

Alternative Development in the South American Andes: Report of Findings

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Note with credits:

Andean Grupo de Análisis para el Desarrollo (GRADE) of Lima, Peru, conducted in 2004 the Peru field case study whose findings inform this report. Eduardo Zegarra Méndez (Ph.D.) led that study (which produced its own report, in Spanish), while Mr. Juan Pablo Gayoso managed the field work. Ms. Karina Peña and Mr. Demetrio Laurente worked as interviewers. Mr. Jones, a former UNODC Alternative Development Andean regional advisor, supervised the effort on behalf of UNODC as well as conducted several of the interviews as a GRADE team member. He also prepared an earlier report for UNODC, "An Overview of Alternative Development in the South American Andes," whose findings are summarized in Part 2 of the report here. Mr. Jones later prepared a global report for UNODC, using material from a parallel effort in Southeast Asia, with a field case study in northeast Thailand. The global report, presented to the Commission on Narcotic Drugs in March 2005, was later published by UNODC as an official document.

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Part 1—Introduction and Background

The Topic and the Mandate

Some version of rural and regional development crafted to serve drug control, today called Alternative Development (AD), emerged 25 years ago in the Andes.¹ It began as “crop substitution” in the mid-1970s in Bolivia’s Chapare, and in the early 1980s in Peru’s Upper Huallaga Valley. The United States was the major donor. United Nations Fund for Drug Abuse Control (UNFDAC), a UNODC antecedent, entered Colombia, Peru, and Bolivia with projects in late 1984. But in Colombia, unlike in Bolivia and Peru, the scale of AD remained small until 2000. By then, the country had already well surpassed Peru and Bolivia to become the world’s largest coca producer.² In that year, the US began to invest in AD as a relatively small part of its support to Plan Colombia.

Many donors have contributed to AD in the region over the years. The major ones, in the order given, have been the US (USAID), the UN (UNODC), and Germany (GTZ), with the EU now beginning to play a growing role.³ But in magnitude of investment, the US surpasses all others. In Peru, the US funded about 95 percent of AD in 2003. The Andes fall within a historic US sphere of influence, and the US deems illicit drugs from there, and the money they generate, a national security threat. This, and the resulting heavy US investment, give the US strong leverage over national drug-control policies and programs. Indeed, that leverage conditions the setting and defines national drug-control frameworks. And it must figure decisively in any study of AD in the Andes.

¹ The years have seen much debate on what AD is, or how it relates to rural development, or to integrated rural development. The Action Plan on International Cooperation on the Eradication of Illicit Drug Crops and on Alternative Development, adopted by the United Nations General Assembly’s Twentieth Special Session in 1998, defines AD “as a process to prevent and eliminate the illicit cultivation of plants containing narcotic drugs and psychotropic substances through specifically designed rural development measures in the context of sustained national economic growth and sustainable development efforts in countries taking action against drugs, recognizing the particular socio-cultural characteristics of the target communities and groups, within the framework of a comprehensive and permanent solution to the problem of illicit drugs” (quoted in *The Role of Alternative Development in Drug Control and Development Cooperation*. International Conference, January 7-12, 2002. Feldafing, Germany. GTZ-UNODC. p. 4). Simply put, AD is a variable collection of rural-development concepts and tools used to create a licit economy as alternative to an illicit one.

² UNFDAC began work in Cauca Department in 1984, and soon entered Caquetá, Guaviare, and Putumayo. But its initiatives were small in relation to the magnitude of the growing spread of illicit crops.

³ UNODC’s main Andean AD donors over the past decade have been Italy, Germany, the US, and Sweden.

This report describes the major findings of a study of AD in the Andean countries of Bolivia, Peru, and Colombia. The study is a response to Commission on Narcotic Drugs Resolution (CND) 45/14, of March 2002, which

Urges member States, in cooperation with the United Nations International Drug Control Programme, to facilitate a rigorous and comprehensive thematic evaluation, within available voluntary resources, for determining "best practices" in alternative development by assessing the impact of alternative development on both human development indicators and drug control objectives and by addressing the key development issues of poverty reduction, gender, environmental sustainability and conflict resolution.

The Study Method

The study comprises two parts: a stand-alone overview of AD in the three countries based on information from evaluation and other reports, seminars, workshops, and interviews with a range of AD actors over the past decade; and an in-depth field assessment of AD in the Aguaytía-Neshuya area of Peru's central Huallaga Valley over the same period. This study complements a similar two-part exercise in Asia, with field assessment in Thailand. A global report synthesizes the two regional studies.

Peru was selected for the field assessment for reasons of security as well as volume of coca present over the past decade, combined with the substantiality of AD investments there to combat it. Several factors favored the choice of the Aguaytía basin, Ucayali Department, for the assessment. First, it has illicit coca, though levels have declined from 16,000 hectares in 1995 to an estimated 500 hectares today. Second, a diversity of AD donors, projects, and strategies have operated there over the period. Third, the Comisión Nacional para el Desarrollo y Vida sin Drogas (DEVIDA), Peru's drug-control agency, deems conditions there favorable for AD and chose the basin as a pilot zone for its new strategy of gradual and consensual coca eradication. Fourth, the basin is relatively secure for conducting the assessment. And fifth, the basin's transportation infrastructure and degree of human dispersion accord with the assessment's limited budget.⁴

A Peruvian research entity, Grupo de Análisis para el Desarrollo (GRADE), conducted the assessment.⁵ A lack of baseline data precluded use of a classic methodology to measure impact in terms of project-established indicators by comparing AD participants with a non-participant control group (almost all farmers had at some time participated in

⁴ The study was conducted in four zones of Aguaytía: (1) Neshuya, where UNODC implemented an oil-palm project, including construction of a processing plant, between 1991 and 1999; (2) Huipoca, where USAID funded AD projects between 1995 and 2002 (through contractors Winrock, and then Care), but where farmers since 2002 have rejected voluntary-eradication projects promoted by DEVIDA and Chemonics, another USAID contractor; (3) Shambillo, where both UNODC and Chemonics are now active; and (4) Divisoria, where UNODC (coffee) and Chemonics (several crops) both work.

⁵ The Regional Overview was prepared by Dr. James C. Jones, under contract with UNODC. Dr. Jones also supervised the GRADE field assessment as well as conducted several of the interviews as a member of the GRADE team, led by Dr. Eduardo Zegarra Méndez. Mr. Juan Pablo Gayoso managed and participated in the field work, which also included Ms. Karina Peña and Mr. Demetrio Laurente as interviewers.

AD) at two points in time, thus obliging GRADE to use a methodology relying on participant recall and perception of impact. Information was gathered from participants through individual interviews, focus groups, and a 191-household survey.⁶ Also interviewed were officials at local, regional, and national levels as well as AD technical personnel and individuals from donor agencies. Both quantitative and qualitative methods were used to analyze a large volume of data. GRADE also consulted a considerable body of written material on the region and AD projects there.

Setting and Population—Who Grows Illicit Crops?

After a quarter-century, donors and practitioners still often fail to appreciate the Andean social, economic, and cultural milieu in which AD operates. As the Office of Technology Assessment of the US Congress noted, “Development activities designed to reduce coca production have been created with insufficient understanding of the existing sociopolitical, economic, and environmental conditions of recipient countries.”⁷ More than a decade later, this “insufficient understanding” continues to plague AD, inviting unrealistic expectations and projects that are doomed to failure.

Class and ethnicity are fundamental organizing principles in Latin American society. Backed by four centuries of history, the principles run deep. Class lines, among the world’s most rigid, allow the richest one-tenth of the population to earn 50 percent of total income, and the poorest tenth but 1.6 percent.⁸ As the co-author of a recent World Bank report on inequality and exclusion in the region notes,

"Latin America and the Caribbean is one of the regions of the world with the greatest inequality....Latin America is highly unequal with respect to incomes, and also exhibits unequal access to education, health, water and electricity, as well as huge disparities in voice, assets and opportunities. This inequality slows the pace of poverty reduction, and undermines the development process itself."⁹

⁶ Focus groups were convened in three of the four zones (see Note 4); it was not possible to convene them in Divisoria because of violence there during the time of the study. Information from the focus groups and the interviews was used to design the survey, which was first tested and appropriate adjustments made.

⁷ Office of Technology Assessment (OTA). 1993. *Alternative Coca Reduction Strategies in the Andean Region*. United States Congress. OTA-F-556. July. U.S. Government Printing Office. Washington, D.C.

⁸ According to the 2004 UNDP World Development Report, Colombia (Gini coefficient = 57.6) is the ninth most unequal country in the world. And the trend may be growing: the percentage of national income going to the poorest 20 percent of the population fell from 3.0 percent in 1996 to 2.7 percent in 1999. A 2004 Colombia Controller-General’s report on social policy notes that two-thirds of all Colombians, (64.3%), and 85.3% of rural Colombians, live below the poverty line of three dollars per day. And the wealthiest 10 % of the population earned 80.27 times more than the poorest 10 % in 2003 (cited in Kare Calligaro and Adam Isacson 2004. *Do Wealthy Colombians Pay Their Taxes?* Center for International Policy. Aug. 3. <http://ciponline.org/colombia/040804cip.htm>)

⁹ David de Ferranti, World Bank Vice President for Latin America and the Caribbean. <http://wbln0018.worldbank.org/LAC/LAC.nsf/ECADocByUnid/4112F1114F594B4B85256DB3005DB262?Opendocument> The report is *Inequality in Latin America and the Caribbean: Breaking with History?* David de Ferranti, Guillermo Perry, Francisco H.G. Ferreira and Michael Walton. The World Bank. 2003.

Andean clients of AD are victims not only of social exclusion, but also of a criminal drug enterprise with a vested interest in maintaining the exclusion. The clients are overwhelmingly upland migrants, most of whom entered remote tropical lowlands after 1950. Many of the migrations preceded the advent of illicit drug economies. Factors triggering them include land shortage, drought, political violence, and often illusory colonization schemes, sometimes promoted by governments as substitutes for much-needed but politically volatile land reform. Colombia, where land reform has never worked, experienced a migration from the center to an expanding frontier periphery over most of the last century.¹⁰

The rate of Colombian migration greatly increased in the early 1950s as peasants sought to escape the turmoil of *La Violencia*. In Peru, government colonization schemes, which typically promised much and delivered little, drew legions of highland peasants into the Upper Huallaga Valley during the 1960s. And in Bolivia, the 1952 revolution and upland agrarian reform freed many peasants from serf-like conditions. And they too soon began to colonize the country's northern and eastern lowlands, including the Chapare.

As the industrial world's demand for cocaine grew in the 1970s, criminal enterprise chasing huge profits entered these remote hinterlands to involve long-forgotten peoples in an illicit economy. Peasants worked as growers, couriers, processors, and lookouts and saw money as never before. Merchants, prostitutes, and hoteliers flocked to boom towns like Shinaota (Chapare), Tocache (Upper Huallaga), and Puerto Asís, Orito, and La Dorada (Putumayo). And new migrants came in droves, some to stay, others to work seasonally, but all "pushed" by what earlier migrants had fled, yet now "pulled" by the elusive promise of quick relief from poverty, if not dreams of something more.

Other forces paralleled and fueled the growth of this illicit economy. In Bolivia, large numbers of miners made redundant by "structural adjustment" in the mid-1980s entered the Chapare. They had few agricultural skills, and planted coca to survive. Peru over the same decade reeled under its worst economic crisis in more than a century. And in Colombia, "neo-liberal" reforms in the 1990s, and the soaring costs of a bloody internal war, cut State support to agriculture and threw that sector into a crisis deepened by falling international coffee prices.

The clients of Alternative Development are mestizo and Amerindian peasants on whom these historical forces have operated. Their world is a peasant world in which relations are face to face and markedly personal. High rates of illiteracy make for a strong oral tradition, and a spoken promise tends to carry the force of a written contract in the literate world: failure to keep one's word is a breach of contract. Their outlook is decidedly local: most have little functional knowledge of how the world works beyond their local

¹⁰ The results of a Colombian government study released in March 2004 reveal that 0.4 percent of landholders (15,273 holdings) accounts for 61.2% of registered agricultural land, whereas 97% of landholders (3.5 million) account for only 24.2 % (cited in Kare Calligaro and Adam Isacson 2004. *Do Wealthy Colombians Pay Their Taxes?* Center for International Policy. Aug. 3. <http://ciponline.org/colombia/040804cip.htm>)

communities. It is not unusual to find those born in remote colonization zones who have never been beyond the provincial capital, if there.

The historical forces have twisted and distorted this peasant world in perverse ways. Social bonds in migrant communities tend to be tenuous as do those of organizations—when organizations exist at all; indeed, “community” itself may exist in little more than a geographic sense. The social texture is brittle and vulnerable to internal and external disturbance. Further aggravating matters has been an often ugly violence. Drug trafficking alone has often brought it, as rival bands compete for control of territory and enforce “contracts” with growers. Adding to the violence, especially in Peru and Colombia, has been the presence of irregular armed groups, sometimes tapping the illicit economy to generate resources to pursue their own aims. They recruit peasants in their insurgent war against the State, or against each other for momentary control of space and transit routes. The violence inflicted by Peru’s Shining Path on hamlets in the Huallaga and Apurímac Valleys in the 1980s and 1990s was stunning in its brutality, as has been that by insurgents, and much more so by rightwing militias, often allied with the State, on hamlets in rebel-held parts of Colombia.¹¹ Irregular groups have violently opposed local efforts to organize, seeing them as enemy-inspired or a threat to their own interests.

This historical dynamic, steeped in violence, has given rise to an individual psychology whose essence is fear and deep mistrust. The fear and mistrust are directed not only at the “outsider,” which includes a State that has long neglected its rural citizens, but also at others in the community. Things are thought to be other than what they seem, nobody is trusted; devils, real and imagined, parade endlessly through the psyche. This is the setting in which Alternative Development typically operates.

Part 2—Where We Are: Do We Measure Up?

Regional Overview: A Summary

This section summarizes findings from the first part of the study, the Regional Overview. The findings here can be compared to those from the field assessment, the subject of the next section. Supporting quotes included in the original overview, and most of the citations, are here omitted for brevity. Organizing the section are the five thematic areas that organize the Overview: commitment, development, human rights and democracy, law and law enforcement, and conflict resolution. These demarcate the current AD

¹¹ The dynamic involving insurgents, peasants, and drug traffickers was vastly different in the two Peruvian valleys. Until legislation de-penalized coca-growing in Peru in 1991 (as a counterinsurgency measure) and made peasants candidates for Alternative Development, Shining Path, before itself plunging deeply into the drug trade, often protected peasants in Huallaga from both the State and ruthless drug dealers. In Apurímac, by contrast, where coca expanded on a large scale in the early 1990s, peasants allied themselves with drug traders to secure arms to fight Shining Path, which used the valley as a retreat and laboratory for learning to control rural populations. This points to the often marked historical differences between coca-growing regions in a single country—differences that bear on the workings of Alternative Development and need to be understood.

consensus and debate. The Overview closes with a section that analyzes impacts and successes.

Commitment

AD donors and practitioners subscribe to the need for commitment at the international, national, and local levels. Yet the interpretation and form of that commitment vary. The thrust of U.S. anti-drugs policy favors the reduction of illicit crops through direct eradication, where progress is immediately demonstrable. The policies of European countries, by contrast, tend to see illicit crops as a poverty problem and favor their reduction through economic development. This policy divergence, or lack of international consensus, is reflected in United Nations instruments, which embody both a hard line and a soft line, and are ambiguous as regards when and were to apply each, or in what mix.

This ambiguity poses a dilemma for national governments, which typically rely heavily on international assistance for AD. The Peruvian government, for example, cannot use US funds for AD that is “unlinked” to eradication. The Europeans, by contrast, impose no conditions. A dependence on international assistance, often sought under the principle of co-responsibility, can also work against national commitment since the investment of public resources encourages commitment and is strong evidence of it.

There is another issue. A country typically creates an “extraneous” agency to coordinate, even implement, AD projects—PLANTE in Colombia, CONTRADROGAS/DEVIDA in Peru, PDAR/FONADAL in Bolivia. These entities are sometimes seen as necessary to respond to the special situation defined by the presence of illicit crops. While the arrangement may have advantages for donors, and may allow countries to capture and manage resources better, it can also lend itself to political manipulation and the slighting of line development agencies—ministries of transportation, agriculture, and sustainable development. Since the “extraneous” entities are by nature “short-term,” this slighting of development agencies can reduce commitment and the chances for sustainable initiatives.

At the community level, it is agreed that there must be commitment. And AD projects typically require some evidence of it (e.g., materials, labor), though the nature of the evidence varies much. Reduction pledges in exchange for AD can be tricky: they can send the message that government values illicit-crop reduction above peasant welfare.

Development

Alternative Development is an orphan child. It falls in a gray area between drug control and development, as those are usually understood. Although most experts today agree that AD should be integrated with development policy, such “mainstreaming” is the exception in practice, as is the involvement of government development agencies.¹²

¹² The phrase “alternative livelihoods” rather than AD is increasingly used in Afghanistan and elsewhere, notably by the Germans and the British. It differs in concept from AD in at least two ways: it is not project-based, and it seeks to “mainstream” drug-control development into regional and national development plans and programs.

This gap between theory and practice is related to the presence of two camps, one that sees AD as having a special character, and that emphasizes its drug-control dimension, and another that emphasizes its development dimension. The first camp focuses first and foremost on the illicit crop, the second first and foremost on people and poverty reduction. The camps differ in the way they design, implement, monitor and evaluate AD projects. The first camp measures progress in terms of illicit-crop reduction and expects prompt results. The second measures progress in terms of poverty reduction and expects results over time. The U.S. belongs to the first camp, European donors to the second. Indeed, the U.S. distinguishes between counter-narcotics funds, which finance AD, and development funds, and so monitors and evaluates the use of each differently.

Stressing counter-narcotics goals—with an urgent need to show a drug-control success—over development goals can make for haste and undermine the use of sound development practices, thus increasing the likelihood of project failure. It can also lead to establishing unrealistic projects in areas with illicit crops (which may have limited potential for environmentally sustainable alternatives) rather than in expulsion zones—from which migrants originate—or in areas otherwise more suitable. The AD project literature brims with examples of the use of faulty development practices, but the cost of the resulting failure is high, and has a strong multiplier effect among marginal peoples. Memories of it linger for years, and word spreads to those who have not experienced AD, leading them to reject it. Failure undermines local leaders who support AD by eroding their credibility with supporters, thus making militant opponents of those whose support is most valuable.

Human Rights and Democracy

Alternative Development, like drug control in general, has much to do with human rights and democracy, which are of great concern today in a very troubled region. Indeed, democracy and governance projects aiming to instill a sense of civic responsibility are sometimes prepared in the context of AD. At the same time, growing economic marginality is leading many in the region to doubt the merits of democracy.

The essence of democracy is participation, and it is now routinely accepted that AD, as development generally, should be “participatory.” Participation, which creates a sense of “ownership” and enables participants to identify with development initiatives, assumes special importance in a milieu where the historical condition of would-be beneficiaries is one of exclusion. Yet many projects still fall short. Participation means that the target population should participate directly and substantially in all stages of the project cycle: from project identification through project design, implementation, monitoring, and evaluation. Participation refers to households as well as to collectivities such as local organizations and local communities. At the higher levels, which often now enjoy a measure of political democracy, it refers to municipalities and regional governments.

There are instances in which national governments or international donors have barred the participation of local government in AD, usually because its leaders are thought to be

involved in drug trafficking. Yet such exclusion can be risky: it can lead to radicalization, or to the emergence of violent groups, or to an alliance with those already present.

Gender—a perspective rather than a project “component”—is a vital dimension of participation, as AD practitioners have now recognized for more than a decade. Women tend to be more concerned than men with family health, hygiene, and food security, and their family survival strategies often better endure crisis. One measure of the growing consensus on gender’s importance is that AD projects increasingly call for sex-based performance indicators. Yet many projects still fail to give gender its due.

AD projects must themselves sometimes create the conditions for participation, or even for basing a project, by developing local organizations. Yet creating new organizations can also be dicey, especially if pre-existing ones come to see them as a threat.

A final consideration has to do with equity. AD’s beneficiary populations are rarely homogeneous, even within small geographic areas: some individuals or groups are always more marginal than others. Researchers typically face fewer restrictions—enjoy more “technological space”—when working with farmers having greater resources—more or better land, more education, more risk tolerance. Yet AD must not succumb to working only with the resource-favored. It also happens that AD works with some farmers or communities—those producing illicit crops, or who might—and in so doing ignores others. Such exclusion breeds more ill will in environments already riddled with resentment and mistrust. The potential for such division is real, and shows the need for rural and regional development on a grand scale.

Law and Law Enforcement

The relation of AD to national anti-drugs laws and their enforcement occasions strong debate. Colombia’s Law 30 makes the planting of coca (but for small amounts allowed native groups for traditional use), marijuana, and opium poppy a crime and violators can be punished. Peru’s Decree Law 22095 makes all coca illegal except that grown by farmers registered with a state-controlled purchasing agency. The act of cultivation, however, is not a crime (except in national parks). Bolivia’s Law 1008 makes all coca illegal except that grown in traditional areas. These laws define the legal space for AD.

But other forces are also at play. Subjective notions in the larger society about social justice and the rule of law combine with the objective content of the drug laws to condition how those laws and their enforcement are viewed. In the Andes, where the underclass of sedentary farmers and their illicit crops are easy drug-control targets, widespread unpunished corruption (including drug trafficking) among elites mingles with a long-simmering peasant resentment to allow government scant moral authority.

Some experts question whether peasants growing illicit crops should be criminalized, or treated as criminals. Peru, for example, after coca farmers sought protection from Shining Path, removed coca-growing from the penal code in 1991 in the name of national security, and decreed the farmers different from drug traffickers and candidates for AD.

Use of the repressive arm of law enforcement is highly polemical. Enforcement takes the form of both interdiction and crop eradication. Interdiction, or disrupting supply chains, is often viewed as a complement to decriminalization since its immediate target tends to be other than peasant farmers or their crops. Most polemical of all is the practice of forced eradication, whether manual or chemical. By creating unrest and often violence, the practice can discourage development, including long-term nation-building, which is key to lasting drug and crime control.

The option of AD with “voluntary” eradication, which governments have frequently allowed peasant farmers, is also controversial since it tends to involve some form of “conditionality,” typically stated in a written agreement with communities or individual farmers. The sequencing of AD and eradication comes into play here—whether eradication should precede AD, should parallel it, or should occur only after sustainable alternatives are generating a viable income. Efforts to eliminate illicit crops before sustainable alternatives are in place can have the same effect as forced eradication, with neither illicit-crop reductions nor alternatives being sustainable. And again, unrest and violence can also result.

Beyond this, the record on coordination between entities charged with forced eradication and those charged with implementing AD, even where communities have entered into voluntary eradication agreements, is not good. In both Bolivia and Colombia, eradication has outpaced AD, with consequent unrest, human displacement, and hardship.

Conflict Resolution

Conflict resolution is the least studied of the thematic areas addressed here, and information about it the least ordered. This is ironic given the zones where AD operates. Not only is conflict deriving from social decomposition endemic to communities with illicit crops, but overt violent conflict deriving from the drug trade and criminality, or from insurgent movements, is not uncommon. Effective household and community participation, themselves key to instituting sustainable alternatives, often require prior restoration of the social fabric in order to reduce internal conflict and allow minimal consensus. Helping households and communities cope with the causes and consequences of conflict, and creating a strong civil society, are thus inherent to the work of AD. In a word, the ability not only to function in conflictive zones, but to address issues that are cause and consequence of conflict is vital to AD’s success.

Whatever AD’s role in conflict resolution, it is clear that the location-specific nature of conflict requires AD to adjust its initiatives accordingly. And this complicates the formulation of all but the most general prescriptive guidelines.

Outcomes

What we Know: Incomes and Markets

AD practitioners in the Andes have long known that growers of illicit crops face an incomes bottleneck. Poor roads, lack of credit, the absence of agro-industry, and sundry other factors all bear on this. But growers throughout the region overwhelmingly rank one factor above all others: *the lack of viable, stable markets for alternatives*.

With all their pitfalls, illicit crops respond, if imperfectly, to this need for markets. From the impoverished peasant's point of view, the illicit crop *is* the alternative.

Impacts and Successes

Numerous reports on AD projects and programs, sometimes purporting to evaluate them, enumerate achievements. These often take the form of volumes and values of product sold (or exported), kilometers of road improved or electric lines strung, numbers of potable water or sanitation systems built, and so on. Less-tangible achievements include the strengthening of producer associations, an activity that UNODC has stressed.

All of this represents a kind of impact, and examples of onetime growers of illicit crops switching to licit activities as a result of AD exist in all three countries. In some cases, the switch seems permanent, in others it has been for a decent interval of time. Yet, one often-asked question lingers and continues to haunt: Has AD been successful?

The answer is elusive and brings up several issues, among them measurement. How to measure the progress of an orphan child has long bedeviled donors and practitioners. Indicators to measure "development" tend to take the form of those enumerating achievements. But these measures fall short. They fail to capture "development."

Measures serve two purposes: to monitor project and program progress, thus enabling timely course corrections, and to evaluate investments. A major weakness of AD is that its measures tend not to focus on the peasant household in a way to assess changes in its quality of life, either objectively or subjectively (baselines rarely exist), or to understand how it takes decisions. Monitoring impacts on the household yields "local" understanding at its most basic level, and this understanding is key to achieving sustainable development. Monitoring at this level reveals what works, what does not, and why.

Monitoring and evaluation must include the subjective dimension. Some AD projects do seek to monitor, on individual farms, cropping and labor patterns as well as revenues and expenditures. Yet they ignore the subjective factor, or household members' perception regarding project-related quality-of-life changes. Perception *is* reality, and "objective" indicators deemed positive by an outsider may not be so seen by households. A failure to capture the subjective dimension is another weakness of AD projects.

One can approach the question of success from yet another angle. A numerical look at AD in the Bolivian Chapare, long the country's primary zone for illicit coca, is enlightening. There, government and donors have invested substantially in AD since the late 1970s. And there, it can be argued, AD has been more active, and for a longer time, than elsewhere in the Andes. And the Chapare, unlike coca-growing areas in either Peru or Colombia, which are dispersed over vast and remote tropical areas, is a confined and accessible region where development and drug-control activity is more easily monitored.

An analysis of data from the Chapare suggests that about one-third of its farmers received some sort of AD assistance at some time. But it does not follow that one-third of them enjoy a sustainable income from the assistance. Poverty continues to run high: 85 percent of the population lives in poverty, 30 percent in extreme poverty.¹³ It is reasonable to infer that AD investment in Bolivia, relative to both land area in illicit crops and number of producers, is much higher than in either Peru or Colombia. Also, unlike those countries, Bolivia has been free of insurgencies. Seen in this light, the “reach” of AD in the Andean region, and the magnitude of the challenge there, clarify in a sobering way.

This overview suggests that more than a mere “scaling up” of AD in its current form will be necessary if it is to play the part asked of it by many in the world community. Changes in the way donors and recipients envision and implement AD will also be required. This overview hints at some of those. Yet those changes alone, while making AD more effective, will not ensure its full potential. Required also will be major structural and policy changes in those Andean societies with illicit crops.

The Field Study: A Summary

This section summarizes findings from the second part of the study, the in-depth field assessment. Three sources of data comprise the assessment and inform the presentation here: interviews of producers, AD technical personnel and persons from donor agencies; focus groups with farmer producers; and a 191-household survey designed on the basis of information from the interviews and focus groups.¹⁴ The large body of information was analyzed using both quantitative and qualitative methods. The results are presented below in two parts: first, findings from the focus groups and interviews, and second, those from the household survey. Within Aguaytía, in a region where AD has been active for more than a decade, four geographic areas were selected for the assessment: Neshuya, Shambillo, Huipoca, and Divisoria. The field team, however, could not conduct focus groups in Divisoria—the household survey did include Divisoria—for security reasons related to violence there at the time.

¹³ In Peru, 70 percent of the population in seven major coca-growing regions lives in poverty, 42 percent in extreme poverty. In Colombia, 85 percent of the rural population lives in poverty.

¹⁴ The households could not be selected randomly by zone for want of geographical listings, but instead were selected so as to represent a maximum dispersion within each zone.

Two major donors have operated in the region: USAID since 1996, and UNODC since 1991. USAID's first prime contractor was Winrock International (5 years), followed by CARE-CODESU (1.5 years, from 2002; CODESU is a local NGO). Chemonics entered Aguaytía in 2003 (and is still present), where DEVIDA elected to test its pilot program of voluntary eradication (*eradicación gradual y concertada*—"gradual and concerted eradication").¹⁵ Whereas USAID-funded projects there had worked with 45,000 families over the period 1995-2000, Chemonics worked with 27,000 families in 2003 alone.¹⁶ The work was fast, the investment heavy. Prior to the involvement of these external donors, the Peruvian State promoted AD through both Proyecto Especial Alto Huallaga (PEAH) and the Ministry of Agriculture.¹⁷

Focus groups and Interviews

Neshuya

Two focus groups were conducted in Neshuya, one with farmers who participated in UNODC's oil-palm project between 1991 and 1999, and another with farmers who did not but had recently begun to participate in AD projects under Chemonics. The oil-palm project includes a processing plant, which began operations in 1997 and is a unique hybrid of cooperative and firm, with palm producers as shareholders. Other crops present include cotton, maize, citrus, and rice. Also present is cattle-raising, which, along with oil-palm production, enjoy the greatest economic prestige.

Farmers not only in Neshuya, but throughout the region, recognized the oil-palm effort as a success, the only to date. It had impacted people's lives: participants said they could save, think future, and educate their children, even send them to university. The producer's association (COCEPU) and the processing firm (OLAMSA) had increased local employment and created a multiplier effect: new businesses had opened, the economy had livened. These entities were now recognized as important in the region,

¹⁵ The new strategy, and its pilot program in Aguaytía, are part of an agreement between the new Toledo government (i.e., DEVIDA) and *cocalero* leaders signed on July 13, 2002. It was one of several such agreements with leaders from different regions, following widespread *cocalero* mobilizations and protest marches during 2001 and 2002. Before 2003, AD was not conditioned to eradication. However, CORAH (Control y Reducción del Cultivo de Coca en el Alto Huallaga) did practice forced eradication. Created in 1983 and funded by the US, CORAH is today under the Ministry of the Interior.

¹⁶ A reported 3,000 hectares of coca were reduced through voluntary eradication pacts during this year. A Chemonics official told the assessment team that Chemonics was operating under a coca-reduction mandate from USAID, not a poverty-reduction one. US anti-drugs strategy in Peru shifted in 2002, after relying for years on interdiction to keep farm-gate coca prices low so development might work. The new strategy held that neither the US nor Peru would ever have sufficient resources to develop the far-flung coca valleys. What was needed was the private sector. But drug-trafficking interests would not allow the private sector to enter the remote regions, where security concerns would likely deter it anyway. So coca reduction had to precede development. Enlisting local officials to combat drug trafficking became an important part of strengthening local government. This reversal of logic is ironic: Whereas development had been part of a broader strategy to reduce coca before, now coca reduction was part of a strategy to induce development.

¹⁷ PEAH, which has always been heavily funded by the US, began operations in Huallaga in 1981 as "crop substitution." It morphed several times over the years before ending in about 1995, when CONTRADROGAS and Winrock took over.

which gave the local population greater voice in regional affairs. Participants attributed the effort's success to the creation and strengthening of both COCEPU and OLAMSA, and a strong sense of producer ownership. And they cited the lack of any requirement to eradicate coca before receiving assistance; indeed, coca income allowed some of them to transition into palm production.

Farmers who recently began to participate in the voluntary eradication program under Chemonics manifested strong discontent.¹⁸ Voluntary eradication had left them facing economic uncertainty, and they wanted Chemonics to help them get into oil-palm production and cattle raising. But they were told instead that those activities were not on the new program's agenda, which prioritized activities that would generate income over the short term to substitute their lost income from coca.

Shambillo

Two focus groups were convened in Shambillo, one to discuss the UNODC experience, the other the Chemonics experience.¹⁹ But because the work of the two entities had overlapped heavily, most farmers in the two groups had experience with both. UNODC entered Shambillo in 1999 (and also Divisoria, where it has worked with coffee) to promote oil palm, following the same model that had been successful in Neshuya. There was still a lot of coca in Shambillo in 2003, when Chemonics entered. Both projects have been active there since. Chemonics promotes several alternatives at the same time that it gives technical support to palm producers, whose trees had not yet come into production in 2003. An oil-palm processing plant was completed in 2004.²⁰ The area's other crops include pineapple, *palmito*, banana, cacao, and citrus. Unlike other assessment areas, which are on or near the Federico Basadre highway, main transportation route in the region, Shambillo is about 20 minutes away by car.

Farmers cited few positive impacts of the work of the two prior USAID contractors, Winrock and Care. Winrock had promoted pineapple, which was costly to produce and only a few farmers embraced. Care promoted palm cabbage (*palmito*)—like pineapple, a new crop in the zone—which again only a few farmers embraced, and whose low market

¹⁸ Farmers participating in the voluntary eradication program were given \$US 180.00 for each hectare they agreed (a signed agreement with DEVIDA) to eradicate—a lot of money for most of them—and were given instructions on how to do it. In theory, the money is to cover labor costs. They are further promised assistance in establishing an alternative source of income—but they must first eradicate. The time allowed for eradication was causing tensions at the time of this assessment and there seemed to be little consensus, though one often heard the figure of 200 days. Participating communities were allowed to choose among several infrastructure projects, which were then built using paid community labor.

¹⁹ The major USAID-funded effort is referred to in this write-up by the name of the prime contractor, Chemonics, which has a visible field presence. Yet all major decisions are nominally taken by DEVIDA, in concurrence with, or at the behest of, the donor, which wields controlling power in the background.

²⁰ USAID in part has also funded UNODC's work with oil palm in Shambillo. The processing plant, for example, was built with PL-480 funds and inaugurated in June 2004. UNODC was administering the plant at the time of this assessment, but plans call for local producers to become shareholders—despite some doubts on the part of USAID, which originally wanted to turn the plant over to the outside private sector—in the next few years, as in Neshuya. The Neshuya plant will initially market product from Shambillo.

price today makes it unattractive (there is no local processing plant). Respondents said that the contractors inflated the number of participating farmers in reports to authorities.

Oil-palm growers generally had high expectations for that alternative, having seen its success in Neshuya, but felt that their quality of life had deteriorated sharply following the new voluntary eradication strategy. They had to eradicate their coca to receive technical assistance, yet their trees—2,000 hectares—were not yet producing and they had no income.²¹ Many farmers saw a veiled threat in the eradication strategy: if they did not sign the pacts, their coca would be eradicated by force and they would receive no assistance. And farmers who had no coca were excluded from any payments, and this created ill feelings.

Farmers complained that coca-for-development agreements had been negotiated with communities and individual farmers rather than with local farmer organizations, which favored collective agreements as a way to defend constituent interests.²² Voiced also were concerns that the associations and committees that Chemonics had created to mediate assistance (and which local farmers had to sustain), had not yielded the expected results. This disquieted their leaders, who took the blame and who now, like Chemonics, were losing people's confidence. Respondents also said that Chemonics kept changing the rules after the pacts were signed—and moreover had failed to keep its promises to find alternatives. The pace of eradication had been swift, and now there was no coca with which to leverage DEVIDA and Chemonics. People felt they had been deceived.

Respondents criticized Chemonics and DEVIDA for trying to promote a single crop for an entire community, without considering variations in soils and agro-ecology. They valued project infrastructural works such as schools and health posts, and especially the roads that Chemonics' predecessors (PEAH) had brought. They indicated, however, that their economic situation was worse today than before. And they proposed that alternative crops be balanced between those for local food security and those for the market. They also proposed the industrialization of products like yuca, maize, and rice, which could help sustain them economically in future. But their proposals were never taken into account, they said. If things did not change, they would again march and take to the streets.

Huipoca

Only one focus group was convened in Huipoca, where farmers had elected not to participate in the voluntary eradication strategy under DEVIDA-Chemonics. Coca farmers are well organized here. Winrock, Care, and entities of the Peruvian State had promoted AD in the area, so it is about them that focus-group participants talk. Most of Huipoca's residents came from the Huánuco highlands between 1982 and 1990 and first

²¹ ASPASH, the palm-producers' association, signed an agreement with DEVIDA in 2002 committing its members to voluntary coca eradication in exchange for help in maintaining the groves for three years, until they produced. ASPASH was new and lacked the maturity of COCEPU, its counterpart in Neshuya.

²² DEVIDA, said respondents, had originally agreed to work with producer associations (holdovers from the days of Winrock and Care) in the communities, but subsequently changed its strategy, to the chagrin of local producers.

grew coffee, cacao, and tea until the price for those fell and they began to grow coca. Coca income then drew more migrants.

Principal crops today include banana, *palmito*, cotton, citrus, pineapple, cacao, and coca. Aside from Asociación de Agricultores Agropecuarios y de la Hoja de Coca de la Provincia de Padre Abad (AAAHCPA), there is Asociación de Productores de *Palmito* (ASPRA), a holdover from Winrock times. Two agricultural service firms are also present: Aguas Verdes and Aguila Amazónica.

Leaders in Huipoca say that DEVIDA approached them to participate in the voluntary eradication program, but when they asked for a *palmito* project, including a processing plant, they were told that their coca was not enough to justify the costs and the implementation time.²³ Respondents also criticized participants in Shambillo, saying that they had hidden coca and signed the eradication pacts only for the immediate benefits.

AD began with PEAH, which initiated local production projects. One of them worked with citrus, but yields were low and the results poor. The Ministry of Agriculture subsequently entered with reforestation projects and also promoted rice and jute (*yute*). But markets failed, and there were serious misunderstandings between the ministry and farmers, who did not understand that the assistance was a loan. And then came Winrock, which ignored local leaders and worked with individual farmers. Winrock worked with *palmito*, cacao, vegetables, and several varieties of FHIA banana. Respondents pointed to poor technical support, a lack of markets, and other problems. They cited Winrock's work with FHIA banana, which had no market, as emblematic of the problems.²⁴ They also cited a lack of markets for the vegetables. Winrock organized farmers into producer

²³ Local organizations posed a thorny issue for DEVIDA—and for USAID, which, for example, would not allow DEVIDA, which depended wholly on US funds, to use those funds to involve Asociación de Agricultores Agropecuarios y de la Hoja de Coca de la Provincia de Padre Abad (AAAHCPA), or its local affiliates, in Chemonics initiatives. According to the US, leaders of AAAHCPA had ordered (or acquiesced in) the earlier torching of offices belonging to DEVIDA and Care in Aguaytía. So USAID refused to talk with them. As one USAID official told a member of the assessment team, “We don’t negotiate with terrorists.” This hardline US position obliged DEVIDA to violate its 2002 agreement with Aguaytía’s cocalero leaders (see Note 15). When the assessment began, coca farmers from AAAHCPA were in Lima protesting government anti-drugs policies and the presence of Chemonics, which for security reasons had temporarily retreated to Pucallpa, Ucayali’s capital and major town in the region. Leaders of the palm-producers group in Huipoca also included several coca-grower leaders, some of whom were protesting in Lima. The assessment team negotiated its own entry to the area with *cocalero* leaders, who helped them access places like Huipoca, which otherwise might not have received them.

²⁴ Farmers not only here, but elsewhere in the region often cited the FHIA banana experience as proof that AD had failed. At the time of Winrock, Sigatoka Negra, a windborne fungus fatal to banana was on the move in this part of South America. Winrock feared that it would soon reach Aguaytía and wanted to be prepared. To that end, a technical specialist on banana was brought in from Honduras—Peru had no banana experts—where a variety had been developed by Fundación Hondureña de Investigación Agraria (FHIA) that was resistant to Sigatoka (and to Panama Disease). Winrock released the variety in Aguaytía, promoting its resistance to disease, higher yields, and improved taste. But consumers rejected it on taste grounds, and producing farmers, who had replaced *bellaco* (for cooking) and *mukicho* (for fruit) varieties with the new variety, were left stranded. One former Winrock technical specialist told the assessment team that despite its failure, the experience taught farmers to manage banana better, even native varieties.

associations that would channel donor resources. Care, which briefly followed Winrock in Huipoca, continued Winrock's work, according to farmers.

Respondents said they had rejected AD because of these experiences. Yet they would participate in the Chemonics program on condition that eradication be gradual and that alternatives—among which should be cattle-raising—had a sure market. More than in oil palm, their interests lay in banana, cattle, and coca for industrialization.

Focus Groups: A Summary

With the exception of the work with oil palm in Neshuya, respondents view AD results in the region in a negative light. It is too soon to judge work with oil palm in Shambillo. In any case, oil palm is viewed throughout the region as the only AD success.²⁵

Based on information from the focus groups, the following practices or situations can be identified as favoring either a positive outcome or a negative outcome for AD:

Positive outcome:

- Creation (if required) and bolstering of local producer or processing organizations in which producers are active participants and have a sense of ownership.
- Physical infrastructure, especially road construction and improvement.

Negative outcome:

- Lack of consensus with participants in selection of alternatives and strategies.
- Haste to achieve or show results at expense of good development practices.
- Eradication of coca prior to the establishment of viable alternatives.
- Prioritization of coca reduction over welfare of farmer producers.
- Unkept promises to local producers.
- Poor technical support for alternatives.
- Lack of donor and government transparency in management of resources.
- Promotion of alternatives that are not sustainable (for varying reasons).
- Unreliable markets for alternative products (except for palm oil).
- Weak to no participation (or inadequate involvement) in projects by local farmers, local leaders, and local organizations.

²⁵ In a narrow sense, the success represents a long-term, high-risk endeavor with a high cost-benefit ratio. In a broader sense, the benefits transcend those accruing to participating beneficiaries and extend over a broader area. Indeed, palm-oil production may yet prove to be a “development pole” for a large region, with many benefits yet to come. It should be noted too that many of the initial oil-palm participants in Neshuya had fled an intolerable drug-related violence in Upper Huallaga. They may thus have been more willing to assume the risk of oil palm, as opposed to coca. Also noteworthy is that UNODC's strategy remained constant and its technical team highly stable throughout its presence in Neshuya.

Household Survey

As already indicated, a questionnaire was used to survey 191 households across the four zones (see Annex A). Eight AD beneficiary groups are identified, according to zone and project implementer, and responses to questions on a range of topics are reported for each group. The groups: United Nations-Neshuya (UN-N), United Nations-Shambillo (UN-S), United Nations-Divisoria (UN-D), Chemonics-Neshuya (CH-N), Chemonics-Shambillo (CH-S), Chemonics-Divisoria (CH-D), Winrock-Huipoca (W-H), and Care/CODESU-Huipoca (CC-H). The households were selected so as to achieve a wide geographical dispersal. The results are consistent with those from the focus groups and interviews.

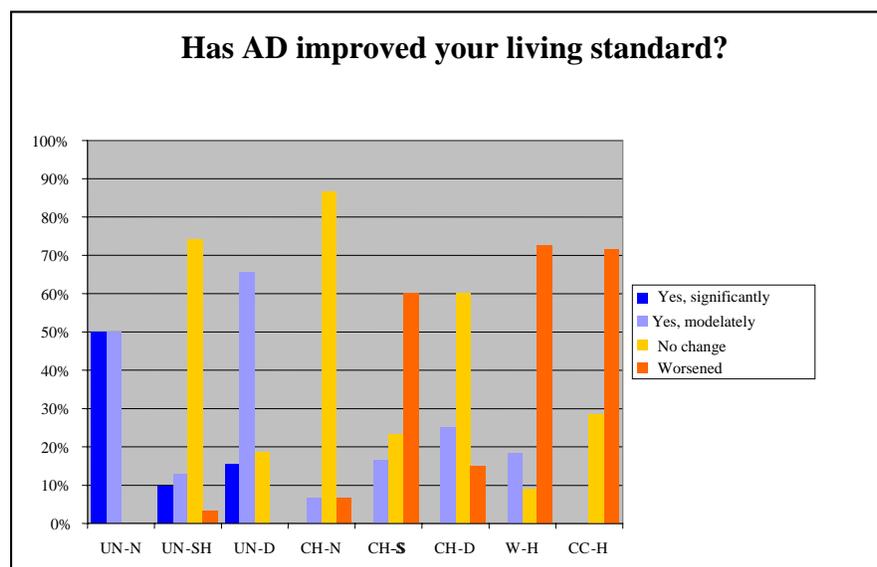


Figure 1. Prepared by GRADE

The graph in Figure 1 shows how households rate AD's impact on their living standard. It reveals that they give UNODC projects the highest ratings as regards improvement in living standards. Projects of Winrock and Care in Huipoca have had the least impact. Chemonics' recent efforts lie in between. Both Chemonics and UNODC fare less well in

Opinions about improvements or detriments from AD

	UN-N	UN-SH	UN-D	CH-N	CH-S	CH-D	W-H	CC-H	TOTAL
Improvements:									
Credit access	97%	35%	53%	3%	17%	15%	18%	14%	36%
Market and prices	93%	29%	59%	3%	13%	10%	18%	14%	35%
Increase in agricultural areas	97%	55%	88%	23%	40%	30%	18%	29%	54%
Equipment acquisition	60%	35%	50%	20%	20%	20%	18%	29%	34%
Goods acquisition	63%	23%	16%	7%	3%	0%	0%	0%	18%
Access to educational services	77%	26%	59%	10%	20%	20%	9%	0%	34%
Access to health services	77%	26%	56%	7%	20%	15%	18%	14%	33%
Security and social peace	100%	84%	100%	83%	90%	75%	82%	71%	88%
Home improvements	87%	29%	78%	10%	23%	10%	9%	0%	38%
Detriments:									
Loss of source of income	13%	77%	31%	37%	97%	70%	100%	71%	57%
Selling of durable household goods	7%	58%	31%	50%	90%	55%	73%	43%	49%
Need to return to coca	3%	48%	13%	20%	77%	55%	100%	71%	40%
Problems to send children to school	30%	55%	53%	47%	60%	50%	73%	71%	51%

Note: Total or partial agreement was assigned a value of "1," other responses a value of "0."

Table 1. Prepared by GRADE

Shambillo, a zone trying to transition out of coca, in some cases into oil palm, but where eradication has led to un-replaced declining income and palm groves are just beginning to yield. Chemonics households who report a declining living standard reflects this. These revelations square with those from the focus groups. Households were also asked about impacts on their community, with results similar to those above, which implies that they associate their living standard with that of their community.

Table 1 above reveals that respondents in Neshuya give UNODC high marks, and those in Shambillo and Divisoria relatively good ones. Respondents give Winrock, Care, and Chemonics low marks, with the notable exception of the dimension Security and Social Peace. Of interest is the high number of respondents across projects and zones who associate greater security with AD. The violence that illicit-coca production often brings may explain why many farmers participate in AD despite an expected income decline.

The survey also tapped opinions on the sustainability of the positive impacts—i.e., the improvements cited in Table 1 above. Those are shown below in Table 2.

Are improvements sustainable after AD Projects?

	UN-N	UN-SH	UN-D	CH-N	CH-S	CH-D	W-H	CC-H	Total
Access to Credit	83%	42%	41%	3%	13%	10%	9%	14%	31%
Market and prices	80%	29%	47%	0%	10%	5%	9%	14%	28%
Increase in agricultural area	90%	45%	72%	13%	27%	15%	9%	14%	42%
Equipment acquisition	63%	39%	28%	7%	13%	5%	9%	14%	26%
Goods acquisition	50%	26%	3%	3%	3%	0%	0%	0%	14%
Access to educational services	80%	32%	50%	7%	10%	5%	9%	0%	30%
Access to health services	80%	32%	44%	3%	7%	15%	18%	14%	30%
Security and social peace	93%	71%	91%	47%	47%	40%	55%	71%	66%
Home improvement	83%	35%	69%	10%	10%	10%	9%	0%	35%

Table 2. Prepared by GRADE

Table 2 shows a strong correspondence between perception of impacts (Table 1) and perception of their sustainability—with another notable exception: Security and Social Peace are not thought sustainable in zones where Chemonics-DEVIDA work. UNODC’s impacts in Neshuya are thought more sustainable than its impacts in either Shambillo or Divisoria. The impacts of other implementers are generally little sustainable.

Indices were calculated in order to integrate respondent opinions (from the foregoing tables) on project impacts and on their sustainability. The indices appear in graphical form in Figures 2 and 3 below.²⁶ UNODC projects show the highest impact, with work in Neshuya at the fore. The relatively low standard deviation there indicates a high level of response agreement—much higher than for UNODC’s work in Shambillo. UNODC’s work in Neshuya is also seen as the most sustainable, whereas Chemonics’ work there is seen as the least sustainable of all.

²⁶ The impact index assigns points to opinions on specific positive impacts: “3” corresponds to “total agreement,” “2” to “partial agreement,” “1” if “partial disagreement,” and “0” for “total disagreement.” The sustainability index assigns a “2” if the impact is deemed sustainable, a “1” if doubts are raised, and a “0” if deemed unsustainable, or if there was no positive impact. The graphs show the mean value and standard deviation for each group.

Table 3 below portrays a “transition matrix” recording responses of changes in main economic activities as a result of AD. The bottom row shows main activities (by number of households) before the presence of AD projects, the last column (by percentage) main activities afterward. Shaded cells show the percentage of households whose main economic activity remained the same, whereas remaining cells show the distribution of activities of households that changed (percentages in the columns sum to 100).

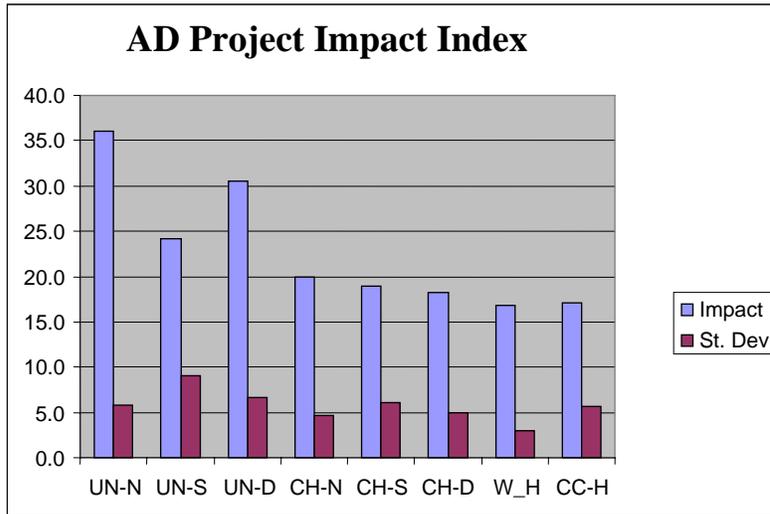


Figure 2. Prepared by GRADE

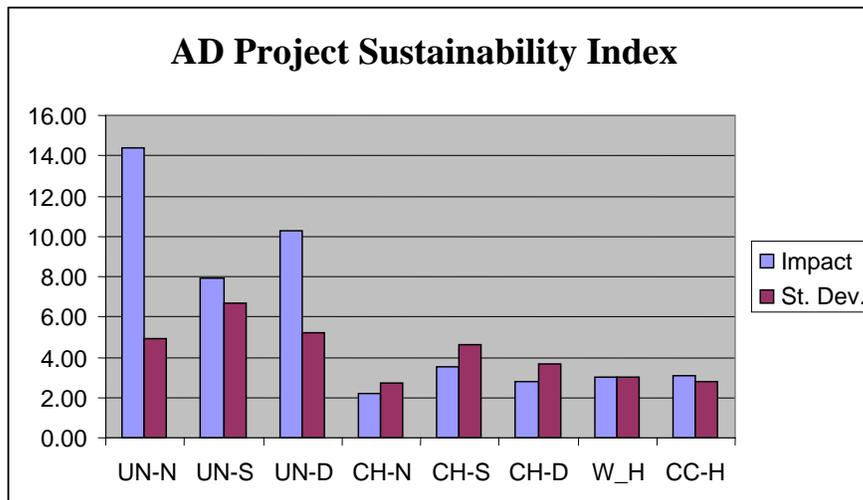


Figure 3. Prepared by GRADE

The matrix reveals that whereas 40 percent (76) of households had coca as the main activity before AD, only five percent have it as such today. And most of those who left coca are now in other forms of agriculture, or in the “other” category, which includes wage labor. Those farmers leaving coca production were asked why. Most of them cited the voluntary eradication program under Chemonics-DEVIDA.

Matrix figures coincide with households' (under) declarations of the amount of coca they harvested over the past decade, which the graph in Figure 4 shows. One notes a sharp fall during 2002 and 2003, mostly in Shambillo, where farmers signed voluntary eradication pacts—and where eradication-related rejection of AD is highest. The graph also shows little coca in Neshuya over the past decade, as compared to Shambillo.²⁷

Changes in main economic activities after AD Projects

Currently	Before ADPs					Total
	Coca	Agricult	Extract	Services	Others(*)	
Coca	8%	2%	0%	0%	4%	5%
Agriculture	43%	93%	80%	33%	40%	65%
Extractives	5%	0%	20%	0%	8%	4%
Services	7%	2%	0%	67%	0%	5%
Other (*)	37%	2%	0%	0%	48%	22%
Total	76	82	5	3	25	191

(*) Includes wage labor in diverse activities

Table 3. Prepared by GRADE

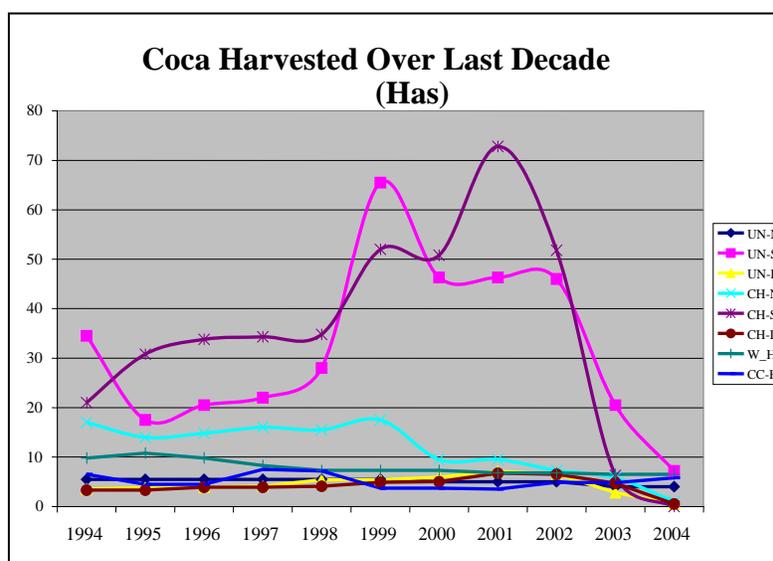


Figure 4. Prepared by GRADE

Households were also asked if AD had in some way changed their thinking, whether about coca or about economic or social matters in general. Table 4 below displays those results. Eighty-one percent of the sample responded affirmatively, with the lowest figures for Chemonics' recent work in Neshuya and Shambillo. The survey then asked respondents *how* their thinking had changed (Table 5). More-common responses include greater valuation of licit economic activity as well as of long-term investment and agro-industry to give value-added. Valuation of long-term investment and value-added were especially high in Neshuya because of oil palm. Some of the responses were negative: 30

²⁷ Coca in Huipoca, both now and in the past, may be underreported.

percent of respondents said they had less trust in entities providing AD. That percentage was unusually high in Huipoca.

Has AD changed your way of thinking?

	Yes	%	No	%	Total
UN-N	30	100%	0	0%	30
UN-SH	31	100%	0	0%	31
UN-D	28	88%	4	13%	32
CH-N	18	60%	12	40%	30
CH-S	19	63%	11	37%	30
CH-D	14	70%	6	30%	20
W-H	8	73%	3	27%	11
CC-H	6	86%	1	14%	7
Total	154	81%	37	19%	191

Table 4. Prepared by GRADE

How has AD Changed your way of thinking?

	UN-N	UN-SH	UN-D	CH-N	CH-S	CH-D	W-H	CC-H	Total
Importance of long-term investment	80%	60%	40%	10%	20%	30%	20%	30%	40%
Importance of investing in information	40%	40%	40%	20%	20%	30%	10%	40%	30%
Importance of licit activities	40%	50%	50%	20%	30%	30%	10%	40%	40%
Importance of enlarging planted area	50%	50%	40%	10%	20%	30%	0%	30%	30%
Importance of value added to production	60%	70%	50%	20%	30%	30%	20%	60%	40%
Little trust of AD implementers	10%	20%	20%	30%	40%	40%	50%	70%	30%

Note: percentage in agreement with change in way of thinking due to Alternative Development

Table 5. Prepared by GRADE

Would you be willing to participate in another AD Project?

	Yes	No	Depends	Total			
UN-N	25	83%	3	10%	2	7%	30
UN-SH	24	77%	4	13%	3	10%	31
UN-D	26	81%	5	16%	1	3%	32
CH-N	24	80%	5	17%	1	3%	30
CH-S	20	67%	7	23%	3	10%	30
CH-D	14	70%	4	20%	2	10%	20
W-H	8	73%	3	27%	0	0%	11
CC-H	7	100%	0	0%	0	0%	7
Total	148	77%	31	16%	12	6%	191

Table 6. Prepared by GRADE

Households were asked whether they would participate in a future AD project (Table 6). Seventy-seven percent of them said they would. The response was high cross the board, which suggests that households do not reject AD as such, but probably the way it is implemented. Their association of AD with greater security may also have a bearing.

The assessment looked at education, health, and household income. The graph in Figure 5 below shows years of education by age cohort. It reveals that Chemonics-Shambillo households have the lowest education level for children in all age cohorts represented. UN-Neshuya households have the most education for children over 17, whereas CARE-Huipoca households show a significant drop in years of education for children over 17.

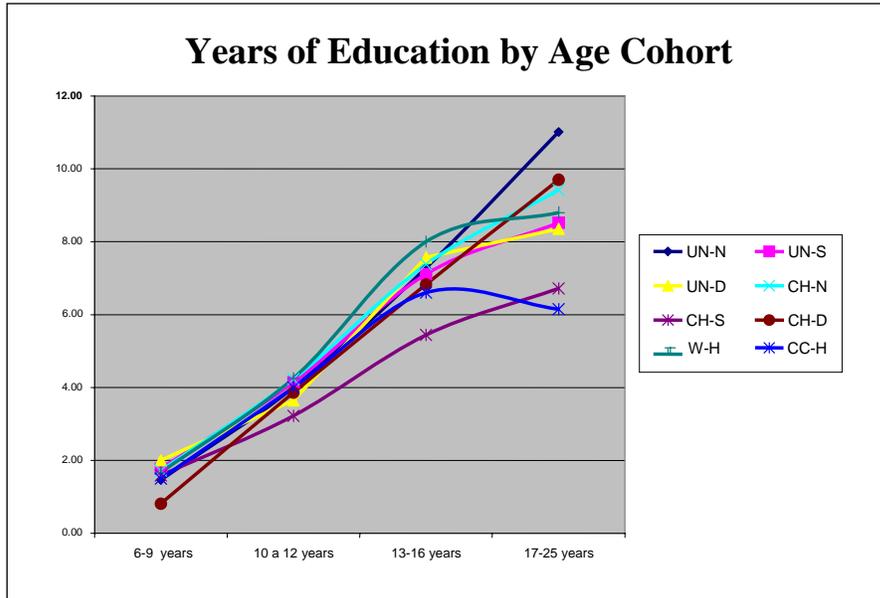


Figure 5. Prepared by GRADE

On the health front, the graph in Figure 6 below shows the incidence of diarrhea in children under five years of age. Huipoca has the lowest incidence of diarrhea in children, which the closer proximity of a health post may explain. The highest levels of diarrhea in the past six months occur in UN-Divisoria and Chemonics-Shambillo. The lowest incidence, in UN-Neshuya, probably relates to higher incomes there.

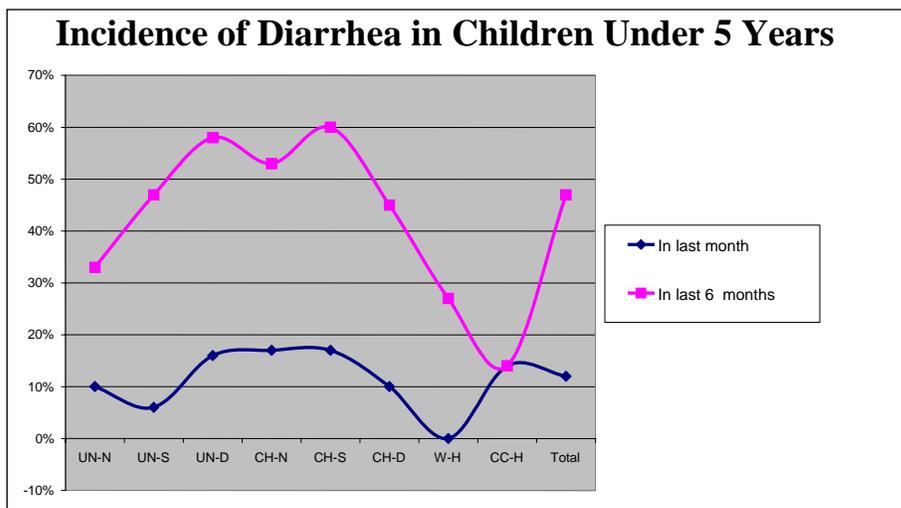


Figure 6. Prepared by GRADE

The results of a look at net agricultural income are displayed in Figure 7 below.²⁸ The mean net agricultural income per hectare for UN-Neshuya is \$650, more than twice the \$300 mean for the global sample and about six times the mean for households in Chemonics-Shambillo—where mean net income is less than in Huipoca.

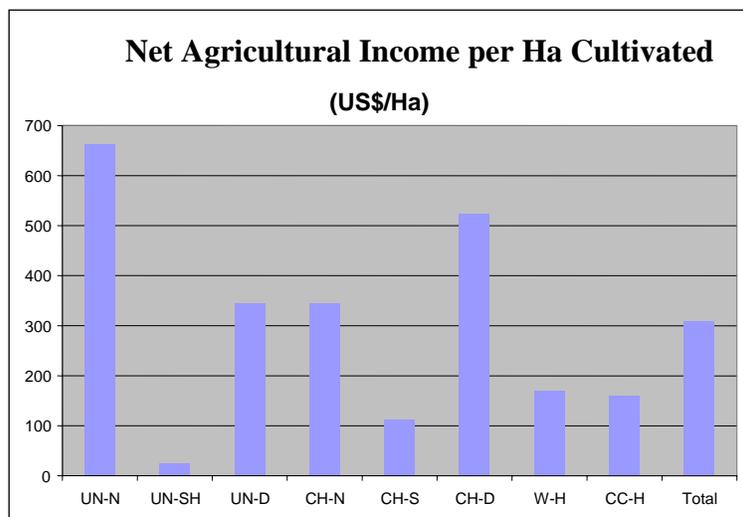


Figure 7. Prepared by GRADE

The assessment correlated the subjective data on AD impacts detailed above with household attributes (e.g., family size, education, expenditures, size of landholding, and other agricultural assets, etc.), living conditions (e.g., health, electricity, water, etc.), and AD project attributes. The analysis drew on the impact and sustainability indices described above. Results showed a relatively high positive correlation for both indices with duration of participation, monthly household expenditure, and possession of agricultural equipment; and a negative correlation with two of the locations, Huipoca (high correlation) and Shambillo. Results also showed a high positive correlation for the sustainability index with household head's education level, and a low correlation with landholding size. And they showed a low correlation for the impact index with size of landholding, age, and household head's education level (see Annex B for coefficients).

Linear regression was used to isolate the effects of household and project-strategy characteristics on perceptions of impact and sustainability—whether the characteristics explain the perceptions, that is. The expenditure variable (an income proxy) was omitted from the analysis since it correlates strongly (i.e., is not “autonomous”) with AD strategy.

On the impact side, results of a pooled regression with all households show a strong positive correlation between duration of household participation and perception of positive impact. They also show a strong positive correlation between UNODC and impact. Of interest is that the variable “UN-Chemonics interaction” (in Shambillo) shows a high positive correlation with impact, which suggests that respondents see a

²⁸ Figures on net income were obtained from subtracting reported expenditures on inputs, labor, and services from reported gross income over the past year.

positive synergy between the entities. Shambillo and Huipoca households show a high negative correlation with impact. If duration of participation and Chemonics are removed from the analysis (but leaving in UN-Chemonics interaction), the correlation between UNODC and impact rises sharply. If duration of participation and UN-Chemonics interaction are both removed, the correlation between Chemonics and impact perception is highly negative. Results are similar for perception of sustainability.

Responses to the household survey also allow an analysis of gender. Males outnumber females in sampled households, except in UN-Neshuya, as the graph in Figure 8 shows. This difference may be related to migration history: more-recent migrant households, as in Divisoria or Chemonics-Neshuya, tend to have fewer women. Of the 191 households sampled, only 10 are female-headed, all of them because of death or absence of a male.

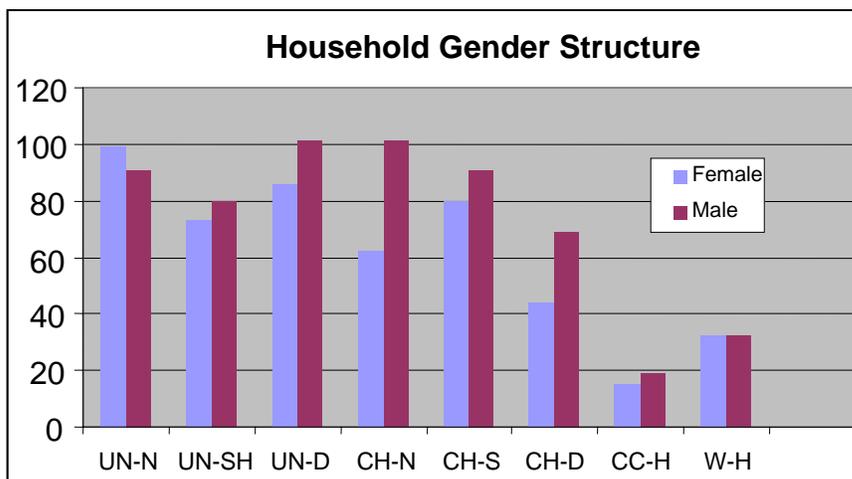


Figure 8. Prepared by GRADE

The graph in Figure 9 below shows that men in the sample have more education than women, especially after age 25. The gender spread is less in those under 25, a reflection of the expansion of primary education in the rural areas in recent years.

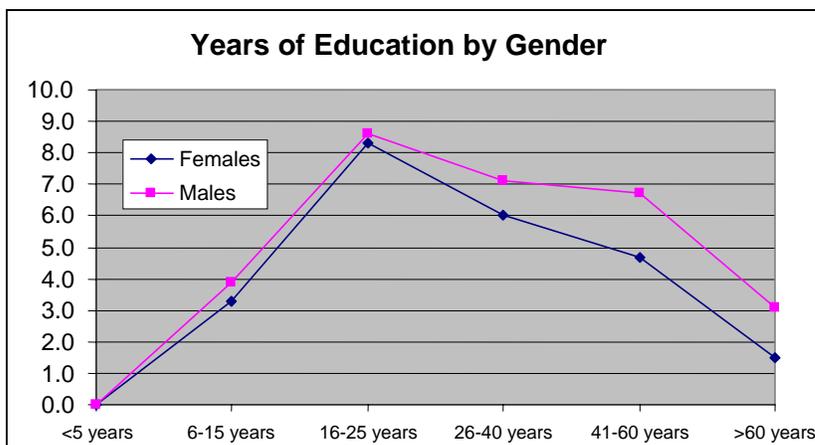


Figure 9. Prepared by GRADE

The graph in Figure 10 shows the proportion of births assisted by medical professionals, and the fraction of women who say they practice contraception. Huipoca's higher indices probably relate to the presence of a nearby health center. The indices are low for all sampled households in Neshuya. Whether any of the indices are related to AD is unclear.

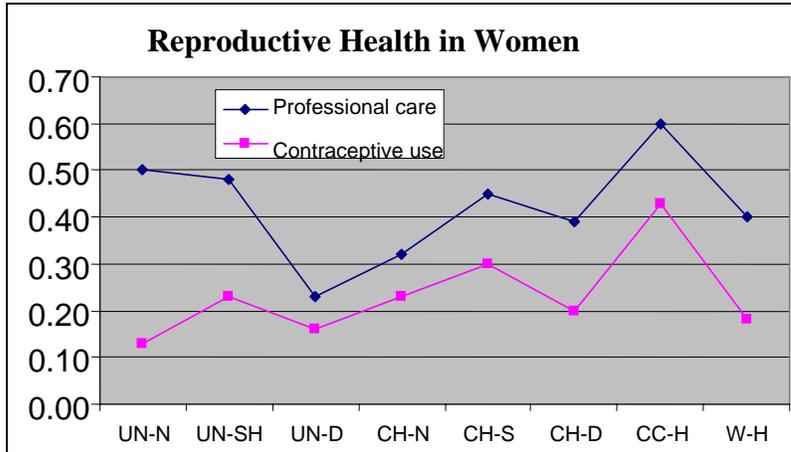


Figure 10. Prepared by GRADE

The survey asked household respondents about the degree of women's participation in AD projects, both when the projects began and now. The graph in Figure 11 shows the results. Differences between the eight groups are not significant as regards participation *now*, but are quite different as regards participation at initiation. Women's participation level generally began low and then increased. UN projects show less disparity between beginning and ending than do, say, Chemonics' projects, which show low levels of women's participation at the beginning followed by a sharp increase thereafter.

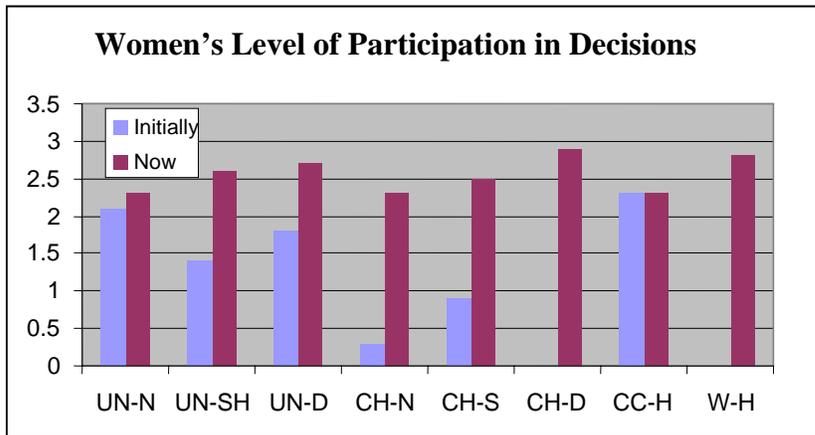


Figure 11. Prepared by GRADE

One interpretation of these results is that AD projects in Aguaytía began by focusing mostly on men's production activities (on what was thought so to be). In the case of UN palm projects, several respondents said that continued low women's participation in decisions regarding palm cultivation became a major problem at one point in the project

cycle, when it had to be explicitly confronted. Conclusion: Greater balance in gender participation at project inception is advisable so as not to deepen pre-existing gender rifts.

The survey asked households to identify the one factor that most influences AD projects in a positive way, and then in a negative way. The results are shown in Tables 7 and 8.

What is the most important factor for achieving positive results in an AD project?

	UN-N	UN-SH	UN-D	CH-N	CH-S	CH-D	W-H	CC-H	Total
Permanent technical assistance	60%	48%	59%	10%	10%	10%	9%	0%	32%
Beneficiary confidence in AD project	17%	13%	13%	7%	3%	15%	0%	0%	10%
Permanent beneficiary-ADP contact	10%	19%	9%	13%	0%	5%	0%	0%	9%
Fulfillment of promises	13%	6%	9%	0%	0%	15%	0%	0%	6%
No positive experiences	0%	13%	9%	70%	80%	55%	82%	100%	41%
Other	0%	0%	0%	0%	7%	0%	9%	0%	2%
Total	30	31	32	30	30	20	11	7	191

Table 7. Prepared by GRADE

What is the most important factor for not achieving positive results in an AD project?

	UN-N	UN-SH	UN-D	CH-N	CH-S	CH-D	W-H	CC-H	Total
Failure to fulfill promises	10%	19%	13%	73%	90%	60%	64%	86%	46%
Lack of transparency in resource use	17%	29%	13%	10%	3%	20%	9%	0%	14%
Little presence of AD technical personnel	0%	0%	19%	3%	3%	0%	9%	0%	5%
Failure to inform beneficiaries adequately	13%	10%	13%	7%	3%	15%	0%	0%	9%
Lack of confidence in AD project implementers	7%	3%	3%	0%	0%	0%	0%	0%	2%
Lack of feasibility studies	0%	3%	9%	0%	0%	0%	0%	0%	2%
Other	53%	26%	31%	7%	0%	5%	18%	14%	21%
No response	0%	10%	0%	0%	0%	0%	0%	0%	1%
Total	30	31	32	30	30	20	11	7	191

Table 8. Prepared by GRADE

It is noteworthy that 41 percent of respondents in Table 7 (clustering around Chemonics, Winrock, and Care) cite a lack of positive experiences. Thirty-two percent (clustering around UNODC projects) cite “permanent technical assistance” as most important for achieving positive results. The major factor cited for not achieving positive results is

Level of Confidence in AD Implementing Entity

	None	Low	Average	High	Very High	Total
UN-N	0%	0%	10%	67%	23%	30
UN-SH	0%	0%	16%	55%	29%	31
UN-D	0%	6%	25%	38%	31%	32
CH-N	23%	37%	30%	7%	3%	30
CH-S	17%	57%	20%	7%	0%	30
CH-D	0%	35%	40%	10%	15%	20
W-H	45%	45%	9%	0%	0%	11
CC-H	71%	29%	0%	0%	0%	7
Total	12%	23%	21%	29%	16%	191

Table 9. Prepared by GRADE

failure to fulfill promises (see Table 8), and those responses cluster strongly around Chemonics, Winrock, and Care. This failure was also cited often in the focus groups. Responses in the “Other” category cluster heavily around UNODC, where respondents made no association between UNODC and lack of achievement. UNODC projects weigh heavily, however, in responses citing a lack of transparency in use of project resources.

One indicator, which could influence other responses, is household level of confidence in AD implementing entities. Confidence level is a primary AD asset, for households are often asked to support actions whose impact on them is in the hands of those entities. The survey thus included this indicator, whose results appear in Table 9. UNODC scores relatively high, Chemonics and the other entities relatively low. The results are consistent with those from focus groups and interviews, and apply to all zones surveyed.

Household Survey: A Summary

The greatest positive impact of AD occurred in an area where a project began to promote the cultivation and processing of oil palm in 1991 and continued until 1999. The area today reports the highest net income per cultivated hectare. The project’s major features:

- A ready (domestic) market for palm oil, the final product.
- The absence of conditionality; beneficiaries are not required to eradicate coca before receiving assistance.
- A sustained effort to create and strengthen a producer association and a producer-owned processing firm.
- Patience, a recognition that development will not occur overnight.
- A close and continual relationship with producers.
- A steady, sustained and unvarying strategy on part of implementer, with little personnel turnover.

According to household responses, the same area also enjoys higher levels of education and health, though causality with respect to AD cannot be established.

Households say the greatest positive impact of AD is greater peace and security, followed by an increase in area planted. The greatest negative impact of AD is loss of income, which is associated with coca eradication through conditionality. The next-greatest negative impact is greater difficulty sending children to school, which is associated with income loss—which suggests that households place high value on educating their children. Households also see the most sustainable impact of AD as greater peace and security—except where there is voluntary (or forced) eradication (i.e., conditionality, or eradication before a viable alternative is in place). Purchasing power is seen as the least sustainable impact (also related income loss from eradication). Both positive impact and sustainability correlate highly with duration of participation in AD projects and with income. The correlation between perception of sustainability and landholding size is low.

Households cite permanent technical assistance as the most important factor in achieving positive AD results. The most important factor working against such achievement is failure (on the part of government and implementing entities) to keep promises.

Forty percent of households said that AD had changed their thinking in a positive way by increasing their value of licit economic activity, of long-term investment, and of activities to give value-added to household production. Oil-palm production and processing has played a major role in this change. One-third of households, on the other hand, said that AD had changed their thinking in a negative way by increasing their mistrust of it.

Research into gender revealed that men, especially above age 26, have more education than women do. But the emergence of rural schools in the study area in recent years is closing this gap. The research also revealed that AD projects typically begin by focusing more on men as “producers” than on women, but later, sometimes after incurring resistance from women, give more attention to the role of women, whose participation in AD projects then increases.

Part 3—Major Lessons Learned

The overview and the field assessment, whose findings are summarized in the sections above, point to several major lessons learned regarding AD, as detailed below. Others can be inferred from the body of this report, and from the constituent reports used to draft it. Among the major lessons:

Policy Level:

- AD beneficiaries must be treated first as candidates for development (development as poverty alleviation and improvement in life quality), and not as criminals. This requires agreement and coordination between agencies charged with legislation, law enforcement, and national development.
- In order for AD to be successful, supply-side law enforcement should not target peasant farmers directly, as happens with forced eradication. It should instead interdict supply lines—of chemical precursors or processed or semi-processed drugs—and disrupt processing labs and financial markets that move drug money.
- Illicit-crop eradication (forced or voluntary) prior to the establishment of viable alternatives does not favor the subsequent establishment of those alternatives. Conditionality, that is, does not favor AD as sustainable alternatives.

Operations Level:

- To be sustainable, AD must use sound development principles and practices. Excessive haste in order to eliminate illicit crops encourages violation of those principles and the neglect of those practices, and so is ultimately self-defeating.

- Successful AD requires sustained contact, stable implementation policies, and good two-way communication between implementation staff and beneficiaries.
- Beneficiaries must trust AD implementers, who typically must build this trust. And the keeping of promises is vital to the building process.
- The cost of AD failure is high, not only in communities where it occurs, but also in neighboring ones. Word of the bad travels at least as fast as that of the good.
- Beneficiaries must meaningfully participate in all stages of AD, from assessing feasibility to designing, monitoring, and evaluating programs. This active involvement, which enhances transparency, must equate to a local sense of AD ownership. To support this participatory process, implementers often must create, and invariably strengthen, local organizations. Participation fosters institution-building and strengthens civil society, and is part of a tedious, time-consuming, and long-term process.
- The lack of sustainable markets for alternative products is a major AD constraint. The promotion of non-marketable alternatives is a common AD failure and an important reason for farmer mistrust.
- Household gender roles should be understood at the outset of AD efforts, through an initial diagnostic that seeks to understand the socioeconomic dynamic of household livelihood strategies. This initial understanding can then enable the efforts better to respond to household needs in their totality.

Part 4—Conclusions

This report earlier referred to AD as an orphan child, not fully claimed by either of two camps. One camp views the cultivation of illicit crops as a poverty problem. They see first the grower as candidate for development, which they think offers a sustainable solution. The other camp views the cultivation as a law-enforcement problem. They see first the illicit crop, deem its grower a delinquent, and favor direct action as a solution. The second camp has long dominated Andean drug control. The findings here suggest that the ambiguity of this orphanhood lies at the heart of AD's modest achievements to date as well as its potential for the future. The ambiguity roots firmly in the international community, and gets mirrored in UN anti-drugs conventions, policies, and declarations.

This ambiguity, and the law-enforcement bias, have several dimensions. First is the law itself, or how its norms treat peasant growers—whether as criminals and drug traffickers, or as development candidates. And then there is the issue of how law-enforcement officials treat them. The law-enforcement bias means that eradication, either forced or voluntary (with conditionality), takes precedence over development. This has been patently so in the Andes. Yet, as this study shows, eradication where peasants lack viable alternative means of livelihood undermines efforts to develop alternatives, which ultimately offer the best chance of a sustainable reduction in illicit crops. Also inherent in the law-enforcement bias is an expectation of quick results. Haste undermines AD. It leads to the use of unsound and top-down development practices, including the slighting

of beneficiary participation and a host of other ills cited in this report. It must be clear: development takes time, it cannot serve drug control if denied the proper use of its tools.

In this regard, the Peru research raises a concern. AD emerged historically as a tool to reduce illicit crops, and thus improve security as one benefit. Indeed, Aguaytía farmers cited greater security as AD's major impact. Yet the study team encountered donors and others who now argue that there can be no development without security, and that this requires the prior eradication of illicit crops. This argument, which further impedes AD, is one more product of the security-conscious post-September 11 world.

This study has depicted above the Andean setting in which AD must operate. That setting, with its exclusionary system of rigid social classes, has deep implications for AD. First, the ruling classes show weak commitment to addressing genuinely the needs of those at the bottom of the social pyramid, including growers of illicit crops. This is a major constraint for AD, one that "projects" can not easily breach. This neglect has a yet darker side, often seen in the way that law enforcement, always in the hands of the ruling classes, pursues social inferiors with ease if not excess. A zeal to "criminalize" them can easily morph into human-rights abuse. Repression thus operates in a classical feedback loop, further reducing the chances for development. It can be asked whether donor funding of projects to improve grower welfare, in the name of co-participation, can ever be more than marginally effective—or sustainable—without national commitment.

Ideal commitment would take the form of altering laws as well as public institutions, policies, and programs in such a way that today's marginal populations, residing in marginal regions, become citizens, *de jure* and *de facto*. This ideal "mainstreaming" would bring good government and a respect for human rights, and would go far to eliminate illicit-crops permanently. But the ideal is long term. Meanwhile, at issue is the wiggle room for AD, and the potential for results.

As an interim move toward the ideal commitment, the State could "mainstream" AD by directing its line development agencies—ministries of agriculture, transportation, health, education—to address the needs of illicit-crop producers. A viable two-way communicative relationship marked by mutual respect and trust between these entities and those producers will typically have to be cultivated. Giving a dominant role to extraneous entities, domestic or foreign, contravenes such a relationship. There is also latitude for improving current project-based AD, as this study has shown. It was noted above that peasant farmers in Aguaytía associate AD with greater peace and security. And the study further revealed the high value that farmers there place on schooling their children. AD might thus devise creative ways to play on these values, and improve in a myriad of other ways suggested in this study.

This report closes below with a list of key household indicators, based on findings of this study, that might be useful to monitor and evaluate AD projects. However, it must be borne in mind that AD is successful only in the measure that that its intended direct beneficiaries believe that it is. This underscores the critical need for projects to maintain

a close relationship with those beneficiaries in order to remain abreast of their views. The following household indicator variables should be considered vis-à-vis AD: ²⁹

- *Trust in AD providers:
 - Are provider promises kept?
 - Frequency of visits to households by provider personnel?
 - Adequacy of technical assistance?
 - Duration of household participation in AD?
 - Sustainability and stability of product markets?
 - Quality of beneficiary participation?

- *Income:
 - Basic food needs being met?
 - Able to buy needed supplies and equipment?
 - Able to make desired home improvements?
 - Forced to sell household belongings to make ends meet?
 - Able to school children?

- Production and processing:
 - Change in areas planted to alternative crops?
 - Continuing need to plant coca? If so, to meet what needs?
 - Other sources of income?
 - Access to credit?
 - Participation in activities to generate value-added?
 - Empirical understanding of, and related response to, women's role in household?
 - Viability of local organizations associated with production, processing, and marketing?

- Social services:
 - Schools reasonably accessible?
 - Health care, including reproductive health care, reasonably accessible?

Following the establishment of appropriate baselines (subjective and objective), these indicator variables should be monitored both subjectively (i.e., from the household's point of view) and objectively (from the AD provider's point of view). The failure of the two points of view to square with each other suggests a problem that must be addressed.

²⁹ An asterisk (*) indicates high importance. Without trust, for example, little can be done.

ANNEX A

The sample of 191 households distributes according to the following table by zone, administrative department, implementing entity, and altitude (meters) above sea level.³⁰

Location of household sample by zone, department, AD implementer, and altitude

	Huánuco	Ucayali	Total	Average Altitude (m above sea level)
UN-N	0	30	30	194
UN-SH	0	31	31	287
UN-D	21	11	32	919
CH-N	0	30	30	164
CH-S	0	30	30	287
CH-D	5	15	20	528
W-H	0	11	11	287
CC-H	0	7	7	287
Total	26	165	191	

Prepared by GRADE

³⁰ Throughout this presentation of results of the household survey, comparisons are made between implementers and zones. However, it should be noted that these categories are not strictly comparable since they represent different points in time.

ANNEX B

Correlation Matrix for Impact Index ³¹

	Impact	Expend	Age HH	Educ HH	Has	Equip	T. Partic	Shambillo	Divisoria	Huipoca
Impact	1.00									
Expend	0.38	1.00								
Age HH	0.11	0.13	1.00							
Educ HH	0.13	0.16	-0.15	1.00						
Has	0.09	0.20	0.20	0.07	1.00					
Equip	0.18	0.08	-0.01	0.02	0.07	1.00				
T. Partic	0.65	0.32	0.22	0.14	0.11	0.13	1.00			
Shambillo	-0.21	-0.13	-0.21	0.02	-0.04	-0.14	-0.13	1.00		
Divisoria	0.11	-0.01	-0.06	-0.04	-0.23	-0.03	0.00	-0.42	1.00	
Huipoca	-0.26	-0.21	-0.02	-0.05	-0.03	0.08	-0.18	-0.22	-0.20	1.00

HH=Household head; Equip = Equipment; T. partic=Time participated; Has=Hectares
Prepared by GRADE

Correlation Matrix for Sustainability Index

	Impact	Expend	Age HH	Educ HH	Has	Equip	T. Partic	Shambillo	Divisoria	Huipoca
Impact	1.00									
Expend	0.34	1.00								
Age HH	0.10	0.13	1.00							
Educ HH	0.18	0.16	-0.15	1.00						
Has	0.13	0.20	0.20	0.07	1.00					
Equip	0.14	0.08	-0.01	0.02	0.07	1.00				
T. Partic	0.63	0.32	0.22	0.14	0.11	0.13	1.00			
Shambillo	-0.11	-0.13	-0.21	0.02	-0.04	-0.14	-0.13	1.00		
Divisoria	0.06	-0.01	-0.06	-0.04	-0.23	-0.03	0.00	-0.42	1.00	
Huipoca	-0.19	-0.21	-0.02	-0.05	-0.03	0.08	-0.18	-0.22	-0.20	1.00

HH=Household head; Equip = Equipment; T. Partic=Time participated; Has=Hectares
Prepared by GRADE

³¹ Yellowed boxes indicate strong correlations.

Impact Regression Table

	General			Omit par. time 1			Omit par. time 2		
	Coef.	Std. Dev.	t	Coef.	Std. Dev.	t	Coef.	Std. Dev.	t
Age of household head	-0.04	0.04	-0.92	-0.01	0.05	-0.24	-0.01	0.05	-0.14
Years of education h. head	0.08	0.13	0.63	0.12	0.14	0.85	0.13	0.14	0.98
Land owned	0.00	0.03	-0.15	-0.01	0.03	-0.37	-0.03	0.03	-0.98
Equipment owned	0.31	0.18	1.66	0.38	0.19	1.97	0.39	0.19	2.03
Participation time length	1.66	0.36	4.67						
UNODC alone	4.80	1.88	2.55	11.44	1.30	8.78	2.39	1.34	1.78
UNODC-Chemonics	5.27	1.49	3.54	9.21	1.29	7.13			
Chemonics alone							-9.58	1.30	-7.37
Shambillo	-4.42	1.31	-3.38	-5.48	1.36	-4.04	-6.32	1.37	-4.63
Divisoria	-0.87	1.33	-0.65	-1.79	1.39	-1.29	-2.17	1.39	-1.57
Huipoca	-4.72	1.88	-2.51	-4.37	1.99	-2.20	-13.77	2.08	-6.61
Constant	20.07	2.55	7.88	20.70	2.68	7.71	30.16	2.83	10.66
Observations	191.00			191.00			191.00		
F(11, 179)	19.51			17.27			17.85		
Prob > F	0.00			0.00			0.00		
R-2	0.52			0.44			0.47		

Note: Coefficients in bold are statistically significant at 10 or 5% confidence
Prepared by GRADE

Sustainability Regression Table

	General			Omit par. time 1			Omit par. Time 2		
	Coef.	Std. Dev.	t	Coef.	Std. Dev.	t	Coef.	Std. Dev.	t
Age of household head	-0.02	0.03	-0.49	0.01	0.04	0.19	0.01	0.04	0.30
Years of education h. head	0.14	0.10	1.45	0.17	0.10	1.63	0.18	0.11	1.71
Land owned	0.02	0.02	1.00	0.02	0.02	0.71	0.01	0.02	0.24
Equipment owned	0.13	0.14	0.95	0.19	0.15	1.30	0.20	0.15	1.36
Participation time length	1.30	0.27	4.81						
UNODC alone	2.55	1.43	1.79	7.73	0.99	7.80	1.99	1.04	1.92
UNODC-Chemonics	2.98	1.13	2.65	6.06	0.98	6.17			
Chemonics alone							-5.88	1.00	-5.86
Shambillo	-0.83	0.99	-0.84	-1.65	1.03	-1.60	-2.12	1.06	-2.01
Divisoria	0.41	1.01	0.41	-0.30	1.06	-0.29	-0.50	1.07	-0.46
Huipoca	-0.70	1.43	-0.49	-0.42	1.51	-0.28	-6.34	1.61	-3.94
Constant	1.05	1.93	0.55	1.55	2.04	0.76	7.45	2.19	3.41
Observations	191.00			191.00			191.00		
F(11, 179)	14.05			11.62			11.09		
Prob > F	0.00			0.00			0.00		
R-2	0.44			0.37			0.36		

Note: Coefficients in bold are statistically significant at 10 or 5%

Prepared by GRADE