

Tom
Green Cy.

w

The Cocaine Industry in Peru's Upper Huallaga Valley (U)

A Defense Research Assessment



Defense Intelligence Agency

DDB-2200-578-89
January 1989



[REDACTED]

The Cocaine Industry in Peru's Upper Huallaga Valley (U)

A Defense Research Assessment

*This is a Department of Defense Intelligence Document
Prepared by the West Europe/Latin America Division,
Directorate for Research, Defense Intelligence Agency*

*Authors: Caryn C. Hollis
Latin America Branch
South America Section*


[REDACTED]
*Latin America Branch
Military Support Activities Section*

Information Cutoff Date: 21 December 1988

[REDACTED]

DDB-2200-578-89

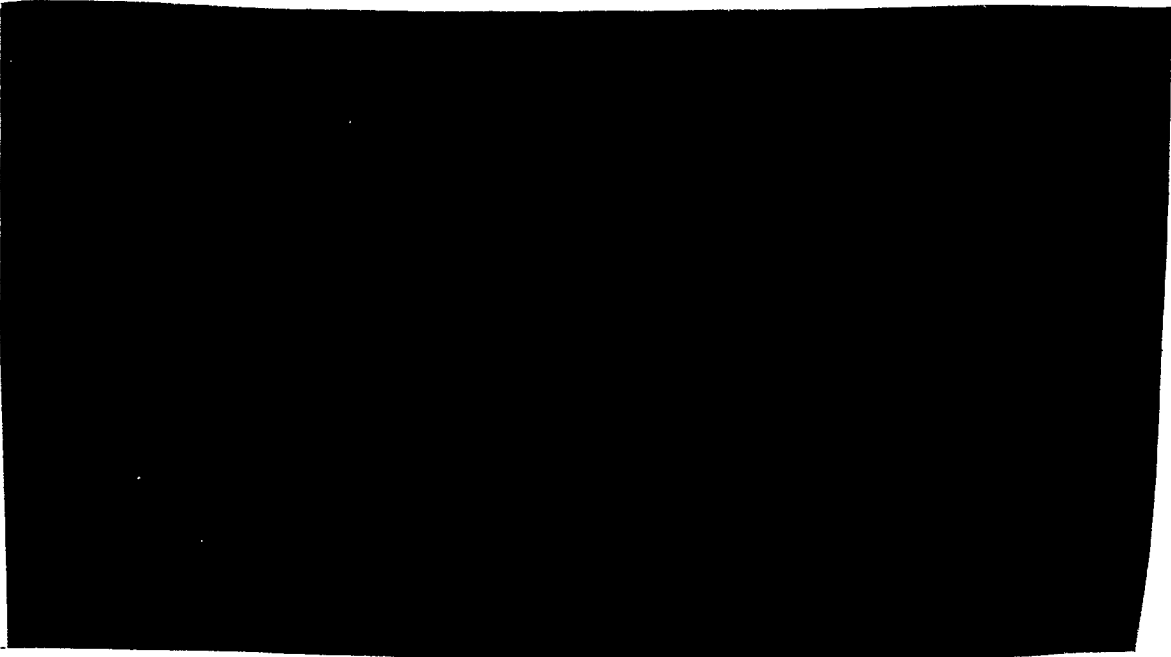
[REDACTED]



The Cocaine Industry in Peru's Upper Huallaga Valley (U)

KEY JUDGMENTS

(U) A model for analyzing the Andean cocaine industry requires identification of geographic and sociopolitical variables that directly influence its development and assist in isolating key vulnerabilities:

- Prerequisites include a remote region, a weak local civil government (or one permeated by corruption), appropriate climatic and soil conditions, a disaffected population, and poor police control.
 - The Andean cocaine industry involves five distinct but interdependent phases. From cultivation to distribution of the finished product, each phase involves increasingly sophisticated technology. Trafficking organizations are the catalyst providing entrepreneurial ability to satisfy the demand for cocaine and ensure further development of the industry.
 - To provide inputs such as chemicals and to facilitate transfer of finished cocaine products from the source country, the traffickers must have guaranteed access to a transportation infrastructure.
- 

UNCLASSIFIED




UNCLASSIFIED

(U) Coca farmer drying coca leaves in Peru's upper Huallaga valley.



(U) Drug Enforcement Agency advisers watch coca leaves being burned.



The Cocaine Industry in Peru's Upper Huallaga Valley (U)

Scope

(U) This assessment examines a narcotics agro-industry — cocaine — and its ability to develop and thrive within a specific geopolitical environment. This study isolates variables critical to the development of this illicit industry, illustrates the backward and forward linkages that permit it to function, and identifies the key vulnerabilities.

(U) The study examines only the supply side of the narcotics industry. Demand reduction and narcotics control in consuming nations must be addressed simultaneously if illicit drug production is to be controlled effectively. For discussion and analysis, this paper assumes that narcotics demand remains constant.

A Model for Analyzing the Andean Cocaine Industry

(U) Analysis of the Andean cocaine industry requires identification of those sociopolitical and geographic variables that impact directly or indirectly on its development. Prerequisites include a region remote from main population centers, a weak local civil government (or one permeated by corruption), an alienated population as a source of labor, necessary climatic and soil conditions, and poor police control. These factors are essential to development of illicit narcotics agricultural systems.

(U) Within a specific cocaine-producing country, sociopolitical environmental factors include the government's commitment and capacity to control coca production, the historical relationship between a growing area and the central government, the viability of the nation's judiciary, an underemployed or unemployed labor force, the

professionalism of law enforcement and military forces, and the economic setting. Geographic variables that directly impact upon the industry and the ability to interdict it include climate, topography, transportation infrastructure, and the natural resource base.

Cocaine Industry

(U) The Andean cocaine agro-industrial system has five distinct but interdependent phases — coca cultivation, production of coca paste, cocaine base conversion, cocaine hydrochloride (HCl) processing, and transshipment of the finished product for distribution in the international market. From cultivation to distribution of the finished product, each phase requires a more sophisticated level of technology. Each phase is contingent upon the efficient completion of all previous phases. Throughout, trafficking organizations serve as catalysts.

(U) *Coca Cultivation.* The coca cultivation phase incorporates inputs from outside the region, such as fertilizers and insecticides, and introduction of modern farming techniques. Government interference must be kept to a minimum or prevented. Because cultivation is labor intensive, it relies upon a pool of cooperative cultivators. That cooperation can be assured through profit incentive or intimidation.

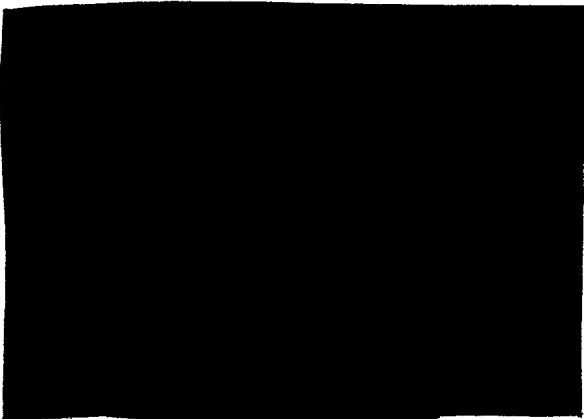
(U) *Coca Paste Processing.* After the coca leaves are harvested (some three to four times annually), they are processed into coca paste. Because of the bulk of the bagged leaves required, this activity occurs almost exclusively near the coca fields, in crude maceration "stomping" pits constructed to carry out this step. Kerosene, sodium bicarbonate, and ammonia water are



essential to conversion. Often the same farmers and field workers who harvest the coca crop perform this labor-intensive stage.

(U) *Cocaine Base Processing.* This phase involves collection of coca paste from numerous maceration sites for refinement at a centralized facility. Chemical inputs are potassium permanganate, sulfuric acid, ammonia water, and distilled water. Processing paste into cocaine base requires a more complex level of organization and a skilled labor force. However, the cocaine base lab is usually a rudimentary complex located away from road systems for concealment and protection from surprise attack by antinarcotics forces.

(U) *Cocaine Hydrochloride Processing.* The cocaine HCl conversion process requires the combination of base with a precise mixture of ether, acetone, and concentrated hydrochloric acid. The technology is sophisticated enough to require experienced chemists. HCl labs are extensive complexes when located in rural settings. Packaging for international distribution also is done at these sites. Personnel for this phase include supervisors, chemists, radio operators, couriers, security forces, and laborers.



Trafficking Organizations

(U) International narcotics trafficking organizations provide the entrepreneurial ability to satisfy the demand for cocaine and to ensure further development of the cocaine industry. These organizations secure the markets for the product, both as purchasers of intermediate products such as cocaine base and as distributors of finished

HCl. They coordinate such operations as bribing officials, maintaining informant networks, purchasing necessary weapons, operating communications nets, and procuring aircraft.

(U) Survival of these organizations depends on their ability to neutralize civil and military authority by undermining the judiciary and counternarcotics efforts. The trafficking organizations use their economic power to exert a strong influence over public and private opinion and to subvert the political, law enforcement, and judicial processes in their favor. Finally, the drug traffickers protect themselves through violence and narcoterrorism, targeting national-level leaders when necessary. If their operations require a loose affiliation or "marriage of convenience" with insurgents, they are willing to make such alliances.

Relation to Insurgency

(U) The same sociopolitical factors that foster development of illicit narcotics agriculture also provide the setting for emerging or existent insurgencies. The illicit narcotics trade benefits insurgents in two ways: First, government counternarcotics efforts further alienate a neglected population, providing a base of potential recruits. Second, insurgents gain weapons and financing from their associations with narcotrafficking — either from extortion or direct participation in narcotics processing.

Supporting Infrastructure

(U) Support subsystems, both legitimate and illicit, are essential to the cocaine industry. This support includes suppliers of chemicals, equipment, and transportation services, as well as banking and marketing services.

Summary

(U) The geographic and cultural settings dictate the structure of operations and capabilities of the narcotics organizations. Each phase of cocaine production exhibits distinctive characteristics with potential vulnerabilities. Identification of these characteristics, chokepoints, and vulnerabilities will assist in isolation and interdiction.



[REDACTED]

(U) Isolation, interdiction, and concentration upon one cocaine region, either growing or processing, will have minimal effect on the overall industry. Parallel cocaine subsystems exist throughout the Andean region. Simultaneous assessment of culturally and geographically specific vulnerabilities is essential for successful isolation and interdiction.

(U) A government's commitment to narcotics control and the capabilities of its counternarcotics forces are integral elements in the setting of a narcotics industry. The degree of integration of narcotics organizations into the sociopolitical fabric of the nation and the economy correlates directly with the effectiveness of counternarcotics programs. Resources available to a nation's military and police forces and their readiness, professionalism, and vulnerability to corruption by narcotrafficking organizations are significant factors in a government's ability to control a remote area. To undertake counternarcotics initiatives such as eradication, crop substitution, and rural development, the government must regain control of a region and secure it from the narcotrafficker and/or insurgent threat.

The Cocaine Industry in the Upper Huallaga Valley

Overview

[REDACTED]



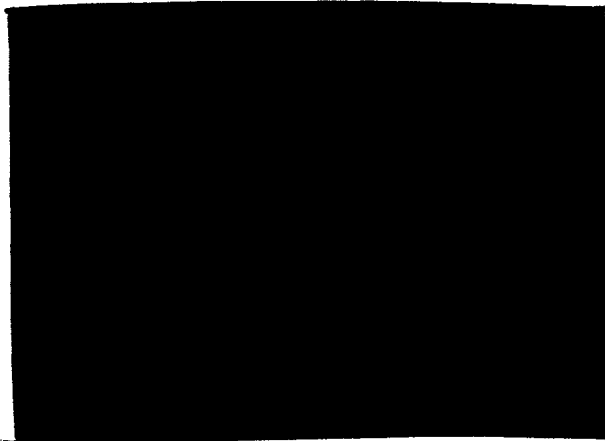
Geographic Environment

Climate

(U) Annual rainfall in the upper Huallaga valley is the highest in Peru, averaging at least 125 inches. Tingo Maria, headquarters for Peruvian narcotics interdiction operations, has an annual rainfall of 148 inches. Rain and cloud cover is heaviest in the summer and early autumn months of December through March. From June to September monthly rainfall does not exceed 8 inches on the average. Cumulous clouds cover the entire valley every morning year round. Thunderstorms are frequent, occurring on approximately 100 days per year. The lowlands along the river have high relative humidity, averaging near 94 percent in the morning. Temperatures are high, with an average of 89 degrees Fahrenheit in August at Tingo Maria. Temperatures do not vary much throughout the year. The coolest months, January and February, average 86 degrees in Tingo Maria. Appendix B provides climatic data for the UHV.

Topography

(U) The foothills to the west of the valley lead to the Andes mountains, with peaks ranging up to 22,000 feet. A ridge line of lower mountains and foothills, known as Cordillera Azul, lies to the east of the valley; altitudes generally do not exceed 4,500 feet. Lower elevations along the river and its tributaries are covered by a dense, tall, broadleaf evergreen forest with closely spaced trees and continuous double and triple canopy. Clearings, devoted principally to coca cultivation, are on stream terraces above the flood plains, not subject to inundation, and on the lower slopes of adjacent highlands. Higher elevations are covered by a shorter but exceedingly dense and wet broadleaf evergreen mountain forest.


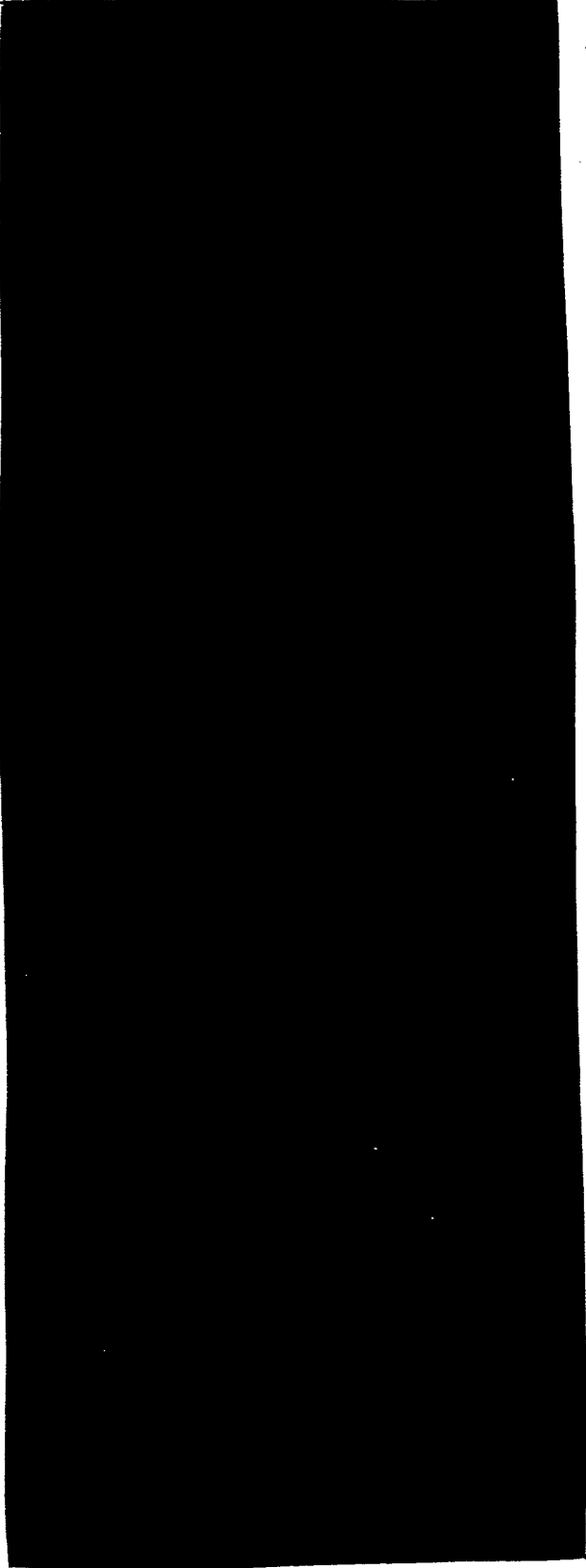



Land Transportation Network

(U) The road system from Lima to Tingo Maria is very limited and crosses the Andes at altitudes as high as 4,884 meters (16,024 feet). The entire route is 342 km (185 NM). Highway 20 extends northeast from Lima as a two-lane paved road to La Oroya. There it joins Route 3, a two-lane earthen road. This road courses north for 226 km (122 NM) to Huanuco. The remaining 116 km (63 NM) to Tingo Maria is via Route 16, which is paved and has two lanes.

(U) Approximately 43 km (23 NM) north of Huanuco, Route 16 passes through the Carpish Mountain tunnel at 2,540 meters (8,333 feet) altitude just before the road begins to descend into the upper Huallaga valley. There are no highway alternative routes to the UHV from Huanuco of a class sufficient to support a unibody cargo truck with load. A 78 km (42 NM) secondary road from Tingo Maria to Monzon to Quivilla (09-32S 076-41W) has the potential to be used as an alternate for all-terrain or four-wheel-drive vehicles. The segment from Monzon to Quivilla is single-lane, unpaved, and in poor condition, with an undefined course. It appears subject to periodic flooding.


(U) Huanuco is on the Huallaga River. The river is less than 2 meters deep at Huanuco, and possibly could serve as an alternate for small motorized craft to circumvent any highway checkpoint at Carpish Mountain. The Peruvian Government had planned two additional access routes from the Pan-American Highway on the

Work Force

(U) The UHV was sparsely populated until the agricultural reforms of the 1960s, when the Government encouraged migration into the valley through land reform and redistribution. The program failed from limited investment in infrastructure and lack of integrated services. The economic advantages of coca — high selling price, low production costs, and a guaranteed market — have attracted a new migrant to the valley whose only interest is participation in the illicit narcotics trade. This new wave of immigrants has tripled the valley's population.

(U) Two types of farmers produce coca in the UHV. The typical coca farmer is an Indian *campesino* who has migrated into the area within the past 10 years. These immigrants generally clear ground and plant coca on hilly, marginal land located far from any town or road. They come without family, live in temporary structures, and otherwise minimize their capital investment and costs of production. The other type of farmer is one who establishes a stake in the area, invests in buildings and equipment, clears and plants land for legitimate crops, and cultivates coca on a small scale as a cash crop for income insurance. The relative profitability of coca cultivation — with yields currently three to four times that of legitimate crops — and the perceived low risk of civil sanctions continue to encourage migration into the UHV.



[REDACTED]

west coast (Trujillo-Juanjui and Chimbote-Uchiza), but these projects have not been completed.

(U) Two alternative roads to the west coast from Huanuco are Routes 109/3 and 18. Route 109/3 is 275 km (149 NM) from Huanuco to Patiulca on the Pacific Ocean. Route 109 is a single-lane, stable earthen-surfaced road extending 168 km (91 NM) from Patiulca to the juncture of Route 3. It traverses the Andes at altitudes in excess of 5,000 meters (16,400 feet). From the 109/3 juncture at Quivilla, Route 3 traverses south and east some 107 km (58 NM) to Huanuco. Route 18 diverges from Route 3 some 107 km (58 NM) south of Huanuco at Cerro de Pasco. It is a single-lane, stable earthen-surfaced road that traverses the Andes some 226 km (122 NM) southwest to Lima. Altitudes on the route are as great as those on the course of Routes 20 and 3.

[REDACTED]

(U) Route 5, known as the "Marginal Highway," serves as the main road artery in the UHV. It extends north for 328 km (177 NM) from Tingo Maria to Juanjui and parallels the Huallaga River. The first 56 km (30 NM) from Tingo Maria to Aucayacu are paved and two-lane. The remaining road to Juanjui is two-lane with a stable earthen surface. The road continues north out of the valley as Route 5/10 to Tarapoto. From there, Route 13 connects with Yurimaguas on the Huallaga River, where vessels up to 1.2-meter draft can be accommodated.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

Narcotics Interdiction

(U) Peru's three police forces — the Guardia Civil (GC), the Guardia Republicana (GR), and the Peruvian Investigative Police (PIP) — are part of a combined police force under the Ministry of Interior. The senior uniformed police officer is the three-star Director of Police Forces. The Guardia Civil and Guardia Republicana are paramilitary forces. Units of all three police services have responsibility for various aspects of narcotics investigation and control.

[REDACTED]

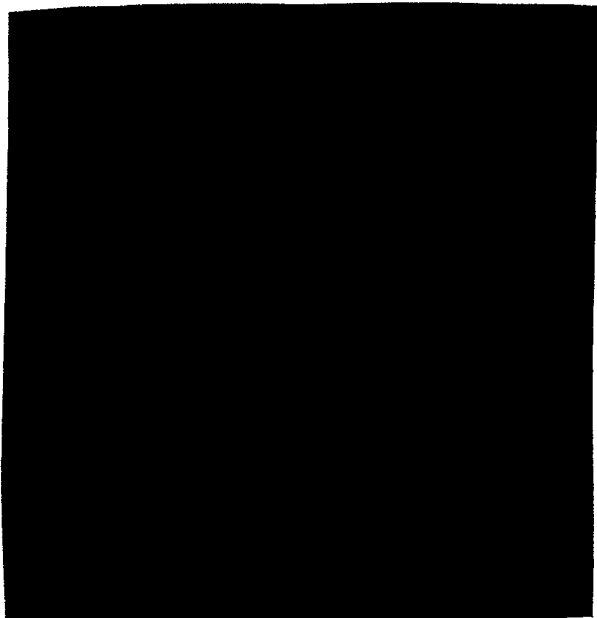
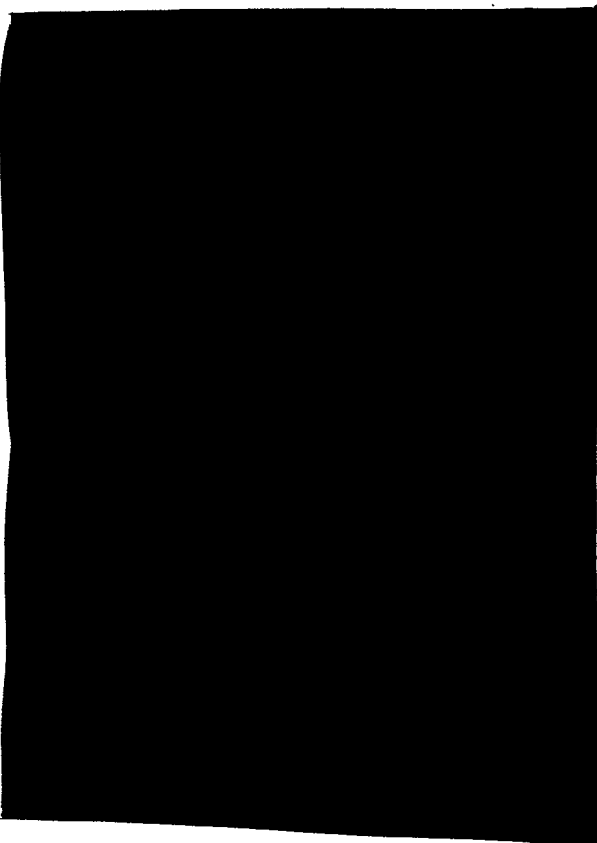
[REDACTED]

Coca Eradication and Control Organizations

(U) As a complement to drug law enforcement, two US-funded counternarcotics initiatives are under way in the UHV. These are an eradication program and a rural development project.

(U) The Coca Eradication and Control Organization for the Upper Huallaga Valley (CORAH) is a manual eradication force of 400 workers employed by the Peruvian Ministry of Interior, with US funding, to operate in the UHV. They are recruited from the larger towns within the valley. The workers receive "per diem" pay for the time they are active on eradication sweeps. The CORAH workers are housed at the Guardia Civil Santa Lucia base camp. The air assets of the US State Department Narcotics Assistance Unit provide helicopter transport for eradication teams, ferrying them to different sites within the valley.



(U) The United States and the Peruvian Government have conducted a joint anticoca herbicide testing program. The last phase of ground testing to develop an effective and environmentally safe systemic herbicide was conducted in March 1988. Follow-on aerial application testing is on hold as a consequence of unfavorable media coverage and the decision by the chemical's supplier not to market the potentially successful herbicide tebuthiuron, commonly known as Spike.

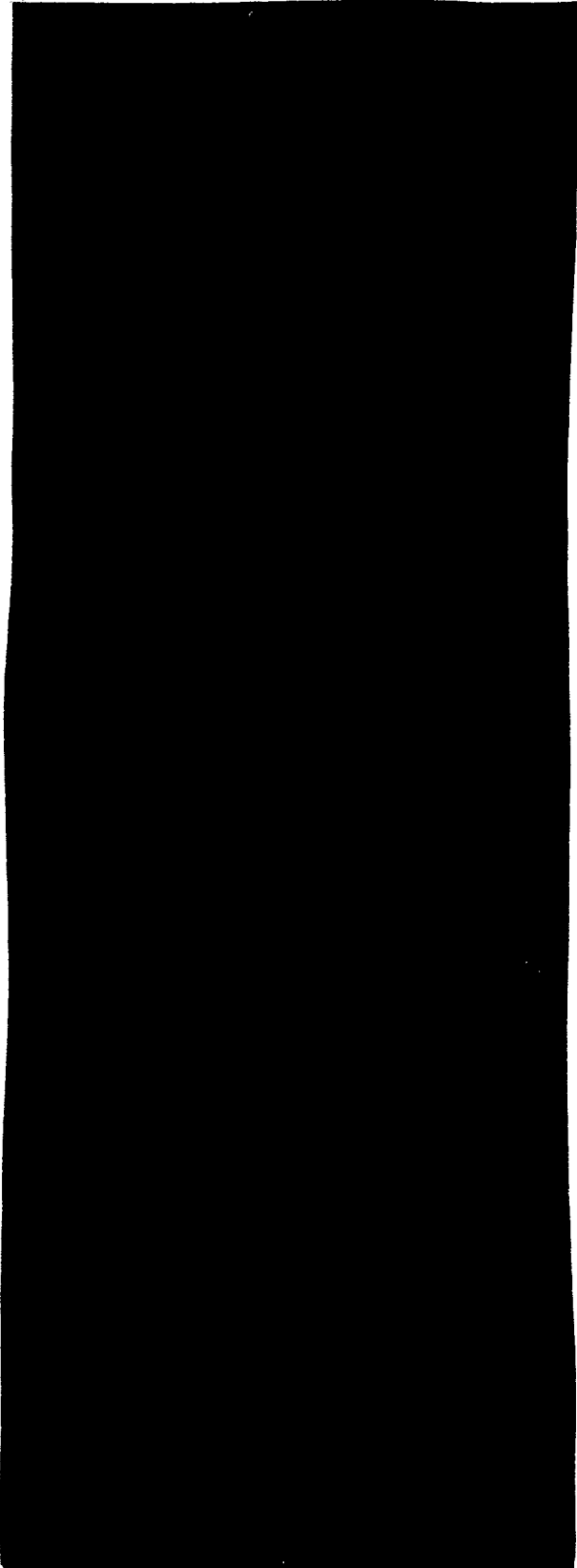
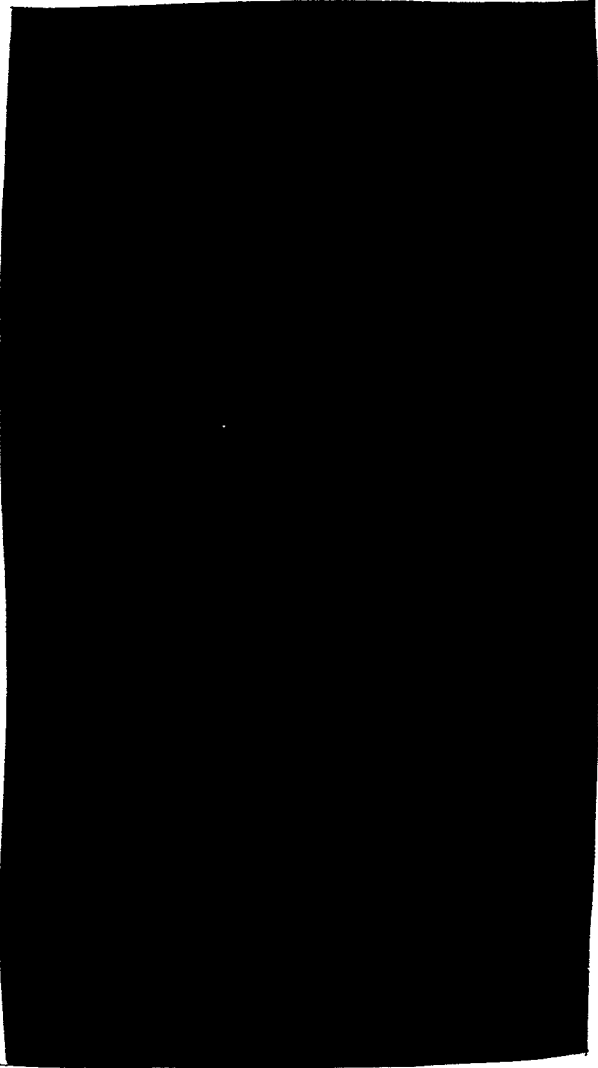
(U) The second of the US-funded counternarcotics initiatives under way is the Special Project for the Upper Huallaga (PEAH). Administered by the US Agency for International Development, the PEAH is an integrated rural development program intended to generate an alternative support system for UHV farmers who cease to grow coca. The main component of this program is crop substitution. The approved project has a \$23.4 million life-of-project funding, but various factors have limited its successful implementation. The most significant limitation is a continuous security threat. In April 1988, three PEAH employees were murdered while traveling on the main highway in the valley. They were stopped at one of the frequent roadblocks set up by SL subversives for checking documents and imposing road taxes.

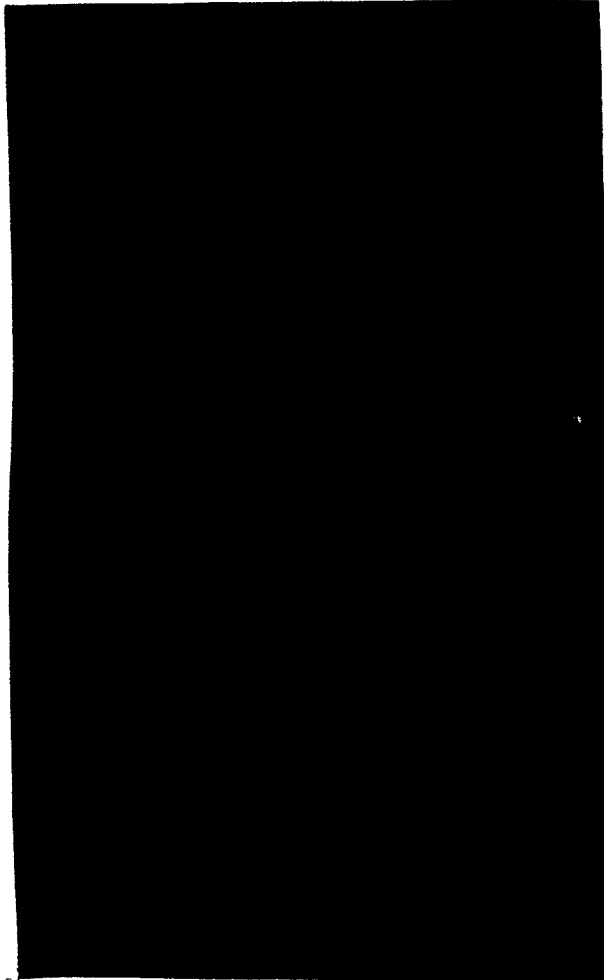
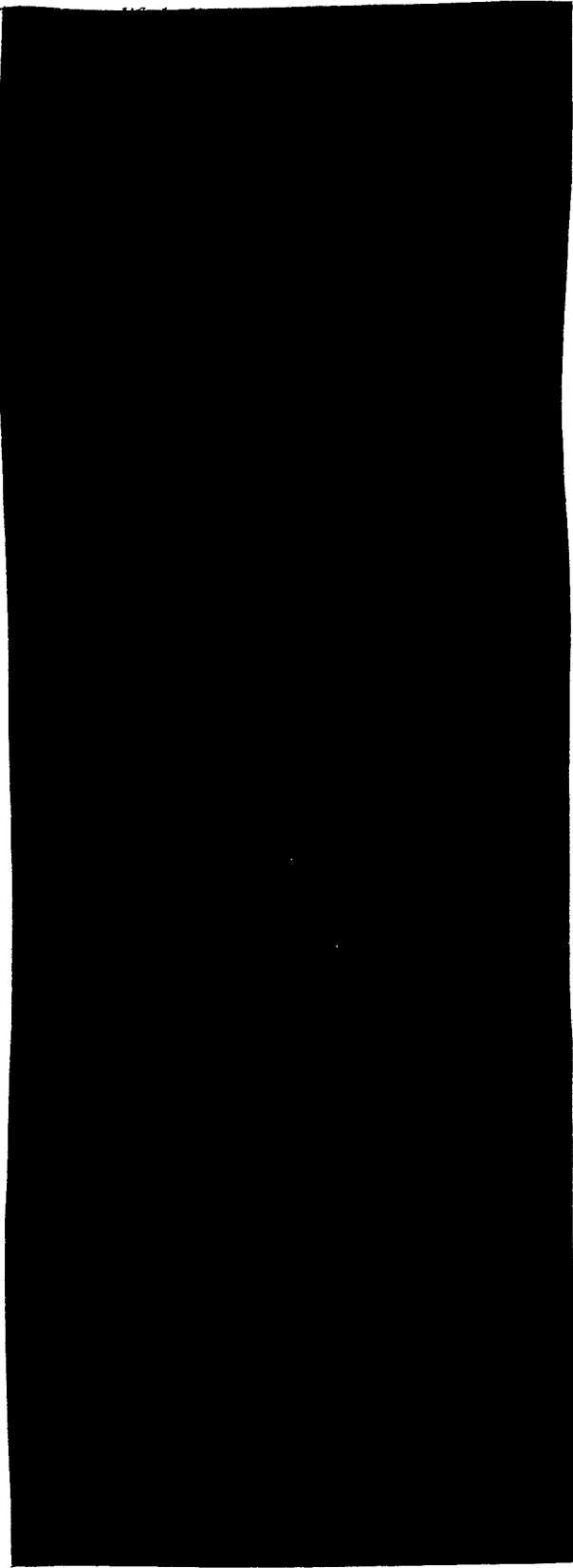
(U) The second most important constraint hindering successful crop substitution is the relative



profitability of coca compared to other crops that the fragile and acidic soil of the valley will support. All possible substitute crops such as oranges and avocados yield profits only 20 to 30 percent of those from coca. Moreover, unlike coca derivatives, no markets are guaranteed, nor is adequate transportation available, for profitable sale of the substitute products.

(U) Additional obstacles to the success of PEAH include the remote location, an undependable road network, unreliable communications, sporadic electrical generation, and an absence of respected civil authority. These all are amplified by violence and intimidation related to insurgency and cocaine trafficking; many farmers have been murdered for attempting to halt coca cultivation.





Judiciary

(U) Peru has adequate statutes that outlaw un-registered coca cultivation and production and trafficking of illicit narcotics. However, application of those laws is sporadic. When captured, traffickers undermine the judicial and penal systems by obtaining release through bribes and threats. Judges routinely interpret the law in the narrowest sense to secure the release of major traffickers. Numerous scandals surrounding complicity of high court justices have emerged in the Peruvian press.

(U) The penal institutions are inadequate, understaffed, and apparently outside the control of authorities. Narcotics traffickers, Sendero Luminoso, and MRTA prisoners dominate the main prisons. Newspaper accounts reveal that over 500



[REDACTED]

traffickers did not return from prison furloughs during 1988. These escapees were never pursued.

[REDACTED]

[REDACTED]

Appendix B

Climatic Data for the Upper Huallaga Valley (U)

NOTE: Juanjui's altitude is 1,152 feet; Tingo Maria's altitude is 2,182 feet.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Temperature (°F)													
Extreme Maximum													
Juanjui	100	99	99	97	95	95	102	100	102	100	99	100	102
Tingo Maria	97	94	97	94	93	91	92	96	97	100	100	100	100
Mean Maximum													
Juanjui	91	90	89	88	87	87	88	91	92	90	91	92	90
Tingo Maria	86	86	87	88	88	87	87	89	88	88	88	87	87
Extreme Minimum													
Juanjui	61	63	63	54	59	54	54	55	54	57	59	57	54
Tingo Maria	55	57	59	61	50	52	53	48	54	50	50	50	48
Mean Minimum													
Juanjui	70	69	69	69	68	67	65	65	68	69	70	70	68
Tingo Maria	66	66	66	66	66	65	64	64	64	65	66	66	65
Days Maximum Greater than/Equal to 90													
Juanjui	23	18	16	15	12	9	15	22	23	22	21	25	221
Tingo Maria	11	6	9	13	14	11	13	17	15	14	14	11	148
Precipitation (inches)													
Maximum													
Juanjui	10.6	6.4	6.5	10.4	5.5	3.0	2.8	4.4	5.4	9.6	7.6	12.0	73.4
Tingo Maria	26.0	20.5	26.2	21.0	15.2	7.3	9.3	7.6	11.7	15.9	18.3	21.6	200.6
Mean													
Juanjui	3.5	4.0	5.0	8.9	4.8	1.5	2.3	2.4	4.1	5.9	6.1	4.9	53.4
Tingo Maria	18.6	18.6	16.5	11.2	11.2	8.3	7.5	7.0	7.0	11.5	12.7	18.0	148.1
Maximum 24-Hour													
Juanjui	3.7	2.5	2.2	6.7	3.1	1.3	1.7	2.2	2.4	3.6	3.9	4.7	6.7
Tingo Maria	3.9	4.1	4.3	6.3	4.3	2.0	1.8	2.4	2.8	3.2	3.3	7.4	7.4

UNCLASSIFIED

Appendix B — Continued

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Days Greater than/Equal to 0.004													
Juanjui	9	9	12	15	12	6	6	7	11	12	12	9	121
Tingo Maria	24	22	22	20	16	14	13	13	13	19	20	21	216
Relatively Humidity (percent)													
Mean at 0700 Local													
Juanjui	93	93	94	94	94	94	93	93	93	93	93	93	93
Tingo Maria	95	94	95	94	93	93	93	93	93	93	93	95	94
Mean at 1300 Local													
Juanjui	66	67	69	70	70	69	67	62	63	67	66	64	67
Tingo Maria	69	72	69	67	65	65	64	62	63	65	68	68	67
Mean at 1900 Local													
Juanjui	76	76	81	82	83	81	77	74	74	79	78	76	78
Tingo Maria	86	87	87	87	86	86	85	84	85	86	87	87	86
Cloudiness (percent)													
Mean at 0700 Local													
Juanjui	94	96	98	98	98	97	93	82	85	94	95	95	94
Tingo Maria	97	99	98	96	94	93	89	84	86	94	94	97	93
Mean at 1300 Local													
Juanjui	73	74	77	68	63	55	54	50	55	66	64	65	64
Tingo Maria	82	90	83	79	64	54	45	48	61	72	76	79	69
Days Less than 1/4 Cloudy¹													
Juanjui	.	.	.	1	1	1	2	4	2	1	.	1	1
Tingo Maria	.	.	.	1	2	3	6	5	2	1	.	.	21
Days Greater than 3/4 Cloudy													
Juanjui	23	21	25	22	18	14	13	12	17	22	21	21	227
Tingo Maria	27	26	27	23	18	13	11	11	17	23	24	25	245
Ceiling/Visibility (percent)													
<i>Less than 1,000 ft/2.5 miles</i>													
At 0700 Local													
Juanjui	43	48	61	58	68	66	58	44	47	49	43	38	52
Tingo Maria	39	44	45	42	41	32	23	19	20	37	36	36	34
At 1300 Local													
Juanjui	2	5	5	2	2	2	3	1	2	1	1	1	2
Tingo Maria	6	7	5	3	1	2	2	1	2	3	4	3	3

¹ = Less than 0.5 day

UNCLASSIFIED

[REDACTED]

Appendix B — Continued

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
At 1900 Local													
Juanjui	2	1	1	1	2	2	0	1	1	1	0	1	1
Tingo Maria	2	2	4	2	2	0	1	0	1	2	2	0	2
<i>Less than 300 feet/ 1.0 miles</i>													
At 0700 Local													
Juanjui	9	17	21	18	23	31	36	23	19	12	10	11	19
Tingo Maria	14	17	16	18	15	11	10	7	3	11	13	10	12
At 1300 Local													
Tingo Maria	0	1	1	0	0	0	1	0	0	0	1	1	0.5
At 1900 Local													
Tingo Maria	0	0	0	0	1	0	0	0	0	0	0	0	0.1
Wind													
Prevailing Direction													
Tingo Maria	N	N	N	N	N	N	N	N	N	N	N	N	N
Mean Speed (knots)													
Tingo Maria	1	1	2	1	2	2	2	2	2	2	2	2	2

UNCLASSIFIED

(Reverse Blank)