

## Comparative Net Income from Afghan Crops

By Gary Kuhn  
Executive Director  
Roots of Peace

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Afghanistan is held in a special place by many Americans. The tenacity and courage of their Mujahedeen awed many when they overcame a major power. The Kiplingesque images. The gaze of the Afghan woman on the cover of the National Geographic. The silk route. And the drugs, long a part of this region. We are at the same time drawn to this country as we are rebuffed from it. Among the long list of challenges in rebuilding Afghanistan, drugs stand out as the most daunting of tasks which offends our civil society.

It is such a daunting task that many believe that it is impossible to find an alternative crop that pays farmers better than poppy. The reality is that there are several more lucrative alternatives to poppy. The myth is that there are no better alternatives. The second myth is that the drug problem is the fault of the drug lords and cartels and we simply need to stamp out all production of this evil plant. The reality is that we must stop looking to solve our drug problem solely by stopping its' production. Production of heroin is surely a problem we need to solve, but as long as there are buyers in the western markets, there will be producers somewhere in this world. Historically, the power of the market has proven to be irresistible and unbeatable: if market conditions are right, someone will respond. But, we can use these same market forces to stimulate Afghan farmers to switch out of poppy production by helping them see the better income opportunities associated with alternative crops. Perennial crops, like grapes, almonds, apricots, cherries and pomegranates have a clear advantage over opium.

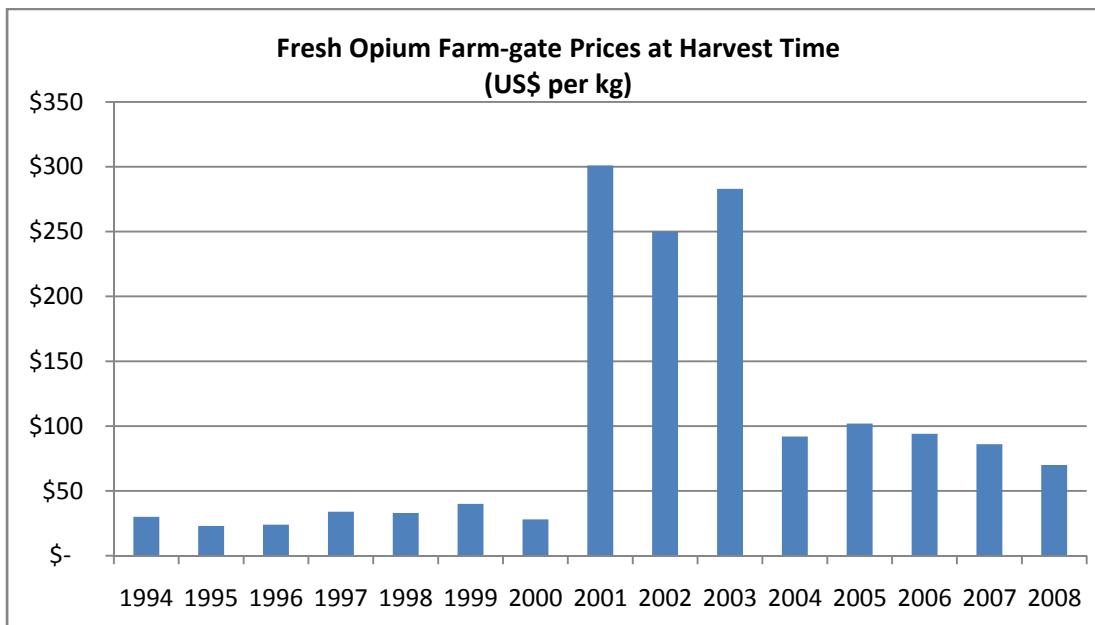
Hashish and opium have long been some of the more unique products of this country. With the best agricultural extension team and the best agriculture credit system in the Afghanistan and relatively lawless opium production regions, Afghanistan has answered the call of the market forces and now lays claim to 93% of the worldwide production<sup>i</sup>. This equates to 53% of the total GDP of Afghanistan<sup>ii</sup>.

Afghan businesses are booming in many ways with double digit growth the last five years. However this drug money further destabilizes an already fragile situation by empowering non-governmental actors to effectively neutralize the local provincial governments and the central government of Afghanistan. An IED here, a terror act there and you have a region that is deemed unsafe for the positive actions of the international community to foster development, and the government of Afghanistan is forced into a bunker mentality and cannot deliver their meager services in these restive provinces. The spiral continues downward. The PR campaign against NATO “collateral damage” grows and the region is ripe for a bountiful harvest. As the poppy fields near harvest, the terror campaign grows. IEDs, ambushes, “credible threats” rise in preparation of harvest time. When the opium is on the roads headed for processing or to cross the border, the symphony comes to a crescendo. Then NATO will move in to “take control” of the region as the opium crop is already on its way to the markets and the “anti-government elements” (AGEs) blend back into the villages. This is a multi-billion dollar business played out in dramatic fashion in mainly Kandahar and Lashkaghār.

How can we fight this? How can we stop the production of opium in Afghanistan? How can you stop farmers who are making huge amounts of money growing poppies? The street price in western markets is high. The guy who gets the heroin into those markets makes a nice return. The guy who gets the heroin out of Afghanistan earns a nice return. The drug processors in Afghanistan make a nice return. The drug traders buying the opium from the farmers and selling it to the processors makes a nice return. And the farmer makes more than double what he would have made growing wheat. Double is good. Afghan farmers with skinny children like double. We are building a myth by not challenging this task. We need to challenge this myth. In a region where the free market rules, you need to compete with a better product. You need a better mouse trap. The objective: we must beat the income from poppies.

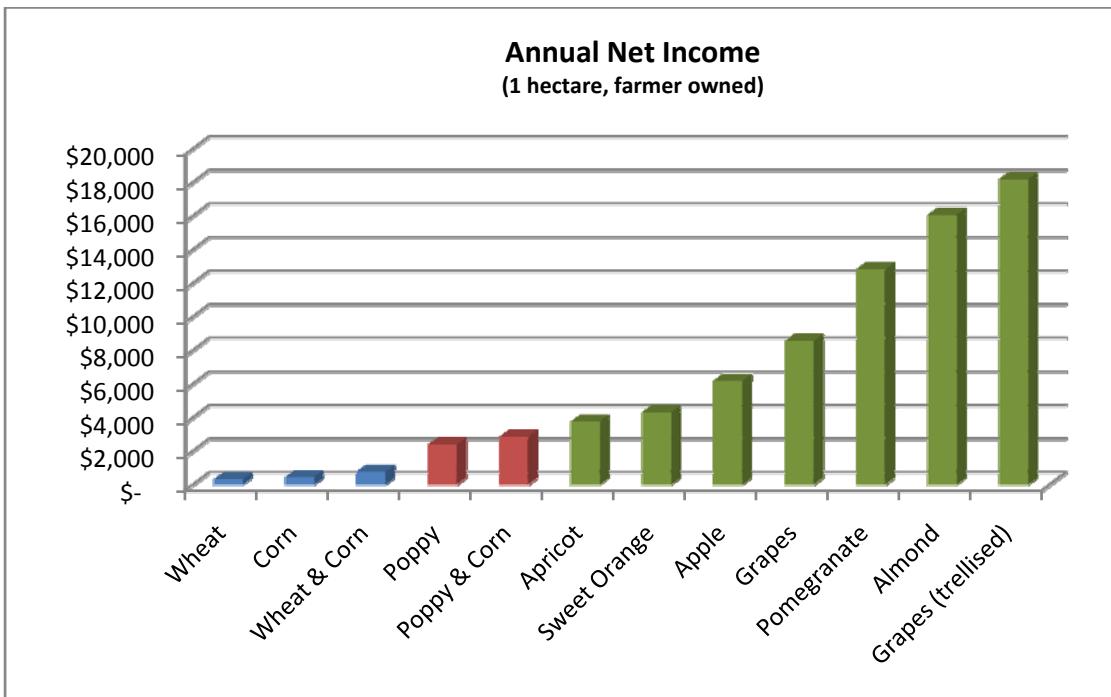
How do we beat double? Afghanistan is blessed with a wonderful climate to grow high value perennial crops. With proper care and good market connections, these will easily beat double. Fresh grapes are in big demand in India. Pomegranates, almond, with all their anti-oxidants are flourishing. Cherries, apricots and walnuts all are better alternatives than poppies. The table below shows the net income from one hectare of land. Net income is what the farmer will keep after all his costs are paid. Too many reviews show gross income which cast poppy cultivation in a very positive light. The problem with this is that poppies require 10 times the amount of labor to cultivate than perennial crops, like grapes. In addition, the prevailing perception is that poppy prices are still high. The reality is that opium prices spiked for three years when the Taliban shut down production. When poppy production resumed, the prices soon recovered to their normal historic price ranges. The drug industry is an imperfect market, but simple economic principles of supply and demand still apply. As enforcement and eradication efforts increase, prices will trend upwards. So the challenge is not only to get the farmers to switch to licit crops, but to remain with these licit crops and not switch back if the poppy prices move up. To do this, we need to more than match the level of agriculture extension support being provided by the drug cartels and support the farmers with credit, processing and marketing programs. We must also reinforce the commitment to licit crops of the majority of farmers that find cultivating poppies immoral and illegal.

**Table 1: Opium Price History**



So to show an accurate comparison, Table 2 highlights the net income of opium cultivation versus other crops. The high opium prices sparked a transition to opium cultivation. The allure of over \$12,000 net profit per hectare convinced thousands of farmers to switch from wheat and vegetables. But at current prices, opium barely beats out these two traditional crops. Perennial crops, like grapes shown here fare much better, especially grown with current techniques of trellising.

**Table 2: Net Income of Selected Crops and Growing Techniques in Afghanistan**



The situation in Hilmand Province is that the overwhelming majority of the crops are annual seed crops. Wheat and other grains, along with vegetables dominate the production. Farmers have reacted to market prices of Opium in Hilmand, neighboring Kandahar Province and now Nimroz Province just to the east. So many farmers have reacted to market forces and are seeing the results in increased income. But the same forces that moved the farmers from wheat to poppies can be used to move them off poppies to a higher income with grapes. Almonds, cherries, apricot, walnuts and plums also fare well against poppies. On average, perennial crops will return more to the farmer than the \$2,502 from poppies. Over the last two years USAID programs have planted over 1.5 million new fruit and nut trees in Badakhshan and Jalalabad. Both regions have experienced a sharp decline in their poppy production. The tree and vegetable planting programs were just a part of the overall programs in those provinces, but they are a convincing option.

Economic weapons in this fight against opium will fare far better than tradition military enforcement. Ultimately to fix this problem, we need to modify our overwhelming fixation on stopping production as a means to solving our country's drug problem. It is an interesting diversion to shift blame outside our borders. The reality is that we need to focus where we should have from the beginning, on the buyers. If you can stop the demand, the product will recede from the market. Of course this macro-economic discourse does not take into account the many issues involved in curtailing the abuse of this drug. Others defter at addressing those issues can take up their pens and continue the discussion. But there is reason to discuss this issue at global levels as we must stop the charade that the problem lies only with the farmers of Afghanistan. The international donor community must tell their constituency that the heart of the problem is not in Afghanistan, but in their own congressional districts. We cannot end the drug problem by trying to stop Afghan farmers from responding to the market demand for poppy products. The problem is not entirely the Afghan farmer, but their wayward citizen that has developed a taste for heroin. The international donor community can do their part, but it is only a part and sister programs in the western states must lead this effort. The principles of supply and demand dictate it.

Policy should reflect these facts. The international community should push the Afghan's largest employment sector to crops and cultivation methods that will outperform poppies. Massive aid programs directed at agriculture development are continuously refocused and their impact diffused on a myriad of activities with precious little leftover for agriculture production. We are starving the most effective tool against poppy production and leaving our soldiers to fight this economic issue with guns. The US and other international donors should focus programs to promote alternative crops that can compete with poppies. Perennial crops hold promise for southern Afghanistan, but the very nature of these crops mean long-term commitment to their cultivation and the cause.

## Annex: Net Income of Two Crops: Poppies and Grapes

The table below highlights the competitive advantage that good varieties of table grapes have over poppies. Un-trellised vineyards of Taifi and Shindur Khani (aka Thompson Seedless) compete very well against poppies with their current prices. With trellising, there is no debate. Grapes win by a large margin.

**Table 2: Net Income of Selected Crops for 1 hectare farm (owner operated farm)**

Product	Wheat	Onion	Opium at current price	Opium at historic high <sup>iii</sup>	Bush-grown Grapes <sup>iv</sup>	Trellised Grapes <sup>v</sup>	Apple <sup>vi</sup>	Corn	Apricot	Pomegranate <sup>vii</sup>	Sweet Orange <sup>viii</sup>	Almond <sup>ix</sup>
Gross Income Production Price (per kg)	2,500kg \$0.32/kg	17,500kg \$0.21/kg	52kg <sup>x</sup> \$90.00 <sup>xi</sup>	52kg \$300.00 <sup>xii</sup>	14,235kg \$0.70	29,466kg \$0.70 <sup>xiii</sup>	20,000 kg \$0.35	4,500 kg \$0.21	18,000 kg \$0.24	24,000 kg \$0.60	20,000 kg \$0.25	2,000 kg \$9.00
Other income from byproducts							\$ 125	\$ 125	\$ 125	\$ 125	\$ 63	\$ 125
<b>Gross Income</b>	<b>\$ 800</b>	<b>\$ 3,675</b>	<b>\$ 4,680</b>	<b>\$ 15,600</b>	<b>\$ 9,965</b>	<b>\$ 20,626</b>	<b>\$ 7,125</b>	<b>\$ 1,070</b>	<b>\$ 4,445</b>	<b>\$ 14,525</b>	<b>\$ 5,063</b>	<b>\$ 18,125</b>
Costs Per Hectare												
Seed	\$ 24	\$ 480	\$ 10	\$ 10				\$ 26				
Soil Amendments												
DAP	\$ 38	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75	\$ 22	\$ 96	\$ 35	\$ 35	\$ 35	\$ 35
UREA	\$ 63	\$ 125	\$ 125	\$ 125	\$ 125	\$ 125	\$ 16	\$ 34	\$ 20	\$ 20	\$ 20	\$ 20
Mulch & top soil												
IPM (Gib, sulfur, Bordeaux...)												
Labor (\$5 per day)	43 days	75 days	300 days	300 days	40 days	34 days	38 days	50 days	38 days	38 days	38 days	38 days
Labor cost (fertilization, irrigation, harvest...)	\$ 172	\$ 375	\$ 1,500	\$ 1,500	\$ 200	\$ 170	\$ 190	\$ 250	\$ 190	\$ 190	\$ 190	\$ 190
Farm Services (tractor ploughing...)	\$ 103	\$ 103	\$ 103	\$ 103								
Taxes(ushr) to local authorities <sup>xiv</sup>	\$ 80	\$ 368	\$ 468	\$ 1,560	\$ 996	\$ 2,063	\$ 713	\$ 107	\$ 445	\$ 1,453	\$ 506	\$ 1,813
<b>Total Costs<sup>xv</sup></b>	<b>\$ 480</b>	<b>\$ 1,526</b>	<b>\$ 2,281</b>	<b>\$ 3,373</b>	<b>\$ 1,396</b>	<b>\$ 2,433</b>	<b>\$ 941</b>	<b>\$ 617</b>	<b>\$ 690</b>	<b>\$ 1,698</b>	<b>\$ 751</b>	<b>\$ 2,058</b>
<b>Net Income</b>	<b>\$ 320</b>	<b>\$ 2,150</b>	<b>\$ 2,399</b>	<b>\$ 12,227</b>	<b>\$ 8,568</b>	<b>\$ 18,194</b>	<b>\$ 6,185</b>	<b>\$ 453</b>	<b>\$ 3,756</b>	<b>\$ 12,828</b>	<b>\$ 4,311</b>	<b>\$ 16,068</b>

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Gary Kuhn is the Executive Director of Roots of Peace, a non-profit operating in Afghanistan since 2003. Gary has traveled to Afghanistan 18 times, traveling throughout the country, including the major opium producing regions of South, East and Northeast. Gary is a graduate of University of California at Berkeley, School of Economics. Roots of Peace now has 12 programs operating in Afghanistan, of which 11 are directed at alternative livelihoods for Afghan farmers. Roots of Peace receives private donations and funding from USAID, USDA, US Department of Defense, European Community, World Bank and Asian Development Bank. Roots of Peace focuses on post conflict countries with our demine-replant-rebuild model. In addition to Afghanistan, Roots of Peace is working in Angola, Croatia and Viet Nam.

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## Notes

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<sup>i</sup> 2008 Annual Opium Poppy Survey in Afghanistan, UN Office on Drugs and Crimes

<sup>ii</sup> 2008 Annual Opium Poppy Survey in Afghanistan, UN Office on Drugs and Crimes

<sup>iii</sup> Price at the historic high in 2001. Source: UN ODC Afghanistan Opium Survey, August 2008.

<sup>iv</sup> Shindur Khani variety from Shamali.

<sup>v</sup> Roots of Peace surveyed vineyards before and after trellising. After 2 years, trellised vineyards yield increased 107%. We have not done the year 3 survey yet.

<sup>vi</sup> Apple prices from Wardak Province.

<sup>vii</sup> Kandahari variety from Kandahar.

<sup>viii</sup> Prices are representative of imported sweet oranges. Sweet orange trees are being replanted in Jalalabad.

<sup>ix</sup> Satarbay variety from Balkh.

<sup>x</sup> Production varies with quality of farm, soil and cultural practices. Yields in Kandahar and Helmand hit a record in 2008 at 52.2 kg/ha in 2008. Source: UN ODC Afghanistan Opium Survey, August 2008.

<sup>xi</sup> Included in the price is the value of the oil, stalk and seeds that can be sold in addition to the opium.

<sup>xii</sup> Price as of August 2008 for fresh opium at farm gate in Afghanistan is \$0.70 per kg, but this is peak season and the price is depressed with so much supply on the market. Source: UN ODC Afghanistan Opium Survey, August 2008.

<sup>xiii</sup> Farm gate price is highly sensitive to variety. An average of Taifi and Shindur Khani prices were used.

<sup>xiv</sup> 100% growers in Kandahar and 72% growers in Helmand pay “taxes” or usher to AGE. The majority of usher-paying farmers pay approximately 10 per cent of their income from cultivation in taxes. These taxes are paid to one or more sources, such as district administrators, local commanders, mullahs, security commanders or anti-Government elements including the Taliban. The majority share goes to mullahs, the Taliban and local commanders. Source: UN ODC Afghanistan Opium Winter Rapid Assessment Survey, February 2008.

<sup>xv</sup> Packaging for harvest is not included in any of these calculations as traders typically cover these costs.