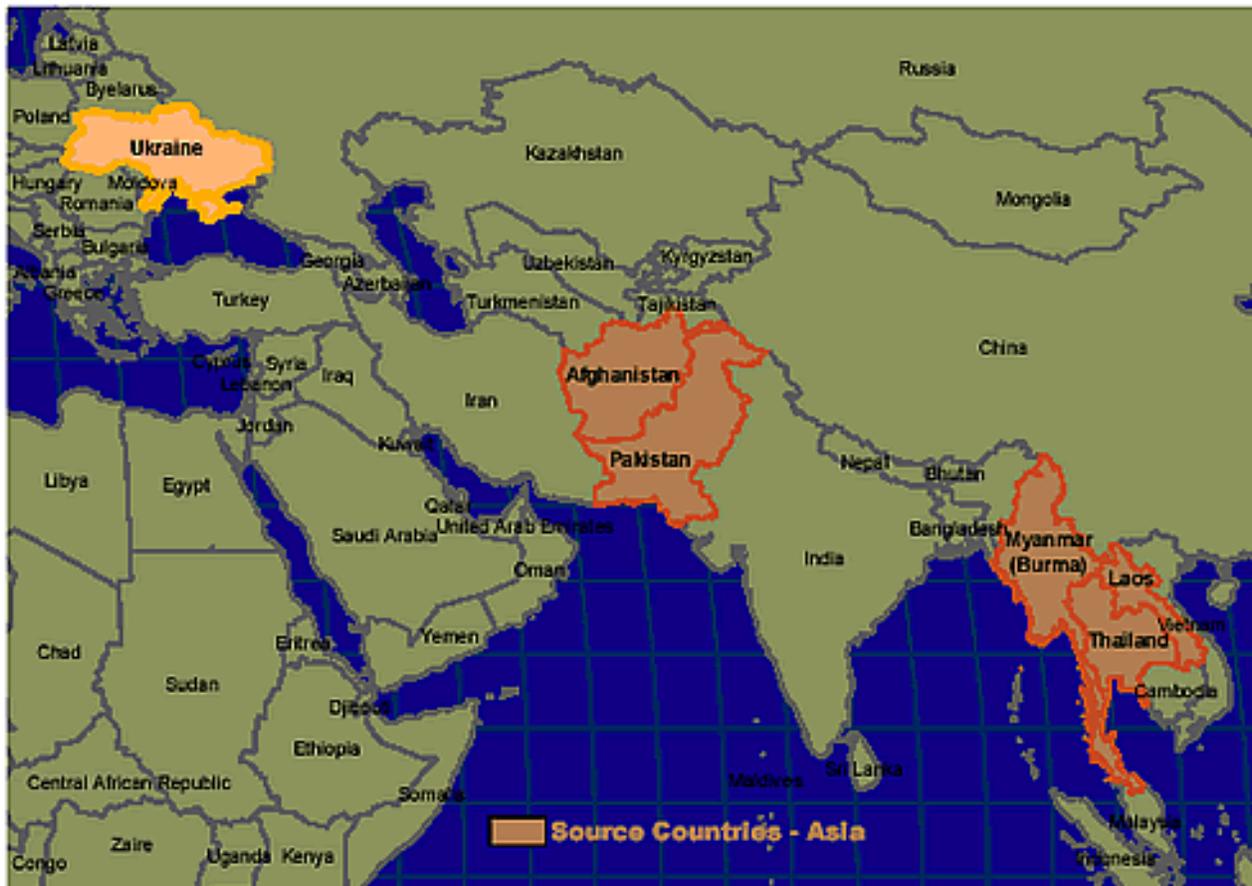
Trafficking Routes

[Figure 2](#) depicts Ukraine in relation to the producing countries of Southwest Asia and [Figure 3](#) details trafficking routes. The majority of heroin from Southwest Asia bound for international markets continues to flow along the traditional routes through southern Afghanistan, Pakistan, and Iran. Well established production and trafficking networks in southern Afghanistan provide ready access to these export sites. Significant amounts of opiates are transported overland (large, heavily armed convoys) through Iran into Turkey; a major transshipment hub for Western European markets. Although Iran has intensified interdiction efforts along its eastern border and along internal trafficking corridors, the country continues to be a substantial conduit for Southwest Asian heroin

The break up of the former Soviet Union offered traffickers alternatives to their traditional – and heavily monitored – transshipment routes through Pakistan and Iran. Less stringent border controls, political and economic instability, corruption, and developing drug markets in the region have made Central Asia an increasingly important transit zone for opium and heroin shipments out of Afghanistan north to Russia and West to Turkey and Europe (Global Heroin Threat, 2000).

Figure 2

Ukraine in Relation to Southwest/Southeast Asian Opium Producing Countries



Most opium and heroin transiting Central Asia enters directly from Afghanistan into Turkmenistan or Tajikistan. Traffickers take advantage of cross-border ethnic ties to facilitate their operations. The drugs are typically driven through border check points concealed in truckloads of agricultural or consumer goods or smuggled through remote areas by foot or on rafts. Some heroin is also smuggled by air from Afghanistan to Central Asian countries on private aircraft or commercial airlines owned by one of Afghanistan's warring factions. Once in the region, drugs are moved west overland in vehicle convoys or railcars through central Asia to Turkey, the Caucasus, Ukraine, and Russia. Small amounts of opiates transit the region's international airports as well. Increasing heroin transit through Central Asia is contributing to endemic political and bureaucratic corruption, including security services and law enforcement agencies. (Global Heroin Threat, 2000)

Rising opiate production in Southwest Asia has met the increasing demand for heroin in Russia and elsewhere in the former Soviet Union. As the volume of Southwest Asian transiting the former Soviet Union has increased, so has the demand for heroin along principal transportation routes in the area. Russia crime syndicates control the supply the price of heroin throughout Ukraine and Russia. Russian officials estimate that there may be many more than the 200,000 estimated hard-core heroin addicts in Russia. Assuming the same consumption rate as in Europe, this means that between 5 and 10 metric tons of heroin are consumed in Russia per year. Most of this is probably transiting through Ukraine. "There are now several hundred thousand heroin users in Eastern Europe and Ukraine, according to local estimates, in addition to between 500,000 and 1 million users of opium or poppy straw." (Global Heroin Threat, 2000)

Having expanded to include northern and southern secondary routes, the Balkan route remains a primary conduit for heroin shipments leaving Turkey hidden in sealed commercial trucks (70 – 80 % of the Southwest

Asian heroin headed for Europe). The collapse of the Soviet Bloc opened borders to make northern Eastern Europe an important secondary route for smuggling heroin into the Western European market. Southwest Asian heroin is also smuggled to Western Europe by maritime deliveries from Pakistan, United Arab Emirates and Turkey; as well as some commercial airline flights transiting the Middle East and Africa

Figure 3

Heroin Smuggling Routes



Model for the Flow of Heroin Through Ukraine

Unfinished poppy leaves Southwest Asia along three major exit corridors:

1. Overland westward through Iran to Turkey
2. North through Central Asia, then westward directly to Eastern Europe or Turkey
3. South through Pakistan and westward by sea craft to United Arab Emirates for subsequent transport to Africa, the U.S., and Europe.

There are indications that between 70 to 80 percent of Southwest Asian heroin bound for Europe is transported overland via truck or rail car through Turkey (the major finished heroin processing/conversion

country in the area), then north along the Balkan transit route. The Balkan route has also expanded to include a northern and southern spur, in addition to its primary corridor. Heroin shipped along the northern spur transits Ukraine and other northeastern European regions.

[Table 1](#) presents very preliminary figures for heroin trafficked through Ukraine in 2000. There are no subtractions for seizures or transit country consumption, so the figures are high. If the trend of increased production in Afghanistan continues and Iran continues to crack down on smuggling, the potential for even more heroin transiting through Ukraine increases.

Table 1

**Potential Heroin Trafficked Through Ukraine, 2000
(metric tons)**

Consumption in Western Europe (high estimate)	66
Through traditional Balkan route (45%)	29.7
Balkan route, northern spur (through Ukraine) (15%)	9.9
From Russia Through Northeast Europe (20%)	13.2
Total through Ukraine	23.1

¹ *The 2000 Global Heroin Threat* does state that "Small amounts of Southeast Asian heroin go to Western Europe", but it further states that "Europe's largest heroin demand is met almost exclusively by the Southwest Asia source region."

² Potential amounts overstate the actual availability. These amounts assume that all hectares under cultivation are actually converted to heroin and doesn't take into account such things as crop spoilage.

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